

CONTROL DATA CORPORATION

160 - A FORTRAN

Normal Version

00001

		REM			RUN FROM 0 WITH ZERO IN A-REG. FOR	IBS7000:
		REM			NO CHANGE IN STANDARD CONFIGURATION	IBS7001:
		REM			OTHERWISE ENTER PARAMETER FOR CHANGE	IBS7002:
		REM			IN A-REG. AND RUN	IBS7003:
		REM			FRANK FEUILLE 15 JULY, 1963	IBS7004:
	0000	ORG	0			IBS7005:
0000	0060	SIDD			1607 BOOTSTRAP	IBS7006:
0001	6005	ZJF	REWIND		NO CHANGE, JUMP	IBS7007:
0002	1200	LPC	777			IBS7008:
0003	0777					
0004	0711	SBN	11		CHANGE IS BIAS 11 OCTAL	IBS7009:
0005	4232	STF	CHANGE		SAVE	IBS7010:
0006	7500	REWIND	EXC	5011	SELECT TAPE UNIT 1	IBS7011:
0007	5011					
0010	7510	WA	EXF	WA1 +1	REQUEST STATUS	IBS7012:
0011	7600		INA			IBS7013:
0012	1200		LPC	200		IBS7014:
0013	0200					
0014	6504	NZB	WA		WAIT READY	IBS7015:
0015	7500	EXC	5005		REWIND TAPE	IBS7016:
0016	5005					
0017	7500	WA1	EXC	6053	REQUEST STATUS	IBS7017:
0020	6053					
0021	7600		INA			IBS7018:
0022	1307	LPB	WA	+3		IBS7019:
0023	6504	NZB	WA1		WAIT READY	IBS7020:
0024	7500	EXC	5001		READ, TAPE1, BINARY	IBS7021:
0025	5001					
0026	7201	INP	1		READ BOOTSTRAP FROM TAPE	IBS7022:
0027	0220		220			IBS7023:
0030	2207	LDR	CHANGE		CHECK FOR CHANGE	IBS7024:
0031	6303	NJR	GO1		NO, JUMP	IBS7025:
0032	4100	STM	2777		YES, CHANGE FLAG IN INITIALIZATION ROUTINE	IBS7026:
0033	2777					
0034	2200	GO1	LDC	400		IBS7027:
0035	0400					
0036	0010		SRJO		TRANSFER CONTROL	IBS7028:
0037	7777	CHANGE		7777	STORE CHANGE HERE	IBS7029:
	0000	END				IBS7030:

SUPB

		REM		RUN FROM 0 WITH ZERO IN A-REG. FOR	IBS000
		REM		NO CHANGE IN STANDARD CONFIGURATION	IBS0001:
		REM		OTHERWISE ENTER PARAMETER FOR CHANGE.	IBS0002:
		REM		IN A-REG. AND RUN	IBS0003
		REM		FRANK FEUILLE 15 JULY, 1963	IBS0004
		ORG	0		IBS0005:
0000	0000	SIDQ		163 BOOTSTRAP	IBS0006
0001	6005	ZJF	REWIND	NO CHANGE, JUMP	IBS00078
0002	1200	LPC	777		IBS0008A
0003	0777				IBS0009
0004	0711	SBN	11	CHANGE IS BIAS 11 OCTAL	IBS0010A
0005	4223	STF	CHANGE	SAVE	IBS0011
0006	7500	REWIND	EXC	REWIND TAPE UNIT 1	IBS0012:
0007	1161				
0010	7500	EXC	1171	SELECT ODD PARITY (BINARY)	IBS0013
0011	1171				
0012	7504	EXF	GO -3	READ TAPE 1	IBS0014A
0013	7201	INP	1	SKIP ONE RECORD	IBS0015
0014	0220		220		IBS0016:
0015	7500	EXC	2131	INPUT BOOTSTRAP FROM TAPE	IBS0017A
0016	2131				
0017	7201	INP	1		IBS0018:
0020	0220		220		IBS0019:
0021	2207	GO	LDR	CHECK FOR CHANGE	IBS0020
0022	6303		NJR	NO, JUMP	IBS0021
0023	4100		STM	YES, CHANGE FLAG IN INITIALIZATION ROUTINE	IBS0022
0024	2777				
0025	2200	GO1	LDC	400	IBS0023:
0026	0400				
0027	0010		SRJO	TRANSFER CONTROL	IBS0024
0030	7777	CHANGE	7777	STORE CHANGE HERE	IBS0025B
	0000	END			IBS0026A

00003

IBS0027:  
IBS0028:

B000000A  
B000001A  
B000002A  
B000003A  
B000004A  
B000005A  
B000006A  
B000007A  
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B000009A  
B000010A  
B000011A  
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B000041A  
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B000051A  
B000052A  
B000053A

REM 1607 BOOTSTRAP REINITIALIZATION  
REM FRANK E. FEUILLE 7/10/63  
REM BIN7  
REM BINARY 1607 TAPE ROUTINE FOR  
REM USE WITHIN THE COMPILER  
REM ENTER WITH A=THESE PARAMETERS  
REM 0=WRITE TAPE 2  
REM 1=READ TAPE 2  
REM 2=WRITE EOF TAPE 2  
REM 3=REWIND TAPE 2  
REM 4=REWIND TAPE 1  
REM 7777=SEARCH FORWARD EOF ON TAPE 1  
REM ADR.=LOAD RECORD FROM TAPE 1  
REM INTO LOCATION IN A,  
REM ENTER BY JPR TO THE FIRST  
REM LOCATION OF THE ROUTINE.

	0220		ORG	220		
	0220	0000		0		
	0220	0220	ORG	220		
	0220	0000	BIN7			
	0221	4274	STF	START	SAVE ENTRY PARAMETER	
	0222	2302	LDR	BIN7	SET EXIT ADDRESS	
	0223	4277	STR	EXITAB		
	0224	0503	LCN	3	SET COUNTERS:	
	0225	4271	STR	COUNT2		
	0226	1267	LPR	START	MASK=7774	
	0227	6002	ZJF	SET2		
	0230	0510	LCN	10	SELECT TAPE 1	
	0231	0620	ADN	20	SELECT TAPE 2	
	0232	3273	ADF	K5001		
	0233	4264	STF	STATUS		
	0234	7563	EXF	STATUS	SELECT READ TAPE	
	0235	2200	LDC	1000		
	0236	1000				
	0237	5260	RAF	STATUS		
	0240	7557	EXF	STATUS	SELECT WRITE TAPE	
	0241	0270	LPN	70	GENERATE MASK	
	0242	0710	SBN	10		
	0243	0110	LS3			
	0244	3263	ADF	K204		
	0245	4256	STF	MASK		
	0246	7100	JPR	CHKR		
	0247	0341				
	0250	4217	STR	END1		
	0251	2244	LDR	START	ENTRY PARAMETER TO A	
	0252	6076	ZJF	WR2F	WRITE TAPE 2	
	0253	0701	SBN	1	OR	
	0254	6032	ZJF	RD2F	READ TAPE 2	
	0255	0701	SBN	1	OR	
	0256	6060	ZJF	WREOFF	WRITE END OF FILE RECORD	
	0257	0701	SBN	1	OR	
	0260	6033	ZJF	REWF	REWIND SELECTED TAPE	
	0261	0701	SBN	1	OR	
	0262	6031	ZJF	REWF	REWIND SELECTED TAPE	
	0263	0604	ADN	4	OR	00004

0264	6040		ZJF	SRCHF	SEARCH FORWARD EOF MARK	8000054
0265	7540	RD1F	EXF	K5001	READ TAPE 1	8000055
0266	7227		INP	START		8000056
0267	0000	END1				800005
0270	7100		JPR	CHKR	WAIT READY	8000058
0271	0341					
0272	2225		LDR	STATUS	RESPONSE	8000059
0273	0250		LPN	50		8000060
0274	6025		ZJR	EXIT2	EXIT IF O.K.	8000061
0275	0111		LS6			8000062
0276	0103		LS2			8000063
0277	6322		NJR	EXIT2	JUMP IF SET	8000064
0300	5616		AOR	COUNT2	TRY THREE TIMES	8000065
0301	6017		ZJF	STOP		8000066
0302	7567		EXF	K5006	BACKSPACE	8000067
0303	7100		JPR	CHKR	WAIT READY	8000068
0304	0341					
0305	6620		PJB	RD1F	GO TO REREAD	8000069
0306	2267	RD2F	LDF	K100	SET TO READ 100 TO 220	8000070
0307	4206		STR	START	FROM TAPE 2.	8000071
0310	2243		LDR	K220		8000072
0311	4322		STR	END1		8000073
0312	6525		NZR	RD1F		8000074
0313	7563	REWF	EXF	K5005	REWIND SELECTED TAPE	8000075
0314	6105		NZR	EXIT2	EXIT	8000076
0315	0000	START			TEMPORARY STORAGE	8000077
0316	0000	COUNT2			ERROR COUNTER	8000078
0317	0000	STATUS			STATUS RESPONSE	8000079
0320	7700	STOP	HLT		STOP AFTER THREE TRIES	8000080
0321	7101	EXIT2	JFI	1	EXIT	8000081
0322	0000	EXITAB			RETURN ADDRESS	8000082
0323	0000	MASK				8000083
0324	7500	SRCHF	EXF	0		8000084
0325	5001	K5001		5001	READ ONE ONE-WORD RECORD	8000085
0326	7247		INP	K100		8000086
0327	0204	K204		204		8000087
0330	7100		JPR	CHKR	WAIT READY	8000088
0331	0341					
0332	0410		LDN	10		8000089
0333	1314		LPR	STATUS		8000090
0334	6410		ZJB	SRCHF	GO BACK IF NOT EOF RECORD	8000091
0335	6514		NZR	EXIT2		8000092
0336	7527	WREOFF	EXF	K6003	WRITE END OF FILE RECORD	8000093
0337	6516		NZR	EXIT2	EXIT	8000094
0340	7101	CHKRET	JFI	1		8000095
0341	0000	CHKR			CHECK READY ENTRANCE	8000096
0342	7535	ST	EXF	K6053	REQUEST STATUS	8000097
0343	7600		INA			8000098
0344	4325		STR	STATUS	SAVE RESPONSE	8000099
0345	1322		LPR	MASK	READY AND END OF TAPE	8000100
0346	6504		NZR	ST	LOOP UNTIL READY	8000101
0347	6407		ZJB	CHKRET		8000102
0350	7500	WR2F	EXC	6001	WRITE TAPE 2	8000103
0351	6001					
0352	7323		OUT	K100		8000104
0353	0220	K220		220		8000105
0354	7100		JPR	CHKR	WAIT READY	8000106
0355	0341					
0356	0420		LDN	20		8000107
0357	1340		LPR	STATUS		8000108

00005

0360	6437		ZJR	EXIT2	EXIT IF O.K.	B000109:
0361	7510	WRBK	EXF	K5006	BACKSPACE	B000110:
62	7100		JPR	CHKR	WAIT READY	B000111:
0363	0341					:
0364	7500		EXF	0	WRITE END OF FILE	B000112:
0365	6003	K6003		6003		B000113:
0366	7100		JPR	CHKR	WAIT READY	B000114:
0367	0341					:
0370	7500		EXF	0		B000115:
0371	5006	K5006		5006		B000116:
0372	7100		JPR	CHKR		B000117:
0373	0341					:
0374	6424		ZJB	WR2F		B000118:
0375	0100	K100		100		B000119:
0376	5005	K5005		5005		B000120:
0377	6053	K6053		6053		B000121:
	0220	BINARY	EQU	BIN7		B000122:
400	0021		SIC1			B000123:
0401	7100		JPR	WA	STATUS	B000124:
0402	1575					:
0403	7500		EXC	5001	SKIP 163 RECORD	B000125:
0404	5001					:
0405	7201		INP	1		B000126:
0406	0000			0		B000127:
0407	7100		JPR	WA	STATUS	B000128:
0410	1575					:
411	0060		SIDO			B000129:
412	0140		SBU0			B000130:
413	7500		EXC	5021	SELECT TAPE 2	B000131:
414	5021					:
0415	7100		JPR	WA	STATUS	B000132:
0416	1575					:
417	7500		EXC	5005	REIND TAPE 2	B000133:
0420	5005					:
0421	7100		JPR	WA	STATUS	B000134:
422	1575					:
0423	2100		LDM	FLAG	PICK UP STANDARD FLAG	B000135:
0424	2777					:
425	4300		STS		STORE IN SPECIFIC	B000136:
0426	0277		LPN	77	CHECK WHETHER TO IGNORE ASTERISK TEST	B000137:
0427	0777		SBN	77		B000138:
430	6103		NZF	BEGIN1		B000139:
0431	7101		JFI	1	YES, JUMP TO READ FIRST RECORD FROM SYSTEM	B000140:
0432	2503			GOBIN7	TRANSFER TO READ IN SYSTEM	B000141:
433	2300	BEGIN1	LDS		LOAD FLAG	B000142:
0434	0270		LPN	70	CHECK FOR TYPE OF INPUT DEVICE	B000143:
0435	6016		ZJF	AST0	ZERO - 167	B000144:
436	0710		SBN	10		B000145:
0437	6016		ZJF	AST1	ONE - 068	B000146:
0440	0710		SBN	10		B000147:
441	6016		ZJF	AST2	TWO - PLEX	B000148:
0442	0710		SBN	10		B000149:
0443	6016		ZJF	AST3		B000150:
444	0710		SBN	10		B000151:
0445	6402		ZJB	2	FOUR - 1607 (UNIT 3)	B000152:
0446	0710		SBN	10		B000153:
447	6014		ZJF	AST4	FIVE - 405	B000154:
0450	7700		HLT		ERROR HALT FOR INCORRECT FLAG	B000155:
0451	6515		NZB	BEGIN1 +1	LOAD CORRECT FLAG INTO A-REG.	B000156:
452	6416		ZJB	BEGIN1 +1	AND RUN 00005	B000157:

0453	7101	AST0	JFI	1			8000158
0454	1430			AST00			8000159
0455	7101	AST1	JFI	1			8000160
0456	1476			AST11			8000161
0457	7101	AST2	JFI	1			8000162
0460	1511			AST22			8000163
0461	7101	AST3	JFI	1			8000164
0462	1520			AST33			8000165
0463	7101	AST4	JFI	1			8000166
0464	1605			AST44			8000167
0465	2100	TESTK	LDM	FLAG		CHECK FLAG FOR OUTPUT DEVICE	8000168
0466	2777						8000169
0467	4300		STS				8000170
0470	0207		LPN	7			8000171
0471	6016		ZJF	P166		ZERO - 166 PRINTER	8000172
0472	0701		SBN	1			8000173
0473	6030		ZJF	P1612		ONE - 1612 PRINTER	8000174
0474	0701		SBN	1			8000175
0475	6043		ZJF	PFLEX		TWO - FLEX	8000176
0476	0701		SBN	1			8000177
0477	6047		ZJF	P523		THREE - 523 CARD PUNCH	8000178
0500	0701		SBN	1			8000179
0501	6002		ZJF	2			8000180
0502	0701		SBN	1			8000181
0503	6041		ZJF	TAPE4		FIVE - 1607 (UNIT 4)	8000182
0504	7700		HLT			ERROR HALT FOR INCORRECT FLAG	8000183
0505	6516		NZB	TESTK +2		LOAD FLAG INTO A-REG.	8000184
0506	6417		ZJB	TESTK +2		AND RUN	8000185
0507	2300	P166	LDS				8000186
0510	0270		LPN	70			8000187
0511	0730		SBN	30			8000188
0512	6007		ZJF	PAK1 +4			8000189
0513	0710		SBN	10			8000190
0514	6005		ZJF	PAK1 +4			8000191
0515	7100	PAK1	JPR	LPR166		GO TO PACK CHARACTERS AND PRINT	8000192
0516	1623						8000193
0517	7101		JFI	1			8000194
0520	2503		GOBIN7			TRANSFER TO READ IN SYSTEM	8000195
0521	7101		JFI	1		JUMP TO PRINT ROUTINE IF DATA ALREADY	8000196
0522	1712			L166P		IS PACKED	8000197
0523	2200	P1612	LDC	INBUFF			8000198
0524	3000						8000199
0525	4100		STM	200			8000200
0526	0200						8000201
0527	2200		LDC	121			8000202
0530	0121						8000203
0531	4100		STM	202			8000204
0532	0202						8000205
0533	2305		LDB	P1612 +3			8000206
0534	7100		JPR	LPRINT		JUMP TO 1612 PRINTER OUTPUT ROUTINE	8000207
0535	1727						8000208
0536	7101		JFI	1			8000209
0537	2503		GOBIN7			TRANSFER TO READ IN SYSTEM	8000210
0540	7100	PFLEX	JPR	PCHFLX		JUMP TO FLEX OUTPUT ROUTINE	8000211
0541	1774						8000212
0542	7101		JFI	1			8000213
0543	2503		GOBIN7			TRANSFER TO READ IN SYSTEM	8000214
0544	7101	TAPE4	JFI	1		FOUR - 1607 (UNIT 4.)	8000215
0545	2360			TAPE44			8000216
0546	2200	P523	LDC	INBUFF +1		PREPARE TO JUMP TO CARD OUTPUT ROUTINE	8000217

0547	3001									
0550	4100		STM	200						B000210:
51	0200									:
0552	2200		LDC	120						B000211:
0553	0120									:
0554	4100		STM	202						B000212A
0555	0202									:
0556	2300		LDS							B000213:
0557	0270		LPN	70			TEST TO SEE IF DATA IS PACKED			B000214:
0560	0730		SBN	30						B000215:
0561	6003		ZJF	UN222						B000216:
0562	0710		SBN	10						B000217A
0563	6103		NZF	3						B000218:
0564	7100	UN222	JPR	UNPACK			YES, UNPACK			B000219:
0565	2523									:
0566	2315		LDB	P523	+3					B000220:
0567	7100		JPR	CDPNCH			JUMP			B000221:
0570	2137									:
0571	7101		JFI	1						B000222:
0572	2503			GOBIN7			TRANSFER TO READ IN SYSTEM			B000223:
			REM				RD167C = 167 CARD READER			B000224A
			REM				NO ERROR CHECKING DONE			B000225:
			REM				ASSUMED ALL BANK SETTINGS=0			B000226:
			REM				ENTER BY A JPR TO THE 1ST LOCATION			B000227B
	3000	INBUFF	EQU	3000			ADDRESS OF BUFFER			B000228A
0573	0000	RD167C					ENTRY POINT			B000229:
0574	2301		LDB	RD167C						B000230:
0575	4071		STD	RTURN			SET EXIT ADDRESS			B000231A
0576	2200	X	LDC	INBUFF	+1					B000232A
0577	3001									:
0600	4076		STD	PAIR			STORING ADDRESS			B000233A
0601	3200		ADC	120						B000234:
0602	0120									:
0603	4075		STD	LAST			LWA + 1			B000235:
0604	0420		LDN	20						B000236:
0605	4175		STI	LAST						B000237:
0606	2076	LOOP	LDD	PAIR						B000238:
0607	3600		SBC	INBUFF	+3					B000239:
0610	3003									:
0611	6304		NJF	SPECL						B000240:
0612	7600		INA							B000241A
0613	6103		NZF	SPECL	+1					B000242:
0614	6002		ZJF	SPECL	+1					B000243:
0615	2176	SPECL	LDI	PAIR						B000244:
0616	4074		STD	LOOK1						B000245:
0617	0110		LS3							B000246:
0620	4073		STD	LOOK						B000247:
0621	6011		ZJF	ONE			CONVERT TO BCD			B000248:
0622	0207		LPN	7						B000249:
0623	6010		ZJF	ZERO						B000250:
0624	0701		SBN	1						B000251:
0625	6005		ZJF	ONE						B000252:
0626	0701		SBN	1						B000253:
0627	6002		ZJF	TWO						B000254A
0630	0420	FOUR	LDN	20						B000255:
0631	0620	TWO	ADM	20						B000256:
0632	0620	ONE	ADM	20						B000257:
0633	4176	ZERO	STI	PAIR			STORE VALUE			B000258:
0634	2073	DIGIT	LDD	LOOK						B000259:
0635	1200		LPC	7770						B000260:

00008



0636	7770								
0637	6016		ZJF	OUT167					B000261:
0640	0110		LS3						B000262:
0641	4073		STD	LOOK					B000263:
0642	0207		LPN	7					B000264:
0643	6006		ZJF	ONE1					B000265:
0644	0704		SBN	4					B000266:
0645	6006		ZJF	FOUR1					B000267:
0646	0602		ADN	2					B000268:
0647	6003		ZJF	TWO1					B000269:
0650	0400		LDN	0					B000270:
0651	0601	ONE1	ADN	1					B000271:
0652	0601	TWO1	ADN	1					B000272:
0653	0601	FOUR1	ADN	1					B000273:
0654	5176		RAI	PAIR					B000274:
0655	4600	OUT167	SRF	0					B000275:
0656	4444			4444					B000276:
0657	6623		PJB	DIGIT					B000277:
0660	2074	NEXT	LDD	LOOK1					B000278:
0661	3600		SBC	1000					B000279:
0662	1000								
0663	6011		ZJF	ONE000					B000280:
0664	2074		LDD	LOOK1					B000281:
0665	1200		LPC	777					B000282:
0666	0777								
0667	0742		SBN	42					B000283:
0670	6007		ZJF	FORTY2					B000284:
0671	0740		SBN	40					B000285:
0672	6107		NZF	GOBACK					B000286:
0673	6003		ZJF	ONE2					B000287:
0674	0726	ONE000	SBN	26					B000288:
0675	0615		ADN	15					B000289:
0676	0703	ONE2	SBN	3					B000290:
0677	0606	FORTY2	ADN	6					B000291:
0700	5176		RAI	PAIR					B000292:
0701	5476	GOBACK	AUD	PAIR					B000293:
0702	3475		SBD	LAST					B000294:
0703	6575		NZB	LOOP					B000295:
0704	7500		EXC	4500			CLEAR ERROR		B000296:
0705	4500								
0706	7071		JPI	RTURN					B000297:
0707	0071	RTURN	EQU	71					B000298:
0710	0000	KDCARD					ENTRY POINT		B000299:
0710	7520	READ	EXF	ATX +1			REQUEST STATUS		B000300:
0711	7600		INA						B000301:
0712	0201		LPN	1					B000302:
0713	6503		NZB	READ			WAIT READY		B000303:
0714	7574		EXF	SELECT			SELECT PRIMARY READ		B000304:
0715	0101	PTA	PTA				SET UP ATE		B000305:
0716	4207		STF	ATE +1					B000306:
0717	2200		LDC	INBUFF +1			LOCATION OF BUFFER AREA		B000307:
0720	3001								
0721	0654		ADN	54			FIRST ADDRESS OF INPUT AREA		B000308:
0722	4071		STD	WORD					B000309:
0723	4072		STD	BUFCHK					B000310:
0724	0105	ATE	ATE				BUFFER ENTRANCE REG,		B000311:
0725	0000								
0726	3204		ADF	IBI +1					B000312:
0727	0106	ATX	ATX	340			BUFFER EXIT REG,		B000313:
0730	0340								

00009

0731	7200	IBI	IBI	124	INITIATE INPUT	B000314
0732	0124					
0733	2200		LDF	0		B000315
0734	4173		STI	COLUMN		B000316
0735	4230		STF	STORER	PRESET STORER	B000317
0736	2200		LDC	INBUFF +1		B000318
0737	3001					
0740	4074		STD	BEGINC	PRESET COLUMN 1 ADDRESS	B000319
0741	0044		ADN	44		B000320
0742	4075		STD	ENDCOL	PRESET COLUMN 36 ADDRESS	B000321
0743	2200		LDF	0		B000322
0744	0405		LDN	5		B000323
0745	4250		STF	ENDROW	PRESET FOR FIRST HALF OF CARD	B000324
0746	0411		LDN	11		B000325
0747	4076		STD	CONSNT	PRESET FOR ROW=1	B000326
0750	2341		LDR	RDCARD		B000327
0751	4235		STF	EXITAD	SAVE EXIT ADDRESS	B000328
0752	0407	SETWRD	LDN	7		B000329
0753	5072		RAD	BUFCHK	WAIT FOR ROW TO BE READ	B000330
0754	0107	WAIT	ETA			B000331
0755	3472		SBD	BUFCHK		B000332
0756	6702		NJB	WAIT		B000333
0757	2074	COLADD	LDD	BEGINC		B000334
0760	4073		STD	COLUMN	RESET TO COLUMN 1 ADDRESS	B000335
0761	2171	LDWORD	LDI	WORD		B000336
0762	4225		STF	WORDER	SET TO WORD TO BE CONVERTED	B000337
0763	6313	NEG	NJF	BIT	JUMP IF BIT IS SET	B000338
0764	0400		LDN	0	SET ZERO FOR ROW VALUE	B000339
0765	4173	STORER	STI	COLUMN	STORE OR RAI COLUMN	B000340
0766	5473	TSTWRD	AOD	COLUMN	INCREASE ADDRESS	B000341
0767	3475		SBD	ENDCOL		B000342
0770	6025		ZJF	ENDROW	JUMP IF END OF ROW	B000343
0771	4620		SRF	12COUN	ADJUST COUNTER	B000344
0772	6321		NJF	ENDWRD	JUMP IF END OF WORD	B000345
0773	4614		SRF	WORDER	SHIFT INPUT WORD	B000346
0774	6511		NZB	NEG	GO BACK	B000347
0775	6412		ZJB	NEG		B000348
0776	2076	BIT	LDD	CONSNT	INCREASE BY VALUE OF CURRENT ROW	B000349
0777	6512		NZB	STORER	GO BACK IF NOT ZERO	B000350
1000	2173		LDI	COLUMN	COLUMN VALUE TO A	B000351
1001	6002		ZJF	ZERO1		B000352
1002	0406		LDN	6	ADD 20 IF NOT ZERO	B000353
1003	0612	ZERO1	ADN	12	ADD 12 IF ZERO	B000354
1004	6517		NZB	STORER	GO BACK	B000355
1005	7101	EXIT	JFI	EXITAD		B000356
1006	0000	EXITAD				B000357
1007	0000	WORDER			WORD BEING CONVERTED	B000358
1010	0301	SELECT		301		B000359
1011	4000	12COUN		4000	COUNTER FOR 12 BIT WORD	B000360
1012	4000	K4000		4000	CONSTANT	B000361
1013	5471	ENDWRD	AOD	WORD	INCREASE ADDRESS OF INPUT	B000362
1014	6533		NZB	LDWORD		B000363
1015	0405	ENDROW	LDN	5	LDN 5 OR LDN1 (2ND HALF)	B000364
1016	5071		RAD	WORD	SET ADDRESS OF NEXT INPUT WORD	B000365
1017	2305		LDR	K4000		B000366
1020	4307		STB	12COUN	RESET COUNTER	B000367
1021	2076		LDD	CONSNT		B000368
1022	0740		SBN	40	HAS MINUS ROW BEEN READ	B000369
1023	6215		PJFI	SUB20	YES, JUMP	B000370
1024	2337		LDB	STORER	CHECK TO RESET STORER	B000371

1025	1200		LPF	0		8000372
1026	1000	K1000		1000	CONSTANT	8000373
1027	6103		NZF	3	JUMP IF ALREADY RESET	8000374
1030	2302		LDB	K1000	SET STORER TO RA1	8000375
1031	5344		RAR	STORER		8000376
1032	0501		LCN	1		8000377
1033	5076		RAD	CONSNT	ADJUST ROW VALUE	8000378
1034	6662		PJR	SETWRD		8000379
1035	0440		LDN	40	SET MINUS ROW VALUE	8000380
1036	6105		NZF	SETCON		8000381
1037	6560	INDJMP	NZB	COLADD	INDIRECT JUMP BACKWARD	8000382
1040	0720	SUB20	SBN	20		8000383
1041	6204		PJF	BLANKS	LAST ROW CONVERTED	8000384
1042	0460		LDN	60		8000385
1043	4076	SETCON	STD	CONSNT	SET ROW VALUE = *	8000386
1044	6572		NZB	SETWRD		8000387
1045	2074	BLANKS	LDD	BEGINC	RESET COLUMN	8000388
1046	4073		STD	COLUMN		8000389
1047	2173	COLOAD	LDI	COLUMN		8000390
1050	6103		NZF	ADWORD	JUMP IF COLUMN VALUE IS NOT ZERO	8000391
1051	0420		LDN	20	SET TO BCD BLANK	8000392
1052	4173		STI	COLUMN		8000393
1053	5473	ADWORD	AOD	COLUMN	SKIP TO NEXT COLUMN	8000394
1054	3475		SBD	ENDCOL		8000395
1055	6506		NZB	COLOAD	JUMP UNTIL COLUMN = ENDCOL	8000396
1056	0404	SWITCH	LDN	4		8000397
1057	1342		LPB	ENDROW		8000398
1060	6453		ZJR	EXIT	ZERO MEANS END OF 2ND HALF	8000399
1061	2733		LCB	K1000		8000400
1062	5375		RAB	STORER	SET STORER = STI	8000401
1063	0107		ETA		LWA+1	8000402
1064	0705		SBN	5		8000403
1065	4076		STD	CONDNS	SET STORAGE ADDRESS	8000404
1066	0703		SBN	3		8000405
1067	4077		STD	ROW	SET PICK UP ADDRESS	8000406
1070	0750		SBN	40D		8000407
1071	4071		STD	WORD		8000408
1072	2075		LDD	ENDCOL		8000409
1073	4074		STD	BEGINC		8000410
1074	0607		ADN	7		8000411
1075	4224		STF	MOVED		8000412
1076	0645		ADN	37D		8000413
1077	4075		STD	ENDCOL		8000414
1100	0504		LCN	4		8000415
1101	5364		RAR	ENDROW		8000416
1102	2745		LCB	SUB20 =3		8000417
1103	5072		RAD	BUFCHK		8000418
1104	0504	LAST3	LCN	4	PRESET TO MOVE REMAINING IMAGE	8000419
1105	4070		STD	STS		8000420
1106	2177	LOOP3	LDI	ROW		8000421
1107	4176		STI	CONDNS		8000422
1110	0501		LCN	1		8000423
1111	5077		RAD	ROW		8000424
1112	0501		LCN	1		8000425
1113	5076		RAD	CONDNS		8000426
1114	5470		AOD	STS		8000427
1115	6507		NZB	LOOP3	MOVE THREE WORDS	8000428
1116	0503		LCN	3	SKIP NEXT FOUR	8000429
1117	5077		RAD	ROW		8000430
1120	1600		SCF	0		8000431

1121	0000	MOVED					8000432:
1122	6516		NZB	LAST3	GO BACK IF NOT DONE		8000433:
23	0411		LDN	11	SET ROW VALUE = 9		8000434:
1124	4076		STD	CONSNT			8000435:
1125	6566		NZB	INDJMP			8000436:
	0072	BUFCHK	EQU	72	BUFFER CHECK ADDRESS		8000437:
	0071	WORD	EQU	71	ADDRESS OF CURRENT IMAGE WORD		8000438:
	0073	COLUMN	EQU	73	CURRENT COLUMN ADDRESS		8000439:
	0074	BEGINC	EQU	74	FIRST (OR 37TH) COLUMN ADDRESS		8000440:
	0075	ENDCOL	EQU	75	LAST (36 OR 72) COLUMN ADDRESS		8000441:
	0076	CONSNT	EQU	76	VALUE OF CURRENT ROW BITS		8000442:
	0070	STS	EQU	70			8000443:
	0077	PARAM	EQU	77	LOCATION OF PARAMETER LIST		8000444:
	0076	CONDNS	EQU	CONSNT	STORAGE ADDRESS FOR MOVE		8000445:
	0077	ROW	EQU	PARAM	ADDRESS OF WORD TO BE MOVED		8000446:
			REM		FLEXIN		8000447:
			REM		PAPER TAPE INPUT TO THE COMPILER		8000448:
			REM		CONVERTS FROM FLEX TO BCD CODES		8000449:
			REM		EACH RECORD IS ASSUMED TO BEGIN IN		8000450:
			REM		LOWER CASE		8000451:
			REM		NON LEGAL CHARACTERS = BLANKS		8000452:
			REM		ASSUMES ALL BANK SETTINGS = 0		8000453:
1126	0000	FLEXIN					8000454:
127	2200	A1	LDC	INBUFF +1	INITIALIZE LOCATION		8000455:
1130	3001						:
1131	4077		STD	PARAM	IN BUFFER AND LOAD		8000456:
132	0105		ATE	A1	BUFFER WITH BLANKS		8000457:
133	1127						:
134	2200	A2	LDC	INBUFF +121			8000458:
135	3121						:
1136	0106		ATX	A2			8000459:
1137	1134						:
140	0420	A3	LDN	20			8000460:
1141	0100		BLS	A3			8000461:
1142	1140						:
143	2315		LDB	FLEXIN			8000462:
1144	4075		STD	EXITAA			8000463:
1145	7500		EXC	4102			8000464:
146	4102						:
1147	7600	FLEINA	INA				8000465:
1150	6401		ZJB	1	OMIT LEADER		8000466:
151	0745		SBN	45	CARRIAGE RETURN		8000467:
1152	6503		NZB	FLEINA	NO. READ ANOTHER CHARACTER		8000468:
1153	7600		INA				8000469:
154	0747		SBN	47	UPPER CASE CODE		8000470:
1155	6004		ZJF	UPC	YES JUMP TO READ ASTERISK		8000471:
1156	0647		ADN	47	NO RESTORE CODE		8000472:
157	0745		SBN	45	CARRIAGE RETURN		8000473:
1160	6405		ZJR	5			8000474:
1161	7600	UPC	INA				8000475:
162	0744		SBN	44	ASTERISK		8000476:
1163	6514		NZB	FLEINA	NO. START AGAIN		8000477:
1164	0454		LDN	54			8000478:
165	4177		STI	PARAM	STORE ASTERISK CODE		8000479:
1166	5477		ADD	PARAM			8000480:
1167	6132		NZF	LOWER	UNCONDITIONAL JUMP		8000481:
170	7600	READ1	INA				8000482:
1171	3200		ADC	TABL			8000483:
172	1230						:
173	4074	LKUP	STD	TABAD			8000484:

00012

1174	2174		LDI	TABAD		8000481
1175	6213		PJF	FOUND	JUMP IF BONA-FIDE CHARACTER	8000486
1176	4202		STF	2	STORE INSTRUCTION	8000487
1177	0400	LDN	LDN			8000488
1200	7700		HLT		JUMP INSTRUCTION TO BE SUPPLIED	8000489
1201	0602		ADN	2		8000490
1202	0602		ADN	2		8000491
1203	0602		ADN	2		8000492
1204	3076		ADD	FLEXUL		8000493
1205	3200		ADC	TAB2		8000494
1206	1330					8000495
1207	6514		NZB	LKUP	UNDENIABLE JUMP	8000495
1210	4177	FOUND	STI	PARAM		8000496
1211	5477		AOD	PARAM		8000497
1212	3600		SBC	INBUFF +120		8000498
1213	3120					8000499
1214	6724		NJB	READ1		8000500
1215	7600	FAN	INA			8000501
1216	0745		SBN	45		8000502
1217	6502		NZB	FAN		8000503
1220	7075	EXITF	JPI	EXITAA		8000504
1221	0401	LOWER	LDN	1		8000505
1222	4076	UPPER	STD	FLEXUL	0 FOR U.C., 1 FOR L.C.	8000506
1223	6633		PJB	READ1		8000507
1224	2200	TAB	LDC	INBUFF +7		8000508
1225	3007					8000509
1226	4077		STD	PARAM		8000510
1227	6637		PJB	READ1		8000511
1230	6410	TABL		6410	TAPE FEED JUMP TO READ	8000512
1231	0023		BCDR	37	T. Q. HNM LRGIPOVEZDBSYFXAWJ8UQK9	8000513
1232	0020					8000514
1233	0046					8000515
1234	0020					8000516
1235	0070					8000517
1236	0045					8000518
1237	0044					8000519
1240	0020					8000520
1241	0043					8000521
1242	0051					8000522
1243	0067					8000523
1244	0071					8000524
1245	0047					8000525
1246	0063					8000526
1247	0025					8000527
1250	0065					8000528
1251	0031					8000529
1252	0064					8000530
1253	0062					8000531
1254	0022					8000532
1255	0030					8000533
1256	0066					8000534
1257	0027					8000535
1260	0061					8000536
1261	0026					8000537
1262	0041					8000538
1263	0010					8000539
1264	0024					8000540
1265	0050					8000541
1266	0042					8000542
1267	0011					8000543

1270	6410	6410	ILLEGAL	8000512
1271	6410	6410	ILLEGAL	8000513
1272	6001	6001	= OR	8000514
1273	6410	6410	STOP CODE	8000515
1274	6002	6002	* OR /	8000516
1275	6020	6020	CARRIAGE RETURN, JUMP TO EXIT	8000517
1276	6003	6003	+ OR ,	8000518
1277	6022	6022	U.C. JUMP TO UPPER	8000519
1300	0053	53	COLON # DOLLAR	8000520
1301	6024	6024	TAB	8000521
1302	0040	40	MINUS	8000522
1303	6410	6410	ILLEGAL	8000523
1304	6004	6004	( OR )	8000524
1305	6410	6410	ILLEGAL	8000525
1306	0012	12	ZILCH	8000526
1307	6021	6021	L.C. JUMP TO LOWER	8000527
1310	0007	7		8000528
1311	6410	6410	BACKSPACE	8000529
1312	0004	4		8000530
1313	6410	6410	ILLEGAL	8000531
1314	0003	3		8000532
1315	6410	6410	ILLEGAL	8000533
1316	0005	5		8000534
1317	6410	6410	ILLEGAL	8000535
1320	0002	2		8000536
1321	6410	6410	ILLEGAL	8000537
1322	0006	6		8000538
1323	6410	6410	ILLEGAL	8000539
1324	0001	1		8000540
1325	6410	6410	ILLEGAL	8000541
1326	6410	6410	ILLEGAL	8000542
1327	6410	6410	DELETE	8000543
1330	0034	10	( ) * , + / #	8000544
1331	0074			
1332	0060			
1333	0033			
1334	0054			
1335	0021			
1336	0013			
1337	0073			
	0076	FLEXUL EQU 76		8000545
	0075	EXITAA EQU 75		8000546
	0074	TABAD EQU 74		8000547
		REM		8000548
		REM		8000549
1340	0000	RDC405	RDC405 = CARD READER	8000550
1341	4076		READS ONE 80 COL CARD	8000551
1342	2176	STD PAIR	ENTRY	8000552
1343	0650	LDI PAIR	SAVE ADDRESS OF BUFFER ADDRESS	8000553
1344	4076	ADN 50		8000554
1345	7551	STAT STD PAIR	FIRST WORD OF BUFFER	8000555
1346	7600	EXF CHECK +1	WAIT READY	8000556
1347	6007	INA		8000557
1350	0701	ZJF ATE1 -3		8000558
1351	6504	SBN 1	HORPER EMPTY	8000559
1352	2200	NZB STAT		8000560
1353	3535	LDC 3535		8000561
1354	7700	HLT	YES, HALT	8000562
1355	6510	NZB STAT	RUN TO CONTINUE	8000563
1356	2316	LDB RDC405	SAVE EN	8000564

00014

1357	4075		STD	RETURN		B000564
1360	2076		LDD	PAIR		B000565
1361	0105	ATE1	ATE	ATE1	B-BUFFER ENTR. REG.	B000566
1362	1361					
1363	0650		ADN	50		B000567
1364	0106	ATX1	ATX	ATX1	BUFFER EXIT REG	B000568
1365	1364					
1366	7500		EXC	4502	SINGLE CYCLE AND PACK	B000569
1367	4502					
1370	7200	IBI1	IBI	IBI1	INITIATE BUFFER INPUT	B000570
1371	1370					
1372	2076		LDD	PAIR		B000571
1373	0750		SBN	50		B000572
1374	4074		STD	STORE1	FIRST WORD OF CARD IMAGE	B000573
1375	0107	UNPA	ETA		SEE IF WORD IS IN	B000574
1376	3476		SBD	PAIR		B000575
1377	0701		SBN	1		B000576
1400	6703		NJB	UNPA		B000577
1401	0577		LGN	77	LEFT HALF	B000578
1402	1176		LPI	PAIR		B000579
1403	0111		LS6			B000580
1404	4174		STI	STORE1		B000581
1405	5474		AOD	STORE1	BUMP STORE	B000582
1406	0477		LDN	77	RIGHT HALF	B000583
1407	1176		LPI	PAIR		B000584
1410	4174		STI	STORE1		B000585
1411	5474		AOD	STORE1	BUMP	B000586
1412	5476		AOD	PAIR		B000587
1413	3474		SBD	STORE1	IF EQUAL, WERE DONE	B000588
1414	6517		NZR	UNPA		B000589
1415	7500	CHECK	EXC	4540	CHECK FOR READER FAILURE	B000590
1416	4540					
1417	7600		INA			B000591
1420	1200		LPC	124		B000592
1421	0124					
1422	6005		ZJF	OUT4		B000593
1423	0000	ERROR	ERR		READER FAILURE	B000594
1424	0550		LGN	50		B000595
1425	5076		RAD	PAIR		B000596
1426	6561		NZB	STAT		B000597
1427	7075	OUT4	JPI	RETURN		B000598
	0074	STORE1	EQU	TABAD		B000599
1430	7500	AST00	EXC	4540	167 ROUTINE TO CHECK FOR ASTERISK IN	B000600
1431	4540					
1432	7600		INA			B000601
1433	6503		NZB	AST00		B000602
1434	7500		EXC	4502		B000603
1435	4502					
1436	7204		INP	4		B000604
1437	3003			INBUFF +3		B000605
1440	6003		ZJF	3		B000606
1441	6102		NZF	2		B000607
1442	3001			INBUFF +1		B000608
1443	3704		SBR	4		B000609
1444	6007		ZJF	ASTER	O.K. CONTINUE READING	B000610
1445	7500		EXC	4540		B000611
1446	4540					
1447	7600		INA			B000612
1450	0224		LPN	24		B000613
1451	0000		ERR			B000614

1452	6422		ZJB	AST00			8000615:
1453	2100	ASTER	LDM	INBUFF +1			8000616:
54	3001						:
1455	3600		SBC	2042	ASTERISK		8000617:
1456	2042						:
457	6004		ZJF	ADD*	YES: READ WHOLE CARD		8000618:
1460	7500		EXC	4500	NO: CLEAR TO READ NEXT CARD		8000619:
1461	4500						:
462	6532		NZB	AST00			8000620:
1463	2305	ADD*	LDR	ASTER +3	STORE ASTERISK CODE		8000621:
1464	4100		STM	INBUFF +1	STORE ASTERISK CODE		8000622:
465	3001						:
1466	7100		JPR	RD167C	READ CARD AND PACK		8000623:
1467	0573						:
470	2200		LDC	120			8000624:
1471	0120						:
1472	4100		STM	INBUFF	SET CONTROL CHARACTER FOR TAPE OUTPUT		8000625:
473	3000						:
1474	7101		JFI	1			8000626:
1475	0465			TESTK			8000627:
476	7100	AST11	JPR	RDCARD	085 ROUTINE TO CHECK FOR ASTERISK		8000628:
1477	0707						:
1500	2100		LDM	INBUFF +1	IN FIRST COLUMN		8000629:
501	3001						:
1502	0754		SBN	54	CHECK FOR ASTERISK		8000630:
1503	6505		NZB	AST11			8000631:
504	2313		LDB	ADD* +6			8000632:
505	4100		STM	INBUFF	SET CONTROL CHARACTER FOR TAPE OUTPUT		8000633:
06	3000						:
507	7101		JFI	1			8000634:
1510	0465			TESTK			8000635:
1511	7100	AST22	JPR	FLEXIN	JUMP TO FLEX INPUT ROUTINE		8000636:
512	1126						:
1513	2322		LDB	ADD* +6			8000637:
1514	4100		STM	INBUFF			8000638:
515	3000						:
1516	7101		JFI	1			8000639:
1517	0465			TESTK			8000640:
0075		TRY3	EQU	75			8000641:
1520	7500	AST33	EXC	5032	1607 ROUTINE FOR ASTERISK CHECK		8000642:
1521	5032						:
522	7100		JPR	WA	STATUS		8000643:
1523	1575						:
1524	0503		LCN	3			8000644:
525	4075		STD	TRY3			8000645:
1526	7500		EXC	5002	READ TAPE * CODED		8000646:
1527	5002						:
530	7204		INP	4			8000647:
1531	0000			0			8000648:
1532	6103		NZF	3			8000649:
533	6002		ZJF	2			8000650:
1534	3001			INBUFF +1			8000651:
1535	7514		EXF	EQT1 +1	CHECK FOR PARITY ERROR		8000652:
36	7600		INA				8000653:
537	0240		LPN	40			8000654:
1540	6010		ZJF	EQT1	NO ERROR, CONTINUE		8000655:
541	5475		AOD	TRY3			8000656:
1542	6013		ZJF	HALT33	HALT AFTER 3 ATTEMPTS		8000657:
1543	7500		EXC	5006	BACKSPACE TAPE		8000658:
544	5006						:

00015



1545	7100		JPR	WA		STATUS		800065
1546	1575							
1547	6421		ZJB	AST33	+6	TRY AGAIN		800066
1550	7500	EOT1	EXC	6053		CHECK FOR END OF TAPE		800066
1551	6053							
1552	7600		INA					8000662
1553	0204		LPN	4				800066
1554	6004		ZJF	4		NO. CONTINUE		80006648
1555	7700	HALT33	HLT			TAPE HALT - END OF TAPE OR ERROR.		8000665
1556	6432		ZJB	AST33	+4	ZERO OUT A-REG. TO CONTINUE		800066
1557	6113		NZF	WA	-3	RUN TO IGNORE		8000667
1560	2100		LDM	INBUFF	+1			8000668
1561	3001							
1562	1200		LPC	7700				80006698
1563	7700							
1564	3600		SBC	5400		CHECK FOR ASTERISK		800067
1565	5400							
1566	6542		NZB	AST33	+4			8000671
1567	2376		LDB	ADD*	+6			800067
1570	4100		STM	INBUFF		SET CONTROL CHARACTER FOR TAPE OUTPUT		8000673
1571	3000							
1572	7101		JFI	1				800067
1573	0465			TESTK				8000675
1574	7101		JFI	1				8000676
1575	0000	WA				TEST STATUS		800067
1576	7500	***	EXC	6053		REQUEST STATUS UNIT 3		8000678
1577	6053							
1600	7600		INA					800067
1601	1200		LPC	200				800068
1602	0200							
1603	6505		NZB	***		WAIT READY		8000681
1604	6410		ZJB	WA	-1			80006828
1605	2200	AST44	LDC	INBUFF	+1	405 ROUTINE		8000683
1606	3001							
1607	7100		JPR	RDC405				8000684
1610	1340							
1611	2100		LDM	INBUFF	+1			800068
1612	3001							
1613	0754		SBN	54		FIRST COLUMN ASTERISK		8000686
1614	6507		NZB	AST44		NO. READ NEXT CARD		800068
1615	2200		LDC	120				8000688
1616	0120							
1617	4100		STM	INBUFF		SET PRINTER CONTROL CHARACTER		800068
1620	3000							
1621	7101		JFI	1				800069
1622	0465			TESTK		GO TO OUTPUT ROUTINE		8000691
			REM			LPR166 PRINTER		80006928
1623	0000	LPR166						8000697
1624	2301		LDB	LPR166				8000694
1625	4071		STD	RTURN				8000695
1626	2200		LDC	INBUFF	+1			8000696
1627	3001							
1630	4075		STD	PICKUP		FWA OF ACTUAL PRINTING		80006978
1631	4076		STD	STORE				8000698
1632	7500	READY	EXC	740				800069
1633	0740							
1634	7600		INA					8000700
1635	6503		NZB	READY				8000701
1636	2200		LDC	INBUFF	+120			8000702
1637	3120							

1640	4073		STD	COUNT				8000703:
1641	2175	LOOP1	LDI	PICKUP		PACK LOOP		8000704:
42	0111		LS6					8000705:
1643	4176		STI	STORE				8000706:
1644	5475		ADD	PICKUP				8000707:
345	2175		LDI	PICKUP				8000708:
1646	5176		RAI	STORE				8000709:
1647	5476		ADD	STORE				8000710:
350	5475		ADD	PICKUP				8000711:
1651	3473		SBD	COUNT				8000712:
1652	6711		NJR	LOOP1				8000713:
653	7500		EXC	727		EJECT PAGE		8000714:
1654	0727							:
1655	7500		EXC	700				8000715:
356	0700							:
1657	7332	OUT	OUT	END				8000716:
1660	3051			INBUFF +51				8000717:
361	7500		EXC	720		MOVE PAPER		8000718:
1662	0720							:
1663	2303		LDB	OUT +1				8000719:
364	0701		SBN	1				8000720:
1665	4076		STD	STORE				8000721:
1666	0722		SBN	22				8000722:
367	4075		STD	PICKUP				8000723:
1670	0477	LOOP2	LDN	77				8000724:
1671	1175		LPI	PICKUP				8000725:
372	4176		STI	STORE				8000726:
73	0501		LCN	1				8000727:
74	5076		RAD	STORE				8000728:
675	0577		LCN	77				8000729:
1676	1175		LPI	PICKUP				8000730:
1677	0111		LS6					8000731:
700	4176		STI	STORE				8000732:
1701	0501		LCN	1				8000733:
1702	5075		RAD	PICKUP				8000734:
703	0501		LCN	1				8000735:
1704	5076		RAD	STORE				8000736:
1705	3600		SBC	INBUFF				8000737:
706	3000							:
1707	6617		PJR	LOOP2				8000738:
1710	7071		JPI	RTURN				8000739:
711	3001	END		INBUFF +1				8000740:
1711	M400	EQU	END					8000741:
0076	STORE	EQU	76					8000742:
0075	PICKUP	EQU	75					8000743:
0073	COUNT	EQU	73					8000744:
0076	PAIR	EQU	76					8000745:
0075	LAST	EQU	75					8000746:
0074	LOOK1	EQU	74					8000747:
0073	LOOK	EQU	73					8000748:
712	7500	L166P	EXC	727		166 PRINTER ROUTINE FOR PACKED DATA		8000749:
1713	0727							:
1714	7500		EXC	700				8000750:
15	0700							:
1716	7304		OUT	4				8000751:
1717	3050			INBUFF +50				8000752:
720	6103		NZF	3				8000753:
1721	6002		ZJF	2				8000754:
1722	3001			INBUFF +1				8000755:
723	7500		EXC	720				8000756:

1724	0720		JFI	1			8000757
1725	7101				GOBIN7		8000758
1726	2503						8000759
			REM			LPRINT (1612)	8000760
			REM			ENTER BY JPR TO 1ST LOCN	8000761
			REM			A= LOCATION OF PARAMETER LIST	8000762
			REM			PARAMETER LIST	8000763
			REM			1 LOCATION OF BUFFER	8000764
			REM			2 IGNORED	8000765
			REM			LENGTH OF BUFFER	8000766
			REM			FIRST CHARACTER NOT PRINTED	8000767
1727	0000	LPRINT				ENTRY POINT	8000768
1730	4077		STD		PARAM	LOGN OF PARAMETER LIST	8000769
1731	2300		LDS				8000770
1732	0270		LPN		70	TEST TO SEE IF DATA IS PACKED	8000771
1733	0730		SPN		30		8000772
1734	6003		ZJF		UN22		8000773
1735	0710		SPN		10		8000774
1736	6103		NZF		3		8000775
1737	7100	UN22	JPR		UNPACK	YES, UNPACK	8000776
1740	2523						8000777
1741	7500		EXC		600	SELECT PRINTER(NO INTERRUPT)	8000778
1742	0600						8000779
1743	2177		LDI		PARAM	LOGN OF BUFFER	8000780
1744	4076		STD		TBLADR		8000781
1745	0601		ADN		1		8000782
1746	4225		STF		BEGIN	ADDRESS OF FIRST WORD TO BE PRINTED	8000783
1747	0402		LDN		2		8000784
1750	5077		RAD		PARAM		8000785
1751	2177		LDI		PARAM	LENGTH OF RECORD	8000786
1752	3076		ADD		TBLADR		8000787
1753	4213		STF		PRINT1	LAST WORD ADDRESS +1	8000788
1754	7600	PRINT	INA				8000789
1755	6401		ZJR		PRINT		8000790
1756	7500		EXC		604	EJECT PAGE	8000791
1757	0604						8000792
1760	2331		LDR		LPRINT		8000793
1761	4075		STD		RETURN	SET EXIT ADDRESS	8000794
1762	2204		LDR		PRINT1		8000795
1763	3610		SBR		BEGIN		8000796
1764	6006		ZJR		EXIT1	EXIT IF ONE WORD RECORD	8000797
1765	7306		OUT		BEGIN	PRINT	8000798
1766	0000	PRINT1					8000799
1767	7500		EXC		605	AND ADVANCE PAPER	8000800
1770	0605						8000801
1771	0400		LDN		0		8000802
1772	7075	EXIT1	JPI		RETURN		8000803
1773	0000	BEGIN				1ST WORD ADDRESS OF PRINT BUFFER	8000804
	0076	TBLADR	EQU		76	LOCATION OF BUFFER	8000805
	0075	RETURN	EQU		75	EXIT ADDRESS	8000806
			REM			PCHFLX	8000807
			REM			ENTER BY JPR TO THE FIRST	8000808
			REM			LOCATION OF THE ROUTINE	8000809
			REM			LOW CORE USE 73 = 77	8000810
1774	0000	PCHFLX				ENTRY POINT	8000811
1775	2600		LCC		120		8000812
1776	0120						8000813
1777	4073		STD		COUNT	SET TO PUNCH 80 CHAR. RECORD	8000814
2000	7500		EXC		4104	SELECT PUNCH	8000815
2001	4104						8000816

2002	7447		OTN	47	PUNCH U.C. CODE	8000810:
2003	2254		LDF	H100		8000811:
004	4077		STD	PARAM	BEGINNING ADDRESS	8000812:
2005	2177	PCHFG	LDI	PARAM	PICK UP ONE CHARACTER	8000813:
2006	4074		STD	CHARA	SAVE IT	8000814:
007	2200		LDC	PCHFL		8000815:
2010	2060					
2011	4076		STD	TBLADR	SET BEGINNING TABLE ADDRESS	8000816:
012	2176	PCHFA	LDI	TBLADR		8000817:
2013	6042		ZJF	PCHFE	JUMP IF NO EQUALITY FOUND	8000818:
2014	1474		SCD	CHARA		8000819:
015	0277		LPN	77		8000820:
2016	6003		ZJF	PCHFB	JUMP IF CHARACTER FOUND	8000821:
2017	5476		ADD	TBLADR	SET TO CHECK NEXT ENTRY	8000822:
020	6506		NZB	PCHFA	LOOP	8000823:
2021	2176	PCHFB	LDI	TBLADR	PICK UP TABLE ENTRY	8000824:
2022	0111		LS6		SHIFT	8000825:
023	0277		LPN	77	MASK OFF CHARACTER	8000826:
2024	4074		STD	CHARA	SAVE IT	8000827:
2025	2076		LDD	TBLADR		8000828:
026	3600		SBC	PCHFU		8000829:
2027	2076					
2030	6207		PJF	PCHFC	JUMP IF UPPER CASE CHAR.	8000830:
031	2076		LDD	FLEXUL		8000831:
2032	6012		ZJF	PCHFH	JUMP IF CASE OK	8000832:
2033	0400		LDN	0		8000833:
034	4076		STD	FLEXUL	RESET CASE FLAG	8000834:
035	0457		LDN	57	LOWER CASE CODE	8000835:
036	6105		NZF	PCHFD		8000836:
037	2076	PCHFC	LDD	FLEXUL		8000837:
2040	6104		NZF	PCHFH	NO CASE CODE NEEDED	8000838:
2041	0447		LDN	47	UPPER CASE CODE	8000839:
042	4076		STD	FLEXUL	RESET CASE FLAG	8000840:
2043	7677	PCHFD	OTA		PUNCH CASE CODE	8000841:
2044	2074	PCHFH	LDD	CHARA	PICK UP CHARACTER	8000842:
045	7677	PCHFF	OTA		PUNCH CHARACTER	8000843:
2046	5477		ADD	PARAM	INCREASE ADDRESS	8000844:
2047	5473		ADD	COUNT	INCREASE COUNTER	8000845:
050	6543		NZB	PCHFG	JUMP IF NOT DONE	8000846:
2051	7445		OTN	45		8000847:
2052	2356	PCHFCR	LDB	PCHFLX	SET EXIT ADDRESS	8000848:
053	4074		STD	CHARA		8000849:
2054	7074		JPI	CHARA	EXIT	8000850:
2055	0404	PCHFE	LDN	4	SET BLANK IF NO EQUALITY	8000851:
056	6511		NZB	PCHFF		8000852:
057	3001	H100		INBUFF +1		8000853:
2060	4421	PCHFL		4421	SLASH	8000854:
061	5474			5474	RPAREN	8000855:
2062	4633			4633	COMMA	8000856:
2063	4273			4273	PERIOD	8000857:
064	5612			5612	X0	8000858:
2065	7401			7401	X1	8000859:
2066	7002			7002	X2	8000860:
067	6403			6403	X3	8000861:
070	6204			6204	X4	8000862:
2071	6605			6605	X5	8000863:
072	7206			7206	X6	8000864:
2073	6007			6007	X7	8000865:
074	3310			3310	X8	8000866:
075	3711			3711	X9	8000867:

2076	3061	PCHFU	3061	A	B00085
2077	2362		2362	B	B00086
2100	1663		1663	C	B00087
2101	2264		2264	D	B00087
2102	2065		2065	E	B000872
2103	2666		2666	F	B000873
2104	1367		1367	G	B00087
2105	0570		570	H	B000875
2106	1471		1471	I	B000876
2107	3241		3241	J	B00087
2110	3642		3642	K	B000878
2111	1143		1143	L	B000879
2112	0744		744	M	B00088
2113	0645		645	N	B000881
2114	0346		346	O	B000882
2115	1547		1547	P	B00088
2116	3550		3550	Q	B000884
2117	1251		1251	R	B000885
2120	2422		2422	S	B00088
2121	0123		123	T	B000887
2122	3424		3424	U	B000888
2123	1725		1725	V	B00088
2124	3126		3126	W	B000890
2125	2727		2727	X	B000891
2126	2530		2530	Y	B00089
2127	2131		2131	Z	B000893
2130	4454		4454	APOSTROPHE-ASTERISK	B000894
2131	5053		5053	DOLLAR SIGN-COLON	B00089
2132	5434		5434	LPAREN	B00089
2133	4213		4213	EQUALS	B00089
2134	4660		4660	PLUS	B00089
2135	5240		5240	MINUS	B000899
2136	0000		0	END OF TABLE	B000900
	0074	CHARA EQU	74	TEMPORARY STORAGE	B00090
		REM		CDPNCH=523 CARD PUNCH	B000902
		REM		ENTER BY JPR WITHA	B000903
		REM		CONTAINING THE LOCATION OF	B00090
		REM		THE PARAMETER LIST	B000905
2137	0000	CDPNCH		ENTRY POINT	B000906
2140	4077	STD	PARAM	SAVE PARAMETER LIST LOCATION	B000907
2141	2300	LDS			B000908
2142	0270	LPN	70	TEST TO SEE IF DATA IS PACKED	B000909
2143	0730	SBN	30		B00091
2144	6003	ZJF	UU22		B000911
2145	0710	SBN	10		B000912
2146	6103	NZF	3		B00091
2147	7100	UU22	JPR UNPACK	YES, UNPACK	B000914
2150	2523				
2151	2177	LDI	PARAM	PICK UP BUFFER LOCATION	B00091
2152	4076	STD	TOP1	TOP=1ST ADDRESS OF BUFFER	B000916
2153	0402	LDN	2		B000917
2154	5077	RAD	PARAM		B00091
2155	2177	LDI	PARAM	PICK UP RECORD LENGTH	B000919
2156	4077	STD	PARAM	PARAM=RECORD LENGTH	B000920
2157	3076	ADD	TOP1		B00092
2160	4205	STF	CDP1	SET NEXT CHARACTER	B000922
2161	0420	LDN	20	TO BLANK	B000923
2162	4100	STI	0	STM	B000924
2163	0000	CDP1			B000925
2164	2477	LCD	PARAM		B000926

2165	4073		STD	COUNT	TEMPORARY COUNTER	80009278
2166	2076		LDD	TOP1		80009281
67	4075		STD	ROW8	SET ROW 8=1ST ADDRESS	80009298
2170	4074		STD	ROW0	SET ROW0=1ST ADDRESS	80009301
2171	2174	CDP2	LDI	ROW0	PICK UP ONE CHAR,	80009318
172	0111		LS6		SHIFT	80009321
2173	4175		STI	ROW8	STORE	80009331
2174	5474		ACD	ROW0	ADJUST ADDRESS	80009341
175	2174		LDI	ROW0	PICK UP NEXT CHARACTER	80009351
2176	5175		RAI	ROW8	ADD TO FIRST	80009361
2177	0402		LDN	21	ADJUST COUNTER	80009371
200	5073		RAD	COUNT		80009381
2201	6204		PJF	CDP3	JUMP IF DONE	80009391
2202	5475		ACD	ROW8	ADJUST ADDRESSES	80009401
203	5474		ACD	ROW0		80009411
2204	6513		NZR	CDP2	GO BACK	80009428
2205	2076	CDP3	LDD	TOP1	1ST ADDRESS OF BUFFER	80009438
206	0650		ADN	50	+40	80009441
2207	0105	CDP4	ATE	CDP4	1ST ADDRESS OF IMAGE	80009458
2210	2207					
211	3200		ADC	124		80009468
2212	0124					
2213	0106	CDP5	ATX	CDP5	LWA+1	80009471
214	2213					
2215	0400		LDN	0		80009481
2216	0100	CDP6	BLS	CDP6	CLEAR IMAGE	80009491
217	2216					
	2217	CHKCHR	EQU	CDP6 +1	CHECK CHARACTER	80009501
20	0107		ETA		LWA + 1 TO A	80009511
221	0725		SBN	25		80009528
2222	4074		STD	ROW0	SET ROW0 ADDRESS	80009531
2223	0770		SBN	70		80009541
224	4075		STD	ROW8	SET ROW8 ADDRESS	80009558
2225	2477		LCD	PARAM		80009568
2226	4073		STD	COUNT	RESET COUNTER	80009571
227	2370		LDB	CDPNCH	SET EXIT ADDRESS	80009581
2230	4072		STD	CDP98		80009591
2231	2200		LDF	0		80009608
232	4000	L4000		4000		80009618
2233	4071		STD	BITT	SET BIT	80009621
2234	2176	PICKUB	LDI	TOP1	PICK UP CHARACTERS	80009631
235	0111		LS6		SHIFT	80009640
2236	4176		STI	TOP1	STORE	80009651
2237	0277		LPN	77	PICK OFF ONE	80009661
240	0720		SBN	20	SKIP IF = BCD BLANK	80009671
2241	6050		ZJF	NXTCHR	TO NEXT CHARACTER	80009688
2242	0620		ADN	20	RESTORE CHARACTER	80009698
243	4324		STR	CHKCHR	SAVE IT	80009701
2244	0217		LPN	17	PICK OFF LOWER 4 BITS	80009718
2245	6026		ZJF	ZPNCH	JUMP IF ZERO	80009721
246	0712	SUB12	SBN	12		80009731
2247	6311		NJF	NPNCH	JUMP IF 1-11	80009741
2250	6103		NZF	8PNCH	JUMP IF NOT 12	80009751
51	0512		LCN	12		80009761
252	6306		NJF	NPNCH	SET FOR ROW 0	80009771
2253	2071	8PNCH	LDD	BITT	SET PUNCH IN 8 ROW	80009781
254	5175		RAI	ROW8		80009791
2255	0407		LDN	7	EFFECTIVELY SUBTRACT 8	80009801
2256	1337		LPR	CHKCHR		80009811
257	6102		NZR	MPNCH	GO TO DO REST	80009821

2260	0612	MPNCH	ADN	12	RESTORE CHARACTER	8000983
2261	4276	MPNCH	STR	ADDCHK	MULTIPLY X8	8000984
2262	0110		LS3			800098F
2263	3674		SBR	ADDCHK	SUBTRACT 1	800098
2264	4273		STR	ADDCHK	ANSWER X7	8000987
2265	2074		LDD	ROW0		8000988
2266	3671		SBR	ADDCHK	COMPUTE ROW ADDRESS	8000989
2267	4070		STD	SUPPL	SAVE IT	8000990
2270	2071		LDD	BITT	SET BIT	8000991
2271	1570		SCI	SUPPL		8000992
2272	4170		STI	SUPPL		8000993
2273	0460	ZPNCH	LDM	60	CHECK FOR 0,*,+	8000994
2274	1355		LPR	CHKCHR		8000995
2275	6014		ZJF	NXTCHR	JUMP IF ZERO	8000996
2276	0720		SBN	20		8000997
2277	6005		ZJF	SETBIT	JUMP IF 20	8000998
2300	0720		SBN	20		8000999
2301	6002		ZJF	2	JUMP IF 40	8001000
2302	0407		LDM	7	SET FOR +	8001001
2303	0607		ADN	7	SET FOR -	8001002
2304	3074	SETBIT	ADD	ROW0	SET FOR 0	8001003
2305	4070		STD	SUPPL	SAVE IT	8001004
2306	2071		LDD	BITT		8001005
2307	1570		SCI	SUPPL		8001006
2310	4170		STI	SUPPL		8001007
2311	5473	NXTCHR	AOD	COUNT		8001008
2312	6022		ZJR	PNCH	JUMP IF DONE	8001009
2313	0577		LCN	77		8001010
2314	1176		LPI	TQP1	MASK OFF ONE CHARACTER	8001011
2315	4176		STI	TQP1		8001012
2316	6102		NZF	BITSET	OK IF NON ZERO	8001013
2317	5476		AOD	TQP1	INCREASE ADDRESS IF ZERO	8001014
2320	2071	BITSET	LDD	BITT		8001015
2321	0114		RS1		SHIFT BIT	8001016
2322	6005		ZJR	RESET	ZERO MEANS END OF WORD	8001017
2323	6202		PJF	2	JUMP IF OK	8001018
2324	1471		SCD	BITT	SET FOR POSITIVE	8001019
2325	4071		STD	BITT	STORE SHIFTED MASK	8001020
2326	6572	CDP88	NZR	PICKUP	NEXT CHARACTER	8001021
2327	2375	RESET	LDR	L4000		8001022
2330	4071		STD	BITT	RESET BIT MASK	8001023
2331	5475		AOD	ROW8	INCREASE ADDRESSES	8001024
2332	5474		AOD	ROW0		8001025
2333	6505		NZR	CDP88	NEXT CHARACTER	8001026
2334	7500	PNCH	EXC	3040	REQUEST STATUS OF OUTPUT	8001027
2335	3040					8001028
2336	7600		INA			8001029
2337	1200		LPC	2200	PUNCH NOT READY= 1604 SELECTED	8001030
2340	2200					8001031
2341	6505		NZR	PNCH	WAIT READY	8001032
2342	7500		EXC	3002	SELECT PUNCH	8001033
2343	3002					8001034
2344	0107		ETA		LAST WA + 1	8001035
2345	4205		STF	OUTCR +1	SET LWA +1	8001036
2346	3500		SBC	124		8001037
2347	0124					8001038
2350	4205		STF	OUTCR +4	SET FWA	8001039
2351	7304	OUTCR	OUT	4		8001040
2352	0000			0	LWA +1	8001041
2353	6003		ZJF	3		8001042

354	6102		NZF	2			8001039:
2355	0000			0	FWA		8001040:
56	7072		JPI	CDP98			8001041:
357	0000	ADDCHK			ADBER		8001042:
	0070	SUPPL	EQU	70	TO BE SUPPLIED		8001043:
	0074	ROW0	EQU	74	ADDRESS IN IMAGE		8001044:
	0075	ROW8	EQU	75	ADDRESS IN IMAGE		8001045:
	0076	TOP1	EQU	76	ADDRESS OF BUFFER		8001046:
	0072	ODP98	EQU	72	EXIT ADDRESS		8001047:
	0071	BITT	EQU	71	MASK FOR SETTING BITS IN IMAGE		8001048:
			REM		1607 ROUTINE TO OUTPUT ASTERISK	COMMENT	8001049:
	0076	TRY34	EQU	76			8001050:
360	7500	TAPE44	EXC	6042	1607 ROUTINE TO OUTPUT ASTERISK	COMMENT RE	8001051:
2361	6042						:
362	7100		JPR	WAI	STATUS		8001052:
363	2512						:
2364	2300		LDS		TEST FOR UNPACKED DATA		8001053:
365	0730		SBN	30			8001054:
366	6040		ZJR	EX	PAGKED, CONTINUE		8001055:
2367	0710		SBN	10			8001056:
370	6036		ZJR	EX	PAGKED, CONTINUE		8001057:
371	2200		LDC	INBUFF +1			8001058:
2372	3001						:
373	4074		STD	74			8001059:
374	2100	PAA	LDM	INBUFF +1	PAGK DATA		8001060:
2375	3001						:
376	0277		LPN	77			8001061:
377	0111		LS6				8001062:
00	4174		STI	74			8001063:
401	2100		LDM	INBUFF +2			8001064:
402	3002						:
2403	7674		HWI	74			8001065:
404	0402		LDN	2			8001066:
405	5310		RAB	PAA +1			8001067:
2406	0402		LDN	2			8001068:
407	5305		RAB	PAA +6			8001069:
410	5474		AOD	74			8001070:
2411	3600		SBC	INBUFF +50			8001071:
412	3050						:
413	6517		NZB	PAA			8001072:
2414	2206		LDF	ATE4 +5	BLANK OUT REMAINDER OF BUFFER		8001073:
415	0105	ATE4	ATE	ATE4			8001074:
416	2415						:
2417	2200		LDC	INBUFF +171			8001075:
420	3171						:
421	0106		ATX	INBUFF +52			8001076:
2422	3052						:
423	2202		LDF	2			8001077:
424	0100		BLS	2020			8001078:
2425	2020						:
426	0503	EX	LCN	3	SET COUNTERS		8001079:
427	4075		STD	TRY3			8001080:
2430	4076		STD	TRY34			8001081:
31	7500		EXC	6002	WRITE TAPE * CODED		8001082:
32	6002						:
2433	7304		OUT	4			8001083:
434	3171			INBUFF +171			8001084:
435	6103		NZF	3			8001085:
2436	6002		ZJF	2			8001086:
437	3000			INBUFF			8001087:



2440	7513		EXF	EOT4	+1	CHECK STATUS FOR PARITY ERROR	B001088
2441	7600		INA				B001089
2442	0220		LPN	20			B001090
2443	6007		ZJR	EOT4		NO ERROR CHECK FOR EOT	B001091
2444	5475		ADD	TRY3			B001092
2445	6015		ZJF	EOF4			B001093
2446	7515		EXF	EOF4	+1		B001094
2447	7100		JPR	WAI		STATUS	B001095
2450	2512						
2451	6420		ZJR	EX	+3		B001096
2452	7500	EOT4	EXC	6053		CHECK FOR END OF TAPE	B001097
2453	6053						
2454	7600		INA				B001098
2455	0204		LPN	4			B001099
2456	6025		ZJF	WAI	-7	NO. CONTINUE	B001100P
2457	7700	HALT4	HLT			TAPE HALT - END OF TAPE OR ERROR	B001101
2460	6432		ZJB	EX		ZERO OUT A-REG. TO CONTINUE	B001102
2461	6122		MZF	GOBIN7		RUN TO IGNORE	B001103P
2462	7500	EOF4	EXC	6006		BACKSPACE TAPE	B001104
2463	6006						
2464	7100		JPR	WAI		STATUS	B001105
2465	2512						
2466	7500		EXC	6003		WRITE EOF AFTER 3 ATTEMPTS	B001106
2467	6003						
2470	7100		JPR	WAI		STATUS	B001107
2471	2512						
2472	5476		ADD	TRY34			B001108
2473	6414		ZJR	HALT4		HALT AFTER THREE EOF,S	B001109
2474	7500		EXC	6006		BACKSPACE OVER EOF	B001110
2475	6006						
2476	7100		JPR	WAI		STATUS	B001111
2477	2512						
2500	0503		LCN	3			B001112P
2501	4075		STD	TRY3		RESTORE ONE COUNTER	B001113
2502	6551		NZB	EX	+3	TRY AGAIN	B001114B
2503	2200	GOBIN7	LDC	400			B001115
2504	0400						
2505	7100		JPR	BIN7			B001116
2506	0220						
2507	7101		JFI	1			B001117
2510	0400			400		TRANSFER TO SYSTEM	B001118B
2511	7101		JFI	1			B001119
2512	0000	WAI				TEST STATUS	B001120
2513	7500	****	EXC	6053		REQUEST STATUS UNIT 4	B001121
2514	6053						
2515	7600		INA				B001122
2516	1200		LPC	100			B001123B
2517	0100						
2520	6505		NZB	****		WAIT READY	B001124
2521	6410		ZJB	WAI	-1	RETURN	B001125
			REM			ROUTINE TO UNPACK CHARACTERS WHICH HAVE	B001126
			REM			BEEN READ INTO MEMORY IN PACKED FORMAT,	B001127
			REM			DATA STARTS IN LOCATION 400	B001128
2522	7101		JFI	1			B001129
2523	0000	UNPACK				STARTING ADDRESS	B001130
2524	2200		LDC	7000			B001131
2525	7000						
2526	4076		STD	76			B001132B
2527	2100	UNP	LDM	INBUFF	+1		B001133
2530	3001						

2531	0111	LSB				80011348
2532	7676	HWI	76	STORE UPPER HALF IN TEMPORARY LOCATION		80011358
33	5476	AOB	76			80011368
34	2100	LDM	INBUFF +1			80011378
2535	3001					:
536	7676	HWI	76	STORE LOWER HALF IN NEXT TEMP. LOCATION		80011388
537	5476	AOB	76			80011398
2540	3600	SBC	7120	CHECK FOR END OF BLOCK		80011408
541	7120					:
542	6004	ZJB	RELOAD	YES, JUMP TO RELOAD UNPACKED DATA		80011418
2543	5713	AOB	UNP +1			80011428
544	5707	AOB	UNP +6			80011438
545	6516	NZB	UNP			80011448
2546	2100	RELOAD LDM	7000			80011458
547	7000					:
550	4100	STM	INBUFF +1	RELOAD STARTING AT 0,3001		80011468
2551	3001					:
552	5701	AOB	RELOAD +3			80011478
553	5704	AOB	RELOAD +1			80011488
2554	3600	SBC	7120	CHECK FOR END OF BLOCK		80011498
555	7120					:
556	6510	NZB	RELOAD			80011508
2557	6435	ZJB	UNPACK -1			80011518
	2777	DRG	2777			80011528
2777	0000	FLAG	0	STANDARD FLAG		80011538
		SUPB				:
	0000	END				80011548

	REM			PASS 1 PART 1 NO CHANGE 18 JUNE 1963	
	REM			163 BOOTSTRAP REINITIALIZATION	
	REM			FRANK E. FEUILLE 7/10/63	
	REM			BIN	
	REM			BINARY 163 TAPE ROUTINE FOR	
	REM			USE WITHIN THE COMPILER	
	REM			ENTER WITH A=THESE PARAMETERS	
	REM			0=WRITE TAPE 2	
	REM			1=READ TAPE 2 100 TO 220	
	REM			2=WRITE EOF TAPE 2	
	REM			4 = REWIND TAPE 1	
	REM			3=REWIND TAPE 2	
	REM			7777=SEARCH FORWARD EOF ON TAPE 1	
	REM			ADR=LOAD RECORD FROM TAPE	
	REM			ONE INTO LOCATION IN A.	
	REM			ENTER BY JPR TO THE FIRST	
	REM			LOCATION OF THE ROUTINE,	
	REM			ASSUMES ALL BANK SETTINGS = 0	
	ORG		220		
0220	0000		0		
	0220		220		
	0000	BIN		ENTRY POINT	
0220	0000			SAVE ENTRY PARAMETER	
0221	4267	STF	START		
0222	2302	LDS	BIN		
0223	4271	STR	EXITAB	SET EXIT ADDRESS	
0224	0503	LCN	3		
0225	4264	STR	COUNT2	SET TO TRY TO WRITE THREE TIMES	
0226	1262	LPR	START	PICK UP LEFT 9 BITS	
0227	6002	ZJF	SET1	IF ZERO = TAPE 2 OPERATION	
0230	0501	LCN	1	SET TO CHECK TAPE 1	
0231	0602	ADN	2	SET TO CHECK TAPE 2	
0232	3200	ADC	2120		
0233	2120				
0234	4274	STF	BKCOD	BACKSPACE TAPE CODE	
0235	0610	ADN	10		
0236	4260	STF	RDCOD	READ TAPE 12 BIT CODE	
0237	0610	ADN	10		
0240	4273	STF	STCOD	STATUS REQUEST CODE	
0241	0400	LDN	0		
0242	4232	STR	INSTR	SET INSTR = ZERO	
0243	4232	STR	END1	SET END = ZERO FOR ADR F.C.	
0244	7500	EXF	0	SELECT ODD PARITY , BINARY	
0245	1171		1171	ODD PARITY SELECT CODE	
0246	2242	LDF	START	ENTRY PARAMETER TO A.	
0247	6067	ZJF	WR2F	ZERO = WRITE TAPE 2	
0250	0702	SBN	2		
0251	6063	ZJF	WREOFF	TWO = WRITE END OF FILE ON TAPE 2	
0252	0701	SBN	1		
0253	6072	ZJF	REW2F	THREE = REWIND TAPE 2	
0254	0701	SBN	1		
0255	6072	ZJR	SRHBK		
0256	0604	ADN	4		
0257	6036	ZJF	SRCHF	7777 = SEARCH FORWARD FOR EOF ON 1	
0260	2236	LDR	RDCOD	READ EITHER TAPE 1 OR 2	
0261	4212	STR	RWCCD	SET IN EXECUTION SEQUENCE	

0252	0201		LPM	1
0263	6105		NZR	BOTH
54	2267	RWF2	LDR	K220
65	4210		STR	END1
0266	2264		LDR	K100
267	4221		STR	START
270	2265	BOTH	LDF	I/O
0271	5203		RAR	INSTR
272	7500	DO	EXF	0
273	0000	RWCOD		
0274	0000	INSTR		
275	0000	END1		
276	7535		EXF	STCOD
0277	7600		INA	
300	0275		LPN	75
301	6012		ZJR	EXIT2
0302	0111		LS6	
303	0102		LS1	
304	6307		NJR	EXIT2
0305	5604		AOR	COUNT2
306	6012		ZJR	WREOF
307	6120		NZR	CONT
0310	0000	START		
311	0000	COUNT2		
0312	7700	STOP	HLT	
0313	7101	EXIT2	JFI	1
314	0000	EXITAB		
0315	7500	SRCHF	EXF	0
16	0000	RDCOD		
317	6504		NZR	EXIT2
0320	5702	WREOF	AOR	COUNT1
0321	6507		NZR	STOP
322	0503		LCN	3
0323	4312		STR	COUNT2
0324	7504		EXF	BKCOD
325	7600		INA	
0326	7526		EXF	WR2COD
0327	7500	CONT	EXF	0
330	0000	BKCOD		
0331	7600		INA	
0332	6640		PJB	DO
333	0000	STCOD		0
0334	7520	WREOFF	EXF	WR2COD
0335	6522		NZR	EXIT2
336	2216	WR2F	LDR	WR2COD
0337	4344		STR	RKCOD
340	2212		LDR	K100
0341	4345		STR	INSTR
42	0501		LCN	1
0343	4325		STR	COUNT1
4	6560			
0345	7511	REW2F	EXF	REW2FC
46	6533		NZR	EXIT2
0347	7500	SRHBK	EXC	1161

GO TO READ IF TAPE 1

220 = LWA + 1

FIRST ADDRESS FOR DATA = 100  
LDR INPUT INSTRUCTION  
ADD TO INTR PRODUCING INP. OR OUT  
EXC SELECT READ OR WRITE

INPUT OR OUTPUT FROM START  
LAST WORD ADDRESS + 1  
REQUEST STATUS

ZERO = OK

PARITY ERRIR WAS DETECTED  
TRY THREE TIMES BEFORE ERROR ROUTINE

STARTING ADDRESS OF BUFFER

END OF TAPE OR PARITY ERRORS UNRESOLVED

SEARCH FORWARD FOR END OF FILE  
ON TAPE ONE

STOP IF READ OR SECOND TRY ON WRITE  
RESET COUNTER

WRITE END OF FILE  
BACKSPACE ONE RECORD

GO TO TRY AGAIN

WRITE END OF FILE ON TAPE 2

SET WRITE CODE IN EXECUTION SEQUENCE

SET INSTR = 100

SET TO TRY ERROR ROUTINE TWICE

GO TO COMMON AREA OF READ SEQUENCE

REWIND TAPE 2

BOT0053:  
BOT0054:  
BOT0055:  
BOT0056:  
BOT0057:  
BOT0058:  
BOT0059:  
BOT0060:  
BOT0061:  
BOT0062:  
BOT0063:  
BOT0064:  
BOT0065:  
BOT0066:  
BOT0067:  
BOT0068:  
BOT0069:  
BOT0070:  
BOT0071:  
BOT0072:  
BOT0073:  
BOT0074:  
BOT0075:  
BOT0076:  
BOT0077:  
BOT0078:  
BOT0079:  
BOT0080:  
BOT0081:  
BOT0082:  
BOT0083:  
BOT0084:  
BOT0085:  
BOT0086:  
BOT0087:  
BOT0088:  
BOT0089:  
BOT0090:  
BOT0091:  
BOT0092:  
BOT0093:  
BOT0094:  
BOT0095:  
BOT0096:  
BOT0097:  
BOT0098:  
BOT0099:  
BOT0100:  
BOT0101:  
BOT0102:  
BOT0103:  
BOT0104:  
BOT0105:  
BOT0106:

0351	6536		NZR	EXIT2					80T0107:
0352	0100	K100		100	CONSTANT	STARTING	ADDRESS		80T0108
0353	0220	K220		220	CONSTANT	LWA	+ 1		80T0109
0354	2112	NR200D		2112					80T0110:
0355	7214	-170	INP	START	-INSTR				80T011

356	1162	REW2FC		1162						BOT0112:
	0316	COUNT1	EQU	RDCOD						BOT0113:
	0400		ORG	400						BOT0114:
	0060		S100							BOT0115:
401	0140		SBU0							BOT0116:
402	7500		EXC	1162						BOT0117:
403	1162									
404	2100		LDM	FLAG				PICK UP STANDARD FLAG		BOT0118:
405	2777									
406	4300		STS					STORE IN SPECIFIC		BOT0119:
407	0277		LPN	77				CHECK WHETHER TO IGNORE ASTERISK TEST		BOT0120:
410	0777		SBN	77						BOT0121:
411	6103		NZF	BEGINI						BOT0122:
412	7101		JFI	1				YES, JUMP TO READ FIRST RECORD FROM SYSTEM		BOT0123:
413	2343			GGBIN				TRANSFER TO SYSTEM		BOT0124:
414	2300	BEGINI	LDS					LOAD FLAG		BOT0125:
415	0270		LPN	70				CHECK FOR TYPE OF INPUT DEVICE		BOT0126:
416	6016		ZJF	AST0				ZERO * 167		BOT0127:
417	0710		SBN	10						BOT0128:
420	6016		ZJF	AST1				ONE * 088		BOT0129:
421	0710		SBN	10						BOT0130:
422	6016		ZJF	AST2				TWO * FLEX		BOT0131:
423	0710		SBN	10						BOT0132:
424	6016		ZJF	AST3				THREE * 163 (UNIT 3)		BOT0133:
425	0710		SBN	10						BOT0134:
426	6402		ZJR	2						BOT0135:
427	0710		SBN	10						BOT0136:
430	6014		ZJF	AST4				FIVE * 405		BOT0137:
31	7700		HLT					ERROR HALT FOR INCORRECT FLAG		BOT0138:
432	6515		NZB	BEGINI +1				LOAD CORRECT FLAG INTO A-REG.		BOT0139:
433	6416		ZJR	BEGINI +1				AND RUN		BOT0140:
434	7101	AST0	JFI	1						BOT0141:
435	1371			AST00						BOT0142:
436	7101	AST1	JFI	1						BOT0143:
437	1436			AST11						BOT0144:
440	7101	AST2	JFI	1						BOT0145:
441	1451			AST22						BOT0146:
442	7101	AST3	JFI	1						BOT0147:
443	1460			AST33						BOT0148:
444	7101	AST4	JFI	1						BOT0149:
445	1534			AST44 - 405						BOT0150:
446	2100	TESTK	LDM	FLAG				CHECK FLAG FOR OUTPUT DEVICE		BOT0151:
447	2777									
450	4300		STS							BOT0152:
451	0207		LPN	7						BOT0153:
452	6016		ZJF	P166				ZERO * 166 PRINTER		BOT0154:
453	0701		SBN	1						BOT0155:
454	6020		ZJF	P1612				ONE * 1612 PRINTER		BOT0156:
455	0701		SBN	1						BOT0157:
456	6033		ZJF	PFLEX				TWO * FLEX		BOT0158:
457	0701		SBN	1						BOT0159:
460	6035		ZJF	P523				THREE * 523 CARD PUNCH		BOT0160:
461	0701		SBN	1						BOT0161:
462	6002		ZJF	2				FOUR * 163 (UNIT 4)		BOT0162:
463	0701		SBN	1						BOT0163:
464	6046		ZJF	TAPE4						BOT0164:
465	7700		HLT					ERROR HALT FOR INCORRECT FLAG		BOT0165:
466	6516		NZB	TESTK +2				LOAD FLAG INTO A-REG.		BOT0166:
467	6417		ZJR	TESTK +2				AND RUN		BOT0167:
470	7100	P166	JPR	LPR166				GO TO PACK CHARACTERS AND PRINT		BOT0168:

00030

0471	1551							
0472	7101		JFI	1				80T01690
0473	2343				GOBIN	TRANSFER TO SYSTEM		80T0170
0474	2200	P1612	LDC		INBUFF			80T01
0475	3000							
0476	4100		STM	200				80T0172
0477	0200							
0500	2200		LDC	121				80T01730
0501	0121							
0502	4100		STM	202				80T017
0503	0202							
0504	2305		LDB	P1612	+3			80T0175
0505	7100		JPR	LPRINT		JUMP TO 1612 PRINTER OUTPUT ROUTINE		80T017
0506	1640							
0507	7101		JFI	1				80T0177
0510	2343				GOBIN	TRANSFER TO SYSTEM		80T017
0511	7100	PFLEX	JPR	PCHFLX		JUMP TO FLEX OUTPUT ROUTINE		80T0179
0512	1675							
0513	7101		JFI	1				80T018
0514	2343				GOBIN	TRANSFER TO SYSTEM		80T0181
0515	2200	P523	LDC		INBUFF +1	PREPARE TO JUMP TO CARD OUTPUT ROUTINE		80T0182
0516	3001							
0517	4100		STM	200				80T0183
0520	0200							
0521	2200		LDC	120				80T018
0522	0120							
0523	4100		STM	202				80T0185
0524	0202							
0525	2305		LDB	P523	+3			80T018
0526	7100		JPR	CDPNCH		JUMP		80T018
0527	2040							
0530	7101		JFI	1				80T0188
0531	2343				GOBIN	TRANSFER TO SYSTEM		80T018
0532	7101	TAPE4	JFI	1		FOUR * 163 (UNIT 4)		80T019
0533	2251				TAPE44			80T01918
			REM			RD167C - 167 CARD READER		80T0192
			REM			NO ERROR CHECKING DONE		80T019
			REM			ASSUMED ALL BANK SETTINGS=0		80T0194
			REM			ENTER BY A JPR TO THE 1ST LOCATION		80T0195
			REU			ADDRESS OF BUFFER		80T0196
0534	3000	INBUFF	EQU	3000		ENTRY POINT		80T0197
0534	0000	RD167C						80T0198
0535	2301		LDB	RD167C				80T0198
0536	4071		STD	RTURN		SET EXIT ADDRESS		80T019
0537	2200	X	LDC	INBUFF +1				80T0200
0540	3001							
0541	4076		STD	PAIR		STORING ADDRESS		80T0201
0542	3200		ADC	120				80T0202
0543	0120							
0544	4075		STD	LAST		LWA + 1		80T0203
0545	0420		LDN	20				80T0204
0546	4175		STI	LAST				80T0205
0547	2076	LOOP	LDD	PAIR				80T0206
0550	3000		SBC	INBUFF +3				80T0207
0551	3003							
0552	6304		NJF	SPECL				80T020
0553	7600		INA					80T0209
0554	6103		NZF	SPECL +1				80T0210
0555	6002		ZJF	SPECL +1				80T0211
0556	2176	SPECL	LDI	PAIR				80T0212
0557	4074		STD	LOOK1				80T0213

00031

0560	0110		LS3	
0561	4073		STD	LOOK
0562	6011		ZJF	ONE
0563	0207		LPN	7
0564	6010		ZJF	ZERO
0565	0701		SBN	1
0566	6005		ZJF	ONE
0567	0701		SBN	1
0570	6002		ZJF	TWO
0571	0420	FOUR	LDN	20
0572	0620	TWO	ADN	20
0573	0620	ONE	ADN	20
0574	4176	ZERO	STI	PAIR
0575	2073	DIGIT	LDD	LOOK
0576	1200		LPC	7770
0577	7770			
0600	6016		ZJF	OUT167
0601	0110		LS3	
0602	4073		STD	LOOK
0603	0207		LPN	7
0604	6006		ZJF	ONE1
0605	0704		SBN	4
0606	6006		ZJF	FOUR1
0607	0602		ADN	2
0610	6003		ZJF	TWO1
0611	0400		LDN	0
0612	0601	ONE1	ADN	1
0613	0601	TWO1	ADN	1
0614	0601	FOUR1	ADN	1
0615	5176		RAI	PAIR
0616	4600	OUT167	SRF	0
0617	4444			4444
0620	6623		PJR	DIGIT
0621	2074	NEXT	LDD	LOOK1
0622	3600		SBC	1000
0623	1000			
0624	6011		ZJF	ONE000
0625	2074		LDD	LOOK1
0626	1200		LPC	777
0627	0777			
0630	0742		SBN	42
0631	6007		ZJF	FORTY2
0632	0740		SBN	40
0633	6107		NZF	GOBACK
0634	6003		ZJF	ONE2
0635	0726	ONE000	SBN	26
0636	0615		ADN	15
0637	0703	ONE2	SBN	3
0640	0606	FORTY2	ADN	6
0641	5176		RAI	PAIR
0642	5476	GOBACK	AGD	PAIR
0643	3475		SBD	LAST
0644	6575		NZB	LOOP
0645	7500		EXC	4500
0646	4500			
0647	7071		JPI	RTURN
0648	0071	RTURN	EQU	71
0650	0000	RDCARD		
0651	7520	READ	EXF	ATX
0652	7600		INA	+1

CONVERT TO BCD

STORE VALUE

CLEAR ERROR

ENTRY POINT  
REQUEST STATUS

00332

80T02140  
80T02150  
80T02160  
80T02170  
80T02180  
80T02190  
80T02200  
80T02210  
80T02220  
80T02230  
80T02240  
80T02250  
80T02260  
80T02270  
80T02280  
80T02290  
80T02300  
80T02310  
80T02320  
80T02330  
80T02340  
80T02350  
80T02360  
80T02370  
80T02380  
80T02390  
80T02400  
80T02410  
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80T02440  
80T02450  
80T02460  
80T02470  
80T02480  
80T02490  
80T02500  
80T02510  
80T02520  
80T02530  
80T02540  
80T02550  
80T02560  
80T02570  
80T02580  
80T02590  
80T02600  
80T02610  
80T02620  
80T02630  
80T02640  
80T02650  
80T02660  
80T02670  
80T02680  
80T02690



0653	0201		LPN	1					BOTo270
0654	6503		NZB	READ	WAIT	READY			BOTo271
0655	7574		EXF	SELECT	SELECT	PRIMARY READ			BOTo272
0656	0101	PTA	PTA		SET	UP ATE			BOTo27
0657	4207		STF	ATE	+1				BOTo274
0660	2200		LDC	INBUFF	+1	LOCATION	OF BUFFER AREA		BOTo275
0661	3001								
0662	0654		ADN	54	FIRST	ADDRESS OF INPUT AREA			BOTo276
0663	4071		STD	WORD					BOTo277
0664	4072		STD	BUFCHK					BOTo278
0665	0105	ATE	ATE		BUFFER	ENTRANCE REG.			BOTo279
0666	0000								
0667	3204		ADF	IBI	+1				BOTo280
0670	0106	ATX	ATX	340	BUFFER	EXIT REG.			BOTo281
0671	0340								
0672	7200	IBI	IBI	124	INITIATE	INPUT			BOTo282
0673	0124								
0674	2200		LDF	0					BOTo283
0675	4173		STI	COLUMN					BOTo284
0676	4230		STF	STORER	PRESET	STORER			BOTo285
0677	2200		LDC	INBUFF	+1				BOTo286
0700	3001								
0701	4074		STD	BEGINC	PRESET	COLUMN 1 ADDRESS			BOTo287
0702	0644		ADN	44					BOTo288
0703	4075		STD	ENDCOL	PRESET	COLUMN 36 ADDRESS			BOTo289
0704	2200		LDF	0					BOTo290
0705	0405		LDN	5					BOTo291
0706	4250		STF	ENDROW	PRESET	FOR FIRST HALF OF CARD			BOTo292
0707	0411		LDN	11					BOTo293
0710	4076		STD	CONSNT	PRESET	FOR ROW=1			BOTo294
0711	2341		LDR	RDCARD					BOTo295
0712	4235		STF	EXITAD	SAVE	EXIT ADDRESS			BOTo296
0713	0407	SETHRD	LDN	7					BOTo297
0714	5072		RAD	BUFCHK	WAIT	FOR ROW TO BE READ			BOTo298
0715	0107	WAIT	ETA						BOTo299
0716	3472		SBD	BUFCHK					BOTo300
0717	6702		NJR	WAIT					BOTo301
0720	2074	COLADD	LDD	BEGINC					BOTo302
0721	4073		STD	COLUMN	RESET	TO COLUMN 1 ADDRESS			BOTo303
0722	2171	LDWORD	LDI	WORD					BOTo304
0723	4225		STF	WORDER	SET	TO WORD TO BE CONVERTED			BOTo305
0724	6313	NEG	NJF	BIT	JUMP	IF BIT IS SET			BOTo306
0725	0400		LDN	0	SET	ZERO FOR ROW VALUE			BOTo307
0726	4173	STORER	STI	COLUMN	STORE	OR RAI COLUMN			BOTo308
0727	5473	TSTWRD	ADD	COLUMN	INCREASE	ADDRESS			BOTo309
0730	3475		SBD	ENDCOL					BOTo310
0731	6025		ZJF	ENDROW	JUMP	IF END OF ROW			BOTo311
0732	4620		SRF	12CCUN	ADJUST	COUNTER			BOTo312
0733	6321		NJF	ENDWRD	JUMP	IF END OF WORD			BOTo313
0734	4614		SRF	WORDER	SHIFT	INPUT WORD			BOTo314
0735	6511		NZB	NEG	GO	BACK			BOTo315
0736	6412		ZJR	NEG					BOTo316
0737	2076	BIT	LDD	CONSNT	INCREASE	BY VALUE OF CURRENT ROW			BOTo317
0740	6512		NZB	STORER	GO	BACK IF NOT ZERO			BOTo318
0741	2173		LDI	COLUMN	COLUMN	VALUE TO A			BOTo31
0742	6002		ZJF	ZERO1					BOTo320
0743	0406		LDN	6	ADD	20 IF NOT ZERO			BOTo321
0744	0612	ZERO1	ADN	12	ADD	12 IF ZERO			BOTo322
0745	6517		NZB	STORER	GO	BACK			BOTo323
0746	7101	EXIT	JFI	EXITAD					BOTo324

00033

747	0000	EXITAD							BC03258
0750	0000	WORDR				301	WORD BEING CONVERTED		BC03261
0751	0501	SELECT				4000	COUNTER FOR 12 BIT WORD		BC03271
0752	4000	12COUN				4000	CONSTANT		BC03281
0753	4000	K4000				4000	INCREASE ADDRESS OF INPUT		BC03291
0754	5471	ENDWRD	AOD	WORD		LDWORD			BC03301
0755	6533		NZB	LDWORD		5	LDN 5 OR LDN1 (2ND HALF)		BC03311
0756	0405	ENDROW	LDN	5		WORD	SET ADDRESS OF NEXT INPUT WORD		BC03321
0757	5071		RAD	WORD		K4000			BC03331
0760	2305		LDB	K4000		12COUN	RESET COUNTER		BC03341
0761	4307		STB	12COUN		CONSNT			BC03358
0762	2076		LDD	CONSNT		40	HAS MINUS ROW BEEN READ		BC03361
0763	0740		SBN	40		SUB20	YES, JUMP		BC03371
0764	6215		PJF	SUB20		LDB	CHECK TO RESET STORER		BC03388
0765	2337		LDB	STORER		0			BC03391
0766	1200		LPF	0		1000	CONSTANT		BC03401
0767	1000	K1000		1000		3	JUMP IF ALREADY RESET		BC03411
0770	6103		NZF	3		K1000	SET STORER TO RAI		BC03421
0771	2302		LDB	K1000		STORER			BC03431
0772	5344		RAB	STORER		1	ADJUST ROW VALUE		BC03441
0773	0501		LCN	1		CONSNT			BC03451
0774	5076		RAD	CONSNT		SETWRD	SET MINUS ROW VALUE		BC03461
0775	6662		PJB	SETWRD		40			BC03478
0776	0440		LDN	40		SETCON	INDIRECT JUMP BACKWARD		BC03481
0777	6105		NZF	SETCON		NZB	INDIRECT JUMP BACKWARD		BC03498
1000	6560	INDJMP	NZB	COLADD		SBN	LAST ROW CONVERTED		BC03508
1001	0720	SUB20	SBN	20		PJF	SET ROW VALUE = *		BC03511
1002	6204		PJF	BLANKS		LDN	RESET COLUMN		BC03521
1003	0460		LDN	60		STD			BC03530
1004	4076	SETCON	STD	CONSNT		NZB	RESET COLUMN		BC03541
1005	6572		NZB	SETWRD		LDD			BC03551
1006	2074	BLANKS	LDD	BEGINC		STD	JUMP IF COLUMN VALUE IS NOT ZERO		BC03561
1007	4073		STD	COLUMN		LDI	SET TO BCD BLANK		BC03571
1010	2175	COLOAD	LDI	COLUMN		NZF	SKIP TO NEXT COLUMN		BC03580
1011	6103		NZF	ADWORD		LDN	JUMP UNTIL COLUMN = ENDCOL		BC03591
1012	0420		LDN	20		STI			BC03601
1013	4173		STI	COLUMN		AOD	ZERO MEANS END OF 2ND HALF		BC03618
1014	5473	ADWORD	AOD	COLUMN		SBD	SET STORER = STI		BC03621
1015	3475		SBD	ENDCOL		NZB	LWA+1		BC03631
1016	6506		NZB	COLOAD		LDN	SET STORAGE ADDRESS		BC03641
1017	0404	SWITCH	LDN	4		ENDROW	SET PICK UP ADDRESS		BC03651
1020	1342		LPB	ENDROW		EXIT			BC03668
1021	6453		ZJR	EXIT		K1000			BC03671
1022	2733		LCB	K1000		STORER			BC03681
1023	5375		RAB	STORER		ETA			BC03691
1024	0107		ETA			SBN			BC03701
1025	0705		SBN	5		CONDNS			BC03711
1026	4076		STD	CONDNS		3			BC03721
1027	0703		SBN	3		ROW			BC03731
1030	4077		STD	ROW		400			BC03741
1031	0750		SBN	400		WORD			BC03758
1032	4071		STD	WORD		ENDCOL			BC03768
1033	2075		LDD	ENDCOL		BEGINC			BC03771
1034	4074		STD	BEGINC		7			BC03780
1035	0607		ADN	7		MOVED			BC03798
1036	4224		STF	MOVED		370			BC03801
1037	0645		ADN	370		ENDCOL			BC03811
1040	4075		STD	ENDCOL		4			BC03821
1041	0504		LCN	4		ENDROW			BC03838
1042	5364		RAB	ENDROW					BC03841

1043	2745		LCB	SUB20	-3		
1044	5072		RAD	BUFCHK			
1045	0504	LAST3	LCN	4			
1046	4070		STD	STS		PRESET TO MOVE REMAINING	
1047	2177	LOOP3	LDI	ROW		IMAGE	
1050	4176		STI	CONDNS			
1051	0501		LCN	1			
1052	5077		RAD	ROW			
1053	0501		LCN	1			
1054	5076		RAD	CONDNS			
1055	5470		ADD	STS			
1056	6507		NZB	LOOP3		MOVE THREE WORDS	
1057	0506		LCN	3		SKIP NEXT FOUR	
1060	5077		RAD	ROW			
1061	1600		SCF	0			
1062	0000	MOVED					
1063	6516		NZB	LAST3		GO BACK IF NOT DONE	
1064	0411		LDN	11		SET ROW VALUE = 9	
1065	4076		STD	CONSNT			
1066	6566		NZB	INDJMP			
	0072	BUFCHK	EQU	72		BUFFER CHECK ADDRESS	
	0071	WORD	EQU	71		ADDRESS OF CURRENT IMAGE WORD	
	0073	COLUMN	EQU	73		CURRENT COLUMN ADDRESS	
	0074	BEGINC	EQU	74		FIRST (OR 37TH) COLUMN ADDRESS	
	0075	ENDCOL	EQU	75		LAST (36 OR 72) COLUMN ADDRESS	
	0076	CONSNT	EQU	76		VALUE OF CURRENT ROW BITS	
	0070	STS	EQU	70			
	0077	PARAM	EQU	77		LOCATION OF PARAMETER LIST	
	0076	CONDNS	EQU	CONSNT		STORAGE ADDRESS FOR MOVE	
	0077	ROW	EQU	PARAM		ADDRESS OF WORD TO BE MOVED	
			REM			FLEXIN	
			REM			PAPER TAPE INPUT TO THE COMPILER	
			REM			CONVERTS FROM FLEX TO BCD CODES	
			REM			EACH RECORD IS ASSUMED TO BEGIN IN	
			REM			LOWER CASE	
			REM			NON LEGAL CHARACTERS = BLANKS	
			REM			ASSUMES ALL BANK SETTINGS = 0	
1067	0000	FLEXIN					
1070	2200	A1	LDC	INBUFF	+1	INITIALIZE LOCATION	
1071	3001						
1072	4077		STD	PARAM			
1073	0105		ATE	A1		IN BUFFER AND LOAD	
1074	1070					BUFFER WITH BLANKS	
1075	2200	A2	LDC	INBUFF	+121		
1076	3121						
1077	0106		ATX	A2			
1100	1075						
1101	0420	A3	LDN	20			
1102	0100		RLS	A3			
1103	1101						
1104	2315		LDB	FLEXIN			
1105	4075		STD	EXITAA			
1106	7500		EXC	4102			
1107	4102						
1110	7600	FLEINA	INA				
1111	6401		ZJR	1		OMIT LEADER	
1112	0745		SBV	45		CARRIAGE RETURN	
1113	6503		NZB	FLEINA		NO READ ANOTHER CHARACTER	
1114	7600		INA				
1115	0747		SBV	47		UPPER CASE	

1116	6004		ZJF	UPC	YES JUMP TO READ ASTERISK	BOT0439:
1117	0647		ADN	47	NO RESTORE CODE	BOT0440:
120	0745		SBN	45	CARRIAGE RETURN	BOT0441:
121	6405		ZJB	5	YES READ ANOTHER CHAR.	BOT0442:
1122	7600	UPC	INA			BOT0443:
123	0744		SBN	44	ASTERISK	BOT0444:
124	6514		NZB	FLEINA	NO START AGAIN	BOT0445:
1125	0454		LDN	54		BOT0446:
126	4177		STI	PARAM	STORE ASTERISK CODE	BOT0447:
127	5477		ADD	PARAM		BOT0448:
1130	6132		NZF	LOWER	UNCONDITIONAL JUMP	BOT0449:
131	7600	READ1	INA			BOT0450:
132	3200		ADC	TABL		BOT0451:
1133	1171					:
134	4074	LKUP	STD	TABAD		BOT0452:
135	2174		LDI	TABAD		BOT0453:
1136	6213		PJF	FOUND	JUMP IF BONA-FIDE CHARACTER	BOT0454:
137	4202		STF	2	STORE INSTRUCTION	BOT0455:
140	0400	LDN	LDN			BOT0456:
1141	7700		HLT		JUMP INSTRUCTION TO BE SUPPLIED	BOT0457:
142	0602		ADN	2		BOT0458:
143	0602		ADN	2		BOT0459:
1144	0602		ADN	2		BOT0460:
145	3076		ADD	FLEXUL		BOT0461:
146	3200		ADC	TAB2		BOT0462:
1147	1271					:
150	6514		NZB	LKUP	UNDENIABLE JUMP	BOT0463:
151	4177	FOUND	STI	PARAM		BOT0464:
152	5477		ADD	PARAM		BOT0465:
153	3600		SBC	INBUFF +120		BOT0466:
154	3120					:
1155	6724		NJB	READ1		BOT0467:
156	7600	FAN	INA			BOT0468:
157	0745		SBN	45		BOT0469:
1160	6502		NZB	FAN		BOT0470:
161	7075	EXITF	JPI	EXITAA		BOT0471:
162	0401	LOWER	LDN	1		BOT0472:
1163	4076	UPPER	STD	FLEXUL	0 FOR U.T.C., 1 FOR L.C.	BOT0473:
164	6633		PJB	READ1		BOT0474:
1165	2200	TAB	LDC	INBUFF +7		BOT0475:
1166	3007					:
167	4077		STD	PARAM		BOT0476:
170	6637		PJB	READ1		BOT0477:
1171	6410	TABL		6410	TABE FEED JUMP TO READ	BOT0478:
172	0023		BCDR	37	T O HNM LRGIPCVEZDBSYFXAWJ8UQK9	BOT0479:
173	0020					:
1174	0046					:
175	0020					:
176	0070					:
1177	0045					:
200	0044					:
1201	0020					:
1202	0043					:
203	0051					:
204	0067					:
1205	0071					:
206	0047					:
1207	0063					:
1210	0025					:
211	0065					:

1212	0031								
1213	0064								
1214	0062								
1215	0022								
1216	0030								
1217	0066								
1220	0027								
1221	0061								
1222	0026								
1223	0041								
1224	0010								
1225	0024								
1226	0050								
1227	0042								
1230	0011								
1231	6410	6410		ILLEGAL					BOT0480
1232	6410	6410		ILLEGAL					BOT0481
1233	6001	6001		= OR					BOT0482
1234	6410	6410		STOP CODE					BOT0483
1235	6002	6002		* OR /					BOT0484
1236	6020	6020		CARRIAGE RETURN, JUMP TO EXIT					BOT0485
1237	6003	6003		+ OR,					BOT0486
1240	6022	6022		U.C. JUMP TO UPPER					BOT0487
1241	0053	53		COLON = DOLLAR					BOT0488
1242	6024	6024		TAB					BOT0489
1243	0040	40		MINUS					BOT0490
1244	6410	6410		ILLEGAL					BOT0491
1245	6004	6004		( OR )					BOT0492
1246	6410	6410		ILLEGAL					BOT0493
1247	0012	12		ZILCH					BOT0494
1250	6021	6021		L.R. JUMP TO LOWER					BOT0495
1251	0007	7							BOT0496
1252	6410	6410		BACKSPACE					BOT0497
1253	0004	4							BOT0498
1254	6410	6410		ILLEGAL					BOT0499
1255	0003	3							BOT0500
1256	6410	6410		ILLEGAL					BOT0501
1257	0005	5							BOT0502
1260	6410	6410		ILLEGAL					BOT0503
1261	0002	2							BOT0504
1262	6410	6410		ILLEGAL					BOT0505
1263	0006	6							BOT0506
1264	6410	6410		ILLEGAL					BOT0507
1265	0001	1							BOT0508
1266	6410	6410		ILLEGAL					BOT0509
1267	6410	6410		ILLEGAL					BOT0510
1270	6410	6410		DELETE					BOT0511
1271	0034	TAB2 BCDR 10		( ) * / %					BOT0512
1272	0074								
1273	0060								
1274	0035								
1275	0054								
1276	0021								
1277	0013								
1300	0073								
	0078	FLEXUL EQU	76						BOT0513
	0075	EXITAA EQU	75						BOT0514
	0074	TABAD EQU	74						BOT0515
		REM							BOT0516
		REM							BOT0517

RDC405 - CARD READER  
 READS ONE 00937 CARD

1301	0000	RDC405			ENTRY		BOT05188
1302	4076		STD	PAIR	SAVE ADDRESS OF BUFFER ADDRESS		BOT05190
1303	2176		LDI	PAIR			BOT05200
1304	0650		ADN	50			BOT05210
1305	4076		STD	PAIR	FIRST WORD OF BUFFER		BOT05220
1306	7551	STAT	EXF	CHECK +1	WAIT READY		BOT05230
1307	7600		INA				BOT05240
1310	6007		ZJF	ATE1 -3			BOT05250
1311	0701		SBN	1	HOPPER EMPTY		BOT05260
1312	6504		NZR	STAT			BOT05270
1313	2200		LDC	3535			BOT05280
1314	3535						:
1315	7700		HLT		YES, HALT		BOT05290
1316	6510		NZR	STAT	RUN TO CONTINUE		BOT05300
1317	2316		LDB	RDC405	SAVE ENTRY		BOT05310
1320	4075		STD	RETURN			BOT05320
1321	2076		LDD	PAIR			BOT05330
1322	0105	ATE1	ATE	ATE1	BUFFER ENTR. REG.		BOT05340
1323	1322						:
1324	0650		ADN	50			BOT05358
1325	0106	ATX1	ATX	ATX1	BUFFER EXIT REG		BOT05360
1326	1325						:
1327	7500		EXC	4502	SINGLE CYCLE AND PACK		BOT05370
1330	4502						:
1331	7200	IBI1	IBI	IBI1	INITIATE BUFFER INPUT		BOT05380
1332	1331						:
1333	2076		LDD	PAIR			BOT05390
1334	0750		SBN	50			BOT05400
1335	4074		STD	STORE1	FIRST WORD OF CARD IMAGE		BOT05410
1336	0107	UNPA	ETA		SEE IF WORD IS IN		BOT05420
1337	3476		SBD	PAIR			BOT05430
1340	0701		SBN	1			BOT05440
1341	6703		NJB	UNPA			BOT05450
1342	0577		LCN	77	LEFT HALF		BOT05460
1343	1176		LPI	PAIR			BOT05470
1344	0111		LS6				BOT05480
1345	4174		STI	STORE1			BOT05490
1346	5474		AOD	STORE1	BUMP STORE		BOT05500
1347	0477		LDN	77	RIGHT HALF		BOT05510
1350	1176		LPI	PAIR			BOT05520
1351	4174		STI	STORE1			BOT05530
1352	5474		AOD	STORE1	BUMP		BOT05540
1353	5476		AOD	PAIR			BOT05550
1354	3474		SBD	STORE1	IF EQUAL, WERE DONE		BOT05560
1355	6517		NZB	UNPA			BOT05570
1356	7500	CHECK	EXC	4540	CHECK FOR READER FAILURE		BOT05580
1357	4540						:
1360	7600		INA				BOT05590
1361	1200		LPC	124			BOT05600
1362	0124						:
1363	6005		ZJF	OUT4			BOT05610
1364	0000	ERROR	ERR		READER FAILURE		BOT05620
1365	0550		LCN	50			BOT05630
1366	5076		RAD	PAIR			BOT05640
1367	6561		NZB	STAT			BOT05650
1370	7075	OUT4	JPI	RETURN			BOT05660
1371	0074	STORE1	EQU	TABAD			BOT05670
1371	7500	AST00	EXC	4540	167 ROUTINE TO CHECK FOR ASTERISK IN		BOT05680
1372	4540						:
1373	7600		INA		FIRST COLUMN	00338	BOT05690

1374	6503		NZR	AST00					
1375	7500		EXC	4502					BOT057
1376	4502								BOT0571
1377	7204		INP	4					BOT05
1400	3003			INBUFF +3					BOT0573
1401	6003		ZJF	3					BOT057
1402	6102		NZF	2					BOT057
1403	3001			INBUFF +1					BOT0576
1404	3704		SBB	4					BOT057
1405	6007		ZJF	ASTER					BOT057
1406	7500	Z	EXC	4540					BOT057
1407	4540								BOT0579
1410	7600		INA						BOT058
1411	0224		LPN	24					BOT0581
1412	0000		ERR						BOT058
1413	6422		ZJS	AST00					BOT0583
1414	2100	ASTER.	LDM	INBUFF +1					BOT0584
1415	3001								BOT0584
1416	3600		SBC	2042	ASTERISK				BCT0585
1417	2042								BCT0585
1420	6004		ZJF	ADD*	YES READ WHOLE CARD				BCT058
1421	7500		EXC	4500	NO CLEAR TO READ NEXT CARD				BCT058
1422	4500								BCT058
1423	6532		NZR	AST00					BCT058
1424	2305	ADD*	LDB	ASTER +3					BCT0584
1425	4100		STM	INBUFF +1					BCT0590
1426	3001								BCT0590
1427	7100		JPR	RD167C	READ REMAINDER OF CARD AND STORE				BCT0591
1430	0534								BCT0591
1431	0401		LDM	1					BCT059
1432	4100		STM	INBUFF	SET CONTROL CHARACTER FOR TAPE OUTPUT				BCT0593
1433	3000								BCT0593
1434	7101		JFI	1					BCT059
1435	0446			TESTK					BCT0595
1436	7100	AST11	JPR	RDCARD	088 ROUTINE TO CHECK FOR ASTERISK IN FIRST				BCT0596
1437	0650								BCT0596
1440	2100		LDM	INBUFF +1	COLUMN				BCT059
1441	3001								BCT059
1442	0754		SBN	54	CHECK FOR ASTERISK				BCT059F
1443	6505		NZR	AST11					BCT0594
1444	0401		LDM	1					BCT0600
1445	4100		STM	INBUFF	SET CONTROL CHARACTER FOR TAPE OUTPUT				BCT0601
1446	3000								BCT0601
1447	7101		JFI	1					BCT0602
1450	0446			TESTK					BCT0607
1451	7100	AST22	JPR	FLEXIN	JUMP TO FLEX INPUT ROUTINE				BCT0607
1452	1067								BCT0604
1453	0401		LDM	1					BCT0605
1454	4100		STM	INBUFF	SET CONTROL CHARACTER FOR TAPE OUTPUT				BCT0606
1455	3000								BCT0606
1456	7101		JFI	1					BCT0607
1457	0446			TESTK					BCT0607
1460	0075	TRY3	EQU	75					BCT0608
1461	0503	AST33	LDM	3	168 ROUTINE TO CHECK FOR ASTERISK				BCT0609
1462	4075		STD	TRY3	COMMENT RECORD (6 BIT)				BCT061
1463	7500		EXC	1172	SET TAPES TO EVEN PARITY(BCD)				BCT061
1464	1172								BCT0612
1464	7500	***	EXC	1133	READ TAPE 3 UNCODED				BCT0613
1465	1133								BCT0613
1466	7204		INP	4					BCT0614

00039

467	0000		0		
1470	6103	NZF	3		
71	6002	ZJF	2		
72	3001		INBUFF +1		
1473	7520	EXF	EOT1 +1	CHECK FOR NO ERRORS	
474	7600	INA			
475	0201	LPN	1		
1476	6123	NZF	HALT33 +2	NO ERROR CONTINUE	
477	7514	EXF	EOT1 +1	CHECK FOR PARITY ERROR	
500	7600	INA			
1501	0204	LPN	4		
502	6010	ZJF	EOT1	IF NO ERROR CONTINUE	
503	5475	AUD	TRY3		
1504	6013	ZJF	HALT33	HALT AFTER 3 ATTEMPTS	
505	7500	EXC	1123	BACKSPACE TAPE	
506	1123				
1507	7600	INA			
510	6524	NZB	***	TRY AGAIN	
511	6425	ZJB	***		
1512	7500	EOT1 EXC	1143	CHECK FOR END OF TAPE	
513	1143				
514	7600	INA			
1515	0240	LPN	40		
516	6004	ZJF	4	NO CONTINUE	
517	7700	HLT		TAPE HALT-END OF TAPE OR ERROR	
1520	6440	ZJB	AST33	ZERO OUT A-REG. TO CONTINUE	
521	6126	NZF	LPR166 +2	RUN TO IGNORE	
522	2100	LDM	INBUFF +1		
23	3001				
524	0277	LPN	77		
525	0754	SBN	54		
1526	6546	NZB	AST33		
527	0401	LDN	1		
530	4100	STM	INBUFF		
1531	3000				
532	7101	JFI	1	JUMP TO OUTPUT DEVICE TEST	
533	0446		TESTK		
1534	2200	AST44 LDC	INBUFF +1	405 ROUTINE	
535	3001				
536	7100	JPR	RDC405V		
1537	1301				
540	2100	LDM	INBUFF +1		
541	3001				
1542	0754	SBN	54	FIRST COLUMN ASTERISK	
543	6507	NZB	AST44	NO READ NEXT CARD	
544	0401	LDN	1		
1545	4100	STM	INBUFF	SET PRINTER CONTROL CHARACTER	
546	3000				
547	7101	JFI	1		
1550	0446		TESTK	GO TO OUTPUT ROUTINE	
		REM		LPR166 PRINTER	
551	0000	LPR166			
1552	2301	LDB	LPR166		
553	4071	STD	RTURN		
54	2200	LDC	INBUFF +1		
1555	3001				
556	4075	STD	PICKUP	FWA OF ACTUAL PRINTING	
557	4076	STD	STORE		
1560	7500	READY EXC	740		
561	0740				



1562	7500		INA			
1563	6503		NZB	READY		
1564	2200		LDC	INBUFF +120		
1565	3120					
1566	4073		STD	COUNT		
1567	2175	LOOP1	LDI	PICKUP	PACK LOOP	
1570	0111		LS6			
1571	4176		STI	STORE		
1572	5475		AOD	PICKUP		
1573	2175		LDI	PICKUP		
1574	5176		RAI	STORE		
1575	5476		AOD	STORE		
1576	5475		AOD	PICKUP		
1577	3473		SBD	COUNT		
1600	6711		NJB	LOOP1		
1601	7500		EXC	727	EJECT PAGE	
1602	0727					
1603	7500		EXC	700		
1604	0700					
1605	7332	OUT	OUT	END		
1606	3051			INBUFF +51		
1607	7500		EXC	720	MOVE PAPER	
1610	0720					
1611	2305		LDB	OUT +1		
1612	0701		SEN	1		
1613	4076		STD	STORE		
1614	0722		SEN	22		
1615	4075		STD	PICKUP		
1616	0477	LOOP2	LDM	77		
1617	1175		LPI	PICKUP		
1620	4176		STI	STORE		
1621	0501		LCN	1		
1622	5076		RAD	STORE		
1623	0577		LCN	77		
1624	1175		LPI	PICKUP		
1625	0111		LS6			
1626	4176		STI	STORE		
1627	0501		LCN	1		
1630	5075		RAD	PICKUP		
1631	0501		LCN	1		
1632	5076		RAD	STORE		
1633	3600		SBC	INBUFF		
1634	3000					
1635	6617		PJB	LOOP2		
1636	7071		JPI	RTURN		
1637	3001	END		INBUFF +1		
1637	R400	EQU	EQU	END		
0076	STORE	EQU	EQU	76		
0075	PICKUP	EQU	EQU	75		
0073	COUNT	EQU	EQU	73		
0076	PAIR	EQU	EQU	76		
0075	LAST	EQU	EQU	75		
0074	LOOK1	EQU	EQU	74		
0073	LOOK	EQU	EQU	73		
		REM				
		REM				
		REM				
		REM				
		REM				
		REM				

LPRINT (1612)  
ENTER BY JPR TO 1ST LOCN  
A= LOCATION OF PARAMETER LIST  
PARAMETER LIST  
1 LOCATION OF BUFFER  
2 IGNORED (length) 00041

BOT0665  
BOT0666  
BOT0667  
BOT0668  
BOT0669  
BOT0670  
BOT0671  
BOT0671  
BOT0672  
BOT0673  
BOT0674  
BOT0675  
BOT0676  
BOT0677  
BOT0678  
BOT0679  
BOT0680  
BOT0681  
BOT0682  
BOT0683  
BOT0684  
BOT0685  
BOT0686  
BOT0687  
BOT0688  
BOT0689  
BOT0690  
BOT0691  
BOT0692  
BOT0693  
BOT0694  
BOT0695  
BOT0696  
BOT0697  
BOT0698  
BOT0699  
BOT0700  
BOT0701  
BOT0702  
BOT0703  
BOT0704  
BOT0705  
BOT0706  
BOT0707  
BOT0708  
BOT0709  
BOT0710  
BOT0711  
BOT0712  
BOT0713  
BOT0714  
BOT0715  
BOT0716  
BOT0717  
BOT0718  
BOT0719

Address	Code	Label	Op	Param	Description	Hex
1640	0000	LPRINT	REM		LENGTH OF BUFFER	B0T07200
1641	4077		REM		FIRST CHARACTER NOT PRINTED	B0T07210
1642	7500		STD	PARAM	ENTRY POINT	B0T07220
1643	0600		EXC	600	LOGN OF PARAMETER LIST	B0T07230
1644	2177				SELECT PRINTER(NO INTERRUPT)	B0T07240
1645	4076		LDI	PARAM	LOGN OF BUFFER	B0T07250
1646	0601		STD	TBLADR		B0T07260
1647	4225		ADN	1		B0T07270
1650	0402		STF	BEGIN	ADDRESS OF FIRST WORD TO BE PRINTED	B0T07280
1651	5077		LDN	2		B0T07290
1652	2177		RAD	PARAM		B0T07300
1653	3076		LDI	PARAM	LENGTH OF RECORD	B0T07310
1654	4213		ADD	TBLADR		B0T07320
1655	7600	PRINT	STF	PRINT1	LAST WORD ADDRESS +1	B0T07330
1656	6401		INA		<i>Good Status</i>	B0T07340
1657	7500		ZJR	PRINT	<i>Loop until ready</i>	B0T07350
1660	0604		EXC	604	EJECT PAGE	B0T07360
1661	2321		LDR	LPRINT		B0T07370
1662	4075		STD	RETURN	SET EXIT ADDRESS	B0T07380
1663	2204		LDR	PRINT1		B0T07390
1664	3610		SBR	BEGIN		B0T07400
1665	6006		ZJR	EXIT1	EXIT IF ONE WORD RECORD	B0T07410
1666	7306		OUT	BEGIN	PRINT	B0T07420
1667	0000	PRINT1				B0T07430
1670	7500		EXC	605	AND ADVANCE PAPER	B0T07440
1671	0605					B0T07450
1672	0400		LDN	0		B0T07460
1673	7075	EXIT1	JPI	RETURN		B0T07470
1674	0000	BEGIN			1ST WORD ADDRESS OF PRINT BUFFER	B0T07480
1675	0076	TBLADR	EQU	76	LOCATION OF BUFFER	B0T07490
1676	0075	RETURN	EQU	75	EXIT ADDRESS	B0T07500
1677			REM		PCHFLX	B0T07510
1678			REM		ENTER BY JPR TO THE FIRST	B0T07520
1679			REM		LOCATION OF THE ROUTINE	B0T07530
1680					ENTRY POINT	B0T07540
1675	0000	PCHFLX				B0T07550
1676	2600		LCC	120		B0T07560
1677	0120					B0T07570
1678	4073		STD	COUNT	SET TO PUNCH 80 CHAR. RECORD	B0T07580
1679	7500		EXC	4104	SELECT PUNCH	B0T07590
1680	4104					B0T07600
1681	7447		OTN	47	PUNCH W.C. CODE	B0T07610
1682	2254		LDF	H100		B0T07620
1683	4077		STD	PARAM	BEGINNING ADDRESS	B0T07630
1684	2177	PCHFG	LDI	PARAM	PICK UP ONE CHARACTER	B0T07640
1685	4074		STD	CHARA	SAVE IT	B0T07650
1686	2200		LDC	PCHFL		B0T07660
1687	1761					B0T07670
1688	4076		STD	TBLADR	SET BEGINNING TABLE ADDRESS	B0T07680
1689	2176	PCHFA	LDI	TBLADR		B0T07690
1690	6042		ZJF	PCHFE	JUMP IF NO EQUALITY FOUND	B0T07700
1691	1474		SCD	CHARA		B0T07710
1692	0277		LPN	77		B0T07720
1693	6003		ZJF	PCHFB	JUMP IF CHARACTER FOUND	B0T07730
1694	5476		AOD	TBLADR	SET TO CHECK NEXT ENTRY	B0T07740
1695	6506		NZB	PCHFA	LOOP	B0T07750
1696	2176	PCHFB	LDI	TBLADR	PICK UP TABLE ENTRY	B0T07760
1697	0111		LS6		SHIFT	B0T07770
1698	0277		LPN	77	MASK OFF CHARACTER	B0T07780

1725	4074		STD	CHARA	SAVE IT		
1726	2076		LDD	TBLADR			BOT0774
1727	3600		SBC	PCHFU			BOT0775
1730	1777						BOT0776
1731	6207		PJF	PCHFC	JUMP IF UPPER CASE CHAR.		BOT0777
1732	2076		LDD	FLEXUL			BOT0778
1733	6012		ZJF	PCHFH	JUMP IF CASE OK		BOT0779
1734	0400		LDN	0			BOT0780
1735	4076		STD	FLEXUL	RESET CASE FLAG		BOT0781
1736	0457		LDN	57	LOWER CASE CODE		BOT0782
1737	6105		NZF	PCHFD			BOT0783
1740	2076	PCHFC	LDD	FLEXUL			BOT0784
1741	6104		NZF	PCHFH	NO CASE CODE NEEDED		BOT0785
1742	0447		LDN	47	UPPER CASE CODE		BOT0786
1743	4076		STD	FLEXUL	RESET CASE FLAG		BOT0787
1744	7677	PCHFD	OTA		PUNCH CASE CODE		BOT0788
1745	2074	PCHFH	LDD	CHARA	PICK UP CHARACTER		BOT0789
1746	7677	PCHFF	OTA		PUNCH CHARACTER		BOT0790
1747	5477		ADD	PARAM	INCREASE ADDRESS		BOT0791
1750	5473		ADD	COUNT	INCREASE COUNTER		BOT0792
1751	6546		NZB	PCHFG	JUMP IF NOT DONE		BOT0793
1752	7445		OTN	45			BOT0794
1753	2356	PCHFCR	LDB	PCHFLX	SET EXIT ADDRESS		BOT0795
1754	4074		STD	CHARA			BOT0796
1755	7074		JPI	CHARA	EXIT		BOT0797
1756	0404	PCHFE	LDN	4	SET BLANK IF NO EQUALITY		BOT0798
1757	6511		NZB	PCHFF			BOT0799
1760	3001	H100		INBUFF +1			BOT0800
1761	4421	PCHFL		4421	SLASH		BOT0801
1762	5474			5474	RPAREN		BOT0802
1763	4633			4633	COMMA		BOT0803
1764	4273			4273	PERIOD		BOT0804
1765	5612			5612	X0		BOT0805
1766	7401			7401	X1		BOT0806
1767	7002			7002	X2		BOT0807
1770	6403			6403	X3		BOT0808
1771	6204			6204	X4		BOT0809
1772	6605			6605	X5		BOT0810
1773	7206			7206	X6		BOT0811
1774	6007			6007	X7		BOT0812
1775	3310			3310	X8		BOT0813
1776	3711			3711	X9		BOT0814
1777	3061	PCHFU		3061	A		BOT0815
2000	2362			2362	B		BOT0816
2001	1663			1663	C		BOT0817
2002	2264			2264	D		BOT0818
2003	2065			2065	E		BOT0819
2004	2666			2666	F		BOT0820
2005	1367			1367	G		BOT0821
2006	0570			570	H		BOT0822
2007	1471			1471	I		BOT0823
2010	3241			3241	J		BOT0824
2011	3642			3642	K		BOT0825
2012	1143			1143	L		BOT0826
2013	0744			744	M		BOT0827
2014	0645			645	N		BOT0828
2015	0346			346	O		BOT0829
2016	1547			1547	P		BOT0830
2017	3550			3550	Q		BOT0831
2020	1251			1251	R		BOT0832

021	2422			2422	S		BOT0833:
022	0123			123	T		BOT0834:
023	3424			3424	U		BOT0835:
024	1725			1725	V		BOT0836:
025	3126			3126	W		BOT0837:
026	2727			2727	X		BOT0838:
027	2530			2530	Y		BOT0839:
030	2131			2131	Z		BOT0840:
031	4454			4454		APOSTROPHE-ASTERISK	BOT0841:
032	5053			5053		DOLLAR SIGN-COLON	BOT0842:
033	5434			5434		LPAREN	BOT0843:
034	4213			4213		EQUALS	BOT0844:
035	4660			4660		PLUS	BOT0845:
036	5240			5240		MINUS	BOT0846:
037	0000			0		END OF TABLE	BOT0847:
	0074	CHARA	EQU	74		TEMPORARY STORAGE	BOT0848:
			REM			CDPNCH=523 CARD PUNCH	BOT0849:
			REM			ENTER BY JPR WITHA	BOT0850:
			REM			CONTAINING THE LOCATION OF	BOT0851:
			REM			THE PARAMETER LIST	BOT0852:
040	0000	CDPNCH				ENTRY POINT	BOT0853:
041	4077		STD	PARAM		SAVE PARAMETER LIST LOCATION	BOT0854:
042	2177		LDI	PARAM		PICK UP BUFFER LOCATION	BOT0855:
043	4076		STD	TOP1		TOP=1ST ADDRESS OF BUFFER	BOT0856:
044	0402		LDN	2			BOT0857:
045	5077		RAD	PARAM			BOT0858:
046	2177		LDI	PARAM		PICK UP RECORD LENGTH	BOT0859:
047	4077		STD	PARAM		PARAM=RECORD LENGTH	BOT0860:
050	3076		ADD	TOP1			BOT0861:
051	4203		STF	CDP1		SET NEXT CHARACTER	BOT0862:
052	0420		LDN	20		TO BLANK	BOT0863:
053	4100		STI	0		STN	BOT0864:
054	0000	CDP1					BOT0865:
055	2477		LCD	PARAM			BOT0866:
056	4073		STD	COUNT		TEMPORARY COUNTER	BOT0867:
057	2076		LDD	TOP1			BOT0868:
060	4075		STD	ROW8		SET ROW 8=1ST ADDRESS	BOT0869:
061	4074		STD	ROW0		SET ROW0=1ST ADDRESS	BOT0870:
062	2174	CDP2	LDI	ROW0		PICK UP ONE CHAR,	BOT0871:
063	0111		LS6			SHIFT	BOT0872:
064	4175		STI	ROW8		STORE	BOT0873:
065	5474		ADD	ROW0		ADJUST ADDRESS	BOT0874:
066	2174		LDI	ROW0		PICK UP NEXT CHARACTER	BOT0875:
067	5175		RAI	ROW8		ADD TO FIRST	BOT0876:
070	0402		LDN	2		ADJUST COUNTER	BOT0877:
071	5073		RAD	COUNT			BOT0878:
072	6204		PJF	CDP3		JUMP IF DONE	BOT0879:
073	5475		ADD	ROW8		ADJUST ADDRESSES	BOT0880:
074	5474		ADD	ROW0			BOT0881:
075	6513		NZB	CDP2		GO BACK	BOT0882:
076	2076	CDP3	LDD	TOP1		1ST ADDRESS OF BUFFER	BOT0883:
077	0650		ADN	50		+40	BOT0884:
100	0105	CDP4	ATE	CDP4		1ST ADDRESS OF IMAGE	BOT0885:
101	2100						BOT0886:
102	3200		ADC	124			BOT0887:
103	0124						BOT0888:
104	0106	CDP5	ATX	CDP5		LWA+1	BOT0889:
105	2104						BOT0890:
106	0400		LDN	0			BOT0891:
107	0100	CDP6	BLS	CDP6		CLEAR IMAGE	BOT0892:

2110	2107								
	2110	CHKCHR	EQU	CDP6	+1	CHECK CHARACTER			BOT0890
2111	0107		ETA			LWA + 1 TO A			BOT089
2112	0725		SBN	25					BOT089.
2113	4074		STD	ROW0		SET ROW0 ADDRESS			BOT0893
2114	0770		SBN	70					BOT0894
2115	4075		STD	ROW8		SET ROW8 ADDRESS			BOT0895
2116	2477		LCD	PARAM					BOT0896
2117	4073		STD	COUNT		RESET COUNTER			BOT0897
2120	2360		LDB	CDPNCH		SET EXIT ADDRESS			BOT0898
2121	4072		STD	CDP98					BOT0899
2122	2200		LDF	0					BOT0900
2123	4000	L4000		4000					BOT0901
2124	4071		STD	BITT		SET BIT			BOT0902
2125	2176	PICKUB	LDI	TOP1		PICK UP CHARACTERS			BOT0903
2126	0111		LS6			SHIFT			BOT0904
2127	4176		STI	TOP1		STORE			BOT0905
2130	0277		LPN	77		PICK OFF ONE			BOT0906
2131	0720		SBN	20		SKIP IF = BCD BLANK			BOT0907
2132	6050		ZJF	NXTCHR		TO NEXT CHARACTER			BOT0908
2133	0620		ADN	20		RESTORE CHARACTER			BOT0909
2134	4324		STR	CHKCHR		SAVE IT			BOT0910
2135	0217		LPN	17		PICK OFF LOWER 4 BITS			BOT0911
2136	6026		ZJF	ZPNCH		JUMP IF ZERO			BOT0912
2137	0712	SUB12	SBN	12					BOT0913
2140	6311		NJF	NPNCH		JUMP IF 1-11			BOT0914
2141	6103		NZF	8PNCH		JUMP IF NOT 12			BOT0915
2142	0512		LCN	12					BOT0916
2143	6306		NJF	NPNCH		SET FOR ROW 0			BOT091
2144	2071	8PNCH	LDD	BITT		SET PUNCH IN 8 ROW			BOT0918
2145	5175		RAI	ROW8					BOT0919
2146	0407		LDN	7		EFFECTIVELY SUBTRACT 8			BOT0920
2147	1337		LPR	CHKCHR					BOT0921
2150	6102		NZR	MPNCH		GO TO DO REST			BOT0922
2151	0612	NPNCH	ADN	12		RESTORE CHARACTER			BOT0923
2152	4276	MPNCH	STR	ADDCHK		MULTIPLY X8			BOT0924
2153	0110		LS3						BOT0925
2154	3674		SBR	ADDCHK		SUBTRACT 1			BOT0926
2155	4273		STR	ADDCHK		ANSWER X7			BOT0927
2156	2074		LDD	ROW0					BOT0928
2157	3671		SBR	ADDCHK		COMPUTE ROW ADDRESS			BOT0929
2160	4070		STD	SUPPL		SAVE IT			BOT0930
2161	2071		LDD	BITT		SR			BOT0931
2162	1570		SCI	SUPPL					BOT0932
2163	4170		STI	SUPPL					BOT0933
2164	0460	ZPNCH	LDN	60		CHECK FOR 0, -, +			BOT0934
2165	1355		LPR	CHKCHR					BOT0935
2166	6014		ZJF	NXTCHR		JUMP IF ZERO			BOT0936
2167	0720		SBN	20					BOT0937
2170	6005		ZJF	SETBIT		JUMP IF 20			BOT0938
2171	0720		SBN	20					BOT0939
2172	6002		ZJF	2		JUMP IF 40			BOT0940
2173	0407		LDN	7		SET FOR +			BOT0941
2174	0607		ADN	7		SET FOR -			BOT0942
2175	3074	SETBIT	ADD	ROW0		SET FOR 0			BOT0943
2176	4070		STD	SUPPL		SAVE IT			BOT0944
2177	2071		LDD	BITT		SET BIT			BOT0945
200	1570		SCI	SUPPL					BOT0946
201	4170		STI	SUPPL					BOT0947
202	5473	NXTCHR	AOD	COUNT					BOT0948

2203	6022	ZJR	PNCH	JUMP IF DONE	BOT0949:
2204	0577	LCN	77		BOT0950:
2205	1176	LPI	TOP1	MASK OFF ONE CHARACTER	BOT0951:
2206	4176	STI	TOP1		BOT0952:
2207	6102	NZF	BITSET	OK IF NON ZERO	BOT0953:
2210	5476	ACD	TOP1	INCREASE ADDRESS IF ZERO	BOT0954:
2211	2071	BITSET	LDD		BOT0955:
2212	0114	RS1		SHIFT BIT	BOT0956:
2213	6005	ZJR	RESET	ZERO MEANS END OF WORD	BOT0957:
2214	6202	PJF	2	JUMP IF OK	BOT0958:
2215	1471	SCD	BITT	SET FOR POSITIVE	BOT0959:
2216	4071	STD	BITT	STORE SHIFTED MASK	BOT0960:
2217	6572	CDP88	NZB	PICKUP	BOT0961:
2220	2375	RESET	LDR	L4000	BOT0962:
2221	4071	STD	BITT		BOT0963:
2222	5475	AOD	ROW8	RESET BIT MASK	BOT0964:
2223	5474	AOD	ROW0	INCREASE ADDRESSES	BOT0965:
2224	6505	NZB	CDP88	NEXT CHARACTER	BOT0966:
2225	7500	PNCH	EXC	3040	BOT0967:
2226	3040			REQUEST STATUS OF OUTPUT	
2227	7600	INA			BOT0968:
2230	1200	LPC	2200	PUNCH NOT READY - 1604 SELECTED	BOT0969:
2231	2200				
2232	6505	NZB	PNCH	WAIT READY	BOT0970:
2233	7500	EXC	3002	SELECT PUNCH	BOT0971:
2234	3002				
2235	0107	ETA		LAST WA + 1	BOT0972:
2236	4205	STF	OUTCR +1	SET LWA +1	BOT0973:
2237	3600	SBC	124		BOT0974:
2240	0124				
2241	4205	STF	OUTCR +4	SET FWA	BOT0975:
2242	7304	OUTCR	OUT	4	BOT0976:
2243	0000			0	BOT0977:
2244	6003	ZJF	3	LWA +1	BOT0978:
2245	6102	NZF	2		BOT0979:
2246	0000			0	BOT0980:
2247	7072	JPI	CDP98	FWA	BOT0981:
2250	0000	ADDCHK		ADDER	BOT0982:
0070	SUPPL	EQU	70	TO BE SUPPLIED	BOT0983:
0071	BITT	EQU	71	MASK FOR SETTING BITS IN IMAGE	BOT0984:
0074	ROW0	EQU	74	ADDRESS IN IMAGE	BOT0985:
0075	ROW8	EQU	75	ADDRESS IN IMAGE	BOT0986:
0076	TOP1	EQU	76	ADDRESS OF BUFFER	BOT0987:
0072	CDP98	EQU	72	EXIT ADDRESS	BOT0988:
251	0503	TAPE44	LCN	3	BOT0989:
2252	4075	STD	TRY3	168 ROUTINE TO OUTPUT ASTERISK	BOT0990:
2253	4076	STD	TRY34	COMMENT RECORD (6 BIT)	BOT0991:
2254	7500	EXC	1172	SELECT EVEN PARITY (BCD)	BOT0992:
2255	1172				
2256	2300	LDS			BOT0993:
2257	0270	LPN	70		BOT0994:
2260	0730	SBN	30		BOT0995:
2261	6015	ZJF	****	TAPE INPUT (MAG.) , JUMP	BOT0996:
2262	0710	SBN	10		BOT0997:
2263	6013	ZJF	****	TAPE INPUT (MAG.) , JUMP	BOT0998:
2264	2206	LDF	ATE4 +5	STORE BLANKS IN REMAINDER OF BUFFER	BOT0999:
2265	0105	ATE4	ATE	ATE4	BOT1000:
2266	2265				
2267	2200	LDC	INBUFF +171		BOT1001:
2270	3171				

2271	0100		ATX	INBUFF	+122					
2272	3122									BOT1002
2273	0420		LDN		20					BOT1003
2274	0100		BLS							BOT1004
2275	0000									BOT1005
2276	7500	****	EXC		1114	WRITE UNIT 4 -CODED				BOT1006
2277	1114									BOT1007
2300	7304		OUT		4					BOT1008
2301	3171			INBUFF	+171					BOT1009
2302	6103		NZF		3					BOT1010
2303	6002		ZJF		2					BOT1011
2304	3000			INBUFF						BOT1012
2305	7530		EXF	EOT4	+1	CHECK STATUS FOR PARITY ERROR				BOT1013
2306	7600		INA							BOT1014
2307	0204		LPN		4					BOT1015
2310	6024		ZJF	EOT4		NO ERROR CONTINUE				BOT1016
2311	5475		AOD	TRY3						BOT1017
2312	6005		ZJF	EOF4						BOT1018
2313	7505		EXF	EOF4	+1	BACKSPACE TAPE IF PARITY ERROR				BOT1019
2314	7600		INA							BOT1020
2315	6517		NZB	****		TRY AGAIN				BOT1021
2316	6420		ZJR	****						BOT1022
2317	7500	EOF4	EXC		1124					BOT1023
2320	1124									BOT1024
2321	7600		INA							BOT1025
2322	7500		EXC		1114	WRITE EOF AFTER 3 ATTEMPTS				BOT1026
2323	1114									BOT1027
2324	5476		AOD	TRY34						BOT1028
2325	6014		ZJF	HALT4		HALT AFTER THREE EOF'S				BOT1029
2326	7500		EXC		1124	BACKSPACE OVER EOF				BOT1030
2327	1124									BOT1031
2330	7600		INA							BOT1032
2331	0503		LCN		3					BOT1033
2332	4075		STD	TRY3		RESTORE ONE COUNTER				BOT1034
2333	6535		NZB	****		TRY AGAIN				BOT1035
2334	7500	EOT4	EXC		1144	CHECK FOR END OF TAPE				BOT1036
2335	1144									BOT1037
2336	7600		INA							BOT1038
2337	0240		LPN		40					BOT1039
2340	6003		ZJF		3					BOT1040
2341	7700	HALT4	HLT			TAPE HALT-END OF TAPE OR ERROR				BOT1041
2342	6471		ZJB	TAPE44		ZERO OUT A-REG. TO CONTINUE				BOT1042
			REM			RUN TO IGNORE				BOT1043
2343	2200	GOBIN	LDC		400					BOT1044
2344	0400									BOT1045
2345	7100		JPR		BIN					BOT1046
2346	0220									BOT1047
2347	7101		JFI		1					BOT1048
2350	0400				400	GIVE CONTROL TO SYSTEM				BOT1049
	0076	TRY34	EQU		76					BOT1050
	2777		ORG		2777					BOT1051
2777	0000	FLAG			0	STANDARD FLAG				BOT1052
			SUPB							BOT1053
	0000		END							BOT1054

	0400		ORG	400		
+00	0000			0	DUMMY WORD FOR EDIT PROGRAM	
			REM		BEGIN COMPILATION BY PREPARING	
			REM		THE STANDARD EQUIPMENT TABLE	
			REM		AND NOTING ANY CHANGE FROM	
			REM		THE STANDARD COMPILATION PROCEDURE	
			REM		CML 11/27/62                      FEB 7/9/63	
	0400		ORG	400	(INBUFF)	
0400	0501	EQUIP	LCN	1	SET A SWITCH FOR LOADING	
0401	4010		STD	LOADSW	LIBRARY TABLES FROM SYSTEMS TAPE	
0402	7710		SLJ1	MODI/O	JUMP SWITCH 1-CHANGE I/O TBL	
0403	0470					
0404	7720		SLJ2	MODCMP	JUMP SWITCH 2-CHANGE PROCEDURE	
0405	0451					
0406	0400	LOAD	LDN	0	LOAD THE FIRST RECORD	
0407	4012		STD	TEMP2	AND MOVE IT TO BANK 1	
0410	2200		LDC	NXTSTT		
0411	1036					
0412	4011		STD	TEMP1		
0413	7100		JPR	BINARY		
0414	0220					
0415	2111		LDI	TEMP1		
0416	0021		SIC1			
0417	4112		STI	TEMP2		
0420	0020		SIC0			
0421	5411		AOD	TEMP1		
0422	5412		AOD	TEMP2		
0423	6506		NZB	6		
0424	2313		LDB	LOAD +3	LOAD COMPILER 1 INTO NEXT	
0425	7100		JPR	BINARY	LOCATION AFTER I/O TBL	
0426	0220					
0427	2100		LDM	CMPWRD	CMPWRD HAS THE NUMBER (ON SYSTEMS	
0430	1035					
0431	0111		LS6		TAPE) OF THE DESIRED BCD INPUT	
0432	0277		LPN	77	ROUTINE IN THE UPPER 6 BITS	
0433	1600		LSC	7777		
0434	7777					
0435	4011		STD	COUNTN		
0436	2200	LODINP	LDC	TYPEIN	LOAD BCD INPUT ROUTINE	
0437	0570					
0440	7100		JPR	BINARY		
0441	0220					
0442	5411		AOD	COUNTN		
0443	6505		NZB	LODINP		
0444	0500		LCN	0	SEARCH EOF, TAPE 1	
0445	7100		JPR	BINARY		
0446	0220					
0447	7101		JFI	1		
0450	1036			PRIMER	END EQUIP	
0451	7700	MODCMP	HLT		CHANGE IN COMPILER BCD INPUT	
0452	4011		STD	TEMP1	OR OUTPUT (OR BOTH)	
0453	0111		LS6			
0454	0277		LPN	77		
0455	6005		ZJF	5		
0456	2011		LDD	TEMP1	IF CHANGE IN INPUT	
0457	4100		STM	CMPWRD	REPLACE ENTIRE WORD	
0460	1035					
0461	6553		NZB	LOAD		

00048

B001143:  
 CN10001:  
 CN10002:  
 CN10003:  
 CN10004:  
 CN10005:  
 CN10006:  
 CN10007:  
 CN10008:  
 CN10009:  
 CN10010:  
 CN10011:  
 CN10012:  
 CN10013:  
 CN10014:  
 CN10015:  
 CN10016:  
 CN10017:  
 CN10018:  
 CN10019:  
 CN10020:  
 CN10021:  
 CN10022:  
 CN10023:  
 CN10024:  
 CN10025:  
 CN10026:  
 CN10027:  
 CN10028:  
 CN10029:  
 CN10030:  
 CN10031:  
 CN10032:  
 CN10033:  
 CN10034:  
 CN10035:  
 CN10036:  
 CN10037:  
 CN10038:  
 CN10039:  
 CN10040:  
 CN10041:  
 CN10042:  
 CN10043:  
 CN10044:  
 CN10045:  
 CN10046:  
 CN10047:  
 CN10048:



462	2302	LDB	2	IF NO CHANGE IN INPUT	CN10048:
463	4012	STD	TEMP2	REPLACE ONLY LOWER 6 BITS	CN10049:
464	2011	LDD	TEMP1		CN10050:
465	7612	HWI	TEMP2		CN10051:
466	6560	NZR	LOAD		CN10052:
467	6461	ZJB	LOAD		CN10053:
470	7700	MODI/O HLT			CN10054:
471	4011	STD	TEMP1		CN10055:
472	0110	LS3			CN10056:
473	0207	LPN	7		CN10057:
474	4012	STD	TEMP2		CN10058:
475	0307	LSN	7	TEST FOR BANK MODIFICATION	CN10059:
476	6107	NZF	TSTLOD		CN10060:
477	2011	LDD	TEMP1		CN10061:
500	0207	LPN	7		CN10062:
501	4100	STM	BANKS		CN10063:
502	1034				:
503	7101	OUTI/O JFI	1		CN10064:
504	0402		EQUIP +2		CN10065:
505	5410	TSTLOD AOD	LOADSW	IS TABLE OF I/O ROUTINES	CN10066:
	6124	NZF	LOADED	BCD IDENTIFIERS LOADED(LOADSW=0)	CN10067:
	0500	LCN	0		CN10068:
	7100	JPR	BINARY	THEN LOAD IT (FILE2, RECORD3)	CN10069:
	0220				:
	2200	PASADD LDC	NXTSTT		CN10070:
	1036				:
	7100	JPR	BINARY		CN10071:
	0220				:
	4600	SRC	4210		CN10072:
	4210				:
	6606	PJB	6		CN10073:
	0404	LDN	4 - <i>minus tape 1</i>	AND RESTORE TAPE	CN10074:
522	7100	JPR	BINARY		CN10075:
523	0220				:
524	0577	LCN	77		CN10076:
525	7100	JPR	BINARY		CN10077:
526	0220				:
527	4600	SRC	4444	SKIP THE TWO BOOTSTRAP RECORDS, TAPE NOW	CN10078:
530	4444				:
531	6605	PJB	5	READY TO READ NEW I/O ROUTINES	CN10079:
532	2012	LOADED LDD	TEMP2	3* (FIRST OCTAL DIGIT) + I/O TBL	CN10080:
533	0102	LS1x2		GIVES I/O TBL LOCATION	CN10081:
534	3200	ADC	I/O TBL -3		CN10082:
535	1007				:
536	5012	RAD +1	TEMP2		CN10083:
537	2011	LDD	TEMP1		CN10084:
540	1200	LPC	777		CN10085:
541	0777				:
542	0704	SBN	4		CN10086:
543	4011	STD	TEMP1		CN10087:
544	0102	LS1			CN10088:
545	3200	ADC	NXTSTT -3	3*(NUMBER)+BEGINNING OF ID TABLE	CN10089:
546	1033				:
547	5011	LOOP RAD	TEMP1	GIVES LOCATION OF LABEL	CN10090:
550	2111	LDI	TEMP1		CN10091:
551	4112	STI	TEMP2		CN10092:
552	5411	AOD	TEMP1		CN10093:
553	4600	SRC	4444		CN10094:
554	4444				:
555	6752	NJB	OUTI/O		CN10095:

0556	5412	AOD	TEMP2	
0557	6507	NZB	LOOP	
	1012	ORG	1012	
012	3451	I/OTBL	BCD	360
013	0106			
014	0771			
015	3447			
016	0106			
017	0646			
020	3451			
021	2623			
022	6620			
023	3451			
024	0106			
025	0371			
026	3426			
027	0106			
030	0346			
031	3447			
032	0502			
033	0346			
034	0001	BANKS		1
035	0506	CMPWRD		506
	0010	LOADSW	EQU	10
	0011	COUNTN	EQU	11
	0011	TEMP1	EQU	COUNTN
	0012	TEMP2	EQU	12
	0220	BINARY	EQU	220
	1036	NXTSTT	EQU	I/OTBL +200
	0570	TYPEIN	EQU	570
	1036	PRIMER	EQU	I/OTBL +200
		SUPB		
	0000	END		

(R167I)(P1660)(RWTF)(R163I)(W1630)(P5230)

CN10096:  
 CN10097:  
 CN10098:  
 CN10099:

CN10100:  
 CN10101:  
 CN10102:  
 CN10103:  
 CN10104:  
 CN10105:  
 CN10106:  
 CN10107:  
 CN10108:  
 CN10109:  
 CN10110:

PASS 1 PART 2 BANK 1 12 JULY 1963

ADDRESS	DATA	DESCRIPTION	CPT ADDRESS
0000	0000	REM	CPT0000
0000	0000	ORG 0	CPT0001
0001	0001		CPT0002
0001	0001	BANK1	CPT0003
0001	0001	CON 1	CPT0004
0001	0000	NOTKNO	CPT0005
0002	0000	LONGID	CPT0006
0003	0000	TOCRIG	CPT0007
0004	0000	NOTLEG	CPT0008
0005	0000	MACHER	CPT0009
0006	0000	SPACE	CPT0010
0007	0000	SUBERR	CPT0011
0010	0000	JAM*	CPT0012
0011	0000	QVDATA	CPT0013
0012	0000	ROSTAT	CPT0014
0013	0000	FMTPRN	CPT0015
0014	0000	STADUP	CPT0016
0015	0000	FMTLBL	CPT0017
0016	0000	INDEXR	CPT0018
0017	0000	DOFORM	CPT0019
0020	0000	NONEST	CPT0020
0021	0000	NOCNDO	CPT0021
0022	0000	PAUSTO	CPT0022
0023	0000	NOTIMP	CPT0023
0024	0000	VERMAG	CPT0024
0025	0000	VILLEG	CPT0025
0026	0000	VOFLAG	CPT0026
0027	0000	COMPER	CPT0027
0030	0000	DBLPWR	CPT0028
0031	0000	LEADCP	CPT0029
0032	0000	DBLOPR	CPT0030
0033	0000	TRLOPR	CPT0031
0034	0000	UNEOPR	CPT0032
0035	0000	DELVAR	CPT0033
0036	0000	NOMRER	CPT0034
0037	0000	NMRLST	CPT0035
0040	0000	BADOMA	CPT0036
0041	0000	XTRDIM	CPT0037
0042	0000	KATNAM	CPT0038
0043	0000	DIM()	CPT0039
0044	0000	SYNDIM	CPT0040
0045	0000	DIMEN4	CPT0041
0046	0000	COMMON	CPT0042
0047	0000	SUBPRG	CPT0043
0050	0000	LIST()	CPT0044
0051	0000	TAPLBL	CPT0045
0052	0000	IFERR	CPT0046
0053	0000	SNSERR	CPT0047
0054	0000	NEED,	CPT0048
0055	0000	COMPGO	CPT0049
0056	0000	CALFRM	CPT0050
0057	0000	NOEND	CPT0051
0060	0000	EXP=	CPT0052
0061	0000	DUPFRM	CPT0053
0062	0000	COMERR	CPT0054
0063	0000	ALPLBL	CPT0055
0064	0000	COMTBL	CPT0056

EQU TABLE FOR TILT FLAGS  
UNKNOWN ERROR, MAYBE MACHINE  
TOO MANY CHARACTERS IN IDENTIFIER  
STATEMENT TOO BIG FOR AVAILABLE AREA  
ILLEGAL BCD SYMBOL  
PROBABLE MACHINE ERROR  
PROGRAM TOO LONG  
SOME ERROR IN FORMAT OF SUBSCRIPT EXPRESSION

TOO MUCH DATA  
IMPROPER LABEL FIELD  
FORMAT PARENS ERROR  
PREVIOUS ASSIGNMENT OF LABEL  
NO FORMAT STATEMENT LABEL  
I=M1, M2, M3 FAULT  
ERROR IN LABEL IN DO STATEMENT  
DO=NEST ERROR  
STATEMENT TYPE NOT IMPLEMENTED  
ERROR IN FORM OF PAUSE OR STOP  
STATEMENT TYPE NOT IMPLEMENTED  
ERROR IN MAGNITUDE  
ILLEGITIMATE CHARACTER IN NUMERIC FIELD  
FAULTY OCTAL FIELD

MORE SUBSCRIPTS THAN DIMENSIONED  
IMPROPER ARRAY NAME  
MISSING DIMENSION PARENTHESIS  
MUST HAVE NUMERIC DIMENSION  
MORE THAN THREE DIMENSION  
ERROR IN COMMON STATEMENT  
INCORRECT SUBROUTINE FORMAT  
IMPROPER CHARACTER IN I/O LIST  
IMPROPER MAGNETIC TAPE LABEL  
MISSING ) IN IF STATEMENT  
MISSING SENSE SWITCH NUMBER  
MISSING , IN IF STATEMENT  
SHOULD BE COMMA OR RIGHT PARENS  
MISSING ) IN CALL STATEMENT  
NO END BEFORE SUBROUTINE  
ALGEBRAIC EXPRESSION LEFT OF =  
DUPLICATE FORMAT STATEMENT  
MISPLACED COMMON STATEMENT  
FLOATING NAME IN FORMAT LABEL  
ORIGINAL COMMON AREA EXCEEDED

00051

065	0000	DOUBLE		
066	0000	BADLBL		
7	0000	EQERR		
	0000	SWBOOL	REM	0
	0001		EQU	1
001	0001	LEVEL	CON	1
002	0001	LSTBNK		1
003	7776	LASTID		7776
004	0001	B(DATL		1
005	7776	DATEND		7776
006	0000	L(PROC		
007	0400	NBUFBG		INBUFF
010	0100	OUT		100
011	0022	MAXBNK		22
012	0000	DIMSW		
	0012	IDI(J)	EQU	DIMSW
			REM	
013	0000	L(DFUL		
014	0000	IDI	BSS	6
22	0000	F	BSS	6
	0027	N(PRAM	EQU	F 5
030	0000	ADTVE		
031	0000	ADTVE1		
032	0000	IDEN	BSS	80
	0032	NTEMP1	EQU	IDEN
	0033	NTEMP2	EQU	IDEN +1
	0034	NTEMP3	EQU	IDEN +2
	0032	BUFEND	EQU	NTEMP1
	0041	NOTINT	EQU	IDEN +7
042	0000	F(J)		
043	0000	NUMWRD		
	0043	MATRIX	EQU	NUMWRD
044	0000	NUMDIM		
045	0000	(((		
	0045	BOXLST	EQU	45
046	0000	M1		
047	0000	M2		
050	0000	DIMUSE		
051	0000	PSUJPR		
052	0000	BUFONT		
053	0000	L(D1HI		
054	0000	L(D1LO		
	0054	ERSLOC	EQU	54
055	0000	L(D2HI		
056	0000	L(D2LO		
057	0000	LASTBX		
060	0000	L(CH1)		
061	0000	L(CHAR		
062	0000	MATHST		
063	0000	LSTLNG		
	0063	ORDTYP	EQU	LSTLNG
064	0000	LSTTYP		
065	0000	LOC(BK		
066	0000	LOC(ID		
067	0032	IDBEG		IDEN
	0067	LETBEG	EQU	IDBEG
	0067	NUMBEG	EQU	IDBEG
070	0000	LETEND		
	0070	ID*END	EQU	LETEND

VARIABLE NAME ALREADY ASSIGNED  
 IMPROPER STATEMENT NUMBER  
 ERROR IN EQUIVALENCE STATEMENT  
 PERMANENT LOW CORE

NUMBER IN SEQUENCE OF CURRENT SUBPROGRAM  
 BANK OF LAST IDENTIFIER LIST ENTRY  
 RELATIVE LOCATION OF LAST IDLIST ENTRY  
 BANK OF LAST ASSIGNED OBJECT CODE DATA SLOC  
 LAST OBJECT CODE RELATIVE DATA ADDRESS  
 LOCATION OF BEGINNING OF PROCESSING AREA  
 BEGINNING OF INPUT BUFFER  
 COUNTS CURRENT LOCATION IN OUTPUT BUFFER  
 SIGN COMMAND WHERE N= NUMBER OF BANKS

TEMPORARY LOW CORE  
 LAST WORD +1 OF PROCESSING BUFFER

THIS IS BOXLST

CPT0057:  
 CPT0058:  
 CPT0059:  
 CPT0060:  
 CPT0061:  
 CPT0062:  
 CPT0063:  
 CPT0064:  
 CPT0065:  
 CPT0066:  
 CPT0067:  
 CPT0068:  
 CPT0069:  
 CPT0070:  
 CPT0071:  
 CPT0072:  
 CPT0073:  
 CPT0074:  
 CPT0075:  
 CPT0076:  
 CPT0077:  
 CPT0078:  
 CPT0079:  
 CPT0080:  
 CPT0081:  
 CPT0082:  
 CPT0083:  
 CPT0084:  
 CPT0085:  
 CPT0086:  
 CPT0087:  
 CPT0088:  
 CPT0089:  
 CPT0090:  
 CPT0091:  
 CPT0092:  
 CPT0093:  
 CPT0094:  
 CPT0095:  
 CPT0096:  
 CPT0097:  
 CPT0098:  
 CPT0099:  
 CPT0100:  
 CPT0101:  
 CPT0102:  
 CPT0103:  
 CPT0104:  
 CPT0105:  
 CPT0106:  
 CPT0107:  
 CPT0108:  
 CPT0109:  
 CPT0110:  
 CPT0111:  
 CPT0112:  
 CPT0113:  
 CPT0114:  
 CPT0115:  
 CPT0116:

0071	0000	OP	BSS	2			CPT0117:
	0071	OPJ	EQU	OP			CPT0118:
	0071	L(ID)	EQU	OP			CPT0119:
	0071	NXTNAM	EQU	OP			CPT0120:
	0071	PRAMBL	EQU	OP		BSS 7 FOR FIRST PART OF IDLIST ENTRY	CPT0121:
	0072	NANBEG	EQU	OP	1		CPT0122:
0073	0000	ACCU	BSS	2			CPT0123:
	0073	TYPMSK	EQU	ACCU			CPT0124:
	0074	VINSIG	EQU	74		USED IN NUM-ERIC CONVERSION	CPT0125:
0075	0000	ADDSUB					CPT0126:
0076	0000	LOC(.)					CPT0127:
0077	0000	LOC(E)					CPT0128:
	0000	FSTCHR	EQU	SWBOOL			CPT0129:
	0076	NDIGCT	EQU	LOC(.)		INTEGER CONVERSION IN DIGIT COUNTER:	CPT0130:
	0077	STORD	EQU	LOC(E)		USED IN NUMERIC CONVERSION IN	CPT0131:
	0075	VEX	EQU	ADDSUB		FLGATING CONVERSION IN	CPT0132:
	0032	ACC	EQU	NTEMP1			CPT0133:
	0032	WHI	EQU	ACC		INTEGER CONVERSION IN	CPT0134:
	0033	WLO	EQU	ACC	1	INTEGER CONVERSION IN	CPT0135:
	0014	TYPECA	EQU	14		IDLIST TYPE FOR CALL SUBPROGRAM	CPT0136:
	0021	BINDSW	EQU	21			CPT0137:
	0022	BINIT	EQU	22			CPT0138:
	0030	BMODE	EQU	30			CPT0139:
	0044	BOPLST	EQU	44			CPT0140:
	0100	OUTBUF	EQU	100			CPT0141:
	0400	INBUFF	EQU	400			CPT0142:
	1012	I/OTBL	EQU	1012		*****BEGINNING OF RELOCATABLE BANK1 LIST	CPT0143:
	1036	PRIMER	EQU	1036			CPT0144:
	1043	NXTSTT	EQU	1043			CPT0145:
	1202	TYPE-1	EQU	1202			CPT0146:
	1324	TYPFOR	EQU	1324			CPT0147:
	3245	STORNK	EQU	3245			CPT0148:
	3250	STOADD	EQU	3250			CPT0149:
	3771	NOSIC1	EQU	3771			CPT0150:
	4005	LICURR	EQU	4005			CPT0151:
	4016	LASTNO	EQU	4016			CPT0152:
	4050	TILT	EQU	4050			CPT0153:
	4470	(FNBK1	EQU	4470			CPT0154:
	4503	JMPNAM	EQU	4503			CPT0155:
	7557	FORMOT	EQU	7557			CPT0156:
	7601	LP3FRM	EQU	7601			CPT0157:
	7650	LP16FM	EQU	7650			CPT0158:
	7700	ERRSWC	EQU	7700			CPT0159:
	7716	CODEND	EQU	7716			CPT0160:
	7717	R(CODL	EQU	7717			CPT0161:
	7720	FINISH	EQU	7720		*****END OF BANK1 RELOCATABLE SYMBOL LIST	CPT0162:
	0001	CON		1			CPT0163:
0001	0000	ALGERRA					CPT0164:
0002	0000	NAKSTO					CPT0165:
0003	0000	ALGSTR					CPT0166:
0004	0000	STATNO					CPT0167:
0005	0000	LIB-FM					CPT0168:
0006	0000	I=J,K					CPT0169:
0007	0000	STNOID					CPT0170:
0010	0000	LBLCHK					CPT0171:
0011	0000	PACKID					CPT0172:
0012	0000	PUTWAY					CPT0173:
0013	0000	L(GLAS					CPT0174:
0014	0000	FORMOP					CPT0175:
0015	0000	VMLTIN					CPT0176:

0016	0000	NTRID							CPT0
0017	0000	LSTSPY							CPT0
0020	0000	MAKEID							CPT0
0021	0000	VNUMCN							CPT0
0022	0000	VADXT							CPT0
			REM						CPT0
			REM						CPT0
			REM						CPT0
			ORG	0					CPT0
0000	0000	B(Z)							CPT01068
0001	0000	A(Z)							CPT01871
0002	5603	(FMBK0	AOF	(TOBK0					CPT01881
0003	2300		LDS						CPT01891
0004	7101		JFI	1					CPT01901
0005	0000	(TOBK0							CPT01911
0006	4300		STS						CPT0192
0007	2200		LDC	(FMBK1					CPT01930
0010	4470								
0011	0010		SRJO						CPT0194:
0012	2306	CMNVEC	LDB	(TOBK0	-1				CPT0195:
0013	3300		ADS						CPT01968
0014	4201		STF	1					CPT0197:
0015	7101		JFI	1					CPT01981
0016	2420			L(IF)					CPT01998
0017	2562			L(AS)					CPT02008
0020	0547			L(GO)					CPT02018
0021	0227			L(PA)					CPT02028
0022	0215			L(ST)					CPT02030
0023	0451			L(CO)					CPT0204:
0024	1164			L(EN)					CPT02058
0025	4352			L(CA)					CPT0206:
0026	3543			L(SU)					CPT02071
0027	0236			L(FU)					CPT02081
0030	3261			L(DI)					CPT02098
0031	5455	L(L(EQ		L(EQ)					CPT02108
0032	0451			L(FR)					CPT02110
0033	0273			L(DO)					CPT0212:
0034	1434			L(RE)					CPT0213:
0035	1325			L(PU)					CPT0214:
0036	1351			L(PR)					CPT0215:
0037	1357			L(WR)					CPT0216:
0040	1425			L(BA)					CPT0217:
0041	0535			TILTER					CPT0218:
0042	5622			(BEGN)					CPT0219:
0043	0050			FORMAT					CPT0220:
0044	0457			L(CON)					CPT0221:
0045	0236			SYMBOL					CPT0222
0046	2537			(OCTAL					CPT0223:
0047	0527			COEXIT					CPT02248
0050	0401	FORMAT	LDN	1					CPT0225:
0051	3006		ADD	L(PROC					CPT0226:
0052	4060		STD	L(CHI)					CPT0227:
0053	0021		SIC1						CPT0228:
0054	2160	FMT(	LDI	L(CHI)					CPT0229:
0055	0734		SBN	34					CPT02308
0056	6014		ZJR	FMT)	+3				CPT0231:
0057	0614		ADN	14					CPT0232:
0060	6003		ZJR	FORM(					CPT02338
0061	0413	FORMER	LDN	FMTPRN					CPT0234:
0062	6161		NZR	FLBSAV	-1				CPT0235:

INTERMEDIATE ROUTINE FOR  
EFFECTING RETURN JUMPS TO  
ROUTINE IN BANK 0 FROM BANK1

BANK 1 PSEUDO-JPR ROUTINE  
RESTORE A-REGISTER  
JUMP BACK TO RETURN

ENTRANCE-SAVE A-REGISTER  
SET JUMP ADDRESS

GO TO FIXED ROUTINE IN BANK0  
(JFI 01 COMMAND)

IS FIRST CHARACTER  
LEFT PARENS  
YES, JUMP AHEAD  
IS CHARACTER BLANK  
YES, SO MAYBE OK  
FORMAT PARENS ERROR

00054

5460	FORMC	ADD	L(CHI)
3413		SBD	L(BUFL)
6511		NZR	FMTC
6405		ZJR	FORMER
2113	FMT)	LDI	L(BUFL)
0720		SBN	20
6104		NZR	FM)TST
0501		LCN	1
5013		RAD	L(BUFL)
6505		NZR	FMT)
0075	FM)TST	SBN	54
0076		NZR	FORMER
0077		ADD	L(BUFL)
0100		LDD	L(PROC)
0101		STD	L(CHAR
0102	FORMPK	LDI	L(CHI)
0103		LS6	
0104		STS	
0105		ADD	L(CHI)
0106		LDI	L(CHI)
0107		ADS	
0110		STI	L(CHAR
0111		ADD	L(CHAR
0112		ADD	L(CHI)
0113		SBD	L(BUFL)
0114		NJB	FORMPK
0115		LDD	L(CHAR
0116		STD	L(BUFL)
0117		SBD	L(PROC)
0120		STS	
0121		LDN	17
0122		STD	LSSTYP
0123		LDD	DATEND
0124		PJR	FMTLOC
0125		LCS	
0126		RAD	DATEND
0127	FMTLST	LDD	L(PROC)
0130		SBN	5
0131		STD	L(CHI)
0132	FORMLB	LDI	L(CHI)
0133		SBN	12
0134		ZJF	3
0135		SBN	6
0136		NZR	FLBSAV
0137		ADD	L(CHI)
0140		SBD	L(PROC)
0141		NZR	FORMLB
0142		LDN	FMTLBL
0143		NZR	LOCALX
0144	FLBSAV	LDD	L(CHI)
0145		STD	LETBEG
0146		ADD	L(CHI)
0147		SBD	L(PROC)
0150		ZJF	LBSLRC
0151		LDI	L(CHI)
0152		SBN	20
0153		NZR	5
0154	LBSLRC	JPR	(TOBK0
0155			
0156			LBLCHK

TRY AGAIN FOR ( )  
 ARE CHARACTERS EXHAUSTED  
 NO SO BACK  
 YES, SO ERROR  
 IS LAST CHARACTER  
 BLANK  
 NO, GO TEST FOR )  
 YES, STEP BACKWARDS

LAST NON-BLANK MUST BE )  
 OR ELSE ERROR  
 RESTORE TO 1+LAST

PACK FORMAT STATEMENT  
 TWO BOD CHARACTERS PER WORD

ARE CHARACTERS EXHAUSTED  
 NO BACK THROUGH LOOP

FIND NUMBER OF DATA WORDS  
 REQUIRED FOR STATEMENT

LIST TYPE FOR FORMAT LABEL

IS THERE ROOM IN CURRENT DATA BANK  
 NOT CERTAIN IF POSITIVE  
 YES, REDUCE END OF DATA

FIND FIRST CHARACTER IN  
 FORMAT LABEL  
 (EXCLUDING ZERO OR BLANK)

NO FORMAT STATEMENT LABEL  
 GO TO TILTER  
 SAVE LOCATION OF FIRST  
 CHARACTER

FIND END OF LABEL FIELD  
 (TERMINATED BY BLANK)

CHECK FOR LABEL ENTRY

CPT0236  
 CPT0237  
 CPT0238  
 CPT0239  
 CPT0240  
 CPT0241  
 CPT0242  
 CPT0243  
 CPT0244  
 CPT0245  
 CPT0246  
 CPT0247  
 CPT0248  
 CPT0249  
 CPT0250  
 CPT0251  
 CPT0252  
 CPT0253  
 CPT0254  
 CPT0255  
 CPT0256  
 CPT0257  
 CPT0258  
 CPT0259  
 CPT0260  
 CPT0261  
 CPT0262  
 CPT0263  
 CPT0264  
 CPT0265  
 CPT0266  
 CPT0267  
 CPT0268  
 CPT0269  
 CPT0270  
 CPT0271  
 CPT0272  
 CPT0273  
 CPT0274  
 CPT0275  
 CPT0276  
 CPT0277  
 CPT0278  
 CPT0279  
 CPT0280  
 CPT0281  
 CPT0282  
 CPT0283  
 CPT0284  
 CPT0285  
 CPT0286  
 CPT0287  
 CPT0288  
 CPT0289  
 CPT0290  
 CPT0291  
 CPT0292  
 CPT0293  
 CPT0294

00055

0157	2065		LDD	LOC(BK			CPT0295:
0160	4201		STF	1	PUT B(OBJ CODE LOCATION)		CPT0296:
0161	0020		SIC0				CPT0297:
0162	2166		LDI	LOC(ID			CPT0298:
0163	0277		LPN	77	HAS THIS LABEL OCCURRED BEFORE		CPT0299:
0164	6003		ZJF	3	NO, PROBABLY		CPT0300:
0165	0461	TWCFRM	LDN	DUPFRM	YES, GO TO ERROR		CPT0301:
0166	6151		NZR	LOCALX			CPT0302:
0167	2004		LDD	B(DATL			CPT0303:
0170	5166		RAI	LOC(ID			CPT0304:
0171	5466		AOD	LOC(ID			CPT0305:
0172	2166		LDI	LOC(ID	HAS THIS LABEL OCCURRED BEFORE		CPT0306:
0173	6506		NZR	TWCFRM	YES, GO TO ERROR		CPT0307:
0174	2005		LDD	DATEND	AND A (OBJ CODE LOCATION)		CPT0308:
0175	4166		STI	LOC(ID	INFO ENTRY		CPT0309:
0176	0021		SIC1				CPT0310:
0177	2215		LDR	FORMRT	GO OUTPUT FORMAT		CPT0311:
0200	0010		SRJO				CPT0312:
0201	3700	FMTLOC	SBS				CPT0313:
0202	6655		PJR	FMTLST =2	POSITIVE MEANS ENOUGH ROOM		CPT0314:
0203	0601		ADN	1			CPT0315:
0204	6102		NZF	2			CPT0316:
0205	0500		LCN	0			CPT0317:
0206	4005		STD	DATEND	SEE PROPER END OF DATA		CPT0318:
0207	0501		LCN	1	AND REDUCE DATA BANK		CPT0319:
0210	5004		RAD	B(DATL			CPT0320:
0211	6562		NZR	FMTLST			CPT0321:
0212	0411		LDN	OVDATA	IF BANK ZERO HAS BEEN		CPT0322:
0213	6124		NZR	LOCALX	FILLED WITH DATA GO TILT		CPT0323:
0214	7557	FORMRT		FORMOT			CPT0324:
0215	0404	L(ST)	LDN	4			CPT0325:
0216	3006		ADD	L(PROC	SKIP THE CHARACTERS (S,T,O,P)		CPT0326:
0217	4060		STD	L(CHI)			CPT0327:
0220	7100		JPR	(PAUSN	GO FORM PAUSE N INSTRUCTION		CPT0328:
0221	0264						:
0222	2200		LDC	401	TRR 1 INSTRUCTION		CPT0329:
0223	0401						:
0224	7100		JPR	(TOPT0			CPT0330:
0225	2532						:
0226	7107		JFI	7			CPT0331:
0227	0405	L(PA)	LDN	5			CPT0332:
0230	3006		ADD	L(PROC			CPT0333:
0231	4060		STD	L(CHI)	SKIP THREE CHARACTERS (P,A,U,S,E)		CPT0334:
0232	7100		JPR	(PAUSN	CREATE PAUSE N INSTRUCTION		CPT0335:
0233	0264						:
0234	7101		JFI	1			CPT0336:
0235	0457			L(CON)			CPT0337:
0236	0421	L(FU)	LDN	NGCND0	FUNCTION SUBPROGRAM		CPT0338:
0237	7101	LOCALX	JFI	1	COMMON TILT JUMP		CPT0339:
0240	0536			L(TILT			CPT0340:
0241	2213	PAULUP	LDR	INSTR			CPT0341:
0242	0110		LS3		SHIFT ACCUMULATOR		CPT0342:
0243	0270		LPN	70			CPT0343:
0244	4210		STR	INSTR			CPT0344:
0245	2160		LDI	L(CHI)	IS NEXT CHARACTER		CPT0345:
0246	0712		SBN	12			CPT0346:
0247	6006		ZJR	PAUING	ZERO		CPT0347:
0250	0602		ADN	2			CPT0348:
0251	6220		PJR	PAUSER	ERROR IF NOT OCTAL DIGIT		CPT0349:
0252	2160		LDI	L(CHI)			CPT0350:

00056



0253	5200		RAF	0				
0254	0000	INSTR						
0255	5460	PAUINC	ADD	L(CHI)	INCLUDE CHARACTER			CPT0351
0256	3413		SBD	L(BUFL	READY FOR NEXT ONE			CPT0352
0257	6516		NZR	PAULUP	HAN END BEEN REACHED			CPT0357
0260	2304	OUTHPR	LDR	INSTR	NO BACK THROUGH LOOP			CPT035
0261	7100		JPR	(TOPT)				CPT0355
0262	2532							CPT0356
0263	7101		JFI	1	EXIT			CPT0357
0264	0000	(PAUSN						CPT0358
0265	0400		LDM	0	SET N=0 IN HPRN INSTRUCTION			CPT0359
0266	4312		STR	INSTR				CPT0360
0267	2060		LDD	L(CHI)				CPT0361
0270	6512		NZR	PAUINC	1			CPT0362
0271	0422	PAUSER	LDM	PAUSTO	OTHERWISE, ERROR			CPT0363
0272	6533		NZR	LOCALX				CPT0364
			REM		FORM IS DO N I=M1,M2,M3			CPT0365
0273	5461	L(DO)	ADD	L(CHAR	START PROCESS AFTER THE			CPT0366
0274	4060		STD	L(CHI)	LETTERS DO			CPT0367
0275	2160		LDI	L(CHI)				CPT0368
0276	0713		SBN	13	N MUST BE NUMERIC			CPT0369
0277	6303		NJR	NSURCH				CPT0370
0300	0417	DOERR	LDM	DOFORM	ERROR IN N			CPT0371
0301	6542		NZR	LOCALX				CPT0372
0302	7100	NSURCH	JPR	(TOBK)				CPT0373
0303	0005							CPT0374
0304	0007			STNOID				CPT0375
0305	2065		LDD	LOC(BK	FETCH SIC(IDLIST FOR N)			CPT0376
0306	4201		STF	1				CPT0377
0307	0000	DOSIC			EXECUTE IT			CPT0378
0310	2166		LDI	LOC(ID	FETCH SECOND WORD OF ENTRY			CPT0379
0311	0240		LPN	40	IS THIS FIRST DO WITH TERMINATION N			CPT0380
0312	4300		STS		SAVE MARK			CPT0381
0313	6103		NZF	3				CPT0382
0314	0440		LDM	40	INSERT MARK IF NECESSARY			CPT0383
0315	5166		RAI	LOC(ID				CPT0384
0316	2006		LDD	L(PROC				CPT0385
0317	0707		SBN	7				CPT0386
0320	4061		STD	L(CHAR				CPT0387
0321	0021		SIC1					CPT0388
0322	2066		LDM	LOC(ID	SAVE A(IDLIST FOR N)			CPT0389
0323	4161		STI	L(CHAR	IN L(PROC-7			CPT0390
0324	5461		ADD	L(CHAR				CPT0391
0325	4274		STR	LPROCI				CPT0392
0326	2317		LDR	DOSIC	SAVE SIC(IDLIST FOR N)			CPT0393
0327	3300		ADS		*MARK			CPT0394
0330	4161		STI	L(CHAR	IN L(PROC-6			CPT0395
0331	2160		LDI	L(CHI)				CPT0396
0332	0733		SBN	33	SKIP POSSIBLE COMMA			CPT0397
0333	6102		NZF	2	AFTER N			CPT0398
0334	5460		ADD	L(CHI)				CPT0399
0335	2060		LDD	L(CHI)				CPT0400
0336	4000		STD	L(PROC	SET L(PROC AT BEGINNING OF I			CPT0401
0337	7100		JPR	(TOBK)				CPT0402
0340	0005							CPT0403
0341	0003			ALGSTR				CPT0404
0342	2044		LDD	BOPLST				CPT0405
0343	4013		STD	L(BUFL				CPT0406
0344	7100		JPR	INCSAV	SAVE INCREMENTATION INFORMATION			CPT0407
0345	0373							

346	7101	JFI	1							CPT0407:
0347	0527		COEXIT							CPT0408:
0350	2132	LDI	NTEMP1							CPT0409:
51	0110	LS3								CPT0410:
0352	0620	ADM	20			NOW SIC B(I)				CPT0411:
0353	0041	B(Z)=1	SDC1							CPT0412:
0354	3000	ADD	B(Z)							CPT0413:
0355	0040	SDC0								CPT0414:
0356	4106	STI	L(PROC			STORE SIC B(Z), SIC B(I) IN L(PROC-3				CPT0415:
0357	5432	ADD	NTEMP1							CPT0416:
0360	5406	ADD	L(PROC							CPT0417:
0361	2132	LDI	NTEMP1			STORE A(I)				CPT0418:
0362	4106	STI	L(PROC			IN L(PROC-2				CPT0419:
0363	5406	ADD	L(PROC							CPT0420:
0364	0041	SDC1								CPT0421:
0365	2001	LDD	A(Z)							CPT0422:
0366	0040	SDC0								CPT0423:
0367	4106	STI	L(PROC			STORE A(Z) IN L(PROC-1				CPT0424:
0370	0410	LDN	10							CPT0425:
0371	5006	RAD	L(PROC			MOVE L(PROC UP 6				CPT0426:
0372	7101	JFI	1							CPT0427:
0373	0000	INCSAV				SAVE INCREMENTATION INFORMATION				CPT0428:
0374	2106	LDI	L(PROC							CPT0429:
0375	4236	STF	ITERM							CPT0430:
0376	2200	LDF	0							CPT0431:
0377	0000	(BNK1				(THIS IS LAST BANK NUMBER+2**9)				CPT0432:
0400	4154	STI	ERSLOC			APPEND DESCRIPTION OF				CPT0433:
0401	5454	ADD	ERSLOC			INTEGER 1 TO STRING				CPT0434:
0402	0504	LCN	4			TO BE USED IF INCREMENT				CPT0435:
0403	4154	STI	ERSLOC			IS UNEXPRESSED				CPT0436:
0404	5454	ADD	ERSLOC							CPT0437:
0405	3444	SBD	BOPLST							CPT0438:
0406	0114	RS1								CPT0439:
0407	0614	ADM	14							CPT0440:
0410	0110	LS3								CPT0441:
0411	0103	LS2								CPT0442:
0412	4154	STI	ERSLOC							CPT0443:
0413	7100	JPR	(TOBK0							CPT0444:
0414	0005									CPT0445:
0415	0006					I=J,K				CPT0446:
0416	0502	LCN	2							CPT0447:
0417	5054	RAD	ERSLOC			RESTORE ERSLOC				CPT0448:
0420	5600	AOF	0							CPT0449:
0421	0000	LPROCI								CPT0450:
0422	4006	STD	L(PROC							CPT0451:
0423	2065	LDD	LOC(BK							CPT0452:
0424	4106	STI	L(PROC			SAVE SIC B(IDLIST FOR INCR)				CPT0453:
0425	5406	ADD	L(PROC							CPT0454:
0426	5466	ADD	LOC(ID			SET LOCATER TO SECOND WORD				CPT0455:
0427	4106	STI	L(PROC			AND A(IDLIST FOR INCR)				CPT0456:
0430	5406	ADD	L(PROC							CPT0457:
0431	0537	LCN	37							CPT0458:
0432	1200	LDF	0			ALL THIS				CPT0459:
0433	0000	ITERM				JUST TO FIND				CPT0460:
0434	0111	LS6				SOMEWAY OF DETERMINING				CPT0461:
0435	0103	LS2				THE OBJECT CODE LOCATION OF I				CPT0462:
0436	0732	SBN	32							CPT0463:
0437	3044	ADD	BOPLST							CPT0464:
0440	4032	STD	NTEMP1							CPT0465:
0441	2132	LDI	NTEMP1							CPT0466:

0442	0207		LPN	7	IS I IN ERASABLE	OPT0466:
0443	6473		ZJR	B(Z)-1--3	NO, FETCH SIC B(I)	OPT0467:
0444	0501		LCN	1	YES, WANT ERASABLE LOCATION	OPT0468:
0445	5032		RAD	NTEMP1	IN SECOND WORD	OPT0469:
0446	2200		LDC	4020		OPT0470:
0447	4020					
0450	6575		NZR	B(Z)-1	GO TO MERGER	OPT0471:
0451	5461	L(CO)	ADD	L(CHAR		OPT0472:
0452	2161		LDI	L(CHAR	IS NEXT CHARACTER	OPT0473:
0453	0744		SBN	44	M	OPT0474:
0454	6103		NZR	L(COM)		OPT0475:
0455	7101		JFI	1		OPT0476:
0456	5046			L(COM)		OPT0477:
0457	0020	L(CON)	SICO		CONTINUE STATEMENT	OPT0478:
0460	2100		LDM	L(CURR	IS CURRENT STATEMENT NUMBERED	OPT0479:
0461	4005					
0462	6146		NZR	COEXIT 1	NO, GO EXIT	OPT0480:
0463	2100		LDM	LASTNO		OPT0481:
0464	4016					
0465	4066		STD	LOC(ID	FETCH A(LOCATION OF ID FOR LABEL)	OPT0482:
0466	2100		LDM	NOSIC1		OPT0483:
0467	3771					
0470	4234		STR	COSIC2		OPT0484:
0471	4201		STF	1		OPT0485:
0472	0000	COSIC1			CHANGE INDIRECT TO IDLIST BANK	OPT0486:
0473	2166		LDI	LOC(ID	AND FETCH WORD 2 OF LABEL ENTRY	OPT0487:
0474	0240		LPN	40		OPT0488:
0475	6032		ZJR	COEXIT		OPT0489:
0476	0516	COLOOP	LCN	16	SET BEGINNING	OPT0490:
0477	3006		ADD	L(PROC	OF INCREMENTATION ENTRY	OPT0491:
0500	4060		STD	L(CHI)		OPT0492:
0501	0021		SICO			OPT0493:
0502	2160		LDI	L(CHI)	DID LAST ENCOUNTERED DO	OPT0494:
0503	3466		SBD	LOC(ID	REFER TO THIS LABEL	OPT0495:
0504	6003	NESTLT	ZJR	RELAD=	MAYBE, BUT CHECK BANK	OPT0496:
0505	0420		LDM	NONEST	NO, SO TILT	OPT0497:
0506	6130		NZR	TILTER 1		OPT0498:
0507	5460	RELAD=	ADD	L(CHI)		OPT0499:
0510	2160		LDI	L(CHI)	DO BANK SETTINGS AGREE	OPT0500:
0511	4211		STR	CCOUNT		OPT0501:
0512	0237		LPN	37		OPT0502:
0513	3721		SBR	COSIC1		OPT0503:
0514	6507		NZR	NESTLT 1	NO, SO GO TILT	OPT0504:
0515	5460		ADD	L(CHI)	YES, SET BEGINNING OF INCR INFO	OPT0505:
0516	7100		JPR	MAKING	AND GO MAKE CODING	OPT0506:
0517	0763					
0520	0440		LDM	40	WAS THIS FINAL REQUEST	OPT0507:
0521	1200		LPF	0		OPT0508:
0522	0000	CCOUNT				OPT0509:
0523	6525		NZR	COLOOP	NO, BACK THROUGH LOOP	OPT0510:
0524	0000	COSIC2				OPT0511:
0525	0540		LCN	40	YES, ERASE MARKER	OPT0512:
0526	5166		RAI	LOC(ID		OPT0513:
0527	0020	COEXIT	SICO			OPT0514:
0530	5500		ADM	L(CURR	INCREASE INCREMENT FROM	OPT0515:
0531	4005					
0532	2200		LDC	NXTSTT	LAST LABEL AND EXIT	OPT0516:
0533	1043					
0534	0010		SRJO			OPT0517:
0535	0423	TILTER	LDM	NOTIMP		OPT0518:

00059

0536	4300	L(TILT	STS							OPT0519:
0537	0021		SIC1							OPT0520:
0540	2100		LDM	OROPRC			RESTORE BEGINNING OF BUFFER			OPT0521:
0541	3262									:
0542	6002		ZJF	2						OPT0522:
0543	4006		STD	L(PROC						OPT0523:
0544	2200		LDC	TILT -1			GO TO ERROR ROUTINE IN BANK 0			OPT0524:
0545	4047									:
0546	0010		SRJO							OPT0525:
0547	0404	L(GO)	LDN	4						OPT0526:
0550	3006		ADD	L(PROC						OPT0527:
0551	4060		STD	L(CHI)			SET BEGINNING OF			OPT0528:
0552	4067		STD	LETBEG			STATEMENT LABEL			OPT0529:
0553	3413		SBD	L(BUFL						OPT0530:
0554	6103		NZF	3			IS THERE A LABEL			OPT0531:
0555	0412		LDN	NOSTAT			NO MEANS ERROR			OPT0532:
0556	6520	GOTLT	NZR	L(TILT						OPT0533:
0557	2160		LDI	L(CHI)						OPT0534:
0560	0734		SBN	34			IS NEXT LETTER ?			OPT0535:
0561	6042		ZJR	GOTO(			THEN COMPUTED GO TO			OPT0536:
0562	0621		ADN	21						OPT0537:
0563	6224		PJR	LBLALF						OPT0538:
0564	7100		JPR	(TOBK0			ORDINARY STATEMENT NUMBER			OPT0539:
0565	0005									:
0566	0007			STNGID						OPT0540:
0567	2060		LDD	L(CHI)			CHECK FOR IMPROPER STATEMENT			OPT0541:
0570	3413		SBD	L(BUFL						OPT0542:
0571	6003		ZJF	3						OPT0543:
0572	0466		LDN	BADLBL						OPT0544:
0573	6535		NZR	L(TILT						OPT0545:
0574	2200	MAKGO	LDC	7560			7600 IS GO TO COMMAND			OPT0546:
0575	7560									:
0576	3065		ADD	LOC(RK			SYC B(IDLIST FOR LABEL)			OPT0547:
0577	7100		JPR	(TOPT0						OPT0548:
0600	2532									:
0601	2066		LDD	LOC(ID			A(IDLIST FOR LABEL)			OPT0549:
0602	0701		SBN	1						OPT0550:
0603	7100		JPR	(TOPT0						OPT0551:
0604	2532									:
0605	6556		NZB	COEXIT			CONTINUE			OPT0552:
0606	5460		AOD	L(CHI)			ASSIGNED GO TO			OPT0553:
0607	2160	LBLALF	LDI	L(CHI)			LABEL IS TERMINATED			OPT0554:
0610	0720		SBN	20			BY BLANK			OPT0555:
0611	6003		ZJR	BLEND -2						OPT0556:
0612	0713		SBN	13			OR COMMA			OPT0557:
0613	6505		NZR	LBLALF -1						OPT0558:
0614	3413		LDN	13						OPT0559:
0615	4064		STD	LSTTYP			SET TYPE FOR STATEMENT NUMBER			OPT0560:
0616	7100	BLEND	JPR	(TOBK0						OPT0561:
0617	0005									:
0620	0010			LBLCHK						OPT0562:
0621	7101		JFI	1						OPT0563:
0622	0574			MAKGO						OPT0564:
0623	4041	GOTO(	STD	NOTINT			ZERO OUT COUNTER			OPT0565:
0624	2006		LDD	L(PROC						OPT0566:
0625	4235		STR	SAVPRO						OPT0567:
0626	0603		ADN	3						OPT0568:
0627	4014		STD	IDI						OPT0569:
0630	5460	CPTNIS	AOD	L(CHI)						OPT0570:
0631	7100		JPR	(TOBK0			FETCH IDLIST LOCATION			OPT0571:

00360

0632	0005		STNOID		FUR NEXT STATEMENT NUMBER		OPT0572:
0633	0007		LOC(BK				OPT0573:
0634	2065	LDD	7				OPT0574:
0635	0207	LPN	7				OPT0575:
0636	4114	STI	IDI				OPT0576:
0637	5414	AOD	IDI				OPT0577:
0640	0501	LCN	1				OPT0578:
0641	3066	AOD	LOC(ID				OPT0579:
0642	4114	STI	IDI				OPT0580:
0643	5414	AOD	IDI				OPT0581:
0644	5441	AOD	NOTINT		COUNT NUMBER OF BRANCHES		OPT0582:
0645	2160	LDI	L(CHI)				OPT0583:
0646	0733	SBN	33		IS NEXT CHARACTER ,		OPT0584:
0647	6417	ZJR	CPTNIS		YES SO NOT AT END		OPT0585:
0650	0741	SBN	41		NO-HOW ABOUT FINAL )		OPT0586:
0651	6003	ZJF	3				OPT0587:
0652	0455	LDN	COMPGO		SHOULD BE COMMA OR RIGHT PARENS		OPT0588:
0653	6575	NZR	GOTLT				OPT0589:
0654	5460	AOD	L(CHI)		SET PHONY BEGINNING		OPT0590:
0655	4006	STD	L(PROC		OF PROCESSING AREA		OPT0591:
0656	7100	JPR	(TOBK)				OPT0592:
0657	0005						OPT0593:
0660	0003		ALGSTR				OPT0594:
0661	2200	LDF	0		REST/RE BEGINNING		OPT0595:
0662	0000	SAVPRO					OPT0596:
0663	4006	STD	L(PROC				OPT0597:
0664	4060	STD	L(CHI)				OPT0598:
0665	2200	LDC	107		7 IS MACRO FOR COMPUTED GO TO		OPT0599:
0666	0107						OPT0600:
0667	4160	STI	L(CHI)				OPT0601:
0670	5460	AOD	L(CHI)				OPT0602:
0671	2144	LDI	BOPLST				OPT0603:
0672	0207	LPN	7		IS VARIABLE A FORMAL PARAMETER		OPT0604:
0673	6005	ZJR	NOTPRM		NO JUMP AHEAD		OPT0605:
0674	4144	STI	BOPLST				OPT0606:
0675	0400	LDN	0		YES, ENTRY LOOKS LIKE		OPT0607:
0676	4160	STI	L(CHI)				OPT0608:
0677	6006	ZJR	GOCOUN		PARAMETER NUMBER		OPT0609:
0700	2144	NOTPRM	LDI		NOT ENTRY LOOKS LIKE		OPT0610:
0701	0110		LS3		BANK		OPT0611:
0702	0207		LPN		RELATIVE ADDRESS		OPT0612:
0703	4160	STI	L(CHI)				OPT0613:
0704	5444	AOD	BOPLST				OPT0614:
0705	4441	GOCOUN	SRD		MERGE		OPT0615:
0706	0103		LS2		PUT NUMBER OF BRANCHES		OPT0616:
0707	5160	RAI	L(CHI)		INTO MACRO		OPT0617:
0710	5460	AOD	L(CHI)				OPT0618:
0711	2144	LDI	BOPLST				OPT0619:
0712	4160	STI	L(CHI)				OPT0620:
0713	2006	LDD	L(PROC				OPT0621:
0714	4060	STD	L(CHI)				OPT0622:
0715	0503		LCN		TOTAL NUMBER OF WORDS		OPT0623:
0716	3441	SBD	NOTINT				OPT0624:
0717	4041	OUTLUP	STD				OPT0625:
0720	2160		LDI				OPT0626:
0721	7100		JPR				OPT0627:
0722	2532						OPT0628:
0723	5460	AOD	L(CHI)				OPT0629:
0724	5441	AOD	NOTINT				OPT0630:
0725	6505	NZR	OUTLUP				OPT0631:

0726	7101		JFI	1		
0727	0527		CGEXIT		EXIT	
0730	5461	A(INC)	ADD	L(CHAR		
0731	0107		ETA			
0732	4161		STI	L(CHAR	PUT A(INCR+1) INTO IDLIST	
0733	0021		SIC1			
0734	0503		LCN	3		
0735	4300		STS			
0736	5060		RAD	L(CH1)		
0737	0400		LDN	0	ZERO OUT L(PROC=7 THROUGH =5	
0740	4160		STI	L(CH1)		
0741	5460		AOD	L(CH1)		
0742	5700		AOS			
0743	6504		NZB	4		
0744	0401		LDN	1	PUT 1	
0745	4160		STI	L(CH1)	IN L(PROC=4	
0746	0507		LCN	7		
0747	4032		STD	NTEMP1	SEVEN MORE WORDS TO INCR	
0750	0503		LCN	3	PUT THESE WORDS OUT AS	
0751	5060		RAD	L(CH1)	SPACER	
0752	2160	INCLUP	LDI	L(CH1)	SPACER	
0753	7100		JPR	(TOPT0	M3 LOW OR ZERO	
0754	2532					
0755	5460		ADD	L(CH1)	SIC B(Z), SIC B(I) OR ZERO	
0756	5432		AOD	NTEMP1	A(I) OR ERASABLE LOCATION	
0757	6505		NZR	INCLUP	A(Z)	
0760	0507		LCN	7	SET PROCESSING AREA BACK	
0761	5006		RAD	L(PROC		
0762	7101		JFI	1		
0763	0000	MAKINC				
0764	2200		LDC	101	TRANSFER TO MAORO-INCR	
0765	0101					
0766	7100		JPR	(TOPT0		
0767	2532					
0770	0020		SIC0			
0771	2100		LDM	B(CODL	SAVE L(INCR)+1	
0772	7717					
0773	0207		LPN	7		
0774	4300		STS		IN SPECIFIC CELL	
0775	2100		LDM	CODEND		
0776	7716					
0777	0105		ATE		AND BUFFER ENTRANCE	
1000	0000					
1001	0021		SIC1			
1002	2160		LDI	L(CH1)	FETCH SIC B(IDLIST FOR INCR)	
1003	4204		STR	INCSIC		
1004	5460		AOD	L(CH1)		
1005	2160		LDI	L(CH1)	AND A(IDLIST FOR INCR)	
1006	4061		STD	L(CHAR		
1007	0000	INCSIC			SWITCH TO IDLIST BANK	
1010	2300		LDS			
1011	5161		RAI	L(CHAR	PUT 2300+B(INCR+1) INTO IDLIST	
1012	6562		NZR	A(INC)		
1013	5460	PKEQND	AOD	L(CH1)		
1014	4067		STD	IDBEG	SAVE BEGINNING OF NAME	
1015	5460		AOD	L(CH1)		
1016	2160		LDI	L(CH1)		
1017	0774		SBN	74	FIND ) TERMINATING NAME	
1020	6503		NZR	3		
1021	7100		JPR	(TOBK0		

00362

OPT06281  
 OPT06291  
 OPT06301  
 OPT06311  
 OPT06321  
 OPT06331  
 OPT06340  
 OPT06351  
 OPT06361  
 OPT06378  
 OPT06388  
 OPT06398  
 OPT06401  
 OPT06411  
 OPT06421  
 OPT06435  
 OPT06448  
 OPT06458  
 OPT06461  
 OPT06471  
 OPT06481  
 OPT06491  
 OPT06501  
 OPT06511  
 OPT06521  
 OPT06531  
 OPT06541  
 OPT06558  
 OPT06561  
 OPT06578  
 OPT06581  
 OPT06591  
 OPT06601  
 OPT06611  
 OPT06621  
 OPT06631  
 OPT06641  
 OPT06658  
 OPT06661  
 OPT06671  
 OPT06681  
 OPT06691  
 OPT06701  
 OPT06711  
 OPT06721  
 OPT06731  
 OPT06741  
 OPT06751  
 OPT06760  
 OPT06778  
 OPT06781  
 OPT06791  
 OPT06808  
 OPT06818

1022	0005		PACKID		PACK IDENTIFIER				
1023	0011		L(CHI)						GPT0682:
1024	5460		(TOBK0						GPT0683:
1025	7100	IOSRCH	JPR		TREST AS LIBRARY FUNCTION				GPT0684:
1026	0005								GPT0685:
1027	0005								GPT0686:
1030	0110		LS3						GPT0687:
1031	0102		LS1		EXIT WITH LIBRARY NUMBER*2**4				GPT0688:
1032	7101		JFI	1					GPT0689:
1033	0000	EQUIPNO			IS EQUIPMENT STANDARD				GPT0690:
1034	6421		ZJR	PKEQND	NO. GO PACK IDENTIFIER				GPT0691:
1035	0701		SBM	1	A HAS 3*(EQUIP NO,-1)				GPT0692:
1036	3200		ADC	I/OTBL					GPT0693:
1037	1012								GPT0694:
1040	4061		STD	L(CHAR	FORM FIRST LOCATION IN TABLE				GPT0695:
1041	0020		SIC0						GPT0696:
1042	2161		LDI	L(CHAR	FIRST WORD				GPT0697:
1043	4032		STD	IDEN					GPT0698:
1044	5461		ADD	L(CHAR					GPT0699:
1045	2161		LDI	L(CHAR	SECOND WORD				GPT0700:
1046	4033		STD	IDEN					GPT0701:
1047	5461		ADD	L(CHAR					GPT0702:
1050	2161		LDI	L(CHAR	THIRD WORD				GPT0703:
1051	4034		STD	IDEN					GPT0704:
1052	0435		LDN	IDEN	SET END OF IDENTIFIER				GPT0705:
1053	4070		STD	ID*END					GPT0706:
1054	0021		SIC1						GPT0707:
1055	6530		NZR	IOSRCH	BACK TO IDLIST SEARCH				GPT0708:
1056	0000	EQUFLP			ZERO IF NO EQUIVALENCE				GPT0709:
1057	2100	DONTRY	LDM	ORGPC	HAS PROCESSING AREA BEEN BUMPED				GPT0710:
1060	3262								GPT0711:
1061	6005		ZJF	RELEASE -1	ZERO MEANS NO				GPT0712:
1062	4006		STD	L(PROC	RESTORE BEGINNING				GPT0713:
1063	0400		LDN	0					GPT0714:
1064	4100		STM	ORGPC	AND SET INDICATOR				GPT0715:
1065	3262								GPT0716:
1066	7101		JFI	1					GPT0717:
1067	0000	RELEASE							GPT0718:
1070	7100		JPR	STTYPE	IS STORAGE STATEMENT NEXT				GPT0719:
1071	2715								GPT0720:
1072	6504		NZR	RELEASE -1	ZERO MEANS NO				GPT0721:
1073	2032		LDD	NTEMP1					GPT0722:
1074	6105		NZF	5					GPT0723:
1075	2033		LDD	NTEMP2					GPT0724:
1076	3600		SBC	402					GPT0725:
1077	0402								GPT0726:
1100	6412		ZJR	RELEASE -1	ZERO MEANS SUBROUTINE				GPT0727:
1101	2226		LDR	COMBNK	CHECK FOR COMMON ALLOCATION				GPT0728:
1102	6106		NZR	DONT	BANK NON-ZERO MEANS COMMON				GPT0729:
1103	2225		LDR	COMDAT					GPT0730:
1104	6104		NZR	DONT	ADDRESS ZERO MEANS NO COMMON				GPT0731:
1105	2206		LDF	COMBQU					GPT0732:
1106	4100		STM	L(CON) -1	FREE COMMON AREA				GPT0733:
1107	0456								GPT0734:
1110	2532	DONT	LDR	EQUFLP	IS EQUIVALENCE IN				GPT0735:
1111	6532		NZR	DONTRY	ZERO MEANS IT SHOULD NOT				GPT0736:
1112	2200		LDF	0					GPT0737:
1113	5043	COMBQU		CHMTLT					GPT0738:
1114	4100		STM	L(L(EO	PLUG TRANSFER VECTOR				GPT0739:
1115	0031								GPT0740:

1116	3500		SBM	L(CON)	=1				OPT0733
1117	0456								
1120	6004		ZJF	4					OPT0734
1121	2200		LDC	EQNUM			SET BACK PROCESSING AREA		OPT0735
1122	5346								
1123	6541		NZR	DONTRY	3				OPT0736
1124	2200		LDC	L(COM)	7				OPT0737
1125	5055								
1126	6544		NZR	DONTRY	3				OPT0738
1127	0000	COMBNK					BANK OF END OF COMMON		OPT0739
1130	0000	COMDAT					ADDRESS OF END OF COMMON		OPT0740
1131	0012	*ZERO*					BCD 0 FOR STATEMENT LABEL		OPT0741
1132	0021	NXTSPG	SIC1	12			PREPARE FOR NEXT SUBPROGRAM		OPT0742
1133	5401		AOD	LEVEL			INCREASE LEVEL		OPT0743
1134	0400	SETSWC	LDN	0					OPT0744
1135	4267		STR	*RTURN					OPT0745
1136	4265		STR	*SUBR*					OPT0746
1137	4012		STD	DIMSW					OPT0747
1140	4100		STM	COMEND					OPT0748
1141	5042								
1142	4100		STM	SUBEND					OPT0749
1143	4125								
1144	4100		STM	ORGPRC					OPT0750
1145	3262								
1146	4370		STR	EQUFLP					OPT0751
1147	7100		JPR	RELEASE					OPT0752
1150	1067								
1151	2200		LDC	*ZERO*					OPT0753
1152	1131								
1153	4060		STD	L(CH1)					OPT0754
1154	0506		LCN	6					OPT0755
1155	7100		JPR	(TOBK0			MAKE 0 STATEMENT ENTRY		OPT0756
1156	0005								
1157	0004			STATNO			FOR THIS LEVEL		OPT0757
1160	0020		SIC0						OPT0758
1161	2200		LDC	NXTSTT			GO PROCESS NEXT STATEMENT		OPT0759
1162	1043								
1163	0010		SRJ0						OPT0760
1164	2006	L(EN)	LDD	L(PROC					OPT0761
1165	0603		ADN	3			SKIP LETTERS E*N*D		OPT0762
1166	4061		STD	L(CHAR					OPT0763
1167	2161		LDI	L(CHAR					OPT0764
1170	0766		SBN	66			IS NEXT CHARACTER F		OPT0765
1171	6103		NZF	3			NO SKIP AHEAD		OPT0766
1172	7101		JFI	1			YES, GO PROCESS END FILE		OPT0767
1173	1413			ENDFIL					OPT0768
1174	2227		LDR	*SUBR*			IS SUBROUTINE JUST ENDING		OPT0769
1175	6030		ZJR	NDMAIN			NO JUMP AHEAD		OPT0770
1176	2226		LDR	*RTURN			YES, HAS RETURN BEEN HIT		OPT0771
1177	6105		NZR	BLANKS			YES, SO OKAY		OPT0772
1200	2200		LDC	102			NO GENERATE RETURN		OPT0773
1201	0102								
1202	7100	TOPTWY	JPR	(TOPT0					OPT0774
1203	2532								
1204	2007	BLANKS	LDD	NBUFBG			SET BEGINNING OF INPUT BUFFER		OPT0775
1205	4061		STD	L(CHAR			-72(DECIMAL)		OPT0776
1206	2200		LDC	7667			COUNTS LOCATION IN INPUT BUFFER		OPT0777
1207	7667								
1210	4300		STS						OPT0778
1211	0020	BLNKLP	SIC0						OPT0779



1212	2161		LDI	L(CHAR	IS NEXT CHARACTER BLANK	OPT0780
1213	0720		SBN	20	NO, PREPARE FOR NEXT SUBPROGRAM	OPT0781
1214	6562		NZR	NXTSPG		OPT0782
1215	5461		ADD	L(CHAR	YES, INCREMENT	OPT0783
1216	5700		ADS		ARE CHARACTERS EXHAUSTED	OPT0784
1217	6506		NZR	BLNKLP	NO, BACK THROUGH LOOP	OPT0785
1220	2200		LDC	FINISH	YES, SO AT END	OPT0786
1221	7720					
1222	0010		SRJD			OPT0787
1223	0000	*SUBR*			SUBROUTINE SWITCH	OPT0788
1224	0000	*RTURN			RETURN SWITCH	OPT0789
1225	0020	NDMAIN	SIC0			OPT0790
1226	2100		LDM	TYPE-1	WAS LAST STATEMENT STOP	OPT0791
1227	1202					
1230	0021		SIC1			OPT0792
1231	0704		SBN	4	(STOP IS FOURTH IN LIST)	OPT0793
1232	6426		ZJR	BLANKS		OPT0794
1233	0400		LDN	0	OTHERWISE, PUTAWAY STOP 0	OPT0795
1234	7100		JPR	(TOPT0		OPT0796
1235	2532					
1236	2200		LDC	401		OPT0797
1237	0401					
1240	6536		NZR	TOPTWY		OPT0798
1241	2035		LDD	NTEMP2	BRING IN FIRST WORD OF ID IF NO	OPT0799
1242	0021		SIC1		RESTORE INDIRECT TO 1	OPT0800
1243	7101		JFI	1	EXIT	OPT0801
1244	0000	NXTTYP			ENTER	OPT0802
1245	2007		LDD	NBUFBG	SET BEGINNING OF BUFFER	OPT0803
1246	0606		ADN	6		OPT0804
1247	4061		STD	L(CHAR		OPT0805
1250	3200		ADC	66D		OPT0806
1251	0102					
1252	4032		STD	BUFEND	SET END OF BUFFER	OPT0807
1253	0502		LCN	2		OPT0808
1254	4075		STD	ADDSUB	ADDSUB COUNTS NON-BLNK CHARACTER	OPT0809
1255	0020		SIC0		BUFFER IS IN BANK 0	OPT0810
1256	2161	NONBLK	LDI	L(CHAR	BRING IN NEXT CHARACTER	OPT0811
1257	0720		SBN	20	IS IT BLANK	OPT0812
1260	6011		ZJR	TYPINC	YES, GO TO INCREMENTATION	OPT0813
1261	5475		ADD	ADDSUB	INCREASE COUNTER	OPT0814
1262	6313		NJR	CHAR1	JUMP IF FIRST CHARACTER FOUND	OPT0815
1263	6103		NZR	TST=	JUMP IF MORE THAN TWO FOUND	OPT0816
1264	2161		LDI	L(CHAR	BRING IN SECOND CHARACTER	OPT0817
1265	5033		RAD	NTEMP2	ADJOIN IT TO FIRST	OPT0818
1266	2161	TST=	LDI	L(CHAR	IS CHARACTER =	OPT0819
1267	0713		SBN	13		OPT0820
1270	6426		ZJR	NXTTYP -2	YES, EXIT WITH 0 IN A	OPT0821
1271	5461	TYPINC	ADD	L(CHAR	READY FOR NEXT CHARACTER	OPT0822
1272	3432		SBD	BUFEND	IS BUFFER EXHAUSTED	OPT0823
1273	6515		NZR	NONBLK	NO, BACK THROUGH LOOP	OPT0824
1274	6435		ZJR	NXTTYP -3	YES, AND NO = FOUND	OPT0825
1275	2161	CHAR1	LDI	L(CHAR	BRING IN FIRST CHARACTER	OPT0826
1276	0111		LS6			OPT0827
1277	4033		STD	NTEMP2	SAVE IT IN HIGH ORDER	OPT0828
1300	6507		NZR	TYPINC	BACK TO INCREMENT	OPT0829
1301	7101		JFI	1		OPT0830
1302	0000	OUTPUT				OPT0831
1303	2200		LDC	111	MACRO FOR OUTPUT	OPT0832
1304	0111					
1305	7100		JPR	(TOPT0		OPT0833

00965

1306	2532								
1307	0446		LDN	46					OPT0834:
1310	4100		STM	I-OR-0		SWITCH I/O TO 0 FOR OUTPUT			OPT0835:
1311	2073								
1312	6511		NZB	OUTPUT -1					OPT0836:
1313	7101		JFI	1					OPT0837:
1314	0000	INPUT							OPT0838:
1315	2200		LDC	110		GENERATE MACRO FOR I/O IN			OPT0839:
1316	0110								
1317	7100		JPR	(TOPT0					OPT0840:
1320	2532								
1321	0471		LDN	71					OPT0841:
1322	4100		STM	I-OR-0		SET SWITCH TO 1			OPT0842:
1323	2073								
1324	6511		NZB	INPUT -1					OPT0843:
1325	0420	L(PU)	LDN	20		20 IS STANDARD PUNCH			OPT0844:
1326	4362		STR	NXTTYP					OPT0845:
1327	7100		JPR	OUTPUT		CREATE OUTPUT MACRO			OPT0846:
1330	1302								
1331	0404		LDN	4					OPT0847:
1332	3061		ADD	L(CHAR		SKIP NEXT THREE LETTERS			OPT0848:
1333	4060		STD	L(CHI)					OPT0849:
1334	2160		LDI	L(CHI)		IS NEXT CHARACTER			OPT0850:
1335	0734		SBN	34		(			OPT0851:
1336	6004		ZJF	XEQUOP 1					OPT0852:
1337	0732		SBN	32		OR F FOR FLEX			OPT0853:
1340	6004		ZJF	4					OPT0854:
1341	2375	XEQUOP	LDR	NXTTYP					OPT0855:
1342	7101		JFI	1					OPT0856:
1343	1623			READCD 1					OPT0857:
1344	0404		LDN	4					OPT0858:
1345	5060		RAD	L(CHI)					OPT0859:
1346	0410		LDN	10		PUNCH FLEX PARAMETER IS 1			OPT0860:
1347	7101	(TOFLX	JFI	1					OPT0861:
1350	1552			RDFLEX 3					OPT0862:
1351	0404	L(PR)	LDN	4		4 IS STANDARD PRINTER			OPT0863:
1352	6524		NZB	L(PU) 1					OPT0864:
1353	0403	WRTYPE	LDN	3					OPT0865:
1354	5060		RAD	L(CHI)					OPT0866:
1355	0420		LDN	20		TYPE OUT PARAMETER IS 2			OPT0867:
1356	6607		PJB	(TOFLX					OPT0868:
1357	7100	L(WR)	JPR	OUTPUT		CREATE OUTPUT MACRO			OPT0869:
1360	1302								
1361	0404		LDN	4					OPT0870:
1362	3061		ADD	L(CHAR		SKIP LETTERS I T E			OPT0871:
1363	4060		STD	L(CHI)					OPT0872:
1364	2160		LDI	L(CHI)					OPT0873:
1365	0746		SBN	46		IS NEXT CHARACTER 0			OPT0874:
1366	6011		ZJR	BCDTP0		YES, GO WRITE OUTPUT TAPE			OPT0875:
1367	5460		AOD	L(CHI)					OPT0876:
1370	2160		LDI	L(CHI)		IS NEXT CHARACTER			OPT0877:
1371	0730		SBN	30		Y			OPT0878:
1372	6417		ZJR	WRTYPE		YES, GO WRITE TYPE			OPT0879:
1373	0403		LDN	3		HERE FOR BINARY TAPE			OPT0880:
1374	5060		RAD	L(CHI)					OPT0881:
1375	0402		LDN	2		1 # BINARY TAPE FUNCTION WRITE			OPT0882:
1376	6123		NZR	TAPOUT					OPT0883:
1377	0412	BCDTP0	LDN	12		SKIP LETTERS OUTPUT TAPE			OPT0884:
1400	5060		RAD	L(CHI)					OPT0885:
1401	2160		LDI	L(CHI)					OPT0886:

00966

1402	0734	SBN	34	IS NEXT CHARACTER (	OPT0887:
1403	6002	ZJF	2		OPT0888:
1404	0415	LDN	15	STANDARD EQUIPMENT IS 15	OPT0889
1405	7101	JFI	1		OPT0890
1406	1602		TAPEID	EXIT	OPT0891:
1407	0404	REWIND	LDN	4	OPT08920
1410	5060	RAD	L(CHI)		OPT08936
1411	0404	LDN	4	1-TAPE FUNCTION REWIND	OPT08948
1412	6173	NZR	TPMRGE		OPT08957
1413	0404	ENDFIL	LDN	4	OPT08968
1414	3061	ADD	L(CHAR		OPT0897:
1415	4060	STD	L(CHI)		OPT0898:
1416	7100	JPR	OUTPUT		OPT08998
1417	1302				:
1420	0405	LDN	5	1 * TAPE FUNCTION END FILE	OPT0900:
1421	4100	TAPOUT	STM	TAPEFN	OPT0901:
1422	1536				:
1423	0415	LDN	15	EQUIPMENT NUMBER IS 15	OPT09028
1424	6163	NZR	FM(OUT		OPT0903:
1425	0410	L(BA)	LDN	10	OPT0904:
1426	3061	ADD	L(CHAR		OPT09058
1427	4060	STD	L(CHI)		OPT0906:
1430	7100	JPR	INPUT		OPT0907:
1431	1314				:
1432	0403	LDN	3		OPT09088
1433	6152	NZR	TPMRGE		OPT0909:
1434	5461	L(RE)	ADD	L(CHAR	OPT0910:
1435	4060	STD	L(CHI)	READ, REWIND, OR RETURN	OPT0911:
1436	2160	LDI	L(CHI)		OPT0912
1437	0723	SBN	23	IS THIRD CHARACTER T	OPT0913
1440	6114	NZR	READ		OPT0914:
1441	2100	LDM	*SUBR*		OPT0915:
1442	1223				:
1443	6007	ZJF	READ	-2	OPT0916:
1444	2200	LDC	102	GENERATE RETURN	OPT0917:
1445	0102				:
1446	4100	STM	*RTURN		OPT0918:
1447	1224				:
1450	7100	JPR	(TOPTO		OPT0919:
1451	2532				:
1452	7101	JFI	1		OPT0920:
1453	0527		COEXIT		OPT0921:
1454	7100	READ	JPR	INPUT	OPT0922:
1455	1314				:
1456	2160	LDI	L(CHI)	IS NEXT CHARACTER W	OPT0923:
1457	0726	SBN	26		OPT0924:
1460	6451	ZJR	REWIND	YES GO TO REWIND PROCESSOR	OPT0925:
1461	0402	LDN	2		OPT0926:
1462	5060	RAD	L(CHI)	SKIP NEXT TWO CHARACTERS	OPT09278
1463	2160	LDI	L(CHI)		OPT0928:
1464	0713	SBN	13	IS CHARACTER NUMERIC	OPT0929:
1465	6353	NJR	1RELAY		OPT0930:
1466	0721	SBN	21	OR (	OPT0931:
1467	6052	ZJR	2RELAY		OPT0932:
1470	0732	SBN	32	IS IT F	OPT0933:
1471	6056	ZJR	RDFLEX	YES GO READ FLEX	OPT0934:
1472	0703	SBN	3	IS IT I	OPT0935:
1473	6066	ZJR	BCDTP1	YES, GO READ INPUT TAPE	OPT0936:
1474	0646	ADN	46		OPT0937:
1475	6143	NZR	1RELAY	ZERO MEANS REWIND TAPE	OPT0938

476	5460		AOD	L(CHI)			GPT1939
1477	2160		LDI	L(CHI)			GPT1940
500	0730		SBN	30		IS NEXT CHARACTER Y	GPT1941
01	6042		ZJR	RDTYPE		YES, GO READ TYPE	GPT1942
1502	0403	BINTAP	LDN	3		OTHERWISE, BINARY TAPE	GPT1943
503	5060		RAD	L(CHI)			GPT1944
504	0401		LDN	1		1 * TAPE FUNCTION READ	GPT1945
1505	4231	TPMRGE	STR	TAPEFN			GPT1946
506	0412		LDN	12			GPT1947
507	4230	FM(OUT	STR	BINIO		SAVE EQUIPMENT NUMBER	GPT1948
1510	2160		LDI	L(CHI)		IS NEXT CHARACTER	GPT1949
511	0734		SBN	34		( FOR NON-STANDARD EQUIPMENT	GPT1950
512	6002		ZJF	2			GPT1951
1513	2224		LDR	BINIO		3*(EQUIP NO.-1)+1	GPT1952
514	7100		JPR	EQUINO			GPT1953
515	1033						
1516	0610		ADN	10		VECTOR NUMBER * BINARY FLAG	GPT1954
517	4223		STR	L(VECT			GPT1955
520	2216		LDR	TAPEFN		PUT TAPE FUNCTION WHERE	GPT1956
1521	4066		STD	L(OCID		RELATIVE FORMAT ORDINARILY IS	GPT1957
522	2160		LDI	L(CHI)			GPT1958
523	0711		SBN	11		TEST FOR PROPER TAPE LABEL	GPT1959
1524	6264		PJR	L(TPLB			GPT1960
525	0610		ADN	10			GPT1961
526	0110		LS3				GPT1962
1527	0111		LS6				GPT1963
530	3212		ADR	L(VECT			GPT1964
531	4300		STS				GPT1965
32	5460		AOD	L(CHI)			GPT1966
533	2300		LDS				GPT1967
534	7101		JFI	1		EXIT TO LIST PROCESSOR	GPT1968
1535	1727			LIST	4		GPT1969
536	0000	TAPEFN					GPT1970
1537	0000	BINIO					GPT1971
1540	6162	1RELAY	NZR	READCD			GPT1972
541	6062	2RELAY	ZJR	READCD	+1		GPT1973
542	0000		L(VECT				GPT1974
1543	0403		RDTYPE	LDN	3		GPT1975
544	5060		RAD	L(CHI)			GPT1976
1545	0440		LDN	40		TYPE IN PARAMETER IS 4	GPT1977
1546	6104		NZR	RDFLEX	3		GPT1978
547	0404	RDFLEX	LDN	4		SKIP LETTERS UNTIL FORMAT LABEL	GPT1979
1550	5060		RAD	L(CHI)			GPT1980
1551	0430		LDN	30		READ FLEX PARAMETER IS 3	GPT1981
552	0111		LS6				GPT1982
1553	4311		STR	L(VECT			GPT1983
1554	0407		LDN	7			GPT1984
555	7100	GETEQP	JPR	EQUINO		GO GET VECTOR LOCATION	GPT1985
1556	1033						
1557	5315		RAR	L(VECT			GPT1986
560	6146		NZR	RDLABL		MERGE WITH READ CARD	GPT1987
1561	0511	BCDTPI	LCN	11		TEST TO DETERMINE	GPT1988
1562	4300		STS			WHETHER NEXT NINE	GPT1989
563	2060		LDD	L(CHI)		CHARACTERS CONTAIN	GPT1990
564	4265		STR	L(OCID		A COMMA, I.E. ALPHABETIC	GPT1991
1565	5460	ALPLUP	AOD	L(CHI)		LABEL, OR WHETHER THIS	GPT1992
566	5700		AOS			IS INPUT TAPE	GPT1993
1567	6007		ZJR	BCDINP		0 MEANS INPUT TAPE	GPT1994
1570	2160		LDI	L(CHI)			GPT1995
571	0733		SBN	33		IS NEXT CHARACTER	GPT1996

00068

1572	6505	NZR	ALPLUP	NOT BACK THROUGH LOOP	OPT0997:
1573	2256	LDR	L(OCID)	YES, READ WITH ALPH-LABEL	OPT0998:
1574	4060	STD	L(CHI)		OPT0999
1575	6125	NZR	READCD		OPT1000
1576	2160	BCDINP	LDI		OPT1001:
1577	0734	SBN	34	IS NEXT CHARACTER (	OPT1002
1600	6002	ZJF	2		OPT1003:
1601	0412	LDN	12	NO AND INPUT TAPE IS FOURTH IN TABLE	OPT1004:
1602	7100	TAPEIO	JPR	GET VECTOR NUMBER	OPT1005
1603	1033				
1604	4342	STR	L(VECT	SAVE IT	OPT1006:
1605	2160	LDI	L(CHI)	IS TAPE NUMBERED NO MORE THAN 8	OPT1007
1606	0711	SBN	11		OPT1008:
1607	6304	NJF	4	YES, JUMP AHEAD	OPT1009:
1610	0451	L(TPLB	LDN	IMPROPER MAGNETIC TAPE LABEL	OPT1010
1611	7101	JFI	1		OPT1011:
1612	0536		L(TILT		OPT1012:
1613	0610	ADN	10		OPT1013
1614	0110	LS3		TAPE UNIT =1	OPT1014:
1615	0111	LS6			OPT1015:
1616	5354	RAR	L(VECT	GOES INTO DESCRIPTION	OPT1016
1617	0402	LDN	2		OPT1017:
1620	5060	RAD	L(CHI)		OPT1018:
1621	6105	NZR	RDLABL	MERGE WITH READ CARD	OPT1019
1622	0401	READCD	LDN		OPT1020:
1623	7100	JPR	EQUIPNO	GO GET VECTOR NUMBER	OPT1021:
1624	1033				
1625	4363	STR	L(VECT	SAVE IT	OPT1022:
1626	2060	RDLABL	LDD		OPT1023
1627	4067	STD	IDREG	SAVE BEGINNING OF FORMAT LABEL	OPT1024
1630	4223	STR	SVIDBG	SAVE LOC OF BEGINNING OF LABEL	OPT1025:
1631	2167	LDI	IDREG	IS LABEL ALPHABETIC	OPT1026:
1632	0713	SBN	13		OPT1027
1633	4237	STR	LARFLG		OPT1028:
1634	6322	NJR	FMTCHK	NO, GO AHEAD	OPT1029:
1635	7100	JPR	(TOBK)		OPT1030
1636	0005				
1637	0014		FORMOP	YES, FIND INITIAL ADDRESS	OPT1031:
1640	2064	LDD	LSTTYP	IS NAME FOR FIXED	OPT1032
1641	0201	LPN	1		OPT1033:
1642	6003	ZJF	3	YES, JUMP AHEAD	OPT1034:
1643	0463	LDN	ALPLBL	NO,	OPT1035
1644	6534	NZR	L(TPLB	FLOATING NAME IN FORMAT LABEL	OPT1036:
1645	2065	LDD	LOC(BK	SAVE ADDRESS OF IDLIST ENTRY	OPT1037:
1646	4230	STF	L(OCBK		OPT1038
1647	2066	LDD	LOC(ID		OPT1039:
1650	4200	STF	0		OPT1040:
1651	7700	L(OCID	HLT		OPT1041
1652	2200	LDF	0		OPT1042:
1653	7700	SVIDBG	HLT		OPT1043:
1654	4067	STD	IDREG		OPT1044
1655	4060	STD	L(CHI)		OPT1045:
1656	5460	FMTCHK	AOD		OPT1046:
1657	3413	SBD	L(RUFL)		OPT1047
1660	6004	ZJF	4	ZERO IF NO LIST	OPT1048
1661	2160	LDI	L(CHI)		OPT1049:
1662	0733	SBN	33	FIND ,	OPT1050
1663	6505	NZR	5		OPT1051:
1664	0417	LDN	17	CHECK FOR FORMAT LABEL ENTRY	OPT1052:
1665	4064	STD	LSTTYP		OPT1053

1666	7100	JPR	(TOBK0			OPT1054:
1667	0005					:
1670	0010		LBLCHK			OPT1055:
1671	2200	LDF	0	IS LABEL ALPHABETIC		OPT1056:
1672	7700	LABFLG	HLT			OPT1057:
1673	6330	NJR	LIST	NO,GO AHEAD		OPT1058:
1674	2323	LDB	L(COCD			OPT1059:
1675	4032	STD	NTEMP1	YES,FETCH OBJECT CODE		OPT1060:
1676	0027	L(COCHK	SIC7	ADDRESS OF VARIABLE		OPT1061:
1677	2132	LDI	NTEMP1			OPT1062:
1700	0207	LPN	7			OPT1063:
1701	4300	STS				OPT1064:
1702	5432	ADD	NTEMP1			OPT1065:
1703	2132	LDI	NTEMP1			OPT1066:
1704	0105	ATE				OPT1067:
1705	0000					:
1706	2065	LDD	LOC(BK			OPT1068:
1707	4201	STF	1			OPT1069:
1710	0027	SIC7		AND PLACE IT IN FORMAT LABEL		OPT1070:
1711	0507	LCN	7			OPT1071:
1712	1160	LPI	LOC(ID			OPT1072:
1713	1700	SBS				OPT1073:
1714	4166	STI	LOC(ID			OPT1074:
1715	5466	ADD	LOC(ID			OPT1075:
1716	0107	ETA				OPT1076:
1717	4166	STI	LOC(ID			OPT1077:
1720	0501	LCN	1			OPT1078:
1721	5066	RAD	LOC(ID			OPT1079:
1722	0021	SIC1				OPT1080:
1723	2065	LIST	LDD	LOC(BK	CREATE UNIT,VECTOR,BINFLG,B(FMT)	OPT1081:
1724	0207	LPN	7			OPT1082:
1725	3100	ADM	L(VECT			OPT1083:
1726	1542					:
1727	7100	JPR	(TOPT0			OPT1084:
1730	2532					:
1731	2066	LDD	LOC(ID			OPT1085:
1732	0701	SBN	1			OPT1086:
1733	7100	JPR	(TOPT0			OPT1087:
1734	2532					:
1735	5460	ADD	L(CHI)	IS THERE A LIST		OPT1088:
1736	3413	SBD	L(BUFL			OPT1089:
1737	6214	PJR	IO-END	NO,GO TO TERMINATION		OPT1090:
1740	0433	LDN	33	REPLACE CONTENTS OF BUFFER END		OPT1091:
1741	4113	STI	L(BUFL	BY HCD;		OPT1092:
1742	5413	ADD	L(BUFL	INCREASE END OF BUFFER		OPT1093:
1743	4000	STD	SWBOOL	SAVE IN BOOLEAN SWITCH		OPT1094:
1744	2006	LDD	L(PROC			OPT1095:
1745	4260	STR	L)PROC			OPT1096:
1746	2060	ENDTST	LDD	L(CHI)		OPT1097:
1747	3400	SBD	SWBOOL	IS LIST EXHAUSTED		OPT1098:
1750	6111	NZR	I/OLUP			OPT1099:
1751	2254	LDR	L)PROC	YES, RESTORE BUFFER BEGINNING		OPT1100:
1752	4006	STD	L(PROC			OPT1101:
1753	2200	IO-END	LDC	112	MACRO == I/O END	OPT1102:
1754	0112					:
1755	7100	JPR	(TOPT0			OPT1103:
1756	2532					:
1757	7101	JFI	1			OPT1104:
1760	0457	L(CON)		EXIT		OPT1105:
1761	2060	I/OLUP	LDD	L(CHI)		OPT1106:

1762	4062		STD	MATHST		OPT1107
1763	7100		JPR	(TOBKQ	FORM NEXT OP	OPT1108
1764	0005					
1765	0014			FORMOP		OPT1110
1766	6103		NZF	3		OPT11100
1767	7101		JFI	1		OPT11110
1770	2110			MORTST		OPT1112
1771	2160		LDI	L(CHI)	IS OPERATOR	OPT11130
1772	0734		SBN	34	(	OPT11140
1773	6110		NZR	CHKCOM	NO, CHECK FOR ,	OPT11150
1774	5460		ADD	L(CHI)		OPT11160
1775	3400		SBD	SWBOOL		OPT11170
1776	6076		ZJR	()ERR		OPT11180
1777	2160		LDI	L(CHI)		OPT11190
2000	0774		SBN	74		OPT11200
2001	6505		NZB	5		OPT11210
2002	5460		ADD	L(CHI)		OPT11220
2003	2160	CHKCOM	LDI	L(CHI)	IS OPERATOR ,	OPT11230
2004	0733		SBN	33		OPT11240
2005	6167		NZR	()ERR	NO, GO TILT	OPT11250
2006	2062		LDD	MATHST		OPT11260
2007	4061		STD	L(CHAR		OPT11270
2010	2000		LDD	SWBOOL		OPT11280
2011	4013		STD	L(BUFL		OPT11290
2012	4006		STD	L(PROC		OPT11300
2013	0413		LDN	13	STORE B AS FIRST CHARACTER	OPT11310
2014	4113		STI	L(BUFL	IN STRING	OPT11320
2015	5413		ADD	L(BUFL		OPT11330
2016	2161	MOVLUP	LDI	L(CHAR	MOVE NEXT CHARACTER INTO STRING	OPT11340
2017	4113		STI	L(BUFL		OPT11350
2020	5413		ADD	L(BUFL	IS SPACE EXHAUSTED	OPT11360
2021	3445		SBD	BOXLST		OPT11370
2022	6104		NZF	4		OPT11380
2023	0436	NOERAS	LDN	NOMRER	YES, GO TILT	OPT11390
2024	6151		NZR	()ERR	1	OPT11400
2025	0000	L)PROC				OPT11410
2026	5461		ADD	L(CHAR	NEXT CHARACTER	OPT11420
2027	3460		SBD	L(CHI)	ARE CHARACTERS EXHAUSTED	OPT11430
2030	6512		NZB	MOVLUP	NO, BACK THROUGH LOOP	OPT11440
2031	2060		LDD	L(CHI)	SAVE LOCATOR	OPT11450
2032	4273		STR	L)CHI(		OPT11460
2033	0420		LDN	20		OPT11470
2034	4113		STI	L(BUFL		OPT11480
2035	7100		JPR	(TOBKQ	GO REFINE THE STRING	OPT11490
2036	0005					
2037	0003			ALGSTR		OPT11500
2040	2006	REENTR	LDD	L(PROC		OPT11510
2041	0601		ADN	1		OPT11520
2042	4100		STM	REPAIR		OPT11530
2043	4574					
2044	4202		STF	2		OPT11540
2045	2100		LDI	0		OPT11550
2046	7700		HLT		LOAD OPERAND	OPT11560
2047	4300		STS			OPT11570
2050	0210		LPN	10	IS IT ARRAY NAME	OPT11580
2051	6020		ZJR	XARYNM	YES, MUST TRANSMIT WHOLE ARRAY	OPT11590
2052	2221		LDR	I-OR-0		OPT11600
2053	0771		SBN	71		OPT11610
2054	6123		NZR	I/OOUT		OPT11620
2055	2300		LDS			OPT11630

00071

050	0220	LPN	20			CPT1154:
2057	6002	ZJF	2			CPT1165:
060	0405	LDN	5			CPT1166:
61	4030	STD	BMODE	SET MODE SWITCH SO NO		CPT1167:
2062	5406	AOD	L(PROC	CONVERSION OF ACCUMULATOR		CPT1168:
2063	7100	JPR	(TOBK)			CPT1169:
064	0005					
2065	0002		MAKSTO	MAKE STORE COMMAND FOR INPUT		CPT1170:
066	0501	LCN	1			CPT1171:
067	5006	RAD	L(PROC			CPT1172:
2070	6112	NZR	IOMERG			CPT1173:
2071	7101	XARYNM	JFI			CPT1174:
072	4564		ARYNAM			CPT1175:
2073	0000	I-OR-O				CPT1176:
2074	0450	( )ERR	LDN	LIST( )	IMPROPER CHARACTER IN I/O LIST	CPT1177:
075	7101		JFI	1		CPT1178:
2076	0536			L(TILT		CPT1179:
2077	7100	I/OOUT	JPR	(TOBK)	MAKE LOAD COMMAND	CPT1180:
100	0005					
2101	0001					
2102	2006	IOMERG	LDD	ALGBRA	FOR OUTPUT	CPT11810
103	4013		STD	L(PROC		CPT1182:
2104	5621	TOIOLP	AOR	L(BUFL	RESTORE END OF	CPT1183:
2105	4060		STD	L)CHI(		CPT1184:
2106	7101		JFI	L(CHI)		CPT1185:
2107	1746			1		CPT1186:
2110	2162	MORTST	LDI	ENDTST		CPT1187:
2111	0707		SBN	MATHST	IS OPERATOR )	CPT1188:
12	6114		NZR	7		CPT1189:
2113	2060		LDD	(TEST		CPT1190:
2114	4211		STR	L(CHI)		CPT1191:
2115	2370		LDR	L)CHI(	SAVE LOCATER	CPT1192:
2116	0714		SBN	L)PROC		CPT1193:
2117	4060		STD	14		CPT1194:
2120	7100		JPR	L(CHI)		CPT1195:
121	0763			MAKING		CPT1196:
2122	2060		LDD	L(CHI)		CPT11970
2123	4376		STR	L)PROC		CPT1198:
124	6520		NZR	TOIOLP		CPT1199:
2125	0000	L)CHI(				CPT1200:
2126	0705	(TEST	SBN	5	EITHER ( OR ERROR	CPT1201:
127	6533		NZR	( )ERR		CPT1202:
2130	4232		STR	PARENS	SET PARENS TO ZERO	CPT1203:
2131	2060		LDD	L(CHI)		CPT1204:
132	4305		STR	L)CHI(		CPT1205:
2133	6104		NZF	4		CPT1206:
2134	5460	(LOOP)	AOD	L(CHI)		CPT1207:
135	3400		SBD	SHROOL		CPT1208:
2136	6442		ZJR	( )ERR		CPT1209:
2137	2160		LDI	L(CHI)	IS NEXT OP (	CPT1210:
140	0734		SBN	34		CPT1211:
2141	6103		NZR	)TEST		CPT1212:
2142	5620		AOR	PARENS	YES, INCREASE PARENS	CPT1213:
43	6507		NZB	(LOOP)	BACK THROUGH LOOP	CPT1214:
44	0740	)TEST	SBN	40	IS IT )	CPT1215:
2145	6105		NZR	,TEST		CPT1216:
146	0501		LCN	1	YES, DECREASE PARENS	CPT1217:
2147	5213		RAR	PARENS		CPT1218:
2150	6614		PJR	(LOOP)	IF POSITIVE BACK THROUGH LOOP	CPT1219:
151	6755		NJR	( )ERR	NEGATIVE MEANS ERROR	CPT1220:



2152	0643	.TEST	ADN	41	IS IT ,	CPT12
2153	6104		NZR	=TEST		CPT1222:
2154	2060		LDD	L(CHI)		CPT1223:
2155	4061		STD	L(CHAR	YES, SAVE LOCATION OF ,	CPT1
2156	6522		NZR	(LOOP)	BACK THROUGH LOOP	CPT1225:
2157	0620	=TEST	ADN	20	IS IT =	CPT1226:
2160	6524		NZR	(LOOP)	NO BACK THROUGH LOOP	CPT12
2161	2200		LDF	0	IS PARENS COUNT ZERO	CPT1228:
2162	0000	PARENS				CPT1229:
2163	6527		NZR	(LOOP)	NO, BACK THROUGH LOOP	CPT12
2164	5460		AOD	L(CHI)		CPT1231:
2165	3400		SBD	SWPOOL		CPT1232:
2166	6430		ZJR	(LOOP)	2	CPT12
2167	2160		LDI	L(CHI)	FIND ) AFTER =	CPT1234:
2170	0774		SBN	74		CPT1235:
2171	6505		NZR	5		CPT12
2172	2000		LDD	SWPOOL		CPT1237:
2173	4013		STD	L(BUFL		CPT1238:
2174	4006		STD	L(PROC		CPT12
2175	5461		AOD	L(CHAR		CPT1240:
2176	4200		STF	0		CPT12
2177	0000	L)CHAR				CPT12
2200	2161	MVLOOP	LDI	L(CHAR	MOVE INDEXING INFORMATION	CPT1243:
2201	4113		STI	L(BUFL	OUT WHERE IT CAN BE PROCESSED	CPT12
2202	5413		AOD	L(BUFL	INCREASE STORE ADDRESS	CPT12
2203	3445		SBD	BOXLST		CPT1246:
2204	6103		NZF	3		CPT1247:
2205	7101		JFI	1		CPT12
2206	2023			NOERAS	OR ELSE ERROR	CPT1
2207	5461		AOD	L(CHAR		CPT1
2210	3460		SBD	L(CHI)	IS LIST EXHAUSTED	CPT12
2211	6511		NZR	MVLOOP	NO, BACK THROUGH LOOP	CPT1252
2212	2313		LDR	L)CHAR		CPT1253:
2213	4061		STD	L(CHAR		CPT12
2214	6103		NZF	3		CPT1255:
2215	2161	SQUZIN	LDI	L(CHAR	MOVE UNPROCESSED LIST	CPT1256:
2216	4160		STI	L(CHI)	UP AGAINST TERMINATING )	CPT12
2217	0501		LCN	1		CPT1258:
2220	5060		RAD	L(CHI)		CPT1259:
2221	0501		LCN	1		CPT12
2222	5061		RAD	L(CHAR		CPT1261:
2223	3776		SBR	L)CHI)		CPT1262:
2224	6607		PJB	SQUZIN		CPT12
2225	2060		LDD	L(CHI)	SAVE LOCATER	CPT1264:
2226	4227		STR	L)CHI)		CPT1265:
2227	0420		LDN	20		CPT12
2230	4113		STI	L(BUFL		CPT1267:
2231	7100		JPR	(TOBKD	REFINE THE STRING	CPT12
2232	0005					CPT1269:
2233	0003			ALGSTR		CPT1270:
2234	7100		JPR	I/ODO	START DO-LOOP CODING	CPT127
2235	2241					CPT1271:
2236	7101		JFI	1	BACK FOR NEXT LIST ELEMENT	CPT1272:
2237	1761			I/OLUP		CPT1
2240	7101		JFI	1	SAME INCREMENTATION	CPT1274:
2241	0000	I/ODO			CODING FOR ARRAY I/O	CPT1275:
2242	2100		LDM	L)PROC		CPT1276:
2243	2025					CPT1277:
2244	0706		SBN	6		CPT1278:
2245	4100		STM	LPROCI		CPT1279:

246	0421					
247	7100	JPR	INCSAV			CPT1278
248	0373					
249	2006	LDD	L(PROC			CPT1279
252	4100	STM	L)PROC			CPT1280
253	2025					
254	5600	AOF	0			CPT1281
255	0000	L)CHI)				CPT1282
256	4060	STD	L(CHI)	RESTORE SCANNER		CPT1283
257	6517	NZR	I/ODO	EXIT	-1	CPT1284
260	0452	NOIF)	LDN	MISSING ) IN IF STATEMENT		CPT1285
261	7101	JFI	1			CPT1286
262	0536					CPT1287
263	2013	IF(ALG	LDD	L(TILT		CPT1288
264	4060		STD	L(BUFL		CPT1289
265	0501	IF)LUP	LCN	1	FIND ENDING )	CPT1290
266	5060		RAD	L(CHI)		CPT1291
267	3406		SBD	L(PROC		CPT1292
270	6410		ZJR	NOIF)		CPT1293
271	2160		LDI	L(CHI)		CPT1294
272	0774		SBN	74		CPT1295
273	6506		NZR	IF)LUP		CPT1296
274	0420		LDN	20	PARENS FOUND-REPLACE IT	CPT1297
275	4160		STI	L(CHI)	BY A BLANK	CPT1298
276	2060		LDD	L(CHI)	SAVE LOCATION AS BUFFER END	CPT1299
277	4013		STD	L(BUFL		CPT1300
280	0504		LCN	4		CPT1301
281	3006		ADD	L(PROC		CPT1302
282	4046		STD	M1		CPT1303
283	0601		ADN	1		CPT1304
284	4047		STD	M2		CPT1305
285	0400		LDN	0		CPT1306
286	4146		STI	M1		CPT1307
287	6004		ZJF	4		CPT1308
288	2160	IFLOOP	LDI	L(CHI)		CPT1309
289	0733		SBN	33	IS NEXT CHARACTER COMMA	CPT1310
290	6105		NZF	5		CPT1311
291	5460		ADD	L(CHI)	FETCH STATEMENT NUMBER	CPT1312
292	2160		LDI	L(CHI)		CPT1313
293	0713		SBN	13	FIRST CHARACTER MUST BE NUMERIC	CPT1314
294	6304		NJF	4		CPT1315
295	0466		LDN	BADLBL		CPT1316
296	6537		NZR	NOIF)	+1	CPT1317
297	6736	*RELAY	NJR	IF(ALG		CPT1318
298	7100		JPR	(TOBK0		CPT1319
299	0005					
300	0007		STNOID			CPT1320
301	2065		LDD	LOC(BK		CPT1321
302	0207		LPN	7		CPT1322
303	3146		ADI	M1	C(N1)=B(N1),B(N2),B(N3),0	CPT1323
304	0110		LS3		AT FINISH	CPT1324
305	4146		STI	M1		CPT1325
306	2066		LDD	LOC(ID		CPT1326
307	0701		SBN	1		CPT1327
308	4147		STI	M2	SAVE A (NI)	CPT1328
309	5447		AOD	M2		CPT1329
310	3406		SBD	L(PROC		CPT1330
311	6527		NZB	IFLOOP		CPT1331
312	0402		LDN	2	SET BEGINNING OF PROCESSING	CPT1332
313	5006		RAD	L(PROC	AREA AT 000746 (	CPT1333

2342	0413	LDN	13	AND REPLACE IT BY =	CPT13
2343	4106	STI	L(PROC		CPT1335
2344	7100	JPR	(TOBK0	REFINE STRING	CPT137
2345	0005				
2346	0003		ALGSTR		CPT1337
2347	7100	JPR	(TOBK0	CREATE CODING	CPT137
2350	0005				
2351	0001		ALGBRA		CPT1339
2352	0507	LCN	7		CPT1345
2353	5006	RAD	L(PROC		CPT13
2354	2200	LDC	103	MAGRO FOR IF	CPT1342
2355	0103				
2356	4106	STI	L(PROC		CPT13
2357	0505	LCN	5		CPT1344
2360	7101	JFI	1	MERGE WITH OTHER IF=S	CPT1345
2361	2517		MACOUT =1		CPT13
2362	0513	IF(	LCN	13 CONSECUTIVE LETTERS SIGNAL	CPT1347
2363	4211	STF	SNSCOU	IF SENSE SWITCH	CPT134
2364	5460	SNSLUP	AOD		CPT13
2365	2160	LDI	L(CHI)		CPT1350
2366	7100	JPR	(TOBK0		CPT135
2367	0005				
2370	0013		L(CLAS		CPT1352
2371	0703	SBN	3		CPT1357
2372	6751	NJR	*RELAY		CPT13
2373	5600	AOF	0		CPT1355
2374	0000	SNSCOU			CPT135
2375	6511	NZR	SNSLUP		CPT13
2376	2200	LDC	106	PUR AWAY MACRO FOR	CPT1
2377	0106				
2400	7100	JPR	(TOPT0	IF SENSE SWITCH	CPT13
2401	2532				
2402	5460	AOD	L(CHI)		CPT13
2403	2160	LDI	L(CHI)	NEXT MUST COME SWITCH NUMBER	CPT13
2404	0713	SBN	13		CPT1362
2405	6304	NJF	4		CPT1367
2406	0453	LDN	SNSERR	MISSING SENSE SWITCH NUMBER	CPT13
2407	7101	JFI	1		CPT1365
2410	0536		L(TILT		CPT136
2411	0503	LCN	3		CPT13
2412	5006	RAD	L(PROC		CPT1368
2413	2160	LDI	L(CHI)	SAVE SWITCH NUMBER	CPT136
2414	4106	STI	L(PROC		CPT13
2415	0402	LDN	2		CPT1371
2416	5060	RAD	L(CHI)		CPT137
2417	6136	NZR	CHKN1		CPT13
2420	5461	L(IF)	AOD	SHIP TO CHARACTER AFTER I FI	CPT1374
2421	4060	STD	L(CHI)		CPT137
2422	2160	LDI	L(CHI)		CPT13
2423	0734	SBN	34	IS CHARACTER (	CPT1377
2424	6442	ZJR	IF(		CPT137
2425	0714	SBN	14	HOW ABOUT Q	CPT13
2426	6105	NZR	ACCOFL	FOR QUOTIENT OVERFLOW	CPT1380
2427	0420	LDN	20		CPT138
2430	5060	SKIP	RAD	SHIP OVER REST OF STATEMENT ID	CPT1
2431	0414	LDN	14	10# IFOV	CPT1383
2432	6114	NZR	N1,N2		CPT138
2433	0711	ACCOFL	SBN	HOW ABOUT A FOR	CPT13
2434	6103	NZF	3	ACCUMULATOR OVERFLOW	CPT1386
2435	0423	LDN	23		CPT138

00075

2436	6506	NZR	SKIP			CPT1388:
2437	0703	SBN	3	HOW ABOUT D FOR		CPT1389:
40	6003	ZJF	3	DIVIDE CHECK		CPT1390:
2441	7101	JFI	1	NO CAN DO		CPT1391:
2442	0236		L(FU)			CPT1392:
443	0413	LDN	13	SKIP REST OF ID		CPT1393:
2444	5060	RAD	L(CHI)			CPT1394:
2445	0415	LDN	15			CPT1395:
446	0670	N1,N2	ADM	70		CPT1396:
2447	7100	JPR	(TOPT)	PUT AWAY MACRO		CPT1397:
2450	2532					;
451	0503	LCN	3			CPT1398:
2452	5006	RAD	L(PROC			CPT1399:
2453	0400	LDN	0			CPT1400:
454	4106	STI	L(PROC			CPT1401:
2455	7100	CHKN1	JPR	(TOBK)	FETCH INFO FOR FIRST	CPT1402:
2456	0005					;
457	0007		STNOID		STATEMENT NUMBER, N1	CPT1403:
2460	2065	LDD	LOC(BK			CPT1404:
2461	0207	LPN	7			CPT1405:
462	0111	LS6				CPT1406:
2463	0110	LS3				CPT1407:
2464	5106	RAI	L(PROC	SAVE B(ID FOR N1)		CPT1408:
465	5406	AOD	L(PROC			CPT1409:
2466	2066	LDD	LOC(ID			CPT1410:
2467	0701	SBN	1			CPT1411:
470	4106	STI	L(PROC	SAVE A(ID FOR N1)		CPT1412:
471	5406	AOD	L(PROC			CPT1413:
72	2160	LDI	L(CHI)			CPT1414:
473	0733	SBN	33	IS COMMA NEXT		CPT1415:
2474	6005	ZJF	5			CPT1416:
2475	5406	AOD	L(PROC			CPT1417:
476	0454	LDN	NEED,	MISSING COMMA IN IF STATEMENT		CPT1418:
2477	7101	JFI	1			CPT1419:
2500	0536		L(TILT			CPT1420:
501	5460	AOD	L(CHI)			CPT1421:
2502	7100	JPR	(TOBK)	FETCH INFO ABOUT N2		CPT1422:
2503	0005					;
504	0007		STNOID			CPT1423:
2505	2066	LDD	LOC(ID			CPT1424:
2506	0701	SBN	1			CPT1425:
507	4106	STI	L(PROC	A(ID FOR N2)		CPT1426:
2510	0502	LCN	2			CPT1427:
2511	5006	RAD	L(PROC			CPT1428:
512	2065	LDD	LOC(BK			CPT1429:
2513	0207	LPN	7			CPT1430:
2514	0111	LS6				CPT1431:
515	5106	RAI	L(PROC	B(ID FOR N1),B(ID FOR N2)		CPT1432:
2516	0503	LCN	3	SET COUNT TO =3		CPT1433:
2517	4206	STI	IFCOUN			CPT1434:
520	2106	MACOUT	LDI	L(PROC	COMMON ROUTINE FOR	CPT1435:
2521	7100	JPR	(TOPT)	PUTTING OUT REST OF MACRO		CPT1436:
2522	2532					;
23	5406	AOD	L(PROC			CPT1437:
2524	5600	AOF	0			CPT1438:
2525	0000	IFCOUN				CPT1439:
526	6306	NZR	MACOUT			CPT1440:
2527	7101	JFI	1	EXIT THROUGH COEXIT, NOT L(CON)		CPT1441:
2530	0527		COEXIT			CPT1442:
531	7101	JFI	1			CPT1443:

00076

Address	Code	Label	Operation	Parameter	Description	Page
2532	0000	(TOPTO			ROUTINE TO SHORTEN PUTAWAY CODING	OPT1444:
2533	7100	JPR	(TOBKQ			OPT1445:
2534	0005					
2535	0012		PUTWAY			OPT1446:
2536	6505	NZB	(TOPTO	-1		OPT1447:
2537	2006	(OCTAL	LDD	L(PROC	PACKS 4 OCTAL DIGITS INTO	OPT1448:
2540	4060	STD	L(CHI)		ONE WORD AND PUTS IT AWAY	OPT1449:
2541	0400	LDN	0		AS NEXT WORD OF OBJECT CODE	OPT1450:
2542	4032	STD	IDEN			OPT1451:
2543	0504	LCN	4			OPT1452:
2544	4300	STS				OPT1453:
2545	0021	SIC1				OPT1454:
2546	2032	OCTLUP	LDD	IDEN		OPT1455:
2547	0110	LS3				OPT1456:
2550	3160	ADI	L(CHI)			OPT1457:
2551	4032	STD	IDEN			OPT1458:
2552	5460	ADD	L(CHI)			OPT1459:
2553	5700	AOS				OPT1460:
2554	6506	NZB	OCTLUP			OPT1461:
2555	2032	LDD	IDEN			OPT1462:
2556	7100	JPR	(TOPTO			OPT1463:
2557	2532					
2560	7101	JFI	1			OPT1464:
2561	0457		L(CON)			OPT1465:
2562	0406	L(AS)	LDN	6	SKIP LETTERS IN ASSIGN	OPT1466:
2563	3006	ADD	L(PROC			OPT1467:
2564	4060	STD	L(CHI)			OPT1468:
2565	7100	JPR	(TOBKQ		FETCH IDLIST INFORMATION	OPT1469:
2566	0005					
2567	0007		STNOID		FOR STATEMENT NUMBER	OPT1470:
2570	2065	LDD	LOC(BK			OPT1471:
2571	0207	LPN	7			OPT1472:
2572	3200	ADC	200		20 IS IDLIST TYPE	OPT1473:
2573	0200					
2574	0110	LS3			FOR ASSIGN TRANSFERS	OPT1474:
2575	4072	STD	PRAMBL	1		OPT1475:
2576	0501	LCN	1			OPT1476:
2577	3066	ADD	LOC(ID			OPT1477:
2600	4074	STD	PRAMBL	3		OPT1478:
2601	0402	LDN	2			OPT1479:
2602	4041	STD	NOTINT			OPT1480:
2603	7100	JPR	NEWDAT		DECREASE DATA ADDRESS BY 2	OPT1481:
2604	3014					
2605	4073	STD	PRAMBL	2	SAVE ADDRESS IN IDLIST	OPT1482:
2606	2004	LDD	B(DATL			OPT1483:
2607	5072	RAD	PRAMBL	1		OPT1484:
2610	2200	LDC	100			OPT1485:
2611	0100					
2612	3001	ADD	LEVEL		40%LEVEL,0	OPT1486:
2613	0110	LS3				OPT1487:
2614	0103	LS2				OPT1488:
2615	4071	STD	PRAMBL			OPT1489:
2616	0404	LDN	4		4 WORDS TO ENTRY	OPT1490:
2617	4027	STD	N(PRAM			OPT1491:
2620	0432	LDN	IDEN		THERE IS NO BCD IDENTIFIER	OPT1492:
2621	4070	STD	ID*END			OPT1493:
2622	7100	JPR	(TOBKQ			OPT1494:
2623	0005					
2624	0016		NTRID		GO MAKE ENTRY	OPT1495:
2625	2005	LDD	DATEND		SECOND WORD COMMAND	OPT1496:

2626	4032		STD	NTEMP1		CPT1497A
2627	2200		LDC	6400		CPT1498:
30	6400					:
2631	3004		ADD	B(DATL	GENERATE LOAD COMMAND	CPT1499:
2632	7100	BOTH	JPR	(TOPTO		CPT1500:
633	2532					:
2634	2032		LDD	NTEMP1		CPT1501:
2635	7100		JPR	(TOPTO		CPT1502:
636	2532					:
2637	4600		SRC	5252	IS THIS SECOND COMMAND	CPT1503:
2640	5252					:
641	6205		PJR	SKIPTO		CPT15040
2642	7101		JFI	1	YES, SO EXIT	CPT1505A
2643	0457			L(CON)		CPT1506:
644	0402	SKIPTO	LDN	2	NO SKIP OVER LETTERS T O	CPT1507:
2645	5060		RAD	L(CHI)		CPT1508:
2646	4067		STD	IDBEG	SET BEGINNING AND END OF NAME	CPT15090
647	2013		LDD	L(RUFL		CPT1510A
2650	4060		STD	L(CHI)		CPT1511:
2651	0413		LDN	13		CPT1512:
652	4064		STD	LSTTYP		CPT1513:
2653	7100		JPR	(TOBK)		CPT1514A
2654	0005					:
655	0010			LBLCHK	GO DO LABEL CHECK	CPT1515:
2656	2065		LDD	LOC(BK		CPT1516:
2657	4201		STF	1		CPT1517:
660	0020		SIC0		(SIGN COMMAND)	CPT1518A
61	2166		LDI	LOC(ID	HAS THIS LABEL BEEN USED BEFORE	CPT1519A
62	0277		LPN	77		CPT1520:
663	6115		NZR	STPLOC	YES, JUMP AHEAD	CPT1521:
2664	5466		ADD	LOC(ID		CPT1522A
2665	2166		LDI	LOC(ID		CPT1523:
666	6115		NZR	STPLOC		CPT1524A
2667	0402		LDN	2	NO, MUST ASSIGN DATA STORAGE	CPT1525A
2670	4041		STD	NOTINT		CPT1526:
671	7100		JPR	NEWDAT		CPT1527:
2672	3014					:
2673	4166		STI	LOC(ID	SAVE NEW DATA ADDRESS	CPT1528:
674	0501		LCN	1		CPT1529:
2675	5066		RAD	LOC(ID		CPT1530:
2676	2004		LDD	B(DATL		CPT1531A
677	5160		RAI	LOC(ID		CPT1532:
2700	5466	STPLOC	ADD	LOC(ID		CPT1533A
2701	2166		LDI	LOC(ID		CPT1534:
702	4032		STD	NTEMP1	SECOND WORD OF COMMAND	CPT1535:
2703	0501		LCN	1		CPT1536:
2704	5066		RAD	LOC(ID		CPT1537A
705	2166		LDI	LOC(ID		CPT1538:
2706	0021		SIC1			CPT1539
2707	0207		LPN	7		CPT1540A
710	3200		ADC	5110	511 IS STORE INTEGER	CPT1541:
2711	5110					:
2712	6560		NZR	BOTH	GO MERGE	CPT1542A
713	3432		SBD	NTEMP1	EXIT WITH 1 FOR COMMON, 2 FOR DIMENSION	CPT1543:
2714	7101		JFI	1	3 FOR EQUIVALENCE, OR ELSE 0	CPT1544A
2715	0000	STTYPE			CHECK NEXT STATEMENT FOR TYPE	CPT1545A
716	2007*		LDD	NBUFBG <sup>400</sup>		CPT1546:
2717	0605		ADN	5	SET BEGINNING	CPT1547:
720	4060		STD	L(CHI) <sup>403</sup>		CPT1548:
721	3200		ADC	102		CPT1549:

00078

2722	0102								
2723	4052		STD	BUFCNT		AND END OF BUFFER			CPT1550
2724	0400		LDN	0					CPT1551
2725	4033		STD	NTEMP2					CPT1552
2726	0502		LCN	2		WANT FIRST TWO CHARACTERS			CPT1553
2727	4300		STS						CPT1554
2730	5460	CLSLUP	AOD	L(CH1)		READY FOR NEXT CHARACTER			CPT1555
2731	3452		SBD	BUFCNT		IS BUFFER EXHAUSTED			CPT1556
2732	6416		ZJR	STTYPE =1		YES GO EXIT			CPT1557
2733	0020		SIC0						CPT1558
2734	2160		LDI	L(CH1)		NEXT CHARACTER			CPT1559
2735	0021		SIC1						CPT1560
2736	0720		SBN	20		IS IT BLANK			CPT1561
2737	6407		ZJR	CLSLUP		YES, BACK THROUGH LOOP			CPT1562
2740	3033		ADD	NTEMP2					CPT1563
2741	0111		LS6			NO, THEN SHIFT IT AND SAVE IT			CPT1564
2742	4033		STD	NTEMP2					CPT1565
2743	5700		AOS			HAVE BOTH CHARACTERS BEEN FOUND			CPT1566
2744	6514		NZR	CLSLUP		NO BACK THROUGH LOOP			CPT1567
2745	0505		LCN	5		YES, WANT TO SEE IF THERE			CPT1568
2746	4032		STD	NTEMP1		ARE FIVE MORE LETTERS			CPT1569
2747	5460	NXTONE	ADD	L(CH1)					CPT1570
2750	3452		SBD	BUFCNT					CPT1571
2751	0020		SIC0						CPT1572
2752	2160		LDI	L(CH1)		NEXT CHARACTER			CPT1573
2753	0021		SIC1						CPT1574
2754	7100		JPR	(TOBK0					CPT1575
2755	0005								
2756	0013			L(CLAS					CPT157
2757	6410		ZJR	NXTONE					CPT1577
2760	0703		SBN	3		IS IT A LETTER			CPT1578
2761	6203		PJF	3					CPT1579
2762	0400		LDN	0		NO SO EXIT WITH 0 IN A			CPT1580
2763	6447		ZJR	STTYPE =1					CPT1581
2764	5432		AOD	NTEMP1		YES, INCREASE COUNTER AND			CPT1582
2765	6516		NZR	NXTONE		BACK THROUGH LOOP UNTIL 5 ARE FOUND			CPT1583
2766	2200		LDC	TYPTBL =1					CPT1584
2767	3001								
2770	4061		STD	L(CHAR					CPT1585
2771	0504		LCN	4					CPT1586
2772	4032		STD	NTEMP1					CPT1587
2773	5432	FINDER	AOD	NTEMP1		CHECK TO SEE IF FIRST TWO			CPT1588
2774	6461		ZJR	STTYPE =2		LETTERS ARE CO, DI, OR EQ			CPT1589
2775	5461		AOD	L(CHAR					CPT1590
2776	2161		LDI	L(CHAR					CPT1591
2777	3433		SBD	NTEMP2					CPT1592
3000	6505		NZR	FINDER					CPT1593
3001	6466		ZJR	STTYPE =2					CPT1594
3002	3045	TYPTBL		3045		(O=20), (E=20), FOR EQUIVALENCE			CPT1595
3003	5144			5144		(I=20), (D=20) FOR DIMENSION			CPT1596
3004	2643			2643		(Q=20), (C=20) FOR COMMON			CPT1597
3005	5700	FINDAD	AOS			FIND CORRECT ADDRESS			CPT1598
3006	6104		NZR	NOFLOW 1					CPT1599
3007	0500		LCN	0		HERE IF =0			CPT1600
3010	6302		NJR	NOFLOW 1					CPT1601
3011	2300	NOFLOW	LDS						CPT1602
3012	4005		STD	DATEND		STORE NEW DATA END			CPT1603
3013	7101		JFI	1					CPT1604
3014	0000	NEWDAT							CPT1605
3015	2441		LCD	NOTINT		NOFINT HOLDS NUMBER OF WORDS			CPT1606

3016	3005	ADD	DATEND)	BY WHICH TO REDUCE DATEND	CPT16070
3017	4300	STS			CPT16080
20	1441	SCD	NOTINT		CPT16090
3021	1405	SCD	DATEND	OVERFLOW TEST	CPT16100
3022	0201	LPN	1		CPT16110
023	6412	ZJR	NOFLOW	NO OVERFLOW MEANS NO BANK CHANGE	CPT16120
3024	0501	LCN	1	OVERFLOW SO REDUCE BANK	CPT16130
3025	5004	RAD	B(DATL		CPT16140
026	6621	PJB	FINDAD	NEGATIVE MEANS ERROR	CPT16150
3027	0411	LDN	OYDATA		CPT16160
3030	7101	JFI	1		CPT16170
031	0536		L(TILT		CPT16180
3032	2200	DIMZER	LDF	ELIMINATE PROCESSED ARREY FROM LIST	CPT16190
3033	0000	ZERBEG		FIRST LOCATION TO BE ZEROED	CPT16200
034	4061		STD		CPT16210
3035	0402		LDN		CPT16220
3036	5060		RAD	L(CHI) IS START OF NEXT PACKET	CPT16230
037	0400	ERSDIM	LDN		CPT16240
3040	4161		STI		CPT16250
3041	5461		ADD		CPT16260
042	3460		SBD		CPT16270
3043	6504		NZR		CPT16280
3044	7101		JFI	EXIT	CPT16290
045	0000	NTRDIM		MAKES IDLIST ENTRY FOR ARRAY	CPT16300
3046	2060		LDD		CPT16310
3047	4314		STR	SAVE INITIAL ADDRESS OF PACKET	CPT16320
050	2200		LDF		CPT16330
051	4032		STD	SET BEGINNING OF IDENTIFIER	CPT16340
052	4204		STF		CPT16350
053	5460	FINDDM	ADD	NEXT WORD FROM PACKET	CPT16360
3054	5602		ADF	GOES INTO IDENTIFIER LOCATIONS	CPT16370
3055	2160		LDI		CPT16380
056	4032	NAMLOW	STD	MOVE NEXT WORD INTO IDENTIFIER	CPT16390
3057	1200		LPC	SHOULD IT BE	CPT16400
3060	7700				
061	6506		NZR	ZERO MEANS NO	CPT16410
3062	2304		LDR		CPT16420
3063	0277		LPN		CPT16430
064	4070		STD	SAVE NAME-END TESTER	CPT16440
3065	2160		LDI	FETCH 0; LSTTYP, NUMDIM WORD	CPT16450
3066	0207		LPN		CPT16460
067	4075		STD	SET NUMDIM INTO PRAMBL4	CPT16470
3070	0701		SBN		CPT16480
3071	4044		STD	NUMDIM	CPT16490
072	0605		ADN	5	CPT16500
3073	4027		STD	N(PRAM	CPT16510
3074	0102		LS1		CPT16520
075	0110		LS3		CPT16530
3076	3001		ADD	LEVEL	CPT16540
3077	0110		LS3		CPT16550
00	0103		LS2		CPT16560
3101	4022		STD	F	CPT16570
3102	2160		LDI	L(CHI)	CPT16580
003	0114		RS1		CPT16590
3104	0115		RS2		CPT16600
3105	0601		ADN	1	CPT16610
006	4064		STD	LSTTYP	CPT16620
3107	0111		LS6		CPT16630
3110	4023		STD	F	CPT16640
011	7100		JPR	(TOBK0	CPT16650



3112	0005					
3113	0017					
3114	6003		ZJF	3		
3115	0465	DUPNAM	LDN	DOUBLE		
3116	6566		NZR	DIMZER	-2	
3117	2064		LDD	LSTTYP		
3120	0201		LPN	1		
3121	0602		ADN	2		
3122	4074		STD	AC CJ	1	CREATE NUMBER OF WORDS PER ELEMENT STORE AS MULTIPLIER
3123	5460		AOD	L(CH I)		
3124	4061		STD	L(CHAR		SET L(CHAR AT B(D1) OR B(NUM ELEMENTS)
3125	0400		LDN	0		
3126	4073		STD	AC CJ		
3127	4444		SRD	NUMDIM		
3130	5061		RAD	L(CHAR		SET L(CHAR AT NUMBER OF ELEMENTS
3131	2064		LDD	LSTTYP		
3132	0707		SBN	7		IS TYPE FOR FORMAL PARAMETER
3133	6307		NJR	STOSZE		
3134	2100		LDM	NXTPRM		YES, SET FIRST WORD ADDRESS
3135	4105					
3136	4073		STD	PRAMBL	2	70 0, NEXT PARAMETER
3137	5461		AOD	L(CHAR		
3140	0400		LDN	0		
3141	6046		ZJR	STOPR1		
3142	2161	STOSZE	LDI	L(CHAR		
3143	4071		STD	OP		
3144	5461		AOD	L(CHAR		
3145	2161		LDI	L(CHAR		
3146	4072		STD	OP	1	
3147	7100		JPR	(TOBK)		
3150	0005					
3151	0015			VMLTIN		NUMBER OF ELEMENTS * ELEMENT LENGTH
3152	2074		LDD	AC CJ	1	IS IN 11-11 BIT STYLE IN ACCJ
3153	4041		STD	NOTINT		NOTINT STARTS AS 11-BIT NUMBER
3154	2073		LDD	AC CJ		IT WILL BE USED TO CREATE
3155	0201		LPN	1		OBJECT CODE DATA ADDRESS
3156	6004		ZJR	MODDIT		SHOULD HIGH ORDER OF WORD2 BE A 1
3157	2200		LDF	0		YES, FIX IT
3160	4000	(4000)		4000		
3161	5041		RAD	NOTINT		NOTINT NOW CONTAINS 12-BIT NUMBER
3162	2100	MODDIT	LDM	EQUFLP		CHECK FOR ALREADY COMPUTED
3163	1056					
3164	6210		PJR	NOTEQU		ADDRESS FOR RIGHT HALF
3165	2100		LDM	EQUADD		OR EQUIVALENCE
3166	5454					
3167	4073		STD	PRAMBL	2	
3170	2100		LDM	EQBANK		
3171	5530					
3172	7101		JFI	1		
3173	3207			STOPR1		
3174	2473	NOTEQU	LCD	AC CJ		
3175	0114		RS1			
3176	5004		RAD	B(DATL		REDUCE DATA BANK IF NECESSARY
3177	6204		PJF	4		
3200	0411		LDM	OVDATA		
3201	7101		JFI	1		
3202	0536			L(TILT		
3203	7100		JPR	NEWDAT		COMPUTE BEGINNING ADDRESS
3204	3014					
3205	4073		STD	PRAMBL	2	STORE LOW 12 BITS

3206	2004		LDD	B(DATL						OPT1719:
3207	3023	STOPR1	ADD	F	1					OPT1720:
110	4072		STD	PRAMBL	1		LS#TYP,0,B(OBJ CODE) OR ERASABLE			OPT1721:
3211	0501		LCN	1						OPT1722:
3212	3061		ADD	L(CHAR						OPT1723:
213	4062		STD	MATHST			BEGINNING OF NUMBER OF ELEMENTS			OPT1724:
3214	2162		LDI	MATHST						OPT1725:
3215	0201		LPN	1						OPT1726:
216	6002		ZJF	2			FIX 11=11 INTO 0=12 FORM			OPT1727:
3217	2637		LDR	(4000)						OPT1728:
3220	3161		ADI	L(CHAR						OPT1729:
221	4074		STD	PRAMBL	3		A(NUMBER OF ELEMENTS)			OPT1730:
3222	2162		LDI	MATHST						OPT1731:
3223	0114		RS1							OPT1732:
224	0110		LS3							OPT1733:
3225	5072		RAD	PRAMBL	1		LS#TYP,B(NUM EL),B(OBJ LOC)			OPT1734:
3226	2022		LDD	F						OPT1735:
227	4071		STD	PRAMBL						OPT1736:
3230	0502		LCN	2						OPT1737:
3231	5044		RAD	NUMDIM						OPT1738:
232	6322		NJF	TONTR			NEGATIVE MEANS D=1			OPT1739:
3233	2160		LDI	L(CHI)			L(CHI) IS SET AT B(D1)			OPT1740:
3234	0111		LS6							OPT1741:
235	0110		LS3							OPT1742:
3236	5075		RAD	PRAMBL	4		B(D1),0,0,D			OPT1743:
3237	5460		ADD	L(CHI)						OPT1744:
240	2160		LDI	L(CHI)						OPT1745:
3241	4070		STD	PRAMBL	5		A(D1)			OPT1746:
42	2044		LDD	NUMDIM						OPT1747:
243	6010		ZJF	TONTR	=1		ZERO MEANS D=2			OPT1748:
3244	5460		ADD	L(CHI)						OPT1749:
3245	2160		LDI	L(CHI)						OPT1750:
246	0111		LS6							OPT1751:
3247	5075		RAD	PRAMBL	4		B(D1),B(D2),0,D			OPT1752:
3250	5460		ADD	L(CHI)						OPT1753:
251	2160		LDI	L(CHI)						OPT1754:
3252	4077		STD	PRAMBL	6		A(D2)			OPT1755:
3253	5460		ADD	L(CHI)						OPT1756:
254	7100	TONTR	JPR	(TOBK0			ENTER THE IDLIST INFO			OPT1757:
3255	0005									:
3256	0016			NTRID						OPT1758:
257	7101		JFI	1						OPT1759:
3260	3032			DIMZER			BACK FOR CLEANUP			OPT1760:
3261	2200	L(DI)	LDF	0						OPT1761:
262	0000	ORGPRC					HOLDS BEGINNING OF PROCESSING AREA			OPT1762:
3263	6103		NZF	3						OPT1763:
3264	2006		LDD	L(PROC			NO COMMON,EQUIVALENCE,OR SUBROUTINE			OPT1764:
265	4303		STR	ORGPRC						OPT1765:
3266	2006		LDD	L(PROC						OPT1766:
3267	0707		SBN	7						OPT1767:
270	4100		STM	MATBEG						OPT1768:
3271	3524									:
3272	4062		STD	MATHST			SAVE BEGINNING OF ARRAY DESCRIPTORS			OPT1769:
73	0617		ADM	17			SKIP LETTERS DIMENSION			OPT1770:
274	4012		STD	DIMSW			SET DIMENSION SWITCH			OPT1771:
3275	4060		STD	L(CHI)						OPT1772:
276	5460	NXARRY	ADD	L(CHI)						OPT1773:
3277	4067		STD	IDBEG						OPT1774:
3300	0402		LDN	2						OPT1775:
301	4043		STD	NUMWRD			SET NUMBER OF WORDS AS IF INTEGER			OPT1776:

3302	0402	LDN	1			OPT1777:
3303	4044	STD	NUMDIM	SET NUMBER OF DIMENSIONS TO 1		OPT1778:
3304	2160	LDI	L(CHI)			OPT177
3305	7100	JPR	(TOBK0			OPT1780:
3306	0005					:
3307	0013		L(CLAS			OPT1781
3310	0703	SBN	3	IS FIRST CHARACTER IN NAME I-N		OPT1782:
3311	6004	ZJR	ARRAY( -1			OPT1783:
3312	6204	PJR	ARRAY(			OPT1784
3313	0442	LDN	MATNAM	IMPROPER ARRAY NAME		OPT1785:
3314	6167	NZR	DIMTLT			OPT1786:
3315	5443	AOD	NUMWRD	FLOATING ENTRY REQUIRES 3 WORDS		OPT1787
3316	2160	ARRAY( LDI	L(CHI)	FIND LEFT PARENTHESIS		OPT1788:
3317	0734	SBN	34			OPT1789:
3320	6014	ZJR	DIM(			OPT1790
3321	0634	ADN	34			OPT1791:
3322	7100	JPR	(TOBK0			OPT1792:
3323	0005					:
3324	0013		L(CLAS			OPT1793:
3325	0702	SBN	2	THE NAME SHOULD CONTAIN		OPT1794:
3326	6713	NJR	ARRAY( -3	NO SPECIAL CHARACTERS		OPT1795
3327	5460	AOD	L(CHI)			OPT1796:
3330	3413	SBD	L(BUFL			OPT1797:
3331	6513	NZR	ARRAY(			OPT1798
3332	0443	XDIM( LDI	DIM(	MISSING DIMENSION PARENTHESIS		OPT1799:
3333	6150	NZR	DIMTLT			OPT1800:
3334	7100	DIM( JPR	(TOBK0			OPT1801
3335	0005					:
3336	0012		PACKID	GO PACK IDENTIFIER		OPT180
3337	0432	LDN	IDEN			OPT1802
3340	4062	STD	L(CHAR			OPT1804:
3341	0020	GETNAM SICO				OPT1805:
3342	2161	LDI	L(CHAR	PUT PACKED NAME		OPT1806
3343	0021	SIC1		INTO ARRAY DESCRIPTIONS		OPT1807:
3344	4162	STI	MATHST			OPT1808
3345	5462	AOD	MATHST			OPT1809
3346	5461	AOD	L(CHAR			OPT1810:
3347	3470	SBD	LETEND			OPT1811:
3350	6507	NZR	GETNAM			OPT1812
3351	0414	LDN	IDI			OPT1813:
3352	4012	STD	IDI(J)	INITIALIZE DIMENSION STORER		OPT1814:
3353	5460	AOD	L(CHI)			OPT1815
3354	7100	NXTDIM JPR	(TOBK0	FORM NEXT SUBSCRIPT VALUE		OPT1816:
3355	0005					:
3356	0014		FORMOP			OPT1817
3357	0712	SBN	12			OPT1818:
3360	6006	ZJR	SAVDIM			OPT1819:
3361	0444	LDN	SYNDIM	MUST HAVE NUMERIC DIMENSION		OPT1820
3362	6121	NZR	DIMTLT			OPT1821:
3363	0020	SAVDIM SICO				OPT1822:
3364	2032	LDD	NTEMP1	SAVE THE VALUE OF THE SUBSCRIPT		OPT1823
3365	4112	STI	IDI(J)			OPT1824:
3366	5412	AOD	IDI(J)			OPT1825:
3367	2033	LDD	NTEMP2			OPT182
3370	4112	STI	IDI(J)			OPT182,
3371	5412	AOD	IDI(J)			OPT1828:
3372	0021	SIC1				OPT1829
3373	2161	LDI	L(CHI)	IS THE NEXT XCHARACTER		OPT1830:
3374	0730	SBN	33	(COMMA)		OPT1831:
3375	6110	NZR	)TEST*	NO GO TEST 00083		OPT1831

3376	5460	ADD	L(CH1)		
3377	5444	ADD	NUMDIM		INCREASE NUMBER OF DIMENSIONS
00	0704	SBN	4		ARE THERE MORE THAN THREE
3401	6725	NJR	NXTDIM		NO, BACK THROUGH LOOP
3402	0445	LDN	DIMEN4		MORE THAN THREE DIMENSIONS
403	7101	DINTLT	JFI	1	
3404	0536		L(TILT		
3405	0741	)TEST*	SBN	41	IS IT )
406	6554	NZR	XDIM()		IF NOT, GO TILT
3407	4073	STD	ACCJ		
3410	0414	LDN	IDI		INITIALIZE IDI(J)
411	4012	STD	IDI(J)		
3412	2043	LDD	NUMWRD		2 FOR FLOATING, 3 FOR FIXED
3413	0110	LS3			
414	3044	ADD	NUMDIM		
3415	4162	STI	MATHST		WORD LOOKS LIKE O,D,TYPE,DIMENSION
3416	5462	ADD	MATHST		
417	0401	LDN	1		SET ACCUMULATOR TO 1
3420	4074	STD	ACCJ	1	
3421	2444	LCD	NUMDIM		
422	4041	STD	NOTINT		-NUMBER OF DIMENSIONS
3423	0020	MATSIZ	SIC0		
3424	2112	LDI	IDI(J)		
425	4071	STD	OP		
3426	5412	ADD	IDI(J)		
3427	2112	LDI	IDI(J)		
430	4072	STD	OP	1	
3431	5412	ADD	IDI(J)		
432	0021	SIC1			
433	2071	LDD	OP		REDUCE DIMENSION TO 3-12 FORM
3434	0114	RS1			
3435	4162	STI	MATHST		AND STORE IT IN STRING
436	5462	ADD	MATHST		
3437	2071	LDD	OP		
3440	0201	LPN	1		
441	0111	LS6			
3442	0110	LS3			
3443	0103	LS2			
444	3072	ADD	OP	1	
3445	4162	STI	MATHST		
3446	7100	JPR	(TOBK0		
447	0005				
3450	0015		VMLTIN		
3451	5462	ADD	MATHST		ARE DIMENSIONS EXHAUSTED
452	5441	ADD	NOTINT		NO, BACK THROUGH LOOP
3453	6530	NZR	MATSIZ		
3454	0502	LCN	2		
455	5062	RAD	MATHST		
3456	2073	LDD	ACCJ		STORE NUMBER OF ELEMENTS
3457	4162	STI	MATHST		INTO STRING IN 11-11 FORM
460	5462	ADD	MATHST		
3461	2074	LDD	ACCJ	1	
3462	4162	STI	MATHST		
63	5462	ADD	MATHST		
3464	5460	ADD	L(CH1)		
3465	2160	LDI	L(CH1)		IS NEXT CHARACTER COMMA
466	0733	SBN	33		
3467	6103	NZF	3		
3470	7101	JFI	1		YES, BACK FOR NEXT
471	3276		NXARRY		

CPT1833:  
 CPT1834:  
 CPT1835:  
 CPT1836:  
 CPT1837:  
 CPT1838A  
 CPT1839:  
 CPT1840A  
 CPT1841:  
 CPT1842A  
 CPT1843:  
 CPT1844A  
 CPT1845A  
 CPT1846:  
 CPT1847:  
 CPT1848A  
 CPT1849:  
 CPT1850A  
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 CPT1875:  
 CPT1876A  
 CPT1877:  
 CPT1878:  
 CPT1879A  
 CPT1880:  
 CPT1881A  
 CPT1882:  
 CPT1883A  
 CPT1884A  
 CPT1885:  
 CPT1886:  
 CPT1887:  
 CPT1888A  
 CPT1889A  
 CPT1890:  
 CPT1891:

3472	2060		LDD	L(CH1)			CPT1892
3473	3413		SBD	L(BUFL	IF NOT, BUFFER SHOULD BE EXHAUSTED		CPT1893
3474	6003		ZJF	3			CPT1894
3475	7101		JFI	1			CPT1895
3476	3332			XDIM()			CPT1896
3477	2062		LDD	MATHST	SAVE END LOCATION		CPT1897
3500	4200		STF	0			CPT1898
3501	0000	MATEND					CPT1899
3502	2100		LDM	COMEND	WHAT ABOUT COMMON VARIABLES		CPT1900
3503	5042						
3504	6003		ZJF	3			CPT1901
3505	7100		JPR	COMNID	YES, PROCESS THEM		CPT1902
3506	5224						
3507	2100		LDM	SUBEND	ARE THERE SUBROUTINE PARAMETERS		CPT1903
3510	4125						
3511	6003		ZJF	3	NO, JUMP AHEAD		CPT1904
3512	7100		JPR	SUBRID	YES, PROCESS THEM		CPT1905
3513	4135						
3514	7100		JPR	STTYPE	IS THE NEXT STATEMENT EQUIVALENCE		CPT1906
3515	2715						
3516	0703		SBN	3			CPT1907
3517	6104		NZR	MATBEG -1	NO, JUMP AHEAD		CPT1908
3520	2317		LDR	MATEND	YES, DELAY PROCESSING		CPT1909
3521	7101		JFI	1			CPT1910
3522	3763			UPPROC -1			CPT1911
3523	2200		LDF	0			CPT1912
3524	0000	MATBEG					CPT1913
3525	0701		SBN	1	SET BEGINNING OF ARRAYS		CPT1914
3526	4060		STD	L(CH1)			CPT1915
3527	5460	MATLUP	AOD	L(CH1)	HAVE ALL BEEN PROCESSED		CPT1916
3530	3727		SBR	MATEND			CPT1917
3531	6010		ZJF	PROBAK	YES, SO RESTORE L(PROC		CPT1918
3532	2160		LDI	L(CH1)	FIND BEGINNING OF NEXT PACKET		CPT1919
3533	4032		STD	IDEN			CPT1920
3534	6405		ZJB	MATLUP			CPT1921
3535	7100		JPR	NTRDIM	MAKE IDLIST ENTRY		CPT1922
3536	3045						
3537	2060		LDD	L(CH1)			CPT1923
3540	6510		NZB	MATLUP 1	BACK FOR NEXT		CPT1924
3541	7101	PROBAK	JFI	1	RESTORE BEGINNING OF		CPT1925
3542	3756			RESTOR	PROCESSING AREA		CPT1926
3543	2006	L(SU)	LDD	L(PROC	SAVE BEGINNING		CPT1927
3544	4100		STM	ORGPC	OF PROCESSING AREA		CPT1928
3545	3262						
3546	0710		SBN	10			CPT1929
3547	4062		STD	MATHST			CPT1930
3550	4100		STM	SUBBEG			CPT1931
3551	4137						
3552	0622		ADN	22			CPT1932
3553	4060		STD	L(CH1)	SKIP LETTERS SUBROUTINE		CPT1933
3554	4067		STD	IDREG			CPT1934
3555	4100		STM	*SUBR*			CPT1935
3556	1223						
3557	0020		SICD				CPT1936
3560	2100		LDM	TYPE-1	WAS END THE LAST STATEMENT		CPT1937
3561	1202						
3562	0706		SBN	6	ENCOUNTERED		CPT1938
3563	6004		ZJR	BYPASO	YES GO AHEAD		CPT1939
3564	0457		LBN	NOEND	NO END BEFORE SUBROUTINE		CPT1940
3565	7101		JFI	1			CPT1941

3566	0536		L(TILT
3567	2002	BYPASO	LSTBNK
3570	0620		ADN
3571	4201		STF
3572	0027		SIC7
3573	2103		LDI
3574	0021		SIC1
3575	0237		LPN
3576	0603		ADN
3577	4300		STS
3600	5003		RAD
3601	6304		NJF
3602	3700		SBS
3603	6202		PJF
3604	5402		AOD
3605	5466	SUBNAM	AOD
3606	3413		SBD
3607	6007		ZJF
3610	2160		LDI
3611	7100		JPR
3612	0005		
3613	0013		L(CLAS
3614	0701		SBN
3615	6510		NZB
3616	0414	NTRSNB	LBN
3617	4064		STD
3620	7100		JPR
3621	0005		
3622	0010		LBLCHK
3623	0020		SIC0
3624	2100		LDM
3625	7717		
3626	0207		LPN
3627	4300		STS
3630	2100		LDM
3631	7716		
3632	0105		ATE
3633	0000		
3634	2066		LDD
3635	4100		STM
3636	4016		
3637	0501		LCN
3640	5066		RAD
3641	2065		LDD
3642	4201		STF
3643	0027		SIC7
3644	2166		LDI
3645	0111		LS6
3646	0102		LS1
3647	1200		LPC
3650	7760		
3651	3001		ADD
3652	0110		LS3
3653	0103		LS2
3654	4166		STI
3655	5466		AOD
3656	2300		LDS
3657	5166		RAI
3660	5466		AOD
3661	0107		ETA

BYPASS ZERO NUMBERED  
STATEMENT FOR THIS LEVEL

FIND SUBROUTINE NAME

SET PROPER LIST TYPE

AND ENTER SUBROUTINE NAME

FETCH OBJECT CODE LOCATION

FROM BANK 0

GIVE THE SUBROUTINE ENTRY  
THE CURRENT LEVEL

OUT WITH THE OLD

IN WITH THE NEW

ALSO WANT RELATIVE OBJECT CODE ADDRESS

BANK IS IN NOW

00086

CPT1942:  
CPT1943:  
CPT1944:  
CPT1945:  
CPT1946:  
CPT1947:  
CPT1948:  
CPT1949:  
CPT1950:  
CPT1951:  
CPT1952:  
CPT1953:  
CPT1954:  
CPT1955:  
CPT1956:  
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CPT1984:  
CPT1985:  
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CPT1986:  
CPT1987:  
CPT1988:  
CPT1989:  
CPT1990:  
CPT1991:  
CPT1992:  
CPT1993:  
CPT1994:

3662	4166	STI	LOC(ID		CPT1995:
3663	0021	SIC1			CPT1996:
3664	0401	LDN	1		CPT1997:
3665	4100	STM	NXTPRM		CPT1998:
3666	4105				CPT1999:
3667	2160	LDI	L(CH1)	NEXT CHARACTER IS EITHER	CPT2000:
3670	0734	SBN	34	LEFT PARENTHESIS	CPT2001:
3671	6010	ZJR	SUB)		CPT2002:
3672	2060	LDD	L(CH1)		CPT2003:
3673	3413	SBD	L(BUFL	OR BUFFER IS EXHAUSTED	CPT2004:
3674	6102	NZF	SUBTLT		CPT2005:
3675	7171	JFI	NONPRM -1		CPT2006:
3676	0447	SUBTLT	LDN	OR ELSE ERROR	CPT2007:
3677	7101	JFI	1		CPT2008:
3700	0536		L(TILT		CPT2009:
3701	0501	SUB)	LCN		CPT2010:
3702	5013	RAD	L(BUFL	THERE MUST BE A MATCHING )	CPT2011:
3703	0574	LCN	74		CPT2012:
3704	5113	RAI	L(BUFL		CPT2013:
3705	6507	NZR	SUBTLT	MAKE IT ZERO	CPT2014:
3706	5460	PARNAM	ADD	ISOLATE PARAMETER NAME	CPT2015:
3707	4067	STD	IDREG		CPT2016:
3710	5462	ADD	MATHST		CPT2017:
3711	5460	ADD	L(CH1)		CPT2018:
3712	2160	PARCHR	LDI	IS NEXT CHARACTER	CPT2019:
3713	6011	ZJF	GOPACK		CPT2020:
3714	7100	JPR	(TOBK0	CHECK FOR IMPROPER CHARACTERS	CPT2021:
3715	0005				CPT2022:
3716	0013		L(CLAS	IN PARAMETER NAME	CPT2023:
3717	0701	SBN	1		CPT2024:
3720	6507	NZR	PARCHR -1		CPT2025:
3721	2160	LDI	L(CH1)		CPT2026:
3722	0733	SBN	33		CPT2027:
3723	6525	NZR	SUBTLT		CPT2028:
3724	7100	GOPACK	JPR	(TOBK0	CPT2029:
3725	0005				CPT2030:
3726	0011		PACKID	PACK IDENTIFIER	CPT2031:
3727	0432	LDN	IDEN		CPT2032:
3730	4061	STD	L(CHAR		CPT2033:
3731	0020	PRMLST	SIC0	AND ENTER INTO IDLIST	CPT2034:
3732	2161	LDI	L(CHAR		CPT2035:
3733	0021	SIC1			CPT2036:
3734	4162	STI	MATHST		CPT2037:
3735	5462	ADD	MATHST		CPT2038:
3736	5461	ADD	L(CHAR		CPT2039:
3737	3470	SBD	ID*END		CPT2040:
3740	6507	NZR	PRMLST		CPT2041:
3741	2160	LDI	L(CH1)	SAVE DELIMETER IN LIST	CPT2042:
3742	4162	STI	MATHST		CPT2043:
3743	6535	NZR	PARNAM	ARE ALL PARAMETERS PROCESSED	CPT2044:
3744	2062	LDD	MATHST	YES, SAVE END LOCATION	CPT2045:
3745	4100	STM	SUBEND		CPT2046:
3746	4125				CPT2047:
3747	7100	CHKNXT	JPR	SHOULD PROCESSING BE DELAYED	CPT2048:
3750	2715				CPT2049:
3751	6003	ZJR	DOSUBR		CPT2050:
3752	0703	SBN	3		CPT2051:
3753	6106	NZF	UPPROC -3		CPT2052:
3754	7100	DOSUBR	JPR	GO PROCESS PARAMETERS	CPT2053:
3755	4135				CPT2054:

3756	7100	RESTOR	JPR	RELEASE			GPT2049
3757	1067						
760	7106		JFI	EXIT			GPT2050
761	2100		LDM	SUBEND			GPT2051
3762	4125						
763	0610		ADN	10			GPT2052
3764	4006	UPPRDC	STD	L(PROC	MOVE BEGINNING OF PROCESSING		GPT2053
3765	7101		JFI	1	AREA		GPT2054
766	0527	EXIT		COEXIT			GPT2055
3767	2064	NONPRM	LDD	LSTTYP			GPT2056
3770	0111		LS6				GPT2057
771	4300		STS				GPT2058
3772	2100		LDM	EQUFLP	CHECK FOR ALREADY COMPUTED		GPT2059
3773	1056						
774	6225		PJR	RELOAD	ADDRESS IN EQUIVALENCE		GPT2060
3775	2100		LDM	EQBANK			GPT2061
3776	5530						
777	3300		ADS				GPT2062
4000	4072		STD	PRAMBL 1			GPT2063
4001	2100		LDM	EQUADD			GPT2064
002	5454						
4003	7101		JFI	1			GPT2065
4004	4046			XNTRID			GPT2066
005	2100	COMPRM	LDM	COMEND	TEST COMMON, SUBROUTINE, OR EQUIVALENCE		GPT2067
4006	5042						
4007	6520		NZR	NONPRM			GPT2068
010	2100		LDM	SUBEND			GPT2069
011	4125						
012	6423		ZJR	NONPRM			GPT2070
013	0404		LDN	4	YES, FIX LIST TYPE		GPT2071
4014	5064		RAD	LSTTYP			GPT2072
4015	0111		LS6				GPT2073
016	4072		STD	PRAMBL 1	STORE LSTTYP, 0, 0 WORD		GPT2074
4017	2266		LDR	NXTPRM			GPT2075
4020	6126		NZR	XNTRID	GO MERGE WITH PARAMETER NUMBER IN A		GPT2076
021	2300	RELOAD	LDS		LSTTYP, 0, 8(OBJ, CODE LOCATION)		GPT2077
4022	3004		ADD	B(DATL			GPT2078
4023	4072		STD	PRAMBL 1			GPT2079
024	0504		LCN	4			GPT2080
4025	3064		ADD	LSTTYP			GPT2081
4026	3005		ADD	DATEND			GPT2082
027	4300		STS		IS THERE ROOM IN CURRENT BANK		GPT2083
4030	1405		SCD	DATEND			GPT2084
4031	1464		SCD	LSTTYP			GPT2085
032	0201		LPN	1			GPT2086
4033	6011		ZJF	XNTRID -2			GPT2087
4034	0501		LCN	1	NOT MUST GO TO NEXT ONE		GPT2088
035	5072		RAD	PRAMBL 1			GPT2089
4036	0501		LCN	1			GPT2090
4037	5004		RAD	B(DATL			GPT2091
040	5700		AOS				GPT2092
4041	6103		NZF	3			GPT2093
4042	0500		LCN	0	ALSO USE 7777		GPT2094
043	6102		NZF	2			GPT2095
044	2300		LDS				GPT2096
4045	4005		STD	DATEND			GPT2097
046	4073	XNTRID	STD	PRAMBL 2	STORE THIRD WORD		GPT2098
4047	7100		JPR	(TOBK0			GPT2099
4050	0005						
051	0016			NTRID	GO ENTER IDENTIFIER		GPT2100



4052	2012	LDD	DIMSW	ARE THERE DIMENSIONED VARIABLES	CPT2101
4053	6133	NZR	UPTTEST		CPT2102
4054	7101	JFI	1		CPT2103
4055	0000	NTRVBL			CPT2104
4056	0403	LDN	3		CPT2105
4057	4027	STD	N(PRAM	SET LENGTH PREAMBLE	CPT2106
4060	2032	LDD	IDEN		CPT2107
4061	0111	LS6			CPT2108
4062	0277	LPN	77		CPT2109
4063	7100	JPR	(TOBK0		CPT2110
4064	0005				
4065	0013		L(CLAS		CPT2111
4066	0203	LPN	3		CPT2112
4067	0301	SCN	1		CPT2113
4070	4064	STD	LSTTYP	COMPUTE LIST TYPE	CPT2114
4071	7100	JPR	(TOBK0		CPT2115
4072	0005				
4073	0017		LSTSPY		CPT2116
4074	6107	NZR	USEDUP		CPT2117
4075	0460	LDN	60		CPT2118
4076	3001	ADD	LEVEL	SET FIRST WORD TO	CPT2119
4077	0110	LS3		N(PRAM,0,0	CPT2120
4100	0103	LS2			CPT2121
4101	4071	STD	PRAMBL		CPT2122
4102	6575	NZR	COMPRM		CPT2123
4103	7101	USEDUP	JFI	NOT ZERO MEANS PREVIOUS	CPT2124
4104	3115		DUPNAM	USE OF NAME	CPT2125
4105	0000	NXTPRM		COUNTS NUMBER OF PARAMETERS	CPT2126
4106	2064	UPTTEST	LDD	IS LIST TYPE FOR INTEGER VARIABLE	CPT2127
4107	0702	SBN	2		CPT2128
4110	6003	ZJF	3		CPT2129
4111	0704	SBN	4		CPT2130
4112	6536	NZR	NTRVBL -1		CPT2131
4113	2065	LDD	LOC(8K		CPT2132
4114	3200	ADD	7620	MAKE UPP COMMAND	CPT2133
4115	7620				
4116	7100	JPR	(TOPT0		CPT2134
4117	2532				
4120	2066	LDD	LOC(ID		CPT2135
4121	0701	SBN	1		CPT2136
4122	7100	JPR	(TOPT0		CPT2137
4123	2532				
4124	6550	NZR	NTRVBL -1		CPT2138
4125	0000	SUBEND			CPT2139
4126	4300	ANOTHR	STS		CPT2140
4127	5722	AOR	NXTPRM		CPT2141
4130	2300	LDS			CPT2142
4131	3704	SBR	SUBEND	IS THERE ANOTHER	CPT2143
4132	6107	NZR	PRMNAM		CPT2144
4133	4306	STR	SUBEND		CPT2145
4134	7101	JFI	1		CPT2146
4135	0000	SUBRID			CPT2147
4136	2200	LDF	0		CPT2148
4137	0000	SUBBEG			CPT2149
4140	4062	STD	MATHST		CPT2150
4141	0431	PRMNAM	LDN	IDEN -1	CPT2151
4142	4070	STD	ID*END		CPT2152
4143	5462	AOD	MATHST		CPT2153
4144	5470	AOD	ID*END		CPT2154
4145	2162	LDI	MATHST		CPT2155

4146	0020		SIC0			CPT2156:
4147	4170		STI	ID*END		CPT2157:
50	0021		SIC1			CPT2158:
4151	1200		LPF	0		CPT2159:
4152	7700	*7700		7700	MASKER FOR HIGH BITS	CPT2160:
53	6530		NZB	PRNNAN	2	CPT2161:
4154	7100		JPR	MATCHK		CPT2162:
4155	4204					:
56	6530		NZR	ANOTHR		CPT2163:
4157	5461	POSIBL	AOD	L(CHAR		CPT2164:
4160	5441		AOD	NOTINT	DO BOTH NAMES END	CPT2165:
61	3470		SBD	ID*END	AT THE SAME SPOT	CPT2166:
4162	6136		NZR	NXTWRD		CPT2167:
4163	2161		LDI	L(CHAR		CPT2168:
64	1312		LPR	*7700		CPT2169:
4165	6140		NZR	LOOKON		CPT2170:
4166	2100		LDM	COMEND		CPT2171:
67	5042					:
4170	6106		NZF	6		CPT2172:
4171	2100		LDM	SUBEND	TEST FOR PARAMETER	CPT2173:
72	4125					:
4173	6003		ZJF	3		CPT2174:
4174	0440		LDN	40		CPT2175:
75	5161		RAI	L(CHAR		CPT2176:
4176	7100		JPR	NTRDIM	YES, GO ENTER THE ARRAY	CPT2177:
4177	3045					:
00	2200	MERGER	LDF	0	RESTORE LOCATER	CPT2178:
01	0000	SVMATH				CPT2179:
02	4062		STD	MATHST		CPT2180:
03	7101		JFI	1		CPT2181:
4204	0000	MATCHK			SAVE LOCATER	CPT2182:
205	2062		LDD	MATHST		CPT2183:
06	4305		STR	SVMATH		CPT2184:
4207	2012		LDD	DIMSW	ARE THERE DIMENSIONED VARIABLES	CPT2185:
4210	6033		ZJR	XNTVRL	NO, GO ENTER SIMPLE ONE	CPT2186:
11	2100		LDM	MATBEG	YES, SET REBINNING OF LIST	CPT2187:
4212	3524					:
4213	4060		STD	L(CHI)		CPT2188:
14	2060	MORARY	LDD	L(CHI)		CPT2189:
4215	4061		STD	L(CHAR		CPT2190:
4216	0432		LDN	IDEN		CPT2191:
17	4041		STD	NOTINT		CPT2192:
4220	2161	NXTWRD	LDI	L(CHAR		CPT2193:
4221	0020		SIC0			CPT2194:
22	3541		SBI	NOTINT		CPT2195:
4223	0021		SIC1			CPT2196:
4224	6445		ZJR	POSIBL		CPT2197:
225	2161	LOOKON	LDI	L(CHAR		CPT2198:
4226	1354		LPR	*7700		CPT2199:
4227	6003		ZJF	3		CPT2200:
230	5461		AOD	L(CHAR		CPT2201:
4231	6500		NZR	LOOKON		CPT2202:
4232	2161		LDI	L(CHAR		CPT2203:
33	0207		LPN	7		CPT2204:
4234	0102		LS1			CPT2205:
4235	3061		ADD	L(CHAR		CPT2206:
236	0601		ADN	1		CPT2207:
4237	4060		STD	L(CHI)		CPT2208:
4240	3500		SBM	MATEND		CPT2209:
241	3501					:

4242	6526	NZR	MORARY				CPT2210
4243	7100	XNTVBL	JPR	NTRVBL	NO, BACK FOR NEXT		CPT2211
4244	4055				ENTER SIMPLE VARIABLE		
4245	7101		JFI	1			CPT221
4246	4200			MERGER			CPT2213A
4247	4021	TSINFR	STD	BINDSW			CPT2214
4250	2274		LDR	INCFER	IS SUBROUTINE IN PROGRESS		CPT2215
4251	6003		ZJF	3			CPT2216
4252	7100		JPR	(TOPTO			CPT2217
4253	2532						
4254	2200		LDC	4604			CPT2218A
4255	4604						
4256	7100		JPR	(TOPTO			CPT2219
4257	2532						
4260	2200		LDC	7560			CPT2220
4261	7560						
4262	3265		ADR	OBJBNK	GO TO B(IDLIST FOR SUBROUTINE NAME)		CPT2221
4263	7100		JPR	(TOPTO			CPT2222
4264	2532						
4265	2263		LDR	OBJADD	A(IDLIST FOR SUBR)		CPT2223
4266	7100		JPR	(TOPTO			CPT2224
4267	2532						
4270	2254		LDR	INCFER			CPT2225
4271	6004		ZJF	4			CPT2226
4272	0640		ADN	40			CPT2227
4273	7100		JPR	(TOPTO			CPT2228
4274	2532						
4275	2250		LDR	*CHI**	SET PROCESS BACK TO START		CPT2229
4276	4060	CALRS1	STD	L(CHI)			CPT223
4277	0601		ADN	1			CPT2231
4300	4210		STR	Q.CNST	LOGATES FIRST CHARACTER		CPT2232
4301	3406		SBD	L(PROC	TEST FOR END		CPT2233
4302	6236		PJR	CALXIT	+ MEANS FINISHED		CPT2234
4303	5643		ADR	LODERS	NEXT LOAD ERASABLE		CPT2235
4304	0501		LCN	1			CPT2236
4305	7100		JPR	NAMPRM	ISOLATE PARAMETER		CPT2237
4306	4522						
4307	2100		LDI	0			CPT2238
4310	0000	Q.CNST					CPT2239
4311	0713		SBN	13	DOES IT START WITH NUMBER		CPT2240
4312	6323		NJR	NXTLOD	- MEANS YES, DO NOT RELOAD		CPT2241A
4313	2044		LDD	BOPLST			CPT2242
4314	3406		SBD	L(PROC	IS IT AN EXPRESSION		CPT2243
4315	0702		SBN	2			CPT2244
4316	6117		NZR	NXTLOD	0 MEANS NO		CPT2245
4317	2106		LDI	L(PROC	IS IT ARRAY NAME		CPT2246
4320	0210		LPN	10			CPT2247
4321	6014		ZJR	NXTLOD	0 MEANS YES		CPT2248
4322	2224		LDR	LODERS	LOAD FUNCTION ERASABLE		CPT2249
4323	7100		JPR	(TOPTO			CPT2250A
4324	2532						
4325	2106		LDI	L(PROC			CPT22510
4326	0220		LPN	20			CPT2252
4327	6002		ZJF	2			CPT2253
4330	0405		LDN	5			CPT225
4331	4030		STD	BMODE			CPT2255A
4332	7100		JPR	(TOBK0			CPT2256
4333	0005						
4334	0002			MAKSTO			CPT2257A
4335	2100	NXTLOD	LDM	SAVCHI			CPT2258

4336	4555									
4337	6541		NZR	CALRS1						
40	2211	CALXIT	LDR	**PROC	EXIT					
441	4006		STD	L(PROC						
4342	7101		JFI	1						
4343	0457			L(CON)						
4344	0000	INCFER								
4345	0000	*CHI*								
4346	0000	LODERS								
4347	0000	OBJRJK								
4350	0000	OBJADD								
4351	0000	**PROC								
4352	2006	L(CA)	LDD	L(PROC	CALL STATEMENT PROCESSOR					
4353	4302		STR	**PROC	SAVE BEGINNING OF PROCESSING AREA					
4354	0604		ADN	4						
4355	4067		STD	IDBEG	AND BEGINNING OF NAME					
4356	4060		STD	L(CHI)						
4357	5460	CALNAM	ADD	L(CHI)	FIND END OF NAME					
4360	4313		STR	*CHI*	SAVE END LOCATION					
4361	3413		SBD	L(BUFL						
4362	6004		ZJF	GOCHEK	NO PARAMETERS					
4363	2160		LDI	L(CHI)						
4364	0734		SBN	34						
4365	6506		NZR	CALNAM						
4366	0414	GOCHEK	LDN	14	14 IS SUBROUTINE NAME					
4367	4064		STD	LSTTYP						
4370	7100		JPR	(TOBK0	GO CHECK IDLIST ENTRY					
4371	0005									
4372	0010			LBLCHK						
4373	2065		LDD	LOC(BK	SAVE BANK AND RELATIVE ADDRESS					
4374	4325		STR	OBJBKN	FOR GO TO COMMAND					
4375	0501		LCN	1						
4376	3066		ADD	LOC(ID						
4377	4327		STR	OBJADD						
4400	2100		LDM	*SUBR*	IF A SUBROUTINE IS IN PROGRESS					
4401	1223									
4402	6003		ZJF	3						
4403	2100		LDM	NXTPRM	FETCH NUMBER OF PARAMETERS					
4404	4105									
4405	4300		STS							
4406	3200		ADC	2400						
4407	2400									
4410	4100		STM	STRERS	FIRST(*1) STORE ERASABLE COMMAND					
4411	4520									
4412	3200		ADC	600						
4413	0600									
4414	4346		STR	LODERS	AND FIRST(*1) FETCH ERASABLE					
4415	2300		LDS							
4416	6003		ZJF	3						
4417	3200		ADC	4400						
4420	4400									
4421	4355		STR	INCFER	SET INCREMENT ERASABLE COMMAND					
4422	2160		LDI	L(CHI)						
4423	0734		SBN	34	IS NEXT CHARACTER (					
4424	6003		ZJR	CALL)						
4425	7101	MAKJPR	JFI	1	GO BACK TO TEST INCR					
4426	4247			TSINFR						
4427	0501	CALL)	LCN	1						
4430	5013		RAD	L(BUFL						
4431	2113		LDI	L(BUFL						

4432	0774	SBN	74	CHCK FOR MATCHING )	OPT2311:
4433	6004	ZJF	4		OPT2312:
4434	0456	CALTLT	LDN	MISSING ) IN CALL STATEMENT	OPT231:
4435	7101	JFI	1		OPT231:
4436	0536		L(TILT		OPT2315:
4437	2013	LDD	L(BUFL	SET PROCESSING AREA START	OPT2316:
4440	4006	STD	L(PROC		OPT2317:
4441	0601	ADN	1	AND LOCATION OF	OPT2318:
4442	4207	STR	FRSTOP	FIRST OP DESCRIPTION	OPT2319:
4443	0413	CALOOP	LDN	FIRST CHARACTER IS =	OPT2320:
4444	4106	STI	L(PROC	FOR ALGEBRA	OPT2321:
4445	0400	LDN	0		OPT2322:
4446	7100	JPR	NAMPRM	ISOLATE PARAMETER NAME	OPT2323:
4447	4522				:
4450	2200	LDF	0		OPT2324:
4451	0000	FRSTOP			OPT2325:
4452	4061	STD	L(CHAR		OPT2326:
4453	2161	LDI	L(CHAR	IS FIRST OP	OPT2327:
4454	0716	SBN	16	AN OPERATOR	OPT2328:
4455	6305	NJR	TOALGB	(- MEANS YES)	OPT2329:
4456	0214	LPN	14		OPT2330:
4457	6003	ZJR	TOALGB	0 MEANS SIMPLE OPERAND	OPT2331:
4460	0204	LPN	4		OPT2332:
4461	6015	ZJR	ARRAYNM	0 MEANS NAME OF ARRAY	OPT2333:
4462	7100	TOALGB	JPR	LOAD CURRENT VALUE OF PARAMETER	OPT2334:
4463	0005				:
4464	0001		ALGEBRA		OPT2335:
4465	5633	OUTERS	AOR	MAKE NEXT STORE ERASABLE COMMAND	OPT2336:
4466	7100	JPR	(TOPTQ	AND PUT IT OUT	OPT233:
4467	2532				:
4470	2100	LDM	SAVCHI	RESTORE LOCATER	OPT2338:
4471	4555				:
4472	4060	STD	L(CHI)		OPT2339:
4473	3406	SBD	L(PROC	END TEST	OPT2340:
4474	6531	NZR	CALOOP		OPT2341:
4475	6450	ZJR	MAKJPR	0 MEANS FINISHED	OPT2342:
4476	2161	ARRAYNM	LDI	IS IT ALSO A FORMAL PARAMETER	OPT2343:
4477	0201	LPN	1		OPT2344:
4500	6004	ZJF	4	NO, IF THIS IS ZERO	OPT2345:
4501	0407	LDN	7		OPT2346:
4502	5161	RAI	L(CHAR	YES, CHANGE TO TWO WORD COMMAND	OPT2347:
4503	6521	NZB	TOALGB	AND PROCESS LIKE VARIABLE	OPT2348:
4504	2144	LDI	BOPLST		OPT2349:
4505	0110	LS3			OPT2350:
4506	0207	LPN	7		OPT2351:
4507	3200	ADC	6510	6510 IS LOAD CONSTANT COMMAND	OPT2352:
4510	6510				:
4511	7100	JPR	(TOPTQ		OPT2353:
4512	2532				:
4513	5444	ADD	BOPLST		OPT2354:
4514	2144	LDI	BOPLST		OPT2355:
4515	7100	JPR	(TOPTQ	PUR AWAY LOW 12 BITS	OPT2356:
4516	2532				:
4517	6532	NZB	OUTERS		OPT2357:
4520	0000	STRERS			OPT2358:
4521	7101	JFI	1		OPT2359:
4522	0000	NANPRM		ISOLATE NEXT PARAMETER NAME	OPT2360:
4523	3006	ADD	L(PROC		OPT2361:
4524	4013	STD	L(BUFL	SET BEGINNING OF PROCESSING AREA	OPT2362:
4525	0400	LDN	0	SET PARENS COUNT TO ZERO	OPT2363:

4526	4200		STF	0						CPT23648
4527	0000	(PREN)								CPT23651
30	5413		ACD	L(BUFL		NEXT STORE				CPT23661
4531	5460		AOD	L(CHI)		NEXT FETCH				CPT23671
4532	3406		SBD	L(PROC		END TEST				CPT23681
533	6020		ZJR	SAVCHI	-2	0 MEANS FINISHED				CPT23691
4534	2160		LDI	L(CHI)		MOVE NEXT CHARACTER				CPT23701
4535	4113		STI	L(BUFL		INTO PROCESSING AREA				CPT23711
536	0774		SBN	74		IS IT )				CPT23721
4537	6104		NZF	4						CPT23731
4540	0501		LCN	1		YES, REDUCE PARENS COUNT				CPT23741
541	5312		RAR	(PREN)						CPT23751
4542	6612		PJR	(PREN)	1					CPT23761
4543	0640		ADN	40		IS IT (				CPT23771
544	6103		NZF	3						CPT23781
4545	5716		AOB	(PREN)		YES, INCREASE PARENS COUNT				CPT23791
4546	6616		PJR	(PREN)	1					CPT23801
547	0601		ADN	1		IS IT ,				CPT23811
4550	6520		NZR	(PREN)	1					CPT23821
4551	2322		LDR	(PREN)		YES, IS PARENS COUNT ZERO				CPT23831
552	6522		NZR	(PREN)	1					CPT23841
4553	2060		LDD	L(CHI)		YES, SAVE LOCATER				CPT23851
4554	4200		STF	0						CPT23861
555	0000	SAVCHI								CPT23871
4556	0420		LDN	20		MAKE LAST CHARACTER BLANK				CPT23881
4557	4113		STI	L(BUFL						CPT23891
560	7100		JPR	(TOBK0		REFINE THE ARGUMENT				CPT23901
561	0005									CPT23911
62	0003			ALGSTR						CPT23921
563	6442		ZJR	NAMPRM	-1	AND EXIT				CPT23931
4564	2065	ARYNAM	LDD	LOC(BK						CPT23941
4565	0110		LS3			SHIFT DATA BANK OF ARRAY				CPT23951
566	4033		STD	NTEMP2		TO LOW ORDER				CPT23961
4567	2044		LDD	BOPLST						CPT23971
4570	0601		ADN	1						CPT23981
571	4061		STD	L(CHAR		CORRECT OPERATOR STRING				CPT23991
4572	0410		LDN	10		WHICH HAD BEEN PHONIED				CPT24001
4573	5100		RAI	0		FOR ARRAY NAME				CPT24011
574	0000	REPAIR								CPT24021
4575	0220		LPN	20		FIXED OR FLOATING				CPT24031
4576	6002		ZJF	2						CPT24041
577	0401		LDN	1		FIXED DECREMENT IS 2,				CPT24051
4600	0703		SBN	3		FLOATING IS 3				CPT24061
4601	4032		STD	NTEMP1						CPT24071
502	0601		ADN	1		CREATE ADDRESS OF PROPER B=BOX				CPT24081
4603	0103		LS2			AND STORE IT IN BOXLST				CPT24091
4604	4100		STM	SETBBX						CPT24101
505	4766									CPT24111
4606	2066		LDD	LOC(ID		LARGE ADDRESS MEANS				CPT24121
4607	6312		NJR	OKADDR		NO BANK CHANGE				CPT24131
10	3032		ADD	NTEMP1						CPT24141
4611	6211		PJF	OKADDR	1					CPT24151
4612	4300		STS							CPT24161
13	0501		LCN	1		SMALL MEANS REDUCE BANK				CPT24171
5014	5033		RAD	NTEMP2		BY 1				CPT24181
4615	5700		AOS			AND CORRECT ADDRESS TO USE				CPT24191
16	6104		NZF	OKADDR	1	LOCATION 7777 IN THE BANK				CPT24201
4617	0500		LCN	0						CPT24211
4620	6102		NZF	OKADDR	1					CPT24221
21	3032	OKADDR	ADD	NTEMP1						CPT24231

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4622	4161	STI	L(CHAR	ADDRESS IS NOW PROPER	CPT2421
4623	2065	LDD	LOC(BK		CPT2423
4624	0237	LPN	37	IS ARRAY A FORMAL PARAMETER	CPT2424
4625	4065	STD	LOC(BK		CPT2425
4626	2033	LDD	NTEMP2		CPT2426
4627	0207	LPN	7	PROPER BANK FOR OPERAND LIST	CPT2427
4630	0111	LS6			CPT2428
4631	0604	ADN	4	B-BOX LIST INDICATOR	CPT2429
4632	0110	LS3			CPT2430
4633	3065	ADD	LOC(BK	NUMBER OF FORMAL PARAMETER	CPT2431
4634	4144	STI	BOPLST		CPT2432
4635	0020	SIC0			CPT2433
4636	2100	LDM	STOADD	FETCH A(IDLIST FOR ARRAY)	CPT2434
4637	3250				
4640	4061	STD	L(CHAR		CPT2435
4641	4345	STR	REPAIR	(SAVE FOR RESTORATION)	CPT2436
4642	2100	LDM	STOBK	FETCH SIC B(IDLIST FOR ARRAY)	CPT2437
4643	3245				
4644	4201	STF	1		CPT2438
4645	0000	(STOBK		AND EXECUTE IT	CPT2439
4646	2161	LDI	L(CHAR		CPT2440
4647	0270	LPN	70	FETCH B(NUMBER OF ELEMENTS)	CPT2441
4650	0115	RS2			CPT2442
4651	4032	STD	IDEN	SAVE AS UPPER 3 BITS	CPT2443
4652	0402	LDN	2		CPT2444
4653	5061	RAD	L(CHAR		CPT2445
4654	2161	LDI	L(CHAR	FETCH A(NUMBER OF ELEMENTS)	CPT2446
4655	6202	PJF	2		CPT2447
4656	5432	AOD	IDEN	EFFECT CARRY INTO UPPER	CPT2448
4657	2161	LDI	L(CHAR		CPT2449
4660	0021	SIC1		(RESTORE LOCAL INDIRECT BANK)	CPT2450
4661	1200	LPC	3777		CPT2451
4662	3777				
4663	4033	STD	IDEN	1 STORE 11-BIT LOWER	CPT2452
4664	0434	LDN	IDEN	2	CPT2453
4665	4070	STD	LETEND	SET END OF CONSTANT	CPT2454
4666	0412	LDN	12		CPT2455
4667	4064	STD	LSTTYP	AND LIST TYPE	CPT2456
4670	7100	JPR	(TOBK0		CPT2457
4671	0005				CPT2458
4672	0017		LSTSPY	SEARCH	CPT2459
4673	6104	NZF	4		CPT2460
4674	7100	JPR	(TOBK0	AND MAKE ENTRY IF NECESSARY	CPT2461
4675	0005				CPT2462
4676	0020		MAKEID		CPT2463
4677	0020	SIC0			CPT2464
4700	0427	(IC0	LDN	27 SET STOADD, STOBK TO	CPT2465
4701	4100		STM	DUMMY I/O INDEX	CPT2466
4702	3245				CPT2467
4703	0513	LCN	13	TO MAKE INCREMENTATION	CPT2468
4704	4100	STM	STOADD		CPT2469
4705	3250				CPT2470
4706	2054	LDD	ERSLOC	SET LOCATORS AS THOUGH	CPT2471
4707	4006	STD	L(PROC	ALGSTR HAD JUST BEEN DONE	CPT2472
4710	0601	ADN	1		CPT2473
4711	4022	STD	BINIT		CPT2474
4712	0605	ADN	5		CPT2475
4713	4044	STD	BOPLST		CPT2476
4714	2200	LDC	ARYD0	SET BEGINNING OF INCREMENT	CPT2477
4715	5026				CPT2478

4716	4061	STD	L(CHAR	INFORMATION	CPT2473:
4717	2065	LDD	LOC(BK	FETCH SIC B(IDLIST FOR	CPT2474:
4720	4201	STF	1	NUMBER OF ELEMENTS)	CPT2475:
4721	0027	SIC7		AND EXECUTE IT	CPT2476:
4722	2166	LDI	LOC(ID	FETCH B(OBJECT CODE LOCATION	CPT2477:
4723	0207	LPN	7	OF NUMBER OF ELEMENTS)	CPT2478:
4724	0111	LS6			CPT2479:
4725	0110	LS3			CPT2480:
4726	0021	SIC1			CPT2481:
4727	4100	STM	ARYDO 12	STORE IN OPERAND LIST	CPT2482:
4730	5040				:
4731	5466	ADD	LOC(ID		CPT2483:
4732	2166	LDI	LOC(ID	SAME FOR A(OBJECT CODE LOCATION)	CPT2484:
4733	4100	STM	ARYDO 13		CPT2485:
4734	5041				:
4735	0514	LCN	14		CPT2486:
4736	4300	STS			CPT2487:
4737	2161	MOVSTR	LDI L(CHAR	MOVE ARRAY DO-LOOP STRING	CPT2488:
4740	4154	STI	ERSLOC	INTO PROCESSING AREA	CPT2489:
4741	5461	ADD	L(CHAR		CPT2490:
4742	5454	ADD	ERSLOC		CPT2491:
4743	5700	AOS			CPT2492:
4744	6505	NZR	MOVSTR		CPT2493:
4745	4021	STD	BINDSW	ZERO OUT BINDSW FOR ALGEBRA	CPT2494:
4746	7100	JPR	I/ODO	SAVE I/O INCREMENTATION DATA	CPT2495:
4747	2241				:
4750	2003	LDD	LASTID	SET BOXLST TO IDLIST BEGIN	CPT2496:
4751	0702	SBN	2		CPT2497:
4752	4045	STD	BOXLST		CPT2498:
4753	2002	LDD	LSTBNK	IS IDLIST IN BANK 1	CPT2499:
4754	0701	SBN	1		CPT2500:
4755	6003	ZJF	3	YES, GO AHEAD	CPT2501:
4756	0503	LCN	3		CPT2502:
4757	4045	STD	BOXLST	OF BANK 1	CPT2503:
4760	2045	LDD	BOXLST		CPT2504:
4761	0601	ADN	1		CPT2505:
4762	4060	STD	L(CHI)		CPT2506:
4763	0407	UPPBK	LDN 7	ADDRESS MUST BE LAST BANK NUMBER	CPT2507:
4764	4145	STI	BOXLST		CPT2508:
4765	2200	LDF	0		CPT2509:
4766	0000	SETBBX			CPT2510:
4767	4160	STI	L(CHI)		CPT2511:
4770	0502	LCN	2		CPT2512:
4771	5100	RAM	L)CHI(		CPT2513:
4772	2125				:
4773	0601	ADN	1		CPT2514:
4774	4060	STD	L(CHI)		CPT2515:
4775	0474	LDN	74	PUT ) AT END OF STRING	CPT2516:
4776	4160	STI	L(CHI)		CPT2517:
4777	0514	LCN	14	RESTORE LOCATORS	CPT2518:
4780	5054	RAD	ERSLOC		CPT2519:
5001	0705	SBN	5		CPT2520:
5002	4006	STD	L(PROC		CPT2521:
5003	4022	STD	BINIT		CPT2522:
5004	0603	ADN	3		CPT2523:
5005	4044	STD	BUPLST		CPT2524:
5006	0400	LDN	0		CPT2525:
5007	4021	STD	BINDSW		CPT2526:
5010	2100	LDM	REPAIR		CPT2527:
5111	4574				:



5012	4300	STS									
5013	2100	LDM	(STOBK								
5014	4645										
5015	0020	SIC0									
5016	4100	STM	STOBK								
5017	3245										
5020	2300	LDS									
5021	4100	STM	\$TOADD								
5022	3250										
5023	0021	SIC1									
5024	7101	JFI	1			BACK THROUGH PROCESS					
5025	2040		REENTR								
5026	0676	ARYDO	676			DUMMY LIST FOR ARRAY I/O					
5027	0015		15			BY NAME INCREMENTATION					
5030	0736		736								
5031	0010		10								
5032	0776		776								
5033	0006		6								
5034	7000		7000								
5035	7775		7775								
5036	7000		7000								
5037	7773		7773								
5040	7000		7000								
5041	7777		7777								
5042	0000	COMEND				(THIS IS ALSO A ZERO OR NOT SWITCH)					
5043	0462	COMMTLT	LDN	COMERR		OR ELSE MISPLACED COMMON STATEMENT					
5044	7101		JFI	1							
5045	0536			L(TILT							
5046	2006	L(COM)	LDD	L(PROC							
5047	0707		SBN	7							
5050	4200		STF	0							
5051	0000	COMBEG				SEE BEGINNING OF COMMON LIST					
5052	4062		STD	MATHST							
5053	0615		ADN	15							
5054	4060		STD	L(CHI)							
5055	4067		STD	IDBEG							
5056	0020		SIC0								
5057	2100		LDM	TYPE-1		IF COMMON IS PROPERLY PLACED					
5060	1202										
5061	0021		SIC1			THE LAST STATEMENT MUST HAVE BEEN					
5062	0706		SBN	6		END					
5063	6003		ZJR	COMNAM		OR					
5064	0702		SBN	2		SUBROUTINE					
5065	6522		NZR	COMMTLT							
5066	2160	COMNAM	LDI	L(CHI)		FIRST CHARACTER MUST NOT BE					
5067	0713		SBN	13		NUMERIC					
5070	6374		NJR	COMTLT							
5071	2160		LDI	L(CHI)		IF NEXT CHARACTER IS					
5072	7100		JPR	(TOBK0							
5073	0005										
5074	0013			L(GLAS							
5075	0702		SBN	2							
5076	6303		NJR	BLANK,		SPECIAL CHARACTER, PACK IDENTIFIER					
5077	5460		A0D	L(CHI)		NUMBER OR LETTER, INCLUDE IT IN NAME					
5100	6507		NZR	COMNAM +3							
5101	7100	BLANK,	JPR	(TOBK0		GO PACK IDENTIFIER					
5102	0005										
5103	0011			PACKID							
5104	0604		ADN	4							
5105	4300		STS			SPECIFIC CONTAINS NUMBER OF WORDS					

5106	2200		LDF	0					CPT2582:
5107	2032		LDD	IDEN					CPT2583:
10	4201		STF	1					CPT2584:
5111	2032	NTRCOM	LDD	IDEN		STORE IDENTIFIER IN			CPT2585:
5112	4162		STI	MATHST		COMMON LIST			CPT2586:
113	5702		AOB	2					CPT2587:
5114	5462		AOD	MATHST					CPT2588:
5115	0501		LCN	1					CPT2589:
116	5300		RAS						CPT2590:
5117	6506		NZR	NTRCOM					CPT2591:
5120	2160		LDI	L(CHI)		IS NEXT CHARACTER			CPT2592:
121	0720		SBN	20		BLANK SIGNALLING END			CPT2593:
5122	6132		NZR	COMON,		NO, GO TEST FOR COMMA			CPT2594:
5123	2100		LDM	ORGPRG					CPT2595:
124	3262								:
5125	6104		NZF	4					CPT2596:
5126	2006		LDD	L(PROC					CPT2597:
127	4100		STM	ORGPRG					CPT2598:
5130	3262								:
5131	2062		LDD	MATHST		YES, SAVE END LOCATION			CPT2599:
132	4370		STR	COMEND		OF COMMON LIST			CPT2600:
5133	0607		ADN	7		SET PROCESSING BUFFER BEGINNING			CPT2601:
5134	4006		STD	L(PROC		AFTER COMMON LIST			CPT2602:
135	7100		JPR	STTYPE		IS NEXT STATEMENT			CPT2603:
5136	2715								:
5137	0702		SBN	2					CPT2604:
140	6012		ZJR	COMEXT		DIMENSION			CPT2605:
5141	7100		JPR	COMNID		NO, SO PROCESS COMMON			CPT2606:
142	5224								:
143	2100		LDM	SUBEND		ARE THERE SUBROUTINE PARAMETERS			CPT2607:
5144	4125								:
5145	6003		ZJF	3					CPT2608:
146	7101		JFI	1		YES, PROCESS THEM			CPT2609:
5147	3754			DOSUBR					CPT2610:
5150	7101		JFI	1					CPT2611:
151	3756			RESTOR					CPT2612:
5152	7101	COMEXT	JFI	1					CPT2613:
5153	0527			COEXIT					CPT2614:
154	0713	COMON,	SBN	13		IS NEXT CHARACTER COMMA			CPT2615:
5155	6107		NZR	COMTLT		ERROR IF NOT			CPT2616:
5156	0433		LDM	33					CPT2617:
157	4162		STI	MATHST		STORE COMMA IN STRING			CPT2618:
5160	5462		AOD	MATHST					CPT2619:
5161	5460		AOD	L(CHI)					CPT2620:
162	4067		STD	IDBEG					CPT2621:
5163	6575		NZR	COMNAM					CPT2622:
5164	0446	COMTLT	LDM	COMMON					CPT2623:
165	7121		JFI	SAMBNK =1					CPT2624:
5166	0000	SAVDAT							CPT2625:
5167	0000	SVDATN							CPT2626:
170	3500	COMMRG	SBN	COMEND		HAS COMMON BEEN COMPLETED			CPT2627:
5171	5042								:
5172	6153		NZR	COMNAME		NO, BACK THROUGH AGAIN			CPT2628:
73	4100		STM	COMEND		SET COMEND TO ZERO			CPT2629:
5174	5042								:
5175	7101	MUNCE	JFI	1					CPT2630:
176	5322			FIXEND		THIS CHANGES AFTER FIRST USE			CPT2631:
5177	2004	SZETST	LDD	R(DATL		HAS ORIGINAL COMMON			CPT2632:
5200	3500		SBN	COMBNK		BOUND BEEN EXCEEDED			CPT2633:
201	1127								:

5202	6005		ZJR	SAMBNK	MAYBE	OPT2634
5203	6214		PJR	R*STOR	NO IF POSITIVE	OPT2635
5204	0464	COMFLO	LDN	COMTBL	ORIGINAL COMMON AREA EXCEEDED	OPT2636
5205	7101		JFI	1		OPT2637
5206	0536			LITILT		OPT2638
5207	2500	SAMBNK	LCM	COMDAT	BANK IS THE SAME	OPT2639
5210	1130					
5211	3005		ADD	DATEND	IS NEW COMMON END	OPT2640
5212	1405		SCD	DATEND	SMALLER THAN OLD	OPT2641
5213	1500		SCM	COMDAT		OPT2642
5214	1130					
5215	0201		LPN	1		OPT2643
5216	6512		NZR	COMFLO	1 HERE MEANS YES	OPT2644
5217	2331	R*STOR	LDR	SAVDAT	RESTORE BANK AND ADDRESS	OPT2645
5220	4004		STD	B(DATL	OF END OF DATA	OPT2646
5221	2332		LDR	SVDATN		OPT2647
5222	4005		STD	DATEND	SAVE LOCATER	OPT2648
5223	7101		JFI	COMNID		OPT2649
5224	0000	COMNID				OPT2650
5225	2004		LDD	B(DATL	SAVE END OF REGULAR DATA	OPT2651
5226	4340		STR	SAVDAT		OPT2652
5227	2005		LDD	DATEND		OPT2653
5230	4341		STR	SVDATN		OPT2654
5231	0504		LCM	4	SEE END OF DATA TO LAST CELL	OPT2655
5232	4005		STD	DATEND	OF COMPILING COMPUTER	OPT2656
5233	0020		SIC0			OPT2657
5234	2100		LDM	BANKS		OPT2658
5235	1034					
5236	0021		SIC1			OPT2659
5237	4004		STD	B(DATL		OPT2660
5240	6125	ONLY1	NZF	COMUN1	JUMP IS NO-OP AFTER FIRST TIME	OPT2661
5241	2100		LDM	COMBEG		OPT2662
5242	5051					
5243	0701		SBN	1		OPT2663
5244	4062		STD	MATHST		OPT2664
5245	0431	CMNAME	LDN	IDEN -1	PUT NEXT COMMON IDENTIFIER	OPT2665
5246	4070		STD	ID*END	INTO LOW CORE BANK 0	OPT2666
5247	5470		AOD	ID*END		OPT2667
5250	5462		AOD	MATHST		OPT2668
5251	3500		SBN	COMEND		OPT2669
5252	5042					
5253	6007		ZJF	SEEK		OPT2670
5254	2162		LDI	MATHST		OPT2671
5255	0020		SIC0			OPT2672
5256	4170		STI	ID*END		OPT2673
5257	0021		SIC1			OPT2674
5260	0733		SBN	33	SIGNALS END OF NAME	OPT2675
5261	6512		NZR	CMNAME 2		OPT2676
5262	7100	SEEK	JPR	MATCHK		OPT2677
5263	4204					
5264	6574		NZR	COMMRG		OPT2678
5265	0413	COMUN1	LDN	13		OPT2679
5266	4064		STD	LSTTYP	WANT TO FIND DUMMY STATEMENT	OPT2680
5267	2100		LDM	*SUBR*	NUMBER IF MAIN PROGRAM	OPT2681
5270	1223					
5271	6002		ZJF	2	OR ELSE SUBROUTINE NAME	OPT2682
5272	5464		AOD	LSTTYP		OPT2683
5273	0420		LDN	20		OPT2684
5274	3002		ADD	LSTBNK		OPT2685
5275	4201		STF	1		OPT2686

5276	0027		SIC7						CPT26878
5277	2003		LDD	LASTID					CPT26880
30	6105		NZR	LSTYPE					CPT26891
5301	2103	NXTID	LDI	LASTID					CPT26901
5302	0237		LPN	37					CPT26918
303	0603		ADN	3					CPT26921
5304	5003		RAD	LASTID					CPT26931
5305	0601	LSTYPE	ADN	1					CPT26941
306	4066		STD	LOG(1D	ADDRESS OF LSTTYP, X, X WORD				CPT26951
5307	2166		LDI	LOG(1D					CPT26961
5310	0111		LS6						CPT26971
311	0277		LPN	77					CPT26981
5312	3464		SBD	LSTTYP	IS THIS PROPER TYPE				CPT26991
5313	6512		NZR	NXTID	NO, SO BACK FOR NEXT				CPT27001
314	0021		SIC1						CPT27011
5315	0401		LDN	1					CPT27021
5316	4100		STM	ONLY1					CPT27031
317	5240								
5320	7101		JFI	1					CPT27041
5321	5241			ONLY1	1				CPT27051
322	2004	FIXEND	LDD	B(DATL	SET COMMON BOUNDS				CPT27061
5323	4100		STM	COMBNK	BASED ON FIRST				CPT27071
5324	1127								
325	2005		LDD	DATEND	COMMON STATEMENT				CPT27088
5326	4100		STM	COMDAT					CPT27098
5327	1130								
330	2200		LDC	SZETST					CPT27101
5331	5177								
32	4100		STM	WUNCE	1				CPT27111
333	5176								
5334	7101		JFI	1					CPT27121
5335	5223			COMNID	-1				CPT27138
336	6207	WHOHND	PJR	EQNUM	-1	OTHERWISE,EXIT			CPT27141
5337	2200		LDF	0					CPT27151
5340	0000	RSTEND							CPT27168
341	4060		STD	L(CH1)	RESTORE END OF NAME				CPT27171
5342	2200		LDF	0					CPT27181
5343	0000	RESTBG							CPT27191
344	4067		STD	LETBEG	RESTORE START OF NAME				CPT27208
5345	7101		JFI	1					CPT27218
5346	0000	EQNUM			FORM BASE + OR = ADDITIVE				CPT27221
347	2160		LDI	L(CH1)	NEXT CHARACTER IS				CPT27231
5350	0734		SBN	34	(				CPT27248
5351	6504		NZR	EQNUM	-1	OR ELSE NO ADDITIVE			CPT27251
352	2067		LDD	LETBEG	SAVE BEGINNING OF NAME				CPT27268
5353	4310		STR	RESTBG					CPT27271
5354	2060		LDD	L(CH1)	AND ALSO END				CPT27281
355	4315		STR	RSTEND					CPT27298
5356	0601		ADN	1					CPT27308
5357	4067		STD	LETBEG	BEGINNING OF NUMBER				CPT27311
360	5460		ADD	L(CH1)	LOOP				CPT27321
5361	2160		LDI	L(CH1)	TO FIND				CPT27331
5362	0713		SBN	13	DIGITS IN NUMBER				CPT27341
3	6703		NJB	3					CPT27351
5364	2160		LDI	L(CH1)	NUMBER SHOULD TERMINATE				CPT27361
5365	0774		SBN	74	WITH )				CPT27371
366	6350		NJR	EQEX*T	OR ELSE ERROR				CPT27381
5367	4071		STD	OP					CPT27391
370	2042		LDD	NOTINT	1	OP HOLDS NUMBER OF WORDS			CPT27401
371	4072		STD	OP	1	PER ELEMENT			CPT27411

00100

5372	0501	LCN	1	INTEGER FLAG		CPT2742
5373	7100	JPR	(TOBK0	FOR NUMERIC CONVERSION		CPT27438
5374	0005					
5375	0021		VNUMCN			CPT274
5376	2032	LDD	NTEMP1	CONVERTED NUMBER IS MOVED		CPT2745M
5377	4073	STD	ACCJ	TO ARITHMETIC ACCUMULATOR		CPT2746A
5400	2033	LDD	NTEMP2			CPT2747
5401	0701	SBN	1	(DECREASE NUMBER BY 1)		CPT2748A
5402	6203	PJF	3			CPT2749A
5403	5073	RAD	ACCJ			CPT2750
5404	2220	LDR	C3777			CPT2751:
5405	4074	STD	ACCJ	1		CPT2752:
5406	7100	JPR	(TOBK0	SM MULTIPLICATION CAN		CPT2753
5407	0005					
5410	0015		VMLTIN	BE PERFORMED		CPT2754:
5411	2073	LDD	ACCJ			CPT2755
5412	4071	STD	OP	ADDITIVE GOES TO OPERAND		CPT2756A
5413	2074	LDD	ACCJ	1		CPT2757:
5414	4072	STD	OP	1		CPT2758
5415	4500	SRM	EQBANK	AND BASE GOES TO ACCUMULATOR		CPT2759A
5416	5530					
5417	4073	STD	ACCJ			CPT2760
5420	2234	LDR	EQUADD			CPT2761:
5421	6205	PJF	5			CPT2762:
5422	5473	AOD	ACCJ			CPT2763
5423	2200	LDF	0			CPT2764:
5424	3777		C3777			CPT2765:
5425	1227	LPR	EQUADD			CPT2766
5426	4074	STD	ACCJ	1		CPT2767
5427	2277	LDR	EQFLIP	BEFORE ADDITION OR SUBTRACTION		CPT2768
5430	7100	JPR	(TOBK0			CPT2769
5431	0005					
5432	0022		VADXT	IS PERFORMED		CPT2770:
5433	2074	LDD	ACCJ	1		CPT2771
5434	4220	STR	EQUADD	AND RESULT REPLACES BASE		CPT2772A
5435	2073	LDD	ACCJ			CPT2773:
5436	6375	EQEX* <b>T</b>	EQEXIT	(UNLESS MEMORY OVERFLOW)		CPT2774
5437	0201	LPN	1			CPT2775A
5440	6004	ZJF	4			CPT2776:
5441	2715	LCR	C3777			CPT2777
5442	1612	SCR	EQUADD			CPT2778A
5443	4211	STR	EQUADD			CPT2779:
5444	2073	LDD	ACCJ			CPT2780
5445	0114	RS1				CPT2781:
5446	4262	STR	EQBANK			CPT2782:
5447	5460	AOD	L(CHI)	BYPASS ENDING )		CPT2783
5450	4257	STR	LSTCHR			CPT2784:
5451	2255	LDR	EQFLIP			CPT2785
5452	7101	JFI	1			CPT2786
5453	5336		WHCHND			CPT2787:
5454	0000	EQUADD				CPT2788
5455	2006	L(EQ)	L(PROC			CPT2789
5456	0613	ADN	13	SKIP EQUIVALENCE(		CPT2790A
5457	4060	STD	L(CHI)			CPT2791:
5460	6113	NZR	EQUNAM			CPT2792
5461	6052	UNTEMP	EQEXIT	ERROR IF NUMBER		CPT2793:
5462	0601	ADN	1			CPT2794
5463	4042	STD	NOTINT	1	NUMBER OF WORDS PER ELEMENT	CPT2795
5464	0404	LDM	4			CPT2796:
5465	3442	SBD	NOTINT	1		CPT2797

5466	4064	STD	LSTTYP	SET FIXED OR FLOATING TYPE	CPT2798A
5467	0512	LCN	12	THIS IS DONE FOR FIRST CHARACTER	CPT2799A
70	5211	RAR	WHERTO	IN EACH IDENTIFIER ONLY	CPT2800A
5471	2060	LDD	L(CHI)		CPT2801A
5472	4067	STD	LETBEG	SET BEGINNING OF NAME	CPT2802A
473	5460	EQUAM	AOD	ISOLATE VARIABLE NAME	CPT2803A
5474	2160	LDI	L(CHI)		CPT2804A
5475	7100	JPR	(TOBKQ		CPT2805A
476	0005				CPT2806A
5477	0013		L(CLAS		CPT2807A
5500	0702	WHERTO	SBN	IS NEXT CHARACTER	CPT2808A
501	6620	PJR	UNTEMP	LETTER OR NUMBER	CPT2809A
5502	0412	LDN	12		CPT2810A
5503	5302	RAR	WHERTO		CPT2811A
504	2060	LDD	L(CHI)	SAVE LOCATION OF	CPT2812A
5505	4222	STR	LSTCHR	CHARACTER ENDING NAME	CPT2813A
5506	2220	LDR	EQFLIP	IF RIGHT HALF	CPT2814A
507	6203	PJR	TOPACK		CPT2815A
5510	7100	JPR	EQUAM	CHECK FOR ADDITIVE	CPT2816A
5511	5346				CPT2817A
512	7100	TOPACK	JPR	PACK IDENTIFIER	CPT2818A
5513	0005		(TOBKQ		CPT2819A
5514	0011		PACKID	AND SEARCH FOR PREVIOUS USE	CPT2820A
515	7100	JPR	(TOBKQ		CPT2821A
5516	0005				CPT2822A
5517	0017		LSTSPY		CPT2823A
520	6023	ZJR	EQUOK	ZERO MEANS FIRST OCCURENCE	CPT2824A
5521	0705	SBN	5	FORMAL PARAMETER TEST	CPT2825A
22	6211	PJR	EQEXIT		CPT2826A
523	2203	LDR	EQFLIP	CANNOT HAVE BEEN PREVIOUSLY	CPT2827A
5524	6307	NJR	EQEXIT	DEFINED IF RIGHT HALF	CPT2828A
5525	6220	PJR	EQUOK		CPT2829A
526	2525	EQFLIP	2525	FLIP-FLOP, + FOR LEFT OF PAIR	CPT2830A
5527	0000	LSTCHR		LOCATION OF LAST CHARACTER	CPT2831A
5530	0000	EQBANK		EQUIVALENCED ADDRESS	CPT2832A
531	3560	EQLOOP	SBI	NEXT CHARACTER MUST BE , OR (	CPT2833A
5532	6437	ZJR	L(CHI)		CPT2834A
5533	2305	EQEXIT	LDR	IF ERROR, THE FLIP FLOP	CPT2835A
534	6202	PJR	2	MUST BE RESET TO	CPT2836A
5535	4707	SRR	EQFLIP	STARTING POSTION	CPT2837A
5536	4100	STM	EQUFLP		CPT2838A
537	1056				CPT2839A
5540	0467	LDN	EQERR	ERROR IN EQUIVALENCE	CPT2840A
5541	7101	JFI	1		CPT2841A
542	0536		L(TILT		CPT2842A
5543	7100	EQUOK	JPR	MAKE APPROPRIATE ENTRY	CPT2843A
5544	4204		MATCHK		CPT2844A
545	2316	LDR	LSTCHR	RIGHT HAND MEMBER	CPT2845A
5546	4060	STD	L(CHI)	MUST END WITH	CPT2846A
5547	2321	LDR	EQFLIP		CPT2847A
550	6220	PJR	DOLFT	JUMP IF LEFT HALF	CPT2848A
5551	2160	LDI	L(CHI)		CPT2849A
5552	0774	SBN	74		CPT2850A
53	6520	NZR	EQEXIT		CPT2851A
554	4726	SRR	EQFLIP		CPT2852A
5555	4100	STM	EQUFLP		CPT2853A
556	1056				CPT2854A
5557	5460	AOD	L(CHI)	FOLLOWED BY	CPT2855A
5560	3413	SBD	L(BUFL	END OF STATEMENT	CPT2856A
561	6033	ZJR	EQOUT		CPT2857A

5562	2160	LDI	L(CHI)		CPT2851
5563	0733	SBN	33	OR,	CPT2852
5564	6531	NZR	EQEXIT		CPT2853
5565	5460	AOD	L(CHI)	FOLLOWED BY	CPT2854
5566	0434	LDN	34		CPT2855
5567	6536	NZR	EQLOOP	(	CPT2856
5570	2065	DOLFT	LDD	LOC(BK	CPT2857
5571	4201	STF	1	NOW PROCESSING LEFT HALF	CPT2858
5572	0027	SIC7		OF EQUIVALENCE	CPT2859
5573	2166	LDI	LOC(ID	SWITCH TO IDLIST BANK	CPT2860
5574	0207	LPN	7		CPT2861
5575	4345	STR	EQBANK	FETCH OBJECT CODE BASE ADDRESS	CPT2862
5576	5466	AOD	LOC(ID	AND SAVE IT	CPT2863
5577	2166	LDI	LOC(ID		CPT2864
5600	4100	STM	EQUADD		CPT2865
5601	5454				
5602	0021	SIC1			CPT2866
5603	7100	JPR	EQNUM	CHECK FOR ADDITIVE	CPT2867
5604	5346				
5605	2356	LDR	LSTCHR		CPT2868
5606	4060	STD	L(CHI)	RESTORE END OF LEFT HALF	CPT2869
5607	4761	SRR	EQFLIP		CPT2870
5610	4100	STM	EQUFLP		CPT2871
5611	1056				
5612	0433	LDN	33	NEXT CHARACTER MUST BE ,	CPT2872
5613	6562	NZR	EQLOOP		CPT2873
5614	2012	EQOUT	LDD	DIMSW	CPT2874
5615	6003	ZJF	3	ARE THERE DIMENSIONED VARIABLES	CPT2875
5616	7101	JFI	1	YES, GO PROCESS THEM	CPT2876
5617	3523		MATBEG =1		CPT2877
5620	7101	JFI	1	NO, EXIT	CPT2878
5621	3756		RESTOR		CPT2879
5622	0400	(BEGN)	LDN	0	CPT2880
5623	4001	STD	LEVEL	756	CPT2881
5624	0521	LCN	21	BEGINNING OF GENERATED IDLIST	CPT2882
5625	4003	STD	LASTID		CPT2883
5626	4061	STD	L(CHAR	END OF RESIDENT IDLIST	CPT2884
5627	0504	LCN	4	SET DATEND AFTER IO AND 1	CPT2885
5630	4005	STD	DATEND		CPT2886
5631	2100	LDM	BANKS		CPT2887
5632	1034				
5633	4002	STD	LSTBNK		CPT2888
5634	0621	ADN	21		CPT2889
5635	4011	STD	MAXBNK		CPT2890
5636	0701	SBN	1		CPT2891
5637	4244	STF	SICIDL	SET INDIRECT IDLIST BANK	CPT2892
5640	0021	SIC1			CPT2893
5641	3200	ADC	400		CPT2894
5642	0400				
5643	4100	STM	B(10		CPT2895
5644	4700				
5645	0720	SBN	20		CPT2896
5646	4100	STM	UPPBNK		CPT2897
5647	4763				
5650	3200	ADC	1200		CPT2898
5651	1200				
5652	4252	STF	BEGLST	12	CPT2899
5653	4255	STF	BEGLST	16	CPT2900
5654	2002	LDD	LSTBNK		CPT2901
5655	7707	SLS7		NUMBER OF BANK SUBJECT CODE	CPT2902

5656	4004	STD	B(DATL			CPT2903:	
5657	3200	ADC	200			CPT2904:	
60	0200					:	
5661	4237	STF	BEGLIST	6	VARIABLE OBJECT CODE	CPT2905:	
5662	3200	ADC	1000		AND IDLIST ADDRESSES	CPT2906:	
663	1000					:	
5664	4227	STF	BEGLIST	1	DEPENDING ON NUMBER	CPT2907:	
5665	2004	LDD	B(DATL			CPT2908:	
666	0111	LS4				CPT2909:	
5667	0110	LS3				CPT2910:	
5670	4100	STM	ARYDO	6		CPT2911:	
671	5034					:	
5672	4100	STM	ARYDO	10		CPT2912:	
5673	5036					:	
674	4100	STM	(BNK1			CPT2913:	
5675	0377					:	
5676	2200	LDC	BEGLIST			CPT2914:	
577	5712					:	
5700	4060	STD	L(CHI)			CPT2915:	
5701	0021	SIC1				CPT2916:	
702	2160	LDI	L(CHI)			CPT2917:	
5703	0027	SICIDL	SIC7		MOVE RESIDENT IDLIST	CPT2918:	
5704	4161	STI	L(CHAR		INTO PROPER LOCATIONS	CPT2919:	
705	5460	ADD	L(CHI)			CPT2920:	
5706	5461	ADD	L(CHAR			CPT2921:	
5707	6506	NZB	SICIDL	=2		CPT2922:	
710	0020	SIC0				CPT2923:	
5711	6022	ZJR	NXT***		<i>Unidentified</i>	CPT2924:	
12	3002	BEGLIST	3002		IDLIST FOR INTEGER 1	CPT2925:	
713	1200		1200			CPT2926:	
5714	7773		7773			CPT2927:	
5715	0000		0			CPT2928:	
716	0001		1			CPT2929:	
5717	3001		3001		IDLIST FOR DUMMY INDEX	CPT2930:	
5720	0200		200		FOR ARRAY I/O BY NAME	CPT2931:	
721	7775		7775			CPT2932:	
5722	7146		7146		CALLED IO	CPT2933:	
5723	2001		2001		DUMMY B=BOX(FLOATING)	CPT2934:	
724	1600		1600			CPT2935:	
5725	0003		3			CPT2936:	
5726	7763		7763			CPT2937:	
727	2001		2001		DUMMY B=BOX(FIXED)	CPT2938:	
5730	1600		1600			CPT2939:	
5731	0002		2			CPT2940:	
732	7763		7763			CPT2941:	
5733	2100	NXT***	LDM		IS FIRST RECORD FLAGGED	CPT2942:	
5734	0400					:	
735	0763	SBN	63		WITH C FOR COMMENT	CPT2943:	
5736	6104	NZF	4		NO, SO OKAY	CPT2944:	
5737	2200	LDC	PRIMER		BACK FOR NEXT RECORD	CPT2945:	
740	1036					:	
5741	0010	SRJ0			<i>Throw Away Comments</i>	CPT2946:	
5742	2200	COMM(N	LDC	COMTB	=1	INITIAL TABLE ADDRESS	CPT2947:
743	6140					:	
5744	4060	STD	L(CHI)			CPT2948:	
5745	2200	LDC	INBUFF	5	FIRST STATEMENT COLUMN	CPT2949:	
746	0405					:	
5747	4061	STD	L(CHAR			CPT2950:	
5750	0510	LCN	10			CPT2951:	
751	4300	STS			COUNTS ENTRIES IN TABLE	CPT2952:	



5752	5700	NXTLET	AOS		IS TABLE EXHAUSTED	CPT2953
5753	6032		ZJR	MAKNUM	YES, GO MAKE NUMBER	CPT2954
5754	5460		AOD	L(CHI)		CPT2955
5755	5461	INN*R	AOD	L(CHAR	IS INPUT EXHAUSTED	CPT2956
5756	3635		SBR	LASTBF		CPT2957
5757	6010		ZJR	TOSTRT	YES, AND NOT NUMERIC COMMON	CPT2958
5760	2161		LDI	L(CHAR		CPT2959
5761	0720		SBN	20		CPT2960
5762	6405		ZJR	INN*R		CPT2961
5763	0021		SIC1			CPT2962
5764	3560		SBI	L(CHI)		CPT2963
5765	0020		SIC0			CPT2964
5766	6414		ZJR	NXTLET		CPT2965
5767	2200	TOSTRT	LDC	(BEGN) 7		CPT2966
5770	5631					
5771	4006		STD	L(PROC		CPT2967
5772	2200		LDC	100		CPT2968
5773	0100					
5774	4010		STD	OUT		CPT2969
5775	2200		LDC	INBUFF		CPT2970
5776	0400					
5777	4007		STD	NBUFBG		CPT2971
6000	0406		LDN	6	ACT AS THOUGH END (SIXTH IN LIST)	CPT2972
6001	4100		STM	TYPFOR	WERE LAST STATEMENT ENCOUNTERED	CPT2973
6002	1324					
6003	7101		JFI	1		CPT2974
6004	1132			NXTSPG ←		CPT2975
6005	5461	MAKNUM	AOD	L(CHAR	SET BEGINNING OF NUMBER	CPT2976
6006	2060		LDD	L(CHI)		CPT2977
6007	4067		STD	IDBEG		CPT2978
6010	6102		NZF	2	SKIP OVER NEXT INSTRUCTION	CPT2979
6011	5461	NXTNUM	AOD	L(CHAR	INCREASE FETCHER	CPT2980
6012	3600		SBF	0	IS BUFFER EXHAUSTED	CPT2981
6013	0472	LASTBF		INBUFF 72		CPT2982
6014	6103		NZF	3	NO, SO OKAY	CPT2983
6015	0446		LDN	COMMON	YES, SO ERROR	CPT2984
6016	6113		NZR	TOTILT		CPT2985
6017	0020		SIC0			CPT2986
6020	2161		LDI	L(CHAR	IS NEXT CHARACTER	CPT2987
6021	0021		SIC1			CPT2988
6022	0720		SBN	20	BLANK	CPT2989
6023	6412		ZJR	NXTNUM	YES, SKIP IT	CPT2990
6024	0754		SBN	54		CPT2991
6025	6012		ZJR	)FOUND		CPT2992
6026	0661		ADN	61	NUMERIC	CPT2993
6027	6304		NJR	STONUM		CPT2994
6030	0425		LDN	VILLEG	NO, SO ILLEGAL	CPT2995
6031	7101	TOTILT	JFI	1		CPT2996
6032	0536			L(TILT		CPT2997
6033	0613	STONUM	ADN	13	SQUEEZE CHARACTERS TOGETHER	CPT2998
6034	4160		STI	L(CHI)	INCREASE STORER	CPT2999
6035	5460		AOD	L(CHI)		CPT3000
6036	6525		NZR	NXTNUM		CPT3001
6037	0501	)FOUND	LCN	1		CPT3002
6040	4000		STD	SWBOOL		CPT3003
6041	7100		JPR	(TOBKQ	CONVERT THE INTEGER	CPT3004
6042	0005					CPT3005
6043	0021			VNUMON		CPT3006
6044	2032	RET+RN	LDD	NTEMP1	CHANGE NUMBER FROM 11-11	CPT3007
6045	0201		LPN	1	TO 3-12 BIT	CPT3008

0046	6005	ZJR	HOWBIG	
0047	2200	LDC	4000	
0050	4000			
0051	1433	SCD	NTEMP2	
0052	4036	STD	NTEMP2	
0053	2033	HOWBIG	LDD	NTEMP2
0054	6111	NZR	BANKNO	
0055	0021	SIC1		
0056	4100	STM	COMDAT	
0057	1130			
0060	2032	LDD	NTEMP1	
0061	6104	NZR	BANKNO	
0062	4100	STM	COMBNK	
0063	1127			
0064	6033	ZJR	ALWAYS	
0065	2432	BANKNO	LDC	NTEMP1
0066	0114	RS1		
0067	5004	RAD	B(DATL	
0070	6203	PJF	3	
0071	0411	LDN	OVDATA	
0072	6541	NZR	TOTILT	
0073	2433	LDC	NTEMP2	
0074	3005	ADD	DATEND	
0075	4300	STS		
0076	1433	SCD	NTEMP2	
0077	0201	LPN	1	
0080	6107	NZR	LOADSP	
0081	0501	LCN	1	
0082	5004	RAD	B(DATL	
0083	5700	AOS		
0084	6103	NZR	LOADSP	
0085	0500	LCN	0	
0086	6102	NZF	2	
0087	2300	LOADSP	LDS	
0088	4005	STD	DATEND	
0089	0021	SIC1		
0090	4100	STM	COMDAT	
0091	1130			
0092	2004	LDD	B(DATL	
0093	4100	STM	COMBNK	
0094	1127			
0095	2200	ALWAYS	LDF	0
0096	6101	NZF	1	
0097	4100	STM	ONLY1	
0098	5240			
0099	2214	LDF	COMTB	=2
0100	4100	STM	(BEGN)	
0101	5622			
0102	2200	LDC	NXT***	
0103	5733			
0104	4100	STM	(BEGN)	1
0105	5623			
0106	2200	LDC	SZETST	
0107	5177			
0108	4100	STM	WUNCE	1
0109	5176			
0110	0020	SIC0		
0111	7101	JFI	1	
0112	5737	NXT***	4	
0113	0043	COMTB	43	

IF ZERO COMMON.

STORE 0 AS COMMON END

REDUCE BANKS IF NECESSARY

ERROR IF MORE STORAGE THAN AVAILABLE

CHECK TO ENSURE  
THAT END OF COMMON ADDRESS  
IS PROPER

CORRECT END OF DATA

PLUG UP COMMON BOUNDS COMPUTATION

CPT30061  
CPT30071  
:  
CPT30081  
CPT30091  
CPT30101  
CPT30111  
CPT30121  
CPT30131  
:  
CPT30141  
CPT30151  
CPT30161  
:  
CPT30171  
CPT30181  
CPT30191  
CPT30201  
CPT30211  
CPT30221  
CPT30231  
CPT30241  
CPT30251  
CPT30261  
CPT30271  
CPT30281  
CPT30291  
CPT30301  
CPT30311  
CPT30321  
CPT30331  
CPT30341  
CPT30351  
CPT30361  
CPT30371  
CPT30381  
CPT30391  
:  
CPT30401  
CPT30411  
:  
CPT30421  
CPT30431  
CPT30441  
:  
CPT30451  
CPT30461  
:  
CPT30471  
:  
CPT30481  
:  
CPT30491  
:  
CPT30501  
:  
CPT30511  
CPT30521  
CPT30531  
CPT30541

6142	0026			26	O-20
6143	0024			24	M-20
6144	0024			24	M-20
6145	0026			26	O-20
6146	0025			25	N-20
6147	0014			14	C-20
0451	L(FR)	EQU	L(CO)		
1034	BANKS	EQU	I/OTBL	+180	
0077	ERRLIM	EQU	77		
0236	SYMBOL	EQU	L(FU)		
0000		END			

CPT3051 )  
 CPT3056 )  
 CPT3057 )  
 CPT305 )  
 CPT3059 )  
 CPT3060 )  
 CPT3061 )  
 CPT3062 )  
 CPT3063 )  
 CPT3064 )  
 CPT3065 )

SUPB  
REM  
ORG

1036

PASS 1 PART 3 BANK 0 BOOLEAN CHANGES 24 SEPT 63

BNK0  
CON 1

CON 0  
REM

1036  
0000 \*\*\*\*\*  
0000  
0001  
0001 0000 NOTKNO  
0002 0000 LONGID  
0003 0000 TOOBIG  
0004 0000 NOTLEG  
0005 0000 MACHER  
0006 0000 SPACE  
0007 0000 SUBERR  
0010 0000 JAM\*  
0011 0000 OVDATA  
0012 0000 NOSTAT  
0013 0000 FMTPRN  
0014 0000 STADUP  
0015 0000 FMTLBL  
0016 0000 INDXER  
0017 0000 DOFORM  
0020 0000 NONEST  
0021 0000 NOCNDO  
0022 0000 PAUSTO  
0023 0000 NOTIMP  
0024 0000 VERMAG  
0025 0000 VILLEG  
0026 0000 VOFLAG  
0027 0000 COMPER  
0030 0000 DBLPWR  
0031 0000 LEADOP  
0032 0000 DBLOPR  
0033 0000 TRLOPR  
0034 0000 UNEQPR  
0035 0000 DELVAR  
0036 0000 NOMRER  
0037 0000 NMRLST  
0040 0000 BADCMA  
0041 0000 XTRDIM  
0042 0000 MATNAM  
0043 0000 DIM()  
0044 0000 SYMDIM  
0045 0000 DIMEN4  
0046 0000 COMMON  
0047 0000 SUBPRG  
0050 0000 LIST()  
0051 0000 TAPLBL  
0052 0000 IFERR  
0053 0000 SNSERR  
0054 0000 NEED,  
0055 0000 COMPGO  
0056 0000 CALFRM  
0057 0000 NOEND  
0060 0000 EXP=  
0061 0000 DUPFRM  
0062 0000 COMERR  
0063 0000 ALPLBL  
0000  
000 0000 SWBOOL

CR00000:  
CR00001:  
CR00002:  
CR00003:  
CR00004:  
CR00005:  
CR00006:  
CR00007:  
CR00008:  
CR00009:  
CR00010:  
CR00011:  
CR00012:  
CR00013:  
CR00014:  
CR00015:  
CR00016:  
CR00017:  
CR00018:  
CR00019:  
CR00020:  
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CR00056:  
CR00057:  
EQU TABLE FOR TILT FLAGS  
UNKNOWN ERROR, MAYBE MACHINE  
TOO MANY CHARACTERS IN IDENTIFIER  
STATEMENT TOO BIG FOR AVAILABLE AREA  
ILLEGAL BOD SYMBOL  
PROBABLE MACHINE ERROR  
PROGRAM TOO LONG  
SOME ERROR IN FORMAT OF SUBSCRIPT EXPRESSION  
TOO MUCH DATA  
IMPROPER LABEL FIELD  
FORMAT PARENS ERROR  
PREVIOUS ASSIGNMENT OF LABEL  
NO FORMAT STATEMENT LABEL  
I=M1, M2, M3 FAULT  
ERROR IN LABEL IN DO STATEMENT  
DO-NEST ERROR  
STATEMENT TYPE NOT IMPLEMENTED  
ERROR IN FORM OF PAUSE OR STOP  
STATEMENT TYPE NOT IMPLEMENTED  
ERROR IN MAGNITUDE  
ILLEGITIMATE CHARACTER IN NUMERIC FIELD  
FAULTY OCTAL FIELD  
MORE SUBSCRIPTS THAN DIMENSIONED  
IMPROPER ARRAY NAME  
MISSING DIMENSION PARENTHESIS  
MUST HAVE NUMERIC DIMENSION  
MORE THAN THREE DIMENSION  
ERROR IN COMMON STATEMENT  
INCORRECT SUBROUTINE FORMAT  
IMPROPER CHARACTER IN I/O LIST  
IMPROPER MAGNETIC TAPE LABEL  
MISSING ) IN IF STATEMENT  
MISSING SENSE SWITCH NUMBER  
MISSING , IN IF STATEMENT  
SHOULD BE COMMA OR RIGHT PARENS  
MISSING ) IN CALL STATEMENT  
NO END BEFORE SUBROUTINE  
ALGEBRAIC EXPRESSION LEFT OF =  
DUPLICATE FORMAT STATEMENT  
MISPLACED COMMON STATEMENT  
FLOATING NAME IN FORMAT LABEL  
PERMANENT LOW CORE  
BOOLEAN SWITCH

00108

0001	0001	LEVEL		1	NUMBER IN SEQUENCE OF CURRENT SUBPROGRAM	0000058
0002	0001	LSTBNK		1	BANK OF LAST IDENTIFIER LIST ENTRY	0000059
0003	7776	LASTID		7776	RELATIVE LOCATION OF LAST IDLIST ENTRY	0000060
0004	0001	B(DATL		1	BANK OF LAST ASSIGNED OBJECT CODE DATA SLOC	0000061
0005	7776	DATEND		7776	LAST OBJECT CODE RELATIVE DATA ADDRESS	0000062
0006	0000	L(PROC			LOCATION OF BEGINNING OF PROCESSING AREA	0000063
	0400	NBUFBG		400	BEGINNING OF INPUT BUFFER	0000064
	0100	OUT		100	COUNTS CURRENT LOCATION IN OUTPUT BUFFER	0000065
	0022	MAXBNK		22	SIGN COMMAND WHERE N= NUMBER OF BANKS	0000066
	0000	DIMSW				0000067
	0012	IDI(J) EQU	DIMSW			0000068
		REM			TEMPORARY LOW CORE	0000069
	0000	L(BUFL			LAST WORD +1 OF PROCESSING BUFFER	0000070
	0000	IDI	BSS	6		0000071
	0000	F	BSS	6		0000072
	0027	N(PRAM	EQU	F	5	0000073
	0000	ADTVE				0000074
	0000	ADTVE1				0000075
0031	0000	IDEN	BSS	80		0000076
0032	0032	NTEMP1	EQU	IDEN		0000077
	0033	NTEMP2	EQU	IDEN	+1	0000078
	0034	NTEMP3	EQU	IDEN	+2	0000079
	0032	BUFEND	EQU	NTEMP1		0000080
	0041	NOTINT	EQU	IDEN	+7	0000081
0042	0000	F(J)				0000082
0043	0000	NUMWRD				0000083
	0043	MATRIX	EQU	NUMWRD		0000084
0044	0000	NUMDIM				0000085
0045	0000	((((((				0000086
0046	0000	M1				0000087
0047	0000	M2				0000088
0050	0000	DINUSE				0000089
0051	0000	PSUJPR				0000090
	0051	M3WORD	EQU	PSUJPR		0000091
0052	0000	BUFCNT				0000092
0053	0000	L(D1HI				0000093
0054	0000	L(D1LO				0000094
0055	0000	L(D2HI				0000095
0056	0000	L(D2LO				0000096
0057	0000	LASTRX				0000097
	0057	ADDSUB	EQU	LASTRX		0000098
0060	0000	L(CH1)				0000099
0061	0000	L(CHAR				000100
0062	0000	MATHST				000101
0063	0000	LSTLNG				000102
	0063	ORDTYP	EQU	LSTLNG		000103
0064	0000	LSTTYP				000104
0065	0000	LOC(BK				000105
0066	0000	LOC(ID				000106
0067	0032	IDBEG		IDEN		000107
	0067	LETREG	EQU	IDBEG		000108
	0067	NUMREG	EQU	IDBEG		000109
0070	0000	LETEND				000110
	0070	ID*END	EQU	LETEND		000111
0071	0000	OP	BSS	2		000112
	0071	OPJ	EQU	OP		000113
	0071	L(ID)	EQU	OP		000114
	0071	NXTNAM	EQU	OP		000115
	0071	PRAMBL	EQU	OP		000116
	0072	NAMBEG	EQU	OP		000117

BSS 7 FOR FIRST PART OF IDLIST ENTRY

00109

0073	0000	ACCJ	RSS	2
	0073	TYPMSK	EQU	ACCJ
	0074	VINSIG	EQU	74
0075	0000	VEX		
0076	0000	LOC(.)		
077	0000	LOC(E)		
	0000	FSTCHR	EQU	SWROOL
	0076	WDIGCT	EQU	LOC(.)
	0077	STORD	EQU	LOC(E)
	0032	ACC	EQU	NTEMP1
	0032	WHI	EQU	ACC
	0033	WLO	EQU	ACC
	0014	TYPECA	EQU	14
	0014		CON	14
			REM	

USED IN NUMERIC CONVERSION  
FLOATING CONVERSION IN

INTEGER CONVERSION IN DIGIT COUNTER  
USED IN NUMERIC CONVERSION IN

INTEGER CONVERSION IN  
INTEGER CONVERSION IN  
IDLIST TYPE FOR CALL SUBPROGRAM

LEVEL A LOCATIONS

0014	0000	ACCN		
0015	0000	BCOMAS		
016	0000	BEND		
0017	0000	BENDSW		
0020	0000	BFUNSW		
021	0000	BINDSW		
0022	7000	BINIT		7000
0023	0000	BINITA		
024	0000	BINITC		
0025	0000	BLODSW		
0026	0000	BMDSAV		
027	0000	BMDSV1		
030	0000	BMODE		
31	0000	BNOWDS		
032	0000	BNSW		
0033	0000	BOPTST		
0034	0000	BRTPAR		
035	0000	BSCNLC		
0036	0000	BSTOSW		
0037	0000	BSTRSW		
040	0000	BTEMP1		
0041	0000	BTEMP2		
0042	0000	BTRMNL		
043	0000	BTRMOP		
0044	7500	BOPLST		7500
0045	7600	BOXLST		7600

REM

KEEP THE NEXT 4 CARDS ORDERED

1  
2  
3  
4

0046	0000	BWORD1		
0047	0000	BWORD2		
050	0000	BWORD3		
0051	0000	BWORD4		
0052	0000	BOPEST		
053	0000	ERSBIT		
0054	0000	ERSLOC		
0055	0000	FORBAK		
056	0000	LRASE		

REM

LEVEL B LOCATIONS

0057	0000	**OPT		
060	0000	ACCTYP		
061	0000	BH3SW		
0062	0000	BOPLC		
063	0000	BOPRSV		
0064	0000	BOPRTR		
0065	0000	BPWRSW		

REM

LEVEL C LOCATIONS

00110

CR00118:  
CR00119:  
CR00120:  
CR00121:  
CR00122:  
CR00123:  
CR00124:  
CR00125:  
CR00126:  
CR00127:  
CR00128:  
CR00129:  
CR00130:  
CR00131:  
CR00132:  
CR00133:  
CR00134:  
CR00135:  
CR00136:  
CR00137:  
CR00138:  
CR00139:  
CR00140:  
CR00141:  
CR00142:  
CR00143:  
CR00144:  
CR00145:  
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CR00151:  
CR00152:  
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CR00160:  
CR00161:  
CR00162:  
CR00163:  
CR00164:  
CR00165:  
CR00166:  
CR00167:  
CR00168:  
CR00169:  
CR00170:  
CR00171:  
CR00172:  
CR00173:  
CR00174:  
CR00175:  
CR00176:  
CR00177:

0066	0000	BLEVC1		
0067	0000	BLEVC2		
0070	0000	BLEVC3		
0071	0000	BLEVC4		
0072	0000	BLEVC5		
0073	0000	BLEVC6		
0074	0000	BLEVC7		
0075	0000	BLEVC8		
0076	0000	BLEVC9		
0077	0000	BLVC10		
	0000	ORG	0	
0066	B+SW	EQU	BLEVC1	
0067	B*/SW	EQU	BLEVC2	
0070	B/COUNT	EQU	BLEVC3	
0071	BH2SW	EQU	BLEVC4	
0072	BINITB	EQU	BLEVC5	
0073	BPARSW	EQU	BLEVC6	
0064	BPRMD	EQU	BOPRTR	
0074	BSAVE1	EQU	BLEVC7	
0075	BSAVE2	EQU	BLEVC8	
0075	BTEMP3	EQU	BLEVC8	
0066	BVARCD	EQU	BLEVC1	
0076	FRSTOP	EQU	BLEVC9	
0077	BH23SW	EQU	BLVC10	
		REM		
0066	BANK	EQU	BLEVC1	
0070	BMDSW	EQU	BLEVC3	
0071	BOPRLS	EQU	BLEVC4	
0073	BOXSW	EQU	BLEVC6	
0074	BVARTP	EQU	BLEVC7	
0075	BWRONG	EQU	BLEVC8	
0076	BSAVOP	EQU	BLEVC9	
0076	BINDLC	EQU	BLEVC9	
		REM		
0066	BFIRSW	EQU	BLEVC1	
0067	BOPRSW	EQU	BLEVC2	
0070	BPRCNT	EQU	BLEVC3	
0071	BVARSW	EQU	BLEVC4	
		REM		
0061	LODFLG	EQU	BH3SW	
0000	B(Z)	EQU	0	
0001	A(Z)	EQU	1	
0005	(TORBO	EQU	5	
0002	(FHBKO	EQU	2	
0254	INSTR	EQU	254	
0024		CON	200	
0024	(BEGN)			
0025	FORMAT			
0026	L(CON)			
0027	SYMBOL			
0030	(OCTAL			
0031	COEXIT			
0012	CMNVEC	EQU	12	
0100		ORG	100	
0100	OUTBUF	BSS	800	
0220	BINARY	BSS	160	
0400	INBUFF	BSS	1200	
0570	READST	BSS	222	
1012	I/OTBL	BSS	24	
1036		ORG	1036	

LEVEL D LOCATIONS

BSS 2

LEVEL E LOCATIONS

LEVEL F LOCATIONS

BINARY TAPE ROUTINE

BCD SOURCE INPUT ROUTINE

TABLE OF INPUT/OUTPUT EQUIPMENT

00111

CR0017  
CR00179:  
CR00180  
CR0018  
CR001828  
CR00183  
CR0018  
CR00185:  
CR00186  
CR0018  
CR001888  
CR00189  
CR0019  
CR001918  
CR00192  
CR00193  
CR001948  
CR00195  
CR00196  
CR001978  
CR00198  
CR00199  
CR00200:  
CR00201  
CR00202  
CR00203:  
CR00204  
CR00205  
CR0020  
CR0020,  
CR00208  
CR00209:  
CR00210  
CR00211  
CR002128  
CR00213  
CR00214  
CR002150  
CR00216  
CR00217  
CR002188  
CR00219  
CR00220  
CR00221:  
CR00222  
CR00223  
CR00224  
CR00225  
CR00226  
CR00227:  
CR00228  
CR00229  
CR00230:  
CR0023  
CR0023  
CR002338  
CR00234  
CR00235  
CR00236:  
CR00237

1036	7100	PRIMER	JPR	READST	READ A RECORD	CR00238:
1037	0570					CR00239:
40	0424		LDN	(BEGN)		CR00240:
1041	7101		JFI	1	GO TO TRANSFER VECTOR	CR00241:
1042	7660			BNK1VC	FROM BANK0 TO BANK1	CR00242:
1043	2107	NXTSTT	LDI	NBUF8G	FIRST COLUMN CHARACTER	CR00243:
1044	0762		SBN	62	MINUS 8	CR00244:
1045	4000		STD	RSTCHR	GOES TO LOW CORE	CR00245:
1046	0505		LCN	5	MOVE FIRST FIVE CHARACTERS	CR00246:
1047	4300		STS		FROM INPUT BUFFER	CR00247:
1050	3006		ADD	L(PROC	INTO PROCESSING AREA	CR00248:
1051	4013		STD	L(BUFL		CR00249:
1052	2007		LDD	NBUF8G		CR00250:
1053	4060		STD	L(CHI)		CR00251:
1054	3200		ADC	72D		CR00252:
1055	0110					CR00253:
1056	4032		STD	BUFEND		CR00254:
1057	2160	SAVFST	LDI	L(CHI)		CR00255:
1060	0021		SIC1			CR00256:
1061	4113		STI	L(BUFL		CR00257:
1062	5413		ADD	L(BUFL		CR00258:
1063	5460		ADD	L(CHI)		CR00259:
1064	0020		SIC0			CR00260:
1065	5700		AOS			CR00261:
1066	6507		NZR	SAVFST		CR00262:
1067	5460		ADD	L(CHI)	BYPASS CONTINUATION COLUMN	CR00263:
1070	4061		STD	L(CHAR		CR00264:
1071	2200		LDF	0	PLACE THIS	CR00265:
1072	3615		SBF	N(FMT) -NXTFMT	TABLE INITIALIZATION COMMAND	CR00266:
1073	4204		STF	NXTFMT		CR00267:
1074	2160	NXTCHR	LDI	L(CHI)	IS NEXT CHARACTER	CR00268:
1075	0720		SBN	20	BLANK	CR00269:
1076	6051		ZJF	NXTINC	YES, GO TO INCREMENTATION	CR00270:
1077	0000	NXTFMT			IS IT NEXT LETTER IN F O R M A T	CR00271:
1100	6160		NZR	MOVBUF	NO, SO NOT FORMAT STATEMENT	CR00272:
101	5702		AGR	NXTFMT	READY NEXT CRITERION LETTER	CR00273:
1102	3600		SBF	0	HAS COMPLETE	CR00274:
1103	3623		SBF	LOADST -NXTFMT	WORD BEEN SPELLED	CR00275:
104	6143		NZR	NXTINC	YES, FIX BLANK ELIMINATOR	CR00276:
1105	0403	MODMOV	LDN	3	ELIMINATE BLANK	CR00277:
1106	5257		RAR	NOBLNK	SUPPRESSION	CR00278:
107	4200		STF	0		CR00279:
1110	0000	L(FORM			NON-ZERO IF FORMAT EXISTS	CR00280:
1111	2060		LDD	L(CHI)	FIRST MOVE IS T IN FORMAT	CR00281:
1012	4061		STD	L(CHAR		CR00282:
1113	6145		NZF	MOVBUF		CR00283:
1114	0046	N(FMT)		46	F-BLANK	CR00284:
1015	0026			26	O-BLANK	CR00285:
1116	0031			31	R-BLANK	CR00286:
1117	0024			24	M-BLANK	CR00287:
1020	0041			41	A-BLANK	CR00288:
1121	0003			3	T-BLANK	CR00289:
1122	7100	LOADST	JPR	READST	READ ANOTHER RECORD	CR00290:
103	0570					CR00291:
1024	2107		LDI	NBUF8G	IS IT FLAGGED	CR00292:
1125	0763		SBN	63	WITH C FOR COMMENT	CR00293:
1026	6404		ZJR	LOADST	YES, TRY AGAIN	CR00294:
1127	2007		LDD	NBUF8G	SET BEGINNING	CR00295:
1130	0605		ADN	5		CR00296:
1031	4061		STD	L(CHAR	OF INPUT BUFFER	CR00297:



1132	2161	LDI	L(CHAR	IS COLUMN 6 BLANK	CR00295
1133	0720	SBN	20		CR00296
1134	6003	ZJF	3		CR00297
1135	0606	ADN	6	OR ZERO	CR00298
1136	6117	NZR	MOVBF	NO, SO CONTINUATION	CR00299
1137	2226	LDI	NOBLNK		CR00300
1140	0201	LPN	1	IS FORMAT STATEMENT IN PROCESS	CR00301
1141	6036	ZJR	NEWST	NO, GO TO JUMPER	CR00302
1142	0503	LCN	3	YES, RESTORE BLANK SUPPRESSION	CR00303
1143	5222	RAR	NOBLNK		CR00304
1144	0425	LDN	FORMAT		CR00305
1145	7101	JFI	1	GO TO TRANSFER VECTOR	CR00306
1146	7660		BNK1VC	FROM BANK0 TO BANK1	CR00307
1147	5460	NXTINC	AOD	NO, READY NEXT CHARACTER	CR00308
1150	3432	SBD	BUFEND	IS BUFFER EXHAUSTED	CR00309
1151	6555	NZR	NXTCHR	NO, BACK FOR NEXT CHARACTER	CR00310
1152	5413	AOD	L(BUFL	NEXT STORE ADDRESS	CR00311
1153	3403	SBD	LASTID	IS IDLIST ENCROACHED UPON	CR00312
1154	6013	ZJR	OFLTST	0 MEANS MAYBE	CR00313
1155	5461	MOVBF	AOD	NEXT CHARACTER	CR00314
1156	3432	SBD	BUFEND	IS INPUT BUFFER EXHAUSTED	CR00315
1157	6435	ZJR	LOADST	YES, BACK FOR NEXT READ	CR00316
1160	2161	NOVBUF	LDI	MOVE NEXT CHARACTER	CR00317
1161	0021		SIC1		CR00318
1162	4113		STI	INTO PROCESSING AREA	CR00319
1163	0020		SIC0		CR00320
1164	0720		SBN	BLANK	CR00321
1165	6410	NOBLNK	ZJR	IGNORE IT UNLESS IN FORMAT	CR00322
1166	6514		NZR		CR00323
1167	2002	OFLTST	LDD	IF LIST BANK IS 1	CR00324
1170	0701		SBN		CR00325
1171	6514		NZB		CR00326
1172	7700	OFLOW	HLT	STOP SINCE OVERFLOW	CR00327
1173	7101		JFI	FORBIDS PROGRESS	CR00328
1174	7720			GO TO MAP MAKER	CR00329
1175	7101	TOALG	JFI	GO TO ALGEBRAIC PROCESSOR	CR00330
1176	3744				CR00331
1177	2100	NEWSTT	LDM		CR00332
1200	1324				
1201	4200		STF	SAVE LAST STATEMENT TYPE	CR00333
1202	0000	TYPE=1			CR00334
1203	2006		LDD	SET BEGINNING OF BUFFER	CR00335
1204	4061		STD	I=1	CR00336
1205	0021		SIC1		CR00337
1206	0706		SBN	SET BEGINNING OF CHARACTERS	CR00338
1207	4060		STD	J=0	CR00339
1210	0420		LDN		CR00340
1211	4113		STI	PUR BLANK AFTER LAST CHARACTER	CR00341
1212	5460	Q,STNO	AOD	J=J+1	CR00342
1213	3461		SBD	HAS LAST CHARACTER BEEN PROCESSED	CR00343
1214	6015		ZJR	YES, GO TO EQUALS SEARCH	CR00344
1215	2160		LDI	NO, IS CHARACTER J	CR00345
1216	0712		SBN	ZERO	CR00346
1217	6405		ZJR		CR00347
1220	0706		SBN	OR BLANK	CR00348
1221	6407		ZJR	YES, TRY NEXT CHARACTER	CR00349
1222	7100		JPR	NO, GO TO STATEMENT NUMBER PROCESSOR	CR00350
1223	4021				
1224	2006		LDD		CR00351
1225	4061		STD		CR00352

1226	5461	FIND=	AOD	L(CHAR	I=I+1	CR00353:	
1227	3413		SBD	L(BUFL	END OF CHARACTERS	CR00354:	
1230	6030		ZJF	TYPFR	ZERO MEANS NOT ALGEBRA, FORMAT, OR DO	CR00355:	
1231	2161		LDI	L(CHAR	IS CHAR(I)	CR00356:	
1232	0713		SBN	13	AND SIGN	CR00357:	
1233	6505		NZR	FIND=	NO, TRY AGAIN	CR00358:	
1234	4270		STF	TYPFOR	ZERO TYPE FOR ARITHMETIC	CR00359:	
1235	4200		STF	0	SET PARENS COUNT ZERO	CR00360:	
1236	0000	PARENS		0		CR00361:	
1237	5461		AOD	L(CHAR	I=I+1	CR00362:	
1240	3413		SBD	L(BUFL	END OF CHARACTERS	CR00363:	
1241	6444		ZJB	TOALG	YES, MUST BE ALGEBRAIC	CR00364:	
1242	2161		LDI	L(CHAR	IS CHAR(I)	CR00365:	
1243	0734		SBN	34	A	CR00366:	
1244	6103		NZF	3	NO, JUMP AHEAD	CR00367:	
1245	5707		AOB	PARENS	YES, INCREASE PARENS	CR00368:	
1246	6607		PJB	PARENS	COUNTER AND GO BACK	CR00369:	
1247	0740		SBN	40	IS CHAR (I) A	CR00370:	
1250	6104		NZF	4	NO, JUMP AHEAD	CR00371:	
1251	0401		LDN	1	YES, DECREASE PARENS	CR00372:	
1252	5314		RAB	PARENS	COUNTER AND GO BACK	CR00373:	
1253	6614		PJB	PARENS		CR00374:	
1254	0641		ADN	41	IS CHAR(I) A ,	CR00375:	
1255	6516		NZB	PARENS	NO, GO BACK	CR00376:	
1256	2320		LDB	PARENS	YES, IS , WITHIN PARENS	CR00377:	
1257	6562		NZB	TOALG	YES, ALGEBRAIC STATEMENT	CR00378:	
1260	2006	TYPFR	LDD	L(PROC		CR00379:	
1261	4061		STD	L(CHAR	I=1	CR00380:	
1262	2161	TYPTRY	LDI	L(CHAR	FIND FIRST	CR00381:	
1263	0111		LS6		NON-NUMERIC	CR00382:	
1264	4237		STF	PAIR	CHARACTER	CR00383:	
1265	5461		AOD	L(CHAR	PACK WITH NEXT	CR00384:	
1266	2161		LDI	L(CHAR	CHARACTER	CR00385:	
1267	5234		RAF	PAIR		CR00386:	
1270	2200		LDF	0	INITIALIZE	CR00387:	
1271	3604	LDUMMY	SBF	4	LOCATER	CR00388:	
1272	4202		STF	LOCATR		CR00389:	
1273	2230		LDF	PAIR	SEARCH	CR00390:	
1274	3604	LOCATR	SBF	4	RECTOR OF NAME FOR	CR00391:	
1275	6030		ZJF	UREKA	A MATCH	CR00392:	
1276	5702		AOB	LOCATR	OH, WELL, TRY AGAIN	CR00393:	
1277	6604		PJB	LOCATR	-1	CR00394:	
1300	7166		BCD	2	IF	ALL LEGITIMATE	CR00395:
1301	6122		BCD	2	AS	COMBINATIONS	CR00396:
1302	6746		BCD	2	GO	OF FIRST TWO	CR00397:
1303	4761		BCD	2	PA	LETTERS	CR00398:
1304	2223		BCD	2	ST	FOR FORTRAN	CR00399:
1305	6346		BCD	2	CO	STATEMENT	CR00400:
1306	6545		BCD	2	EN	TYPES OTHER THAN	CR00401:
1307	6361		BCD	2	CA	FORMAT, DO, AND	CR00402:
1310	2224		BCD	2	SU	ALGEBRAIC	CR00403:
1311	6624		BCD	2	FU	AT LEAST ALL THE	CR00404:
1312	6471		BCD	2	DI		CR00405:
1313	6550		BCD	2	EQ		CR00406:
1314	6651		BCD	2	FR		CR00407:
1315	6446		BCD	2	DO		CR00408:
1316	5165		BCD	2	RE	COMBINATIONS	CR00409:
1317	4724		BCD	2	PU	THIS COMPILER	CR00410:
1320	4751		BCD	2	PR	WILL PROCESS	CR00411:
1321	2651		BCD	2	WR		CR00412:

1322	6261		BCD	2	BA		CR00413
1323	7700	PAIR	HLT		THIS ENSURES SUCCESS.		CR00414
1324	0000	TYPFOR			STATEMENT TYPE IN PROCESS		CR00415
1325	2331	UREKA	LDB	LOCATR.	CREATE PROPER		CR00416
1326	3735		SBR	LDUMMY	BRANCHING		CR00417
1327	4303		STB	TYPFOR			CR00418
1330	7101		JFI	1	GO TO TRANSFER VECTOR		CR00419
1331	7660			BK1VC	FROM BANK0 TO BANK1		CR00420
			REM		CLASSIFY(29 LOCATIONS) EXPECTS		CR00421
			REM		A CHARACTER IN A AT ENTRY, MAKES		CR00422
			REM		EXIT WITH TYPE OF CHARACTER IN A		CR00423
			REM		CALLING SEQUENCE, JPR L(CLAS		CR00424
1332	0720	LCLASS	SBN	20	BLANK TEST =20		CR00425
1333	6031		ZJR	LOUT	YES, GIVES ZERO AS TYPE		CR00426
1334	0605		ADN	5	NUMBERS 1-9,0 =13		CR00427
1335	6322		NJR	LNUMB	YES, GO PROCESS		CR00428
1336	0707		SBN	7	=22		CR00429
1337	6316		NJR	LSPEC	=-1		CR00430
1340	0710		SBN	10	=32		CR00431
1341	6322		NJR	LFLET	S-2		CR00432
1342	0707		SBN	7	=41		CR00433
1343	6312		NJR	LSPEC	, (e		CR00434
1344	0705		SBN	5	=46		CR00435
1345	6314		NJR	LILET	J-N		CR00436
1346	0704		SBN	4	=52		CR00437
1347	6314		NJR	LFLET	O-R		CR00438
1350	0707		SBN	7	=61		CR00439
1351	6304		NJR	LSPEC	S**		CR00440
1352	0710		SBN	10	=71		CR00441
1353	6006		ZJR	LILET	I		CR00442
1354	6307		NJR	LFLET	A-H		CR00443
1355	0401	LSPEC	LDN	1	.		CR00444
1356	6206		PJR	LOUT	SPECIAL CHARACTERS 1		CR00445
1357	0402	LNUMB	LDN	2			CR00446
1360	6204		PJR	LOUT	NUMBERS 2		CR00447
1361	0403	LILET	LDN	3			CR00448
1362	6202		PJR	LOUT	I-H 3		CR00449
1363	0404	LFLET	LDN	4			CR00450
1364	7101	LOUT	JFI	1	OTHER LETTERS 4		CR00451
1365	0000	L(CLAS					CR00452
1366	7101		JFI	1			CR00453
1367	1332			LCLASS			CR00454
1370	2160	OPFORM	LDI	L(CH1)	CLASSIFY IDENTIFIER BY		CR00455
1371	7100		JPR	L(CLAS			CR00456
1372	1365				FIRST LETTER		CR00457
1373	3231		ADR	OPJFI1			CR00458
1374	4201		STF	1	THIS COMMAND IS REPLACED		CR00459
1375	7100		JFI		BLANK (MACHINE ERROR)		CR00460
1376	1637			SOURIS	OPERATOR OR.		CR00461
1377	1403			OPRATR	CONSTANT		CR00462
1400	1467			NUMBER	FIXED VARIABLE		CR00463
1401	1576			VARBL	FLOATING VARIABLE		CR00464
1402	1576			VARBL			CR00465
1403	2160	OPRATR	LDI	L(CH1)	IS OPERATOR. =73		CR00466
1404	0773		SBN	73	YES, THEN PART OF FLOATING CST		CR00467
1405	6062		ZJR	NUMBER	HOW ABOUT * =54		CR00468
1406	0617		ADN	17	NO, JUMP AHEAD		CR00469
1407	6122		NZR	OPSRCH	YES, WHAT IS NEXT		CR00470
1410	5460		AOD	L(CH1)			CR00471
1411	2160		LDI	L(CH1)			CR00471

412	0754	SBN	54	WAS IT REALLY **	08004720
413	6113	NZR	SINGL*		08004738
414	0401	LDN	1	1 MEANS **	08004748
415	4162	STI	MATHST	PUT IN ALGEBRA STRING	08004751
416	5462	AOD	MATHST		08004768
417	0400	LDN	0	0 MEANS BLANK	08004771
420	4162	PREXIT	STI	NEXT CHARACTER FOR ALGEBRA	08004788
421	5460	AOD	L(CHI)		08004791
422	0400	LDN	0	IDLIST TYPE 0	08004801
423	4064	STD	LSTTYP	FOR OPERATORS	08004810
424	7101	OPJFI1	JFI		08004821
425	1572				08004838
426	0402	SINGL*	LDN	2 MEANS *	08004841
427	4162	STI	MATHST		08004851
430	6506	NZR	PREXIT	2	08004868
431	0641	OPSRCH	ADN		08004871
432	6103	NZR	NOT=	=13	08004881
433	0415	LDN	15	15 MEANS START	08004891
434	6514	NZR	PREXIT		08004901
435	0701	NOT=	SBN	DASH TYPE MINUS	08004918
436	6017	ZJR	MINUS	=14	08004921
437	0705	SBN	5	=2U	08004938
440	6103	NZR	NOT/		08004940
441	0403	LDN	3	3 MEANS /	08004950
442	6522	NZR	PREXIT		08004968
443	0712	NOT/	SBN		08004971
444	6103	NZR	NOT,	=33	08004981
445	0410	LDN	10	10 MEANS ,	08004991
446	6526	NZR	PREXIT		08005001
447	0701	NOT,	SBN		08005018
450	6103	NZR	NOT(	=34	08005021
451	0414	LDN	14	14 MEANS (	08005031
452	6532	NZR	PREXIT		08005048
453	0704	NOT(	SBN		08005051
454	6103	NZR	NOT-	=40	08005061
455	0405	MINUS	LDN	5 MEANS =	0800507
456	6536	NZR	PREXIT		08005088
457	0720	NOT=	SBN	=60	08005091
460	6103	NZR	NOT+		08005101
461	0404	LDN	4	4 MEANS *	08005118
462	6542	NZR	PREXIT		08005121
463	0714	NOT+	SBN	EITHER) OR ILLEGAL	08005138
464	6126	NZR	WEEDER	JUMP IF ILLEGAL	08005141
465	0407	LDN	7		08005158
466	6546	NZR	PREXIT	7 MEANS )	08005161
467	0501	NUMBER	LCN	FLAG FOR CONSTANT TYPE	08005178
470	4041	STD	NOTINT	-1 FOR I, 0 FOR F1, FOR E	08005181
471	2060	LDD	L(CHI)		08005191
472	4067	STD	NUMBEG	SET BEGINNING OF NUMBER	08005201
473	2160	NUMLUP	LDI	CLASSIFY NEXT	08005211
474	7100	JPR	L(CLAS	CHARACTER	08005228
475	1365				08005231
476	6054	ZJR	XNUMCV	JUMP IF BLANK	08005241
477	0702	SBN	2	2 MEANS DIGIT	08005258
480	6046	ZJR	NUMNXT		08005268
481	6216	PJR	LETTER	3 OR 4 MEANS ALPHABETIC	08005271
482	2160	LDI	L(CHI)	HERE FOR SPECIAL CHARACTERS	08005288
483	0773	SBN	73	IS IT DECIMAL POINT	08005298
484	6144	NZR	LFTPAR	NO, TRY LEFT PARENS	08005300
485	5441	AOD	NOTINT	UP FLOAT FLAG	

1506	6104	NZR	WEEDER	IF FIRST ., THEN CONTINUE	CR00531:
1507	2060	LDD	L(CHI)	SAVE LOCATION	CR00532:
1510	4076	STD	LOC(.)	OF DECIMAL POINT	CR00533:
1511	6135	NZR	NUMNXT	BACK THRU LOOP	CR00534:
1512	0404	WEEDER	LDM	OTHERWISE, ILLEGAL	CR00535:
1513	7103	JFI	3	ERROR	CR00536:
1514	0410	MLTTRY	LDM		CR00537:
1515	7101	JFI	1		CR00538:
1516	4050		TILT		CR00539:
1517	2160	LETTER	LDI	IS LETTER E	CR00540:
1520	0765	SBN	65		CR00541:
1521	6505	NZR	MLTTRY	NO, TRY TO INSERT *	CR00542:
1522	2060	LDD	L(CHI)	SAVE LOCATION	CR00543:
1523	4077	STD	LOC(E)	OF E	CR00544:
1524	2041	LDD	NOTINT	HAS . BEEN ENCOUNTERED	CR00545:
1525	6511	NZR	MLTTRY	NO, TRY TO INSERT *	CR00546:
1526	5460	ADD	L(CHI)	WHAT IS NEXT	CR00547:
1527	2160	LDI	L(CHI)	CHARACTER	CR00548:
1530	0713	SBN	13	IS IT DIGIT -13	CR00549:
1531	6314	NJF	NTYPEE	YES, GO SET E FLAG	CR00550:
1532	0745	SBN	45	NO, IS IT SIGN -60	CR00551:
1533	6104	NZR	OR-	+ IS OK	CR00552:
1534	0412	LDM	12	BUT IS SQUEEZED	CR00553:
1535	4160	STI	L(CHI)		CR00554:
1536	6107	NZR	NTYPEE		CR00555:
1537	0620	OR-	ADN	- IS OK -40	CR00556:
1540	6005	ZJR	NTYPEE		CR00557:
1541	0624	ADN	24	EVEN DASH IS ACCEPTABLE	CR00558:
1542	6530	NZR	WEEDER	BUT NOTHING ELSE	CR00559:
1543	0440	LDM	40	MAKE DASH	CR00560:
1544	4160	STI	L(CHI)	MINUS	CR00561:
1545	5441	NTYPEE	ADD	SET FLAG TO SHOW E	CR00562:
1546	5460	NUMNXT	ADD	READY FOR NEXT CHARACTER	CR00563:
1547	6554	NZR	NUMLUP		CR00564:
1550	0637	LFTPAR	ADN	IS ( NEXT -34	CR00565:
1551	6435	ZJR	MLTTRY	YES, TRY TO INSERT *	CR00566:
1552	2041	XNUMCV	LDD	NUMBER TYPE IN A-CONVERT	CR00567:
1553	7100	JPR	VNUMCN	RESULT IN FIRST 2 OR 3 CELLS OF IDEN	CR00568:
1554	4255				CR00569:
1555	2041	LDD	NOTINT	IS NUMBER INTEGER	CR00570:
1556	6302	NJF	2	YES, JUMP AHEAD	CR00571:
1557	0400	LDM	0	NO, FLOATING	CR00572:
1560	0635	ADN	NTEMP3	1	CR00573:
1561	4070	STD	LETEND	CREATE LAST (+1) ADDRESS	CR00574:
1562	0446	LDM	NTEMP3	OR CONSTANT	CR00575:
1563	3470	SBD	LETEND	AND CONSTRUCT	CR00576:
1564	4064	STD	LSTTYP	IDENTIFIER LIST TYPE	CR00577:
1565	7100	XIDLST	JPR	SEARCH IDLIST FOR PREVIOUS OCCURENCE	CR00578:
1566	2116				CR00579:
1567	6103	NZF	OPFOUT		CR00580:
1570	7100	JPR	MAKEID	GO CREATE IDLIST ENTRY	CR00581:
1571	2156				CR00582:
1572	7101	OPFOUT	JFI	1	CR00583:
1573	0000	FORMOP		EXIT TO CALLER WITH ZERO	CR00584:
1574	7101	JFI	1	OR LIST TYPE IN A	CR00585:
1575	1370	OPFORM		ENTRY TO ROUTINE	CR00586:
1576	3600	VARBL	SBC	JUMP BACK TO INITIALIZE	CR00587:
1577	7104		7104	LISTTYP IS ODD FOR FLOATING, EVEN FOR FIXED	CR00588:
1600	4064	STD	LSTTYP		CR00589:
1601	2060	LDD	L(CHI)		CR00590:

1602	4067		STD	LETBEG	SET BEGINNING OF NAME	CR00587:
1603	2160	LETLUP	LDI	L(CH1)	FETCH NEXT CHARACTER	CR00588:
1604	7100		JPR	L(CLAS	WHAT KIND IS IT	CR00589:
1605	1365					:
1606	0702		SBN	2		CR00590:
1607	6303		NJR	LETDUN	BLANK OR OPERATOR SIGNAL END	CR00591:
1610	5460		ADD	L(CH1)	OTHERWISE, GO BACK THRU LOOP	CR00592:
1611	6506		NZR	LETLUP		CR00593:
1612	2167	LETDUN	LDI	LETBEG	SAVE FIRST CHARACTER	CR00594:
1613	4242		STR	XORNOT		CR00595:
1614	7100		JPR	PACKID	PACK IDENTIFIER	CR00596:
1615	2003					:
1616	2160		LDI	L(CH1)		CR00597:
1617	0734		SBN	34	IS NEXT SYMBOL (	CR00598:
1620	6533		NZR	XIDLST	NO, SO SIMPLE VARIABLE	CR00599:
1621	0501		LCN	1		CR00600:
1622	5060		RAD	L(CH1)		CR00601:
1623	2160		LDI	L(CH1)		CR00602:
1624	4206		STR	ISITF(	SAVE LAST CHARACTER OF NAME	CR00603:
1625	5460		ADD	L(CH1)	RESTORE LOCATER	CR00604:
1626	7100		JPR	LSTSPY	HAS IDLIST ENTRY BEEN MADE FOR ARRAY	CR00605:
1627	2116					:
1630	6536		NZR	OPFOUT	ZERO MEANS SHOULD BE FUNCTION	CR00606:
1631	2200		LDF	0		CR00607:
1632	7700	ISITF(	HLT			CR00608:
1633	0766		SBN	66	HAS LAST CHARACTER F	CR00609:
1634	6015		ZJR	LIBWRK	YES MEANS LIBRARY FUNCTION	CR00610:
1635	0410		LDN	JAM*		CR00611:
1636	6105		NZR	OPEND -2	NO MEANS ERROR	CR00612:
1637	2060	SOURIS	LDD	L(CH1)		CR00613:
1640	3413		SBD	L(BUFL		CR00614:
1641	6204		PJF	OPEND		CR00615:
1642	0405		LDN	MACHER	MACHINE ERROR IF	CR00616:
1643	7101		JFI	1		CR00617:
1644	4050			TILT		CR00618:
1645	0406	OPEND	LDN	6	INSERT END	CR00619:
1646	4162		STI	MATHST	SYMBOL IN STRING	CR00620:
1647	7101		JFI	1		CR00621:
1650	1422			PREXIT 2	PUT ZERO IN ACCUMULATOR BEFORE EXIT	CR00622:
1651	2200	LIBWRK	LDC	5300		CR00623:
1652	5300					:
1653	4227		STR	LIBENT	SET LIB ENTRY TO 4300(FLOATING)	CR00624:
1654	2200		LDF	0	IS FIRST CHARACTER X	CR00625:
1655	7700	XORNOT	HLT			CR00626:
1656	0727		SBN	27	FOR FIXED FUNCTION	CR00627:
1657	6126		NZR	Q.ABSF	NO, CHECK FOR ABSOLUTE VALUE(FLOATING)	CR00628:
1660	2200		LDC	7300		CR00629:
1661	7300					:
1662	4220		STR	LIBENT	YES, SET LIB ENTRY TO 7300(FIXED)	CR00630:
1663	2032		LDD	IDEN	CHECK FOR ABSOLUTE VALUE(FIXED)	CR00631:
1664	3600		SBF	0	I.E. XABSF	CR00632:
1665	2761		BCD	2	XA	CR00633:
1666	6111		NZR	XLBSRC		CR00634:
1667	2033		LDD	IDEN 1		CR00635:
1670	3600		SBF	0		CR00636:
1671	6222		BCD	2	BS	CR00637:
1672	6105		NZR	XLBSRC		CR00638:
1673	2034		LDD	IDEN 2		CR00639:
1674	3600		SBF	0		CR00640:
1675	6620		BCD	2	F	CR00641:

1676	6003		ZJR	LIBEXT		SKIP AHEAD	CR00642
1677	7100	XLBSRC	JPR	LIB-FN		CHECK IDLIST FOR ENTRY	CR00643
1700	1725						
1701	3200	LIBEXT	ADF	0		RETURN WITH FUNCTION NUMBER IN A	CR00644
1702	0000	LIBENT					CR00645
1703	7101		JFI	1		EXIT WITH PROPER STRING ENTRY	CR00646
1704	1572			OPFOUT			CR00647
1705	2032	Q, ABSF	LDD	IDEN		IS NAME ABSF	CR00648
1706	3600		SBF	0			CR00649
1707	6162		BCD	2		AB	CR00650
1710	6511		NZR	XLBSRC			CR00651
1711	2033		LDD	IDEN	1		CR00652
1712	3600		SBF	0			CR00653
1713	2266		BCD	2		SF	CR00654
1714	6515		NZR	XLBSRC		NO	CR00655
1715	6414		ZJR	LIBEXT		YES	CR00656
1716	2065	FECHNO	LDD	LOC(BK			CR00657
1717	4201		STF	1		SET SIC(IDLIST FOR FUNCTION)	CR00658
1720	0020		SIC0				CR00659
1721	2166		LDI	LOC(ID			CR00660
1722	0021		SIC1				CR00661
1723	0237		LPN	37		STRIP OFF NUMBER	CR00662
1724	7101		JFI	1		EXIT TO CALLER	CR00663
1725	0000	LIB-FN					CR00664
1726	0415		LDN	15			CR00665
1727	4064		STD	LSTTYP		LIBRARY TYPE IS 15	CR00666
1730	7100		JPR	LSTSPY		SEARCH FOR PREVIOUS OCCURENCE	CR00667
1731	2116						
1732	6514		NZR	FECHNO		IF FOUND JUMP TO END WORK	CR00668
1733	2200		LDC	1500			CR00669
1734	1500						
1735	0601	LIBNUM	ADN	1			CR00670
1736	4072		STD	PRAMBL	1		CR00671
1737	5702		AOR	LIBNUM		OTHERWISE, INCREASE COUNTER	CR00672
1740	2200		LDC	2000			CR00673
1741	2000						
1742	4071		STD	PRAMBL		SET FIRST WORD OF PREAMBLE	CR00674
1743	0402		LDN	2			CR00675
1744	4027		STD	N(PRAM		(2 WORDS TO PREAMBLE)	CR00676
1745	7100		JPR	NTRID		AND GO MAKE ENTRY	CR00677
1746	2263						
1747	6431		ZJR	FECHNO		JUMP TO END WORK	CR00678
1750	2200	PACKER	LDF	0		INITIALIZE STORE ADDRESS	CR00679
1751	4032		STD	IDEN			CR00680
1752	4213		STF	STOLOW			CR00681
1753	2167	PACKLF	LDI	LETBEG		CHARACTER 2I+1	CR00682
1754	0111		LS6			SHIFTED LEFT	CR00683
1755	4300		STS				CR00684
1756	5467		AOD	LETBEG			CR00685
1757	3460		SBD	L(CHI)		ARE CHARACTERS EXHAUSTED	CR00686
1760	6103		NZR	PACKRT		NO, GO AHEAD	CR00687
1761	0420		LDN	20		YES, APPEND BLANK	CR00688
1762	6102		NZF	2			CR00689
1763	2167	PACKRT	LDI	LETBEG		INSERT RIGHT HAND CHARACTER	CR00690
1764	3300		ADS				CR00691
1765	4032	STOLOW	STD	IDEN		STORE WORD I	CR00692
1766	5701		AOR	STOLOW			CR00693
1767	5467		AOD	LETBEG		I=I+1	CR00694
1770	3460		SBD	L(CHI)		ARE CHARACTERS EXHAUSTED	CR00695
1771	6716		NJB	PACKLF		NO, BACK FOR LEFT CHARACTER	CR00696

1772	2305	LDB	STOLW
1773	0277	LPN	77
1774	4070	STD	LETEND
1775	0736	SBN	IDEN 4
1776	6304	NJF	PACKEX
1777	0402	LDN	LONGID
2000	7101	JFI	1
2001	4050		TILT
2002	7101	PACKEX JFI	1
2003	0000	PACKID	
2004	7101	JFI	1
2005	1750		PACKER
2006	2071	NEXTID LDD	NXTNAM
2007	4066	STD	LOCID
2010	2065	LDD	LOC(BK
2011	4204	STR	SICID1
2012	4260	STR	SICID2
2013	3411	SBD	MAXBNK
2014	6077	ZJR	XMAKID
2015	0020	SICID1 SICO	
2016	2166	LDI	LOCID
2017	0237	LPN	37
2020	0603	ADN	3
2021	4300	STS	
2022	5071	RAD	NXTNAM
2023	6304	NJR	IDSET
2024	3700	SBS	
2025	6202	PJR	IDSET
2026	5465	AOD	LOC(BK
2027	2166	IDSET LDI	LOCID
2030	0110	LS3	
2031	0207	LPN	7
2032	3066	ADD	LOCID
2033	4072	STD	NAMBEG
2034	2166	LDI	LOCID
2035	0102	LS1	
2036	0111	LS6	
2037	0217	LPN	17
2040	4300	STS	
2041	3401	SBD	LEVEL
2042	6014	ZJR	LEVEL=
2043	2064	LDD	LSTTYP
2044	0714	SBN	14
2045	6011	ZJR	LEVEL=
2046	0701	SBN	1
2047	6007	ZJR	LEVEL=
2050	0604	ADN	4
2051	6743	NJR	NEXTID
2052	0702	SBN	2
2053	6645	PJR	NEXTID
2054	2300	LDS	
2055	6547	NZR	NEXTID
2056	5466	LEVEL= AOD	LOCID
2057	2166	LDI	LOCID
2060	0111	LS6	
2061	4300	STS	
2062	1073	LPD	TYPMSK
2063	1464	SCD	LSTTYP
2064	1073	LPD	TYPMSK
2065	6557	NZR	NEXTID

SAVE LAST ADDRESS

AND COMPUTE NUMBER OF WORDS

FILLED WITH DATA, THEN ERROR

SET RELATIVE ADDRESS OF  
BEGINNING OF NEXT ENTRY  
SET PROPER INDIRECT BANK  
FOR NEXT IDENTIFIER

HAS AVAILABLE STORAGE BEEN EXCEEDED?  
YES, MUST MAKE IDLIST ENTRY  
SET INDIRECT BANK TO B(ID)  
COMPUTE ADDRESS OF

BEGINNING OF NEXT ENTRY  
TEST FOR NEXT BANK

INCREASE BANK INDICATOR  
FETCH FIRST WORD OF IDENTIFIER

LOCATION OF BEGINNING OF NAME

DO LEVELS AGREE

YES, JUMP AHEAD  
NO, IS CANDIDATE A SUBROUTINE NAME

OR LIBRARY FUNCTION  
NO, HOW ABOUT CONSTANT

NO, GO TRY NEXT IDLIST ENTRY

(HERE, TOO)  
YES, CANDIDATE IS A CONSTANT  
IF THIS IDLIST ENTRY IS NOT, GO TRY NEXT

FETCH TYPE FROM FIRST DIGITS  
OF SECOND WORD  
LOOK AT 1 OR 4 BITS  
IS IT SAME TYPE  
AS CANDIDATE

00120

CR006971  
CR006980  
CR006991  
CR007001  
CR007011  
CR007021  
CR007031  
CR007041  
CR007051  
CR007061  
CR007071  
CR007081  
CR007091  
CR007108  
CR007111  
CR007121  
CR007131  
CR007141  
CR007151  
CR007161  
CR007171  
CR007181  
CR007191  
CR007201  
CR007211  
CR007221  
CR007231  
CR007241  
CR007251  
CR007261  
CR007271  
CR007281  
CR007291  
CR007301  
CR007311  
CR007328  
CR007338  
CR007341  
CR007351  
CR007361  
CR007371  
CR007381  
CR007391  
CR007401  
CR007411  
CR007421  
CR007431  
CR007441  
CR007451  
CR007461  
CR007471  
CR007481  
CR007491  
CR007501  
CR007511  
CR007521  
CR007531  
CR007541  
CR007551  
CR007561



2066	0432	LDN	IDEN	SET BEGINNING OF	CR007576
2067	4061	STD	L(CHAR	CANDIDATE NAME	CR007581
2070	0020	IDSRCH	SIC0	(CANDIDATE STRING IN BANK 0) -	CR007591
2071	2161	LDI	L(CHAR	DO THESE WORDS	CR007601
2072	0020	SICID2	SIC0	OF THE NAMES AGREE	CR007610
2073	3572	SBI	NAMBEG		CR007621
2074	6566	NZR	NEXTID	NO, GO TRY NEXT IDENTIFIER	CR007631
2075	5461	ADD	L(CHAR	YES, READY NEXT WORD	CR007641
2076	5472	ADD	NAMBEG		CR007651
2077	6003	ZJR	IDDONE	IS LIST ENTRY FINISHED	CR007661
2100	3471	SBD	NXTNAM		CR007671
2101	6511	NZR	IDSRCH	NO, BACK TO TRY NEXT	CR007681
2102	2061	IDDONE	LDD	YES, IS OTHER NAME FINISHED	CR007691
2103	3470	SBD	LETEND		CR007701
2104	6576	NZR	NEXTID	NO, SO THERE IS NO MATCH. TRY AGAIN	CR007711
2105	2313	LDR	SICID2	PUT CORRECT BANK SETTING	CR007721
2106	4065	STD	LOC(BK	IN LOC(BK	CR007731
2107	2300	LDS			CR007741
2110	0237	LPN	37	FETCH TYPE AGAIN	CR007756
2111	4064	STD	LSTTYP	PUT CORRECT TYPE IN LSTTYP	CR007761
2112	6102	NZF	2		CR007771
2113	0400	XMAKID	LDN	ZERO MEANS NOT FOUND	CR007788
2114	0021	SIC1		RESTORE INDIRECT TO 1	CR007798
2115	7101	JFI	1		CR007801
2116	0000	LSTSPY		JOINT EXIT TO CALLER	CR007811
2117	0420	LDN	20	(SIC0) COMMAND	CR007821
2120	3002	ADD	LSTBNK		CR007831
2121	4065	STD	LOC(BK	SET BANK FOR BEGINNING OF IDLIST	CR007841
2122	2003	LDD	LASTID	AND ALSO SET RELATIVE ADDRESS	CR007851
2123	4071	STD	NXTNAM		CR007861
2124	2064	LDD	LSTTYP	IS IDLIST TYPE FOR VARIABLE	CR007870
2125	0711	SBN	11		CR007881
2126	6205	PJR	MSK37	NO, WANT TO LOOK AT COMPLETE TYPE	CR007891
2127	0401	LDN	1	YES, ONLY WANT LAST DIGIT OF TYPE	CR007901
2130	4073	STOMSK	STD		CR007910
2131	7101	JFI	1	JUMP BACK TO PROCESS	CR007921
2132	2006		NEXTID		CR007931
2133	0437	MSK37	LDN		CR007948
2134	6604	PJR	STOMSK		CR007951
2135	2700	MAKPR2	LCS		CR007968
2136	5005	RAD	DATEND	PRAMBL*2=DATEND	CR007971
2137	4073	STD	PRAMBL	2	CR007981
2140	2064	MAKPR1	LDD	LSTTYP	CR007991
2141	0111		LS6		CR008001
2142	3004	ADD	B(DATL		CR008011
2143	4072	STD	PRAMBL	1	CR008021
2144	2071	LDD	PRAMBL		CR008031
2145	0110		LS3		CR008041
2146	0103		LS2		CR008058
2147	4071	STD	PRAMBL	PRAMBL#3,LEVEL,0	CR008061
2150	0403	LDN	3		CR008071
2151	4027	STD	N(PRAM	N(PRAM#3	CR008080
2152	7100	JPR	NTRID	GO ENTER IDENTIFIER	CR008091
2153	2263				CR008101
2154	2064	LDD	LSTTYP	EXIT WITH LIST TYPE IN A	CR008111
2155	7101	JFI	1		CR008121
2156	0000	MAKEID			CR008131
2157	0460	LDN	60	START PRAMBL=0,3,LEVEL	CR008141
2160	3001	ADD	LEVEL		CR008151
2161	4071	STD	PRAMBL		CR008161

2162	2064	LDD	LSTTYP
2163	6103	NZR	TSTCON
2164	0402	LDN	2
65	4064	STD	LSTTYP
2166	0711	TSTCON	SBN
2167	6303	NJR	MAKLNQ
2170	2401	LCD	LEVEL
2171	5071	RAD	PRAMBL
2172	2064	MAKLNQ	LDD
2173	0201	LPN	1
2174	0602	ADN	2
2175	4300	STS	
2176	2005	LDD	DATEND
2177	6742	NJR	MAKPR2
2200	3700	SBS	
2201	6644	PJR	MAKPR2
2202	0601	ADN	1
2203	6102	NZF	2
2204	0500	LCN	0
2205	4005	STD	DATEND
2206	4073	STD	PRAMBL 2
2207	0501	LCN	1
2210	5004	RAD	B(DATL
2211	6651	PJR	MAKPR1
2212	0411	LDN	OVDATA
2213	7101	JFI	1
2214	4050		TILT
2215	2463	NTRID1	LCD
2216	5003	RAD	LASTID
2217	4061	STD	L(CHAR
2220	0601	ADN	1
2221	4066	STD	LDC(ID
2222	2002	LDD	LSTBNK
2223	0620	ADN	20
2224	4065	STD	LDC(BK
2225	4201	STF	1
2226	0000		0
2227	2063	LDD	LSTLNG
2230	0703	SBN	3
2231	5071	RAD	PRAMBL
2232	2427	LCD	N(PRAM
2233	4300	STS	
2234	2200	LDF	0
2235	2071	LDD	PRAMBL
2236	4201	STF	1
2237	2071	IDLUP1	LDD
2240	4161	STI	L(CHAR
2241	5702	AOB	IDLUP1
2242	5461	AOD	L(CHAR
2243	5700	AOS	
2244	6505	NZR	IDLUP1
2245	3606	SBF	IDLUP2
2246	6013	ZJF	NTRID, -2
2247	4300	STS	
2250	2200	LDF	0
2251	2032	LDD	IDEN
2252	4201	STF	1
2253	2032	IDLUP2	LDD
2254	4161	STI	L(CHAR
2255	5461	AOD	L(CHAR

LSTTYP ZERO SHOULD BE 2

IS TYPE FOR CONSTANT  
NO, GO COMPUTE WORD LENGTH  
YES, MAKE LEVEL ZERO

SPECIFIC HAS NUMBER OF WORDS  
IS THERE ROOM IN CURRENT DATA BANK  
OK IF NEGATIVE

OR POSITIVE HERE

CREATE PROPER ADDRESS  
IN PREVIOUS BANK

REDUCE BANK INDICATOR.

IF BANK ZERO HAS BEEN

CREATE FIRST ADDRESS OF  
IDLIST ENTRY

CREATE SIC COMMAND

AND EXECUTE IT

PLACE LSTLNG-3 AS LAST BITS  
OF FIRST WORD OF PREAMBLE

S=N(PRAM

PUT PREAMBLE IN IDLIST

S=S+1

IF S IS NOT ZERO, BACK THRU LOOP

S=#NUMBER OF IDENTIFIER WORDS

CR008168  
CR008171  
CR008181  
CR008191  
CR008201  
CR008211  
CR008221  
CR008230  
CR008240  
CR008251  
CR008261  
CR008271  
CR008281  
CR008290  
CR008301  
CR008311  
CR008321  
CR008331  
CR008341  
CR008351  
CR008361  
CR008371  
CR008381  
CR008390  
CR008400  
CR008410  
CR008421  
CR008430  
CR008441  
CR008451  
CR008461  
CR008471  
CR008481  
CR008491  
CR008501  
CR008510  
CR008520  
CR008531  
CR008541  
CR008551  
CR008561  
CR008570  
CR008580  
CR008591  
CR008600  
CR008610  
CR008620  
CR008631  
CR008641  
CR008651  
CR008661  
CR008671  
CR008681  
CR008691  
CR008701  
CR008711  
CR008721  
CR008731  
CR008741  
CR008751

2256	5703	AOB	IDLUP2		CR00876
2257	5700	AOS		S=S+1	CR00877
2260	6505	NZR	IDLUP2	IF S IS NOT ZERO, BACK THROUGH LOOP	CR00878
2261	0021	SIC1		OTHERWISE, SET INDIRECT BANK TO 1	CR00879
2262	7101	JFI	1	AND EXIT	CR00880
2263	0000	NTRID			CR00881
2264	2027	LDD	N(PRAM		CR00882
2265	4063	STD	LSTLNG	LENGTH OF PREAMBLE	CR00883
2266	2070	LDD	ID*END		CR00884
2267	0732	SBN	IDEN		CR00885
2270	4315	STR	IDLUP2		CR00886
2271	5063	RAD	LSTLNG	PLUS LENGTH OF IDENTIFIER	CR00887
2272	2003	LDD	LASTID	IS THERE ENOUGH ROOM IN THIS IDLIST BANK	CR00888
2273	6756	NJR	NTRID1	YES	CR00889
2274	3463	SBD	LSTLNG		CR00890
2275	6660	PJR	NTRID1	YES	CR00891
2276	2003	LDD	LASTID		CR00892
2277	5063	RAD	LSTLNG		CR00893
2300	0501	LCN	1	START ON NEXT BANK	CR00894
2301	5002	RAD	LSTBNK		CR00895
2302	6565	NZR	NTRID1		CR00896
2303	7101	JFI	1	OVERFLOW IF IN BANK 0	CR00897
2304	1172		OFLOW		CR00898
2305	2065	NTRSCR	LDD	LOC(BK	CR00899
2306	4201	STF	1		CR00900
2307	0020	SICO		THIS IS SET TO PROPER BANK	CR00901
2310	2066	LDD	LOC(ID	AND RELATIVE ADDRESS	CR00902
2311	0603	ADN	3	FOR MATRIX IDLIST ENTRY	CR00903
2312	4032	STD	NTEMP1		CR00904
2313	2132	LDI	NTEMP1	FETCH B(D1),B(D2),0,D WORD	CR00905
2314	4300	STS			CR00906
2315	0207	LPN	7		CR00907
2316	4044	STD	NUMDIM	STORE NUMBER OF DIMENSIONS	CR00908
2317	4700	SRS			CR00909
2320	0110	LS3			CR00910
2321	0216	LPN	16		CR00911
2322	4053	STD	L(D1HI	STORE UPPER BITS OF D1 IN LOW CORE	CR00912
2323	2300	LDS			CR00913
2324	0111	LS6			CR00914
2325	0216	LPN	16		CR00915
2326	4055	STD	L(D2HI	STORE UPPER BITS OF D2 IN LOW CORE	CR00916
2327	5432	AOD	NTEMP1		CR00917
2330	2132	LDI	NTEMP1		CR00918
2331	4054	STD	L(D1LO	STORE LOWER BITS OF D1	CR00919
2332	6204	PJF	LDD2LO	SHOULD BE NO CARRY SO JUMP	CR00920
2333	2661	LCR	(4000)	CARRY PROCEDURE	CR00921
2334	5054	RAD	L(D1LO		CR00922
2335	5453	AOD	L(D1HI		CR00923
2336	5432	LDD2LO	AOD	NTEMP1	CR00924
2337	2132	LDI	NTEMP1		CR00925
2340	4056	STD	L(D2LO	STORE LOWER BITS OF D2	CR00926
2341	6204	PJF	L(SIC1	CARRY OR NOT	CR00927
2342	2652	LCR	(4000)		CR00928
2343	5056	RAD	L(D2LO		CR00929
2344	5455	AOD	L(D2HI		CR00930
2345	0021	L(SIC1	SIC1	SET INDIRECT BANK BACK	CR00931
2346	0400	LDN	0		CR00932
2347	4030	STD	ADTVE	ADDITIVE=0	CR00933
2350	4031	STD	ADTVE1		CR00934
2351	4050	STD	DIMUSE		CR00935

352	2064	LDD	LSTTYP				CR009368
2353	0201	LPN	1				CR00937:
2354	0602	ADN	2				CR00938:
355	4043	STD	NUMWRD		CREATE PROPER NUMBER OF WORDS		CR00939:
2356	5460	NXTSUB	AOD	L(CH)	BY-PASS LEFT PARENS OR COMMA		CR00940:
2357	7100	JPR	FORMOP		FORM NEXT OPERAND		CR00941:
360	1573						:
2361	6074	ZJR	MATERR		IF OPERATOR THEN ERROR		CR00942:
2362	0712	SBN	12		IS TYPE FOR INTEGER CONSTANT		CR00943:
363	6011	ZJR	INTCST				CR00944:
2364	6271	PJR	MATERR				CR00945:
2365	0203	LPN	3		TEST FOR SIMPLE INTEGER VARIABLE		CR00946:
2366	0703	SBN	3		WHICH MAY BE FORMAL PARAMETER		CR00947:
2367	6166	NZR	MATERR		NO, SO ERROR		CR00948:
2370	4046	STD	M1				CR00949:
2371	0401	LDN	1		INTEGER VARIABLE		CR00950:
2372	4047	STD	M2		SO SET M=1		CR00951:
2373	6136	NZR	ISTORE				CR00952:
2374	2160	INTCST	LDI	L(CH)			CR00953:
2375	0733	SBN	33		IS NEXT CHARACTER COMMA		CR00954:
2376	6003	ZJR	INTCS2				CR00955:
2377	0741	SBN	41		OR RIGHT PARENS		CR00956:
2400	6115	NZR	MSTORE				CR00957:
2401	0020	INTCS2	SIC0				CR00958:
2402	4112	STI	IDI(J)		SET B(IDLIST FOR I(J))=0		CR00959:
2403	5412	AOD	IDI(J)				CR00960:
2404	0400	LDN	0		AND RELATIVE ADDRESS TOO		CR00961:
2405	4112	STI	IDI(J)				CR00962:
2406	0021	SIC1					CR00963:
2407	5412	AOD	IDI(J)				CR00964:
2410	0400	LDN	0				CR00965:
2411	4046	STD	M1		SET M=0		CR00966:
2412	4047	STD	M2				CR00967:
2413	6040	ZJR	ISTOR1	2	GO TO STORE N-TERM		CR00968:
2414	4000	(4000)	4000		HI-ORDER BIT		CR00969:
2415	0620	MSTORE	ADN	20	IS IT ASTERISK		CR00970:
2416	6137	NZR	MATERR		-IT BETTER BE		CR00971:
2417	2032	LDD	NTEMP1				CR00972:
2420	4046	STD	M1		STORE M-TERM		CR00973:
2421	2033	LDD	NTEMP2				CR00974:
2422	4047	STD	M2				CR00975:
2423	5460	AOD	L(CH)				CR00976:
2424	7100	JPR	FORMOP		FORM NEXT OPERAND		CR00977:
2425	1573						:
2426	0273	LPN	73				CR00978:
2427	0702	SBN	2		IS IT SIMPLE INTEGER VARIABLE		CR00979:
2430	6125	NZR	MATERR		NO, SO FORMAT ERROR		CR00980:
2431	2065	ISTORE	LDD	LOC(BK	YES, STORE IDLIST LOCATION		CR00981:
2432	0207	LPN	7		OF INTEGER VARIABLE		CR00982:
2433	0020	SIC0					CR00983:
2434	4112	STI	IDI(J)		STORE IDI(J)		CR00984:
2435	5450	AOD	DIMUSE				CR00985:
2436	5412	AOD	IDI(J)				CR00986:
2437	2066	LDD	LOC(ID				CR00987:
2440	0701	SBN	1				CR00988:
2441	4112	STI	IDI(J)				CR00989:
2442	5412	AOD	IDI(J)				CR00990:
2443	0021	SIC1					CR00991:
2444	2160	LDI	L(CH)				CR00992:
2445	0733	SBN	33		IS NEXT SYMBOL COMMA		CR00993:

2446	6006	ZJF	ISTOR1	ISTOR1			
2447	0741	SBN	41	41			
2450	6107	NZR	(+OR-)	(+OR-)		OR RIGHT PARENS	CR00994
2451	4032	ISTOR1	STD	NTEMP1		NO, SHOULD MEAN N-TERM	CR00995
2452	4033		STD	NTEMP2		YES, SET N=0	CR00996
2453	4057		STD	ADDSUB			CR00997
2454	6026	ZJR	NSTORE	NSTORE			CR00998
2455	0407	MATERR	LDN	SUBERR		ANY KIND OF SUBSCRIPT	CR01000
2456	7165		JFI	LOCTLT		ERROR	CR01001
2457	0614	(+OR-)	ADN	14		IS SYMBOL +	CR01002
2460	6006		ZJR	PLUS			CR01003
2461	0620		ADN	20		OR DASH	CR01004
2462	6003		ZJR	MINUS2			CR01005
2463	0624		ADN	24		OR MINUS	CR01006
2464	6507		NZR	MATERR		--NO, MUST BE ERROR	CR01007
2465	0702	MINUS2	SBN	2		-1 IF MINUS	CR01008
2466	0601	PLUS	ADN	1		+1 IF PLUS	CR01009
2467	4057		STD	ADDSUB			CR01010
2470	5460		ADD	L(CH1)			CR01011
2471	7100		JPR	FORMOP		FORM NEXT OPERAND	CR01012
2472	1573						CR01013
2473	0712		SBN	12			CR01014
2474	6517		NZR	MATERR		MUST BE INTEGER CONSTANT	CR01015
2475	2160		LDI	L(CH1)		IS NEXT SYMBOL	CR01016
2476	0733		SBN	33		--COMMA	CR01017
2477	6003		ZJR	NSTORE			CR01018
2500	0741		SBN	41		OR RIGHT PARENS	CR01019
2501	6524		NZR	MATERR			CR01020
2502	2032	NSTORE	LDD	NTEMP1			CR01021
2503	4071		STD	OP			CR01022
2504	2033		LDD	NTEMP2			CR01023
2505	4072		STD	OP	1	COMPUTE	CR01024
2506	0500		LCN	0		+ BR -N(J)	CR01025
2507	4073		STD	ACCJ			CR01026
2510	0501		LCN	1			CR01027
2511	4074		STD	ACCJ	1		CR01028
2512	2057		LDD	ADDSUB			CR01029
2513	7100		JPR	VADXT			CR01030
2514	4577						CR01031
2515	0400		LDN	0			CR01032
2516	4071		STD	OP		TIMES NUMBER OF WORDS	CR01033
2517	2043		LDD	NUMWRD			CR01034
2520	4072		STD	OP	1	IN PSEUDO-ACCUMULATOR	CR01035
2521	7100		JPR	VMLTIN			CR01036
2522	4611						CR01037
2523	2200	LDF	0	0		INITIALIZE FETCH	CR01038
2524	2053	LDD	L(D1HI	L(D1HI		COMMAND FOR D(K)	CR01039
2525	4217	STR	A*D(KH	A*D(KH		TO GET D(1)	CR01040
2526	4260	STR	M*D(KH	M*D(KH			CR01041
2527	0601	ADN	1	1		I. E., K=1	CR01042
2530	4216	STR	A*D(KL	A*D(KL			CR01043
2531	4257	STR	M*D(KL	M*D(KL			CR01044
2532	2412	LCD	IDI(J)	IDI(J)		IDI(J)=IDI+2*J	CR01045
2533	0614	ADN	IDI	IDI			CR01046
2534	0114	RS1					CR01047
2535	4032	STD	NTEMP1	NTEMP1		-J TO TWO COUNTERS	CR01048
2536	4033	STD	NTEMP2	NTEMP2			CR01049
2537	3044	ADD	NUMDIM	NUMDIM		DOES J EXCEED NUMBER OF DIMENSIONS	CR01050
2540	6215	PJR	ADDL=0	ADDL=0		NO, JUMP AHEAD	CR01051
2541	0441	LDN	XTRDIM	XTRDIM		YES, GO TILT	CR01052

542	7101	JFI	1			CR01051
2543	4050	LOCTLT	TILT			CR01052
2544	2053	A*D(KH)	LDD L(D1HI	D(K) HIGH ORDER		CR01053
45	4071		STD OP			CR01054
2546	2054	A*D(KL)	LDD L(D1LO	D(K) LOW ORDER		CR01055
2547	4072		STD OP		1	CR01056
550	7100		JPR VMLTIN	ACC=ACC*D(K)		CR01057
2551	4611					CR01058
2552	5704		AOR A*D(KL	K=K+1		CR01059
553	4307		STR A*D(KH			CR01060
2554	5706		AOR A*D(KL	L=L+1		CR01061
2555	5432	ADDL=0	AOD NTEMP1	IS L=0		CR01062
2556	6512		NZR A*D(KH	NO. BACK THROUGH LOOP		CR01063
2557	2030		LDD ADTVE			CR01064
2560	4071		STD OP			CR01065
2561	2031		LDD ADTVE1			CR01066
2562	4072		STD OP		1	CR01067
2563	0401		LDN 1			CR01068
2564	7100		JPR VADXT			CR01069
2565	4577					CR01070
2566	2073		LDD ACCJ	ADTVE=ADTVE + ADD(J)		CR01071
2567	4030		STD ADTVE		1	CR01072
2570	2074		LDD ACCJ			CR01073
2571	4031		STD ADTVE1			CR01074
2572	2046		LDD M1			CR01075
2573	4073		STD ACCJ		1	CR01076
2574	2047		LDD M2			CR01077
2575	4074		STD ACCJ			CR01078
2576	0400		LDN 0			CR01079
2577	4071		STD OP			CR01080
2600	2043		LDD NUMWRD			CR01081
2601	4072		STD OP		1	CR01082
2602	7100		JPR VMLTIN	M(J)*NUMBER OF WORDS		CR01083
2603	4611					CR01084
2604	7101	JFI	1	IS IN ACCUMULATOR		CR01085
2605	2617		Q.L=0	K=1,L=J		CR01086
2606	2053	M*D(KH)	LDD L(D1HI	D(K) HIGH ORDER		CR01087
2607	4071		STD OP			CR01088
2610	2054	M*D(KL)	LDD L(D1LO	D(K) LOW ORDER		CR01089
2611	4072		STD OP		1	CR01090
2612	7100		JPR VMLTIN	ACC=ACC*D(K)		CR01091
2613	4611					CR01092
2614	5704		AOR M*D(KL	K=K+1		CR01093
2615	4307		STR M*D(KH			CR01094
2616	5706		AOR M*D(KL	L=L+1		CR01095
2617	5433	Q.L=0	AOD NTEMP2	IS L=0		CR01096
2620	6512		NZR M*D(KH	NO. BACK THROUGH LOOP		CR01097
2621	2073		LDD ACCJ			CR01098
2622	0201		LPN 1			CR01099
2623	6004		ZJF 4			CR01100
2624	2200		LDF 0			CR01101
2625	4000		4000			CR01102
2626	5074		RAD ACCJ		1	CR01103
2627	2073		LDD ACCJ			CR01104
2630	0114		RS1			CR01105
2631	0020		SIC0			CR01106
2632	4142		STI F(J)	F(J)=M(J)*NUMWRD		CR01107
2633	5442		AOD F(J)	*PRODUCT OF D(K)-S		CR01108
2634	2074		LDD ACCJ	UP TO J-1	1	CR01109
2635	4142		STI F(J)			CR01110

2636	5442	AOD	F(J)						CR01107:
2637	0021	SIC1							CR01108:
2640	2160	LDI	L(CH1)						CR01109:
2641	0774	SBN	74						CR01110:
2642	6003	ZJF	MAKBBX						CR01111:
2643	7101	JFI	1						CR01112:
2644	2356		NXTSUB						CR01113:
2645	5460	MAKBBX	AOD						CR01114:
2646	2050	LDD	L(CH1)						CR01115:
2647	6105	NZR	DIMUSE						CR01116:
2650	4066	STD	MAKBOX						CR01117:
2651	4065	STD	LOC(ID						CR01118:
2652	7101	JFI	LOC(BK						CR01119:
2653	2751		1						CR01120:
2654	0416	MAKBOX	RSTBUL						CR01121:
2655	4064	LDN	16						CR01122:
2656	0111	STD	LSTTYP						CR01123:
2657	4032	LS6							CR01124:
2660	0403	STD	IDEN						CR01125:
2661	4063	LDN	3						CR01126:
2662	2442	STD	LSTLNG						CR01127:
2663	0622	LCD	F(J)						CR01128:
2664	0114	ADM	F						CR01129:
2665	4300	RS1							CR01130:
2666	2022	STS							CR01131:
2667	0207	LDD	F						CR01132:
2670	0110	LPN	7						CR01133:
2671	3014	LS3							CR01134:
2672	5032	ADD	IDI						CR01135:
2673	2023	RAD	IDEN						CR01136:
2674	4033	LDD	F	1					CR01137:
2675	2015	STD	IDEN	1					CR01138:
2676	4034	LDD	IDI	1					CR01139:
2677	5700	STD	IDEN	2					CR01140:
2700	6032	AOS							CR01141:
2701	0406	ZJR	BXDONE						CR01142:
2702	4063	LDN	6						CR01143:
2703	2024	STD	LSTLNG						CR01144:
2704	0207	LDD	F	2					CR01145:
2705	0110	LPN	7						CR01146:
2706	3016	LS3							CR01147:
2707	0111	ADD	IDI	2					CR01148:
2710	4035	LS6							CR01149:
2711	2025	STD	IDEN	3					CR01150:
2712	4036	LDD	F	3					CR01151:
2713	2017	STD	IDEN	4					CR01152:
2714	4037	LDD	IDI	3					CR01153:
2715	5700	STD	IDEN	5					CR01154:
2716	6014	AOS							CR01155:
2717	0410	ZJR	BXDONE						CR01156:
2720	4063	LDN	10						CR01157:
2721	2026	STD	LSTLNG						CR01158:
2722	0207	LDD	F	4					CR01159:
2723	0110	LPN	7						CR01160:
2724	3020	LS3							CR01161:
2725	5035	ADD	IDI	4					CR01162:
2726	2027	RAD	IDEN	3					CR01163:
2727	4040	LDD	F	5					CR01164:
2730	2021	STD	IDEN	6					CR01165:
2731	4041	LDD	IDI	5					CR01166:
		STD	IDEN	7					CR01167:

WAS LAST SYMBOL ENCOUNTERED  
 A RIGHT PARENS  
 IF NOT, GO BACK THROUGH  
 PROCESS FOR J=J+1  
 BYPASS RIGHT PARENTHESIS  
 IS THERE A VARIABLE PART  
 YES, MAKE B-BOX ENTRY  
 NO, SUBSCRIPT IS CONSTANT  
 SET L(IDLIST FOR B-BOX) TO ZERO  
 AND JUMP TO EXIT

16 IS PSEUDO B-BOX TYPE  
 AND 1-6 BECOME FIRST  
 TWO SYMBOLS IN IDENTIFIER  
 IDENTIFIER IS AT LEAST 3 LONG  
 F IS VECTOR HOLDING F(J)-S  
 -J TO SPECIFIC CELL

FIRST WORD LOOKS LIKE  
 1 6, B(F1), B(I1)  
 SECOND WORD IS  
 A(F1)  
 THIRD WORD IS  
 WAS J=1  
 YES, GO TO IDLIST SEARCH

LENGTH IS 6 IF J=2

FOURTH WORD STARTS AS  
 B(F2), B(I2)

FIFTH IS A(F2)

SIXTH IS A(I2)

WAS J=2  
 YES, SEARCH IDLIST

LENGTH IS 8 IF J=3

FOURTH WORD BECOMES  
 B(F2), B(I2), B(F3), B(I3)

SEVENTH IS A(F3)

EIGHTH IS A(I3)

2732	2063	BXDONE	LDD	LSTLNG	CREATE ONE WORD PREAMBLE	CR01167:
2733	0632		ADN	IDEN		CR01168:
2734	4070		STD	ID*END		CR01169:
2735	7100		JPR	LSTSPY	GO SEARCH IDLIST	CR01170:
2736	2116					:
2737	6112		NZF	RSTBUL	IF ALREADY IN IDLIST JUMP AHEAD	CR01171:
2740	0420		LDN	20		CR01172:
2741	3001		ADD	LEVEL		CR01173:
2742	0110		LS3			CR01174:
2743	0103		LS2			CR01175:
2744	4071		STD	PRAMBL		CR01176:
2745	0401		LDN	1		CR01177:
2746	4027		STD	N(PRAM		CR01178:
2747	7100		JPR	NTRID	OTHERWISE MAKE ENTRY	CR01179:
2750	2263					:
2751	0501	RSTBUL	LCN	1	RESTORE BOOLEAN ARITHMETIC	CR01180:
2752	5000		RAD	SWBOOL		CR01181:
2753	7101		JFI	1		CR01182:
2754	0000	SUBSCR			EXIT	CR01183:
2755	5400		AOD	SWBOOL	MAKE CERTAIN BOOLEAN SWITCH IS OFF	CR01184:
2756	0414		LDN	IDI	ENTRY	CR01185:
2757	4012		STD	IDI(J)	INITIALIZE AT J=1	CR01186:
2760	0422		LDN	F		CR01187:
2761	4042		STD	F(J)		CR01188:
2762	7101		JFI	1	BACK TO BEGINNING	CR01189:
2763	2305			NTRSCR		CR01190:
2764	2006	PRALG1	LDD	L(PROC	SET BEGINNING OF STRING	CR01191:
2765	4060		STD	L(CH1)	TO BE PROCESSED	CR01192:
2766	4062		STD	MATHST		CR01193:
2767	7100	SCANI	JPR	FORMOP	RETURN FROM FORMOP HAS IDLIST TYPE IN A	CR01194:
2770	1573					:
2771	6307		NJR	LIBFN	EXCEPT LIBRARY FUNCTIONS ARE NEGATIVE	CR01195:
2772	6111		NZR	NOTOPR	AND OPERATORS ARE ZERO	CR01196:
2773	2162		LDI	MATHST		CR01197:
2774	0706		SBN	6	SIX IS END-SYMBOL	CR01198:
2775	6104		NZR	LIBFN	1	CR01199:
2776	7101		JFI	1		CR01200:
2777	3133			SCANII		CR01201:
2780	4162	LIBFN	STI	MATHST	STORE LIBRARY FUNCTION	CR01202:
2781	5462		AOD	MATHST	DESIGNATOR	CR01203:
2782	6513		NZR	SCANI		CR01204:
2783	2062	NOTOPR	LDD	MATHST		CR01205:
2784	0601		ADN	1	IS THERE ROOM FOR	CR01206:
2785	3460		SBD	L(CH1)	A 2-WORD ENTRY	CR01207:
2786	6112		NZR	OKFOR2	YES, JUMP AHEAD	CR01208:
2787	2064		LDD	LSTTYP	NO, MAKE ONE-WORD ENTRY	CR01209:
2788	0111		LS6			CR01210:
2789	5162		RAI	MATHST	IDLIST TYPE, BCD CHARACTER	CR01211:
2790	0270		LPN	70	BUT FIRST THREE BITS OF CHARACTER	CR01212:
2791	6103		NZR	INCZER	MUST NOT BE ZERO	CR01213:
2792	0440		LDN	40	OR ELSE A HIGH ORDER BIT	CR01214:
2793	5162		RAI	MATHST	IS ENTERED. NOTE WORD IS PLUS	CR01215:
2794	0400	INCZER	LDN	0	AND TYPE MUST BE INTEGER CONSTANT	CR01216:
2795	6012		ZJR	Q.ARRAY		CR01217:
2796	2064	OKFOR2	LDD	LSTTYP	FOR TWO WORDS	CR01218:
2797	0111		LS6		THE RESULT LOOKS LIKE	CR01219:
2798	3065		ADD	LOC(BK	LIST TYPE, 0, B(IDLIST LOCATION)	CR01220:
2799	0720		SBN	20		CR01221:
2800	4162		STI	MATHST		CR01222:
2801	5462		AOD	MATHST		CR01223:



Address	Value	Operation	Register/Label	Description	Address
3026	2066	LDD	LOC(ID	A(IDLIST LOCATION)	CR01224:
3027	4162	STI	MATHST		CR01225:
3030	0501	LCN	1		CR01227:
3031	3062	Q, ARAY	ADD	LOCATION OF FIRST WORD OF ENTRY	CR01228:
3032	4032	STD	NTEMP1		CR01229:
3033	5462	AOD	MATHST	IS LIST TYPE FOR MATRIX	CR01230:
3034	2064	LDD	LSTTYP		CR01231:
3035	0701	SBN	1		CR01232:
3036	0202	LPN	2		CR01233:
3037	6450	ZJR	SCANI	NO, BACK TO CONTINUE	CR01234:
3040	2160	LDI	L(CH1)	YES, IS NEXT CHARACTER LEFT PARENS	CR01235:
3041	0734	SBN	34		CR01236:
3042	6553	NZR	SCANI	NO, RESUME PROCESS	CR01237:
3043	7100	XSBSCR	JPR	YES, GO FORM SUBSCRIPT EXPRESSION	CR01238:
3044	2754				CR01239:
3045	2031	LDD	ADTVE1		CR01240:
3046	6205	PJF	5		CR01241:
3047	1200	LPF	0		CR01242:
3050	3777	*3777	3777		CR01243:
3051	0601	ADN	1		CR01244:
3052	4031	STD	ADTVE1	LOW-ORDER 11 BITS OF ADDITIVE	CR01245:
3053	2030	LDD	ADTVE		CR01246:
3054	0217	LPN	17	HIGH ORDER 4 BITS	CR01247:
3055	4300	STS			CR01248:
3056	0201	LPN	1	BIT 4	CR01249:
3057	6004	ZJR	RIGHT		CR01250:
3060	2710	LCB	*3777	APPENDED IF NECESSARY	CR01251:
3061	1431	SCD	ADTVE1	TO LOW ORDER 12 BITS	CR01252:
3062	4031	STD	ADTVE1		CR01253:
3063	2700	RIGHT	LCS		CR01254:
3064	0114	RS1			CR01255:
3065	0111	LS6		HIGH ORDER 3 BITS	CR01256:
3066	1465	SCD	LOC(BK	COMPLEMENT OF	CR01257:
3067	4162	STI	MATHST	B, B(ADDITIVE), SIC TO B (ID)	CR01258:
3070	5462	AOD	MATHST		CR01259:
3071	2031	LDD	ADTVE1		CR01260:
3072	4162	STI	MATHST	A(ADDITIVE)	CR01261:
3073	5462	AOD	MATHST		CR01262:
3074	2066	LDD	LOC(ID	A(ID FOR B-BOX)	CR01263:
3075	4162	STI	MATHST		CR01264:
3076	5462	AOD	MATHST		CR01265:
3077	2065	LDD	LOC(BK	NO B-BOX FOR CONSTANT SUBSCRIPT	CR01266:
3100	6003	ZJF	3		CR01267:
3101	0502	LCN	2	COUNT NUMBER OF B-BOX REFERENCES	CR01268:
3102	5045	RAD	BOXLST		CR01269:
3103	7101	JFI	1		CR01270:
3104	2767		SCANI		CR01271:
3105	1335	STOLIB	LPR	*3777	LIBRARY FUNCTION
3106	0111	LS6			MUST HAVE HIGH BIT MASKED OFF
3107	4162	STI	MATHST		AND SHIFTED BEFORE STORING
3110	6103	NZR	SCNINC		
3111	2062	SAV=	LDD	MATHST	
3112	4022		STD	BINIT	SAVE LOCATION OF START
3113	5462	SCNINC	AOD	MATHST	INCREASE STORE
3114	5460		AOD	L(CH1)	AND FETCH WORDS
3115	6140		NZR	NEXTOP	GO BACK THROUGH PROCESS
3116	5454	CNDNSE	AOD	ERSLOC	MOVE OPERATION INFORMATION
3117	5460		AOD	L(CH1)	ADJACENT TO CONDENSED
3120	2160		LDI	L(CH1)	ALGEBRAIC STRING
3121	4154		STI	ERSLOC	

122	0777	SBN	77	AT PSEUDO END	CR01283A
3123	6505	NZR	CNDNSE	NO, BACK TO CONDENSE	CR01284:
3124	4021	STD	BINDSW		CR01285A
25	7101	JFI	1		CR01286:
3126	0000	ALGSTR		THEN EXIT.	CR01287:
3127	0400	LDN	0	ENTRY	CR01288:
3130	4045	STD	BOXLST	ZERO OUT COUNTER FOR B=BOXES	CR01289A
3131	7101	JFI	1	BACK TO START PROCESS	CR01290:
3132	2764		PRALG1		CR01291A
3133	5462	SCANII	AOD		CR01292:
3134	4044	STD	BOPLST		CR01293:
3135	4054	STD	ERSLOC		CR01294:
3136	0477	LDN	77		CR01295:
3137	4162	STI	MATHST	PUT PSEUDO-END IN STRING	CR01296:
3140	2002	LDD	LSTBNK	IS LAST IDLIST ENTRY	CR01297:
3141	0701	SBN	1	IN BANK 1	CR01298A
3142	6003	ZJR	USEIDL	YES, JUMP AHEAD	CR01299:
3143	0501	LCN	1	NO, SET END OF B=BOX LIST	CR01300:
3144	6102	NZF	2	AT END OF BANK 1	CR01301A
3145	2003	USEIDL	LDD	OTHERWISE, SET END AT IDLIST BEGINNING	CR01302A
3146	5045	RAD	BOXLST	BEGINNING OF B=BOX LIST	CR01303A
3147	4057	STD	LASTBX	NEXT AVAILABLE LOCATION FOR ENTRY	CR01304:
3150	2006	LDD	L(PROC		CR01305:
3151	4062	STD	MATHST	SET BEGINNING OF STORE	CR01306:
3152	4060	STD	L(CHI)	AND FETCH LOCATORS	CR01307:
3153	0507	LCN	ENDFST	=FSTTME	CR01308A
3154	5267	RAR	FSTTME	FIX SAVE OF FIRST TWO WORD	CR01309:
3155	2160	NEXTOP	LDI	DESIGNATION (MAKES A NOP)	CR01310:
3156	4162	STI	MATHST	BRING IN NEXT STRING-ELEMENT	CR01311:
3157	6752	NJR	STOLIB		CR01312:
3160	0715	SBN	15	IF NEGATIVE IT MUST BE LIBRARY FUNCTION	CR01313:
3161	6450	ZJR	SAV=	0 THROUGH 15 MEANS OPERATOR	CR01314:
3162	6207	PJR	ID(OPD		CR01315
3163	0607	Q,END	ADN	GREATER MEANS OPERAND	CR01316A
3164	6551	NZR	SONINC	IS IT END (0006)	CR01317:
3165	5462	AOD	MATHST	NO, GO INCREMENT	CR01318:
3166	4044	STD	BOPLST		CR01319:
3167	4054	STD	ERSLOC	SAVE LOCATION OF OPERAND START	CR01320A
3170	6551	NZR	CNDNSE		CR01321
3171	0615	ID(OPD	ADN		CR01322:
3172	4065	STD	LOC(BK		CR01323:
3173	0111	LS6			CR01324:
3174	0277	LPN	77		CR01325
3175	4064	STD	LSTTYP	STRIP OFF AND SHIFT LIST TYPE	CR01326A
3176	5460	AOD	L(CHI)		CR01327:
3177	2160	LDI	L(CHI)	FETCH NEXT WORD	CR01328:
3200	4066	STD	LOC(ID	IF A TWO WORD GROUP THIS IS LOCATION	CR01329A
3201	2065	LDD	LOC(BK		CR01330:
3202	0277	LPN	77	CORRECT BANK DESIGNATION	CR01331A
3203	4065	STD	LOC(BK	FOR ID (2 WORDS)	CR01332:
3204	0270	LPN	70	AND THIS IS SEVEN OR LESS	CR01333:
3205	6105	NZR	ONEWRD	OR ELSE GO PROCESS ONE WORD	CR01334:
3206	5460	AOD	L(CHI)		CR01335:
3207	0420	LDN	20		CR01336:
3210	3065	ADD	LOC(BK	CREATE PROPER SIC COMMAND	CR01337:
3211	6131	NZR	STOSIC		CR01338:
3212	2065	ONEWRD	LDD		CR01339:
3213	0277	LPN	77		CR01340A
3214	4300	STS		STRIP OFF ONE CHARACTER IDENTIFIER	CR01341:
3215	0111	LS6			CR01342:

3216	0620	ADN	20	WORD LOOKS LIKE BCD CHARACTER, BLANK	CR01343
3217	4032	STD	IDEN		CR01344
3220	0433	LDN	IDEN	1	CR01345
3221	4070	STD	LETEND		CR01346
3222	2064	LDD	LSTTYP		CR01347
3223	0712	SBN	12	IS TYPE FOR INTEGER CONSTANT	CR01348
3224	6113	NZR	BCDOK2	NO, SO BCD IS OK	CR01349
3225	2300	LDS			CR01350
3226	0740	SBN	40	YES, WAS OCTAL 40 ADDED TO BCD	CR01351
3227	6202	PJF	2		CR01352
3230	2300	LDS		NO, SO FETCH VALUE	CR01353
3231	4033	STD	IDEN	+1	AND STORE IN LOW ORDER
3232	0712	SBN	12	IS INTEGER ZERO	CR01354
3233	6402	ZJR	2		CR01355
3234	0400	LDN	0		CR01356
3235	4032	STD	IDEN		CR01357
3236	5470	AOD	LETEND	ZERO IN HIGH ORDER	CR01358
3237	7100	BCDOK2	JPR	TWO (NOT ONE) WORDS TO IDENTIFIER	CR01359
3240	2116		LSTSPY	FETCH PROPER IDLIST INFORMATION	CR01360
3241	2065	LDD	LOC(BK		CR01361
3242	4217	STOSIC	STR	FIX INDIRECT BANK SWITCH	CR01362
3243	6110	FSTTME	NZR	NOH OR JUMP	CR01363
3244	4200		STF	SAVE B(IDLIST)	CR01364
3245	0000	STORNK		(SIC COMMAND)	CR01365
3246	2066	LDD	LOC(ID		CR01366
3247	4200		STF	AND A(IDLIST)	CR01367
3250	0000	STOADD		FIRST TIME THROUGH	CR01368
3251	0407		LDN	ENDFST -FSTTME: MAKE JUMP EFFECTIVE	CR01369
3252	5307	ENDFST	RAR		CR01370
3253	0501	TRULST	LCN	1	CR01371
3254	5064		RAD	LSTTYP	CR01372
3255	0102		LS1		CR01373
3256	0202		LPN	2	CR01374
3257	0110		LS3		CR01375
3260	4162		STI	MATHST	CR01376
3261	0020	BKSWCH	SIC0	SWITCH TO IDLIST BANK	CR01377
3262	2166		LDI	LOC(ID	CR01378
3263	0207		LPN	7	CR01379
3264	0111		LS6		CR01380
3265	0110		LS3		CR01381
3266	4065		STD	LOC(BK	CR01382
3267	5466		AOD	LOC(ID	CR01383
3270	2166		LDI	LOC(ID	CR01384
3271	0021		SIC1		CR01385
3272	4066		STD	LOC(ID	CR01386
3273	2064		LDD	LSTTYP	CR01387
3274	0204		LPN	4	CR01388
3275	4062		STD	L(CHAR	CR01389
3276	6012		ZJR	PLUS16	CR01390
3277	2066		LDD	LOC(ID	CR01391
3300	4062		STD	L(CHAR	CR01392
3301	4065		STD	LOC(BK	CR01393
3302	0400		LDN	0	CR01394
3303	4066		STD	LOC(ID	CR01395
3304	2064		LDD	LSTTYP	CR01396
3305	0202		LPN	2	CR01397
3306	0114		RS1		CR01398
3307	0616	PLUS16	ADN	16	CR01399
3310	5162		RAI	MATHST	CR01400
3311	2064		LDD	LSTTYP	CR01401

00131

3312	0202		LPN	2	IS OPERAND AN ARRAY	CR01402:
3313	6014		ZJR	CHKLST		CR01403:
3314	2160		LDI	L(CHI)	IS ARRAY NAME ONLY USED	CR01404:
3315	6203		PJR	PSUNYM	YES, THEN NO B=BOX	CR01405:
3316	7101		JFI	1		CR01406:
3317	3432			BS+ADD	YES, COMPUTE ADDRESS	CR01407:
3320	0020	PSUNYM	SICO			CR01408:
3321	2100		LDM	TYPFOR	IS ALGEBRA IN PROGRESS	CR01409:
3322	1324					
3323	0021		SIC1			CR01410:
3324	6003		ZJR	CHKLST	YES, GO AHEAD	CR01411:
3325	0510		LCN	10		CR01412:
3326	5162		RAI	MATHST	NO, DUMMY THE ENTRY	CR01413:
3327	2044	CHKLST	LDD	BOPLST	NO, SEARCH OPERAND LIST	CR01414:
3330	4061		STD	L(CHAR	FOR PREVIOUS OCCURENCE	CR01415:
3331	2161	SRCHOP	LDI	L(CHAR	ARE FIRST WORDS THE SAME	CR01416:
3332	3465		SBD	LOC(BK		CR01417:
3333	6107		NZR	SRCHUP	NO, GO TEST FOR END	CR01418:
3334	5461		ADD	L(CHAR	YES, INCREASE FETCHER	CR01419:
3335	2161		LDI	L(CHAR		CR01420:
3336	3466		SBD	LOC(ID	ARE SECOND WORDS THE SAME	CR01421:
3337	6062		ZJR	FOUND#	YES, GO CREATE RELATIVE OP NUMBER	CR01422:
3340	5461		ADD	L(CHAR	NO, INCREASE FETCHER	CR01423:
3341	6510		NZR	SRCHOP	BACK THROUGH LOOP	CR01424:
3342	3065	SRCHUP	ADD	LOC(BK		CR01425:
3343	0777		SBN	77	HAS END BEEN REACHED	CR01426:
3344	6004		ZJR	ENTROP	YES, AND NO MATCH HAS BEEN FOUND	CR01427:
3345	0402		LDN	2	NO, INCREASE FETCHER	CR01428:
3346	5061		RAD	L(CHAR		CR01429:
3347	6516		NZR	SRCHOP	BACK THROUGH LOOP	CR01430:
3350	2045	ENTROP	LDD	BOXLST		CR01431:
3351	3454		SBD	ERSLOC	IS THERE SPACE FOR	CR01432:
3352	6335		NJR	NUFRUM	A TWO WORD OPERAND ENTRY	CR01433:
3353	0702		SBN	2		CR01434:
3354	6233		PJR	NUFRUM		CR01435:
3355	2060		LDD	L(CHI)	NOT CURRENTLY	CR01436:
3356	3462		SBD	MATHST	IS THERE SPACE FOR EXPANSION	CR01437:
3357	6306		NJR	CANSQZ		CR01438:
3360	0702		SBN	2		CR01439:
3361	6204		PJR	CANSQZ		CR01440:
3362	0406		LDN	SPACE		CR01441:
3363	7101		JFI	1		CR01442:
3364	4050			TILT		CR01443:
3365	2062	CANSQZ	LDD	MATHST		CR01444:
3366	0601		ADN	1		CR01445:
3367	4061		STD	L(CHAR	SET STORE ADDRESS	CR01446:
3370	2160	CNDENS	LDI	L(CHI)	FETCH	CR01447:
3371	4161		STI	L(CHAR	TAKE UP SLACK	CR01448:
3372	0706		SBN	6	HAS END JUST BEEN HIT	CR01449:
3373	6104		NZR	PSUTST	NO, GO TEST FOR PSEUDO-END	CR01450:
3374	5461		ADD	L(CHAR	NO, SAVE LOCATION OF OPERAND BEGIN	CR01451:
3375	4044		STD	BOPLST	BEGINNING OF OPERAND LIST	CR01452:
3376	6104		NZR	CNDINC	GO INCREMENT	CR01453:
3377	0771	PSUTST	SBN	71	HAS PSEUDO END JUST BEEN HIT	CR01454:
3380	6004		ZJR	GOTEND	YES, BUT TERMINAL WORK TO DO	CR01455:
3401	5461	CNDINC	ADD	L(CHAR	UP FETCHER AND STORER	CR01456:
3402	5460		ADD	L(CHI)		CR01457:
3403	6513		NZR	CNDENS	BACK THROUGH LOOP	CR01458:
3404	2062	GOTEND	LDD	MATHST		CR01459:
3405	0601		ADN	1		CR01460:

3406	4060		STD	L(CHI)	RESTORE L(CHI)	CR01461
3407	2065	NUFRUM	LDD	LOC(BK	ENTER OPERAND	CR01462
3410	4161		STI	L(CHAR	INTO LIST	CR01463
3411	5461		ADD	L(CHAR		CR0146
3412	2066		LDD	LOC(ID		CR01465
3413	4161		STI	L(CHAR		CR01466
3414	5461		ADD	L(CHAR		CR01467
3415	4054		STD	ERSLOC	NOTE LOCATION OF PSEUDO-END	CR01468
3416	0477		LDM	77		CR01469
3417	4161		STI	L(CHAR	STORE PSEUDO-END	CR01470
3420	0501		LCN	1		CR01471
3421	3061	FOUND=	ADD	L(CHAR		CR01472
3422	3444		SBN	BUPLST		CR01473
3423	0631		ADM	31	COMPUTE RELATIVE ADDRESS (PLUS 14)	CR01474
3424	0110		LS3		OF OPERAND AND STORE	CR01475
3425	0102		LS1		IN MATH STRING	CR01476
3426	5162		RAI	MATHST		CR01477
3427	5462		ADD	MATHST		CR01478
3430	7101		JFI	1	BACK FOR NEXT OPERATION	CR01479
3431	3155			NEXTOP		CR01480
3432	2065	BS+ADD	LDD	LOC(BK	POSITION B(BASE) IN LOW ORDER	CR01481
3433	0110		LS3			CR01482
3434	4065		STD	LOC(BK		CR01483
3435	2560		LCI	L(CHI)		CR01484
3436	4032		STD	NTEMP1	FETCH 0, B(ADD), 0, B(IDLIST) WORD	CR01485
3437	0111		LS6			CR01486
3440	0207		LPN	7		CR01487
3441	5065		RAD	LOC(BK	UPPER OF BASE PLUS ADDITIVE	CR01488
3442	5460	PLUSAD	ADD	L(CHI)		CR01489
3443	2160		LDI	L(CHI)	FETCH OTHER 12 BITS OF ADDITIVE	CR01490
3444	3065		ADD	LOC(ID	ADD BASE	CR01491
3445	4300		STS			CR01492
3446	1560		SCI	L(CHI)		CR01493
3447	1466		SCD	LOC(ID		CR01494
3450	0201		LPN	1	IS THERE OVERFLOW	CR01495
3451	6011		ZJR	MODULO	NO GO TO TERMINAL	CR01496
3452	2300		LDS		MAYBE IS THE RESULT ZERO	CR01497
3453	6104		NZR	NOTZER	NO, GO CARRY	CR01498
3454	0500		LCN	0	SHOULD HAVE BEEN 7777	CR01499
3455	4300		STS			CR01500
3456	6304		NJR	MODULO	AND NO CARRY	CR01501
3457	0501	NOTZER	LCN	1		CR01502
3460	5300		RAS		REMOVE END AROUND BORROW	CR01503
3461	5465		ADD	LOC(BK	AND ADD IN CARRY	CR01504
3462	2065	MODULO	LDD	LOC(BK		CR01505
3463	0207		LPN	7	UPPER PART MOD 2**3	CR01506
3464	0111		LS6			CR01507
3465	0110		LS3		B(BASE + ADDITIVE), 0, 0, 0	CR01508
3466	3061		ADD	L(CHAR	+ERASABLE LOCATION IF PARAMETER	CR01509
3467	4065		STD	LOC(BK	MEANS TOTAL MOD 2**15	CR01510
3470	2300		LDS			CR01511
3471	4066		STD	LOC(ID	LOWER BITS ARE IN LOW CORE	CR01512
3472	5460		ADD	L(CHI)		CR01513
3473	2032		LDD	NTEMP1		CR01514
3474	0207		LPN	7		CR0151
3475	6041		ZJR	XCHKOP	IF NO VARIABLE PART, JUMP TO END	CR01516
3476	4032		STD	NTEMP1	BANK OF IDLIST ENTRY FOR B=BOX	CR01517
3477	2160		LDI	L(CHI)	FETCH A (IDLIST FOR B=BOX)	CR01518
3500	0701		SBN	1		CR01519
3501	4033		STD	NTEMP2		CR01520

502	2045		LDD	BOXLST			CR01521:
3503	4061		STD	L(CHAR		SET BEGINNING OF BOX LIST	CR01522:
3504	3457	SRCHBX	SBD	LASTBX		IS LIST EXHAUSTED	CR01523:
05	6015		ZJR	ENTRBX		YES, AND BOX NOT FOUND	CR01524:
3506	2161		LDI	L(CHAR		NO, TRY NEXT ENTRY	CR01525:
3507	3432		SBD	NTEMP1		ARE HIGH ORDER BITS THE SAME	CR01526:
510	6107		NZR	SRCHNC		NO, GO TEST FOR END	CR01527:
3511	5461		AOD	L(CHAR		YES, INCREASE FETCHER	CR01528:
3512	2161		LDI	L(CHAR		ARE LOW ORDER BITS THE SAME	CR01529:
513	3433		SBD	NTEMP2			CR01530:
3514	6104		NZR	SRCHNC	1	NO, GO INCREMENT	CR01531:
3515	5461		AOD	L(CHAR		YES, INCREASE FETCHER	CR01532:
516	6113		NZR	FNDBOX		JUMP TO FOUND ROUTINE	CR01533:
3517	5461	SRCHNC	AOD	L(CHAR		PREPARE FOR NEXT LIST ENTRY	CR01534:
3520	5461		AOD	L(CHAR		(HERE IF HIGH BITS EQUAL)	CR01535:
521	6515		NZR	SRCHRX		BACK TO LOOK AGAIN	CR01536:
3522	2032	ENTRBX	LDD	NTEMP1		MAKE NEW BOX-LIST ENTRY	CR01537:
3523	4161		STI	L(CHAR			CR01538:
524	5461		AOD	L(CHAR			CR01539:
3525	2033		LDD	NTEMP2			CR01540:
3526	4161		STI	L(CHAR			CR01541:
527	5461		AOD	L(CHAR			CR01542:
3530	4057		STD	LASTRX		CORRECT END ADDRESS	CR01543:
3531	2061	FNDBOX	LDD	L(CHAR		FORM RELATIVE LOCATION	CR01544:
532	3445		SBD	BOXLST		OF B-BOX IN LIST	CR01545:
3533	0110		LS3				CR01546:
3534	0102		LS1				CR01547:
535	5065		RAD	LOC(BK		ENTER B-BOX INTO OPERAND DESCRIPT	CR01548:
3536	5460	XCHKOP	ADD	L(CHI)			CR01549:
37	7101		JFI	1			CR01550:
540	3327			CHKLST		BACK TO CHECK OPERAND LIST	CR01551:
3541	5460	NXTNUM	AOD	L(CHI)		FIND END OF STATEMENT NUMBER	CR01552:
3542	2160		LDI	L(CHI)			CR01553:
543	0713		SBN	13			CR01554:
3544	6708		NJR	NXTNUM			CR01555:
3545	0413		LDN	13			CR01556:
546	4064		STD	LSTTYP		SET PROPER LIST TYPE	CR01557:
3547	7100		JPR	LBLCHK			CR01558:
3550	3572						CR01559:
551	7101		JFI	1			CR01560:
3552	0000	STNOCK				SET BEGINNING OF STATEMENT NUMBER	CR01561:
3553	2060		LDD	L(CHI)			CR01562:
554	4067		STD	LETBEG			CR01563:
3555	6514		NZR	NXTNUM			CR01564:
3556	7100	TOSTNO	JPR	STNOCK			CR01565:
557	3552						CR01566:
3560	7101		JFI	1		EXIT	CR01567:
561	0000	STNOID					CR01568:
562	2160		LDI	L(CHI)		PASS THROUGH LEADING ZEROS	CR01569:
3563	0712		SBN	12			CR01570:
564	6506		NZR	TOSTNO			CR01571:
565	5460		AOD	L(CHI)			CR01572:
3566	6504		NZR	4			CR01573:
3567	7100	NTRLBL	JPR	NTRID			CR01574:
70	2263						CR01575:
3571	7101	LBLXIT	JFI	1			CR01576:
572	0000	LBLCHK					CR01577:
573	7100		JPR	PACKID		GO PACK IDENTIFIER	CR01578:
3574	2003						CR01579:
575	7100		JPR	LSTSPY		AND SEARCH IDLIST	CR01580:

3576	2116								
3577	6506	NZR	LBLXIT						CR01577:
3600	0460	LDN	60		IF NOT FOUND,				CR01578:
3601	3001	ADD	LEVEL		CREATE STATEMENT LABEL PREAMBLE				CR01579:
3602	0110	LS3							CR01580:
3603	0103	LS2							CR01581:
3604	4071	STD	PRAMBL		PRAMBL=3, LEVEL, 0				CR01582:
3605	2064	LDD	LSTTYP						CR01583:
3606	0111	LS6							CR01584:
3607	4072	STD	PRAMBL	1	PRAMBL+1=13, 0, 0				CR01585:
3610	0400	LDN	0						CR01586:
3611	4073	STD	PRAMBL	2	PRAMBL +2=0				CR01587:
3612	0403	LDN	3						CR01588:
3613	4027	STD	N(PRAM		N(PRAM=3 ELEMENTS TO PREAMBLE				CR01589:
3614	6625	PJB	NTRLBL						CR01590:
3615	2200	XSCANF	LDF		PROPER ROUTINE IS F				CR01591:
3616	6271		BSCANF						CR01592:
3617	4205	STOJMP	STF	JPR+1	STORE JUMP ADDRESS				CR01593:
3620	2061	LDD	LODFLG		STORE LOAD FLAG				CR01594:
3621	4025	STD	BLODSW		0 FOR NO LOAD, 3 OR 10 FOR LOAD				CR01595:
3622	2063	LDD	ORDTYP		A CONTAINS COMMAND TYPE				CR01596:
3623	7100		JFI	0					CR01597:
3624	0000	JPR+1							CR01598:
3625	7100	JPR	BPTSUB		GO PUT AWAY THE COMMAND				CR01599:
3626	5716								
3627	7101		JFI	1					CR01600:
3630	0000	MAKCOM			EXIT				CR01601:
3631	4063	STD	ORDTYP		STORE COMMAND TYPE				CR01602:
3632	0704	SHN	4		IS LOAD BEING DONE				CR01603:
3633	6002	ZJF	2						CR01604:
3634	0503	LCN	3		NO, CLEAR LOAD FLAG				CR01605:
3635	0603	ADN	3		YES, SET FLAG TO 3				CR01606:
3636	4061	STD	LODFLG						CR01607:
3637	0400	LDN	0						CR01608:
3640	4055	STD	FORBAK		SCAN IS FORWARD				CR01609:
3641	4300	STS			NOTHING IN PUTAWAY BUFFER				CR01610:
3642	2006	LDD	L(PROC		SET BSCNLC TO FIRST WORD				CR01611:
3643	4035	STD	BSCNLC		OF BUFFER				CR01612:
3644	7100	JPR	BSCANK		FIND NODE AGREEMENT				CR01613:
3645	6642								
3646	7100	JPR	BSCAND		INDEX REGISTER TEST				CR01614:
3647	6121								
3650	7100	JPR	BSCANE		PSEUDO ACC, ERASE, OR NORMAL OPERAND				CR01615:
3651	6167								
3652	6003	ZJR	MAKTLT		SHOULD NOT HIT THIS EXIT				CR01616:
3653	6104	NZR	XSCANG		NON-ZERO MEANS NORMAL OPERAND				CR01617:
3654	6537	NZR	XSCANF		NON-ZERO MEANS 1 OR 3 - WORDS				CR01618:
3655	0401	MAKTLT	LDN	NOTKNO					CR01619:
3656	6165	NZR	TLT1						CR01620:
3657	2061	XSCANG	LDD	LODFLG	IS THE COMMAND A LOAD				CR01621:
3660	6003	ZJR	LDSCNG		NO, GO LOAD SCAN-G NAME				CR01622:
3661	0410	LDN	10		YES, SET FLAG TO 10				CR01623:
3662	4061	STD	LODFLG						CR01624:
3663	2200	LDSCNG	LDF	0	PROPER ROUTINE IS G				CR01625:
3664	6412		BSCANF						CR01626:
3665	6546	NZR	STOJMP		GO MERGE				CR01627:
3666	0021	SIC1							CR01628:
3667	7101		JFI	1					CR01629:
3670	0000	MAKSTO			EXIT				CR01630:
3671	0413		LDN	13					CR01631:

00135

3672	4036		STD	BSTOSW			UR01632
3673	7100		JPR	MAKCOM		13 MEANS STORE IS TO BE DONE	CR01633
3674	3630						
3675	0041	SVCODL	SDC1				CR01634
3676	0020		SIC0				CR01635
3677	2100		LDM	B(CODL			CR01636
3700	7717						
3701	0111		LS6				CR01637
3702	4000		STD	B(Z)		FOR POSSIBLE DOWNLOOP	CR01638
3703	2100		LDM	CODEND		INCREMENTATION	CR01639
3704	7716						
3705	4001		STD	A(Z)			CR01640
3706	0040		SDC0				CR01641
3707	2012		LDD	DIMSW		ARE THERE DIMENSIONED VARIABLES	CR01642
3710	6422		ZJR	MAKSTO -2		NO, GO TO EXIT	CR01643
3711	2073		LDD	BOXSW		WAS STORE INDEXED	CR01644
3712	6524		NZR	MAKSTO -2		YES, GO TO EXIT	CR01645
3713	2100		LDM	STOBK		NO, GENERATE UPP COMMAND (7600)	CR01646
3714	3245						
3715	4204		STF	SVSIC		SET IDLIST BANK	CR01647
3716	2100		LDM	STOADD			CR01648
3717	3250						
3720	4032		STD	NTEMP1		SAVE IDLIST ADDRESS	CR01649
3721	0027	SVSIC	SIC7				CR01650
3722	2132		LDI	NTEMP1		IS IDLIST TYPE FOR INTEGER	CR01651
3723	0111		LS6				CR01652
3724	0213		LPN	13			CR01653
3725	0702		SBN	2			CR01654
3726	6540		NZB	MAKSTO -2		NO, GO TO EXIT	CR01655
3727	2306		LDB	SVSIC		GENERATE UPP COMMAND	CR01656
3730	3200		ADC	7620		(STOBK CONTAINS 20+BANK)	CR01657
3731	7620						
3732	7100		JPR	PUTWAY			CR01658
3733	7665						
3734	2032		LDD	NTEMP1		RELATIVE IDLIST ADDRESS	CR01659
3735	0701		SBN	1			CR01660
3736	7100		JPR	PUTWAY			CR01661
3737	7665						
3740	7101		JFI	1			CR01662
3741	3667			MAKSTO -1			CR01663
3742	0460	EX=ERR	LDM	EXP=		ALGEBRAIC EXPRESSION LEFT OF =	CR01664
3743	6133	TLT1	NZR	TLT2			CR01665
3744	7100	PREALG	JPR	ALGSTR		GO PROCESS ALGEBRAIC STRING	CR01666
3745	3126						
3746	2022		LDD	BINIT			CR01667
3747	3406		SBD	L(PROC		BINIT MUST BE	CR01668
3750	0701		SBN	1		ONE MORE THAN L(PROC	CR01669
3751	6507		NZR	EX=ERR			CR01670
3752	7100		JPR	ALGBRA		YES, GO TO ALGEBRAIC TRANSLATOR	CR01671
3753	4723						
3754	7100		JPR	MAKSTO		GO MAKE A STORE (AND MAYBE UPP)	CR01672
3755	3670						
3756	0426		LDM	L(CON)			CR01673
3757	6160		NZR	BOOL -2			CR01674
3760	7100	STATN1	JPR	STNOCK		CHECK IDLIST AND MAKE ENTRY IF NECESSARY	CR01675
3761	3552						
3762	2065		LDD	LDC(BK			CR01676
3763	4206		STR	NOSIC1			CR01677
3764	4225		STR	NOSIC2		SET INDIRECT BANK OF IDLIST ENTRY	CR01678
3765	0020		SIC0				CR01679



3766	2100	LDM	B(CODL	PLACE RELATIVE OBJECT CODE BANK	CR01680
3767	7717				
3770	4300	STS			CR01681
3771	0020	NOSIC1	SIC0		CR01680
3772	2166	LDI	LOCID		CR01683
3773	0207	LPN	7		CR01684
3774	6003	ZJR	STATOK	SAVE B(OBJECT CODE LOCATION FOR STATNO)	CR01685
3775	0414	STATLT	LDN	PREVIOUS ASSIGNMENT OF LABEL	CR01686
3776	6137	TLT2	NZR		CR01687
3777	2300	STATOK	LDS		CR01688
4000	5166	RAI	LOCID	IN IDLIST ENTRY	CR01689
4001	5466	AOD	LOCID		CR01690
4002	2166	LDI	LOCID		CR01691
4003	6506	NZR	STATLT		CR01692
4004	4200	STF	0	ZERO DISTANCE FROM LATEST NUMBER	CR01693
4005	0000	L(CURR			CR01694
4006	0020	SIC0			CR01695
4007	2100	LDM	CODEND	PLACE RELATIVE ADDRESS	CR01696
4010	7716				
4011	0020	NOSIC2	SIC0		CR01697
4012	4166	STI	LOCID	IN IDLIST ENTRY	CR01698
4013	2066	LDD	LOCID		CR01699
4014	0701	SBN	1		CR01700
4015	4200	STF	0	SAVE BEGINNING	CR01701
4016	0000	LASTNO		OF IDLIST ENTRY FOR LATEST LABEL	CR01702
4017	0021	SIC1			CR01703
4020	7101	JFI	1		CR01704
4021	0000	STATNO		EXIT	CR01705
4022	0605	ADN	5	IS CHARACTER NUMERIC	CR0170
4023	6743	NJR	STATN1	YES, GO TO STATEMENT NUMBER PROCESSOR	CR01707
4024	2000	LDD	FSTCHR		CR01708
4025	6014	ZJR	BOOL	IS FIRST CHARACTER B	CR01709
4026	0640	ADN	40	NO HOW ABOUT S	CR01710
4027	6103	NZR	OTEST		CR01711
4030	0427	LDN	SYMBOL		CR01712
4031	6106	NZR	BOOL		CR01713
4032	0724	OTEST	SBN	IS CHARACTER 0	CR01714
4033	6003	ZJF	3		CR01715
4034	0412	LDN	NOSTAT	NOT SO TILT	CR01716
4035	6113	TLT3	NZR		CR01717
4036	0430	LDN	(OCTAL		CR01718
4037	7101	JFI	1	GO TO TRANSFER VECTOR	CR01719
4040	7660		BNK1VC	FROM BANK0 TO BANK1	CR01720
4041	0420	BOOL	LDN		CR01721
4042	4160	STI	L(CHI)	BLANK OUT CHARACTER	CR01722
4043	4200	STF	0		CR01723
4044	0000	L(BOOL		NON-ZERO IF BOOLEAN EXISTS	CR01724
4045	7101	JFI	1		CR01725
4046	1212		Q.STNO	TRY AGAIN FOR STATEMENT NUMBER	CR01726
4047	2300	TILT	LDS		CR01727
4050	0020	TILT	SIC0		CR01728
4051	4100	STM	OUTBUF	4	CR01729
4052	0104				
4053	6101	TLTNOP	NZF	1	JUMP AFTER FIRST TIME
4054	0403	LDN	3		CR01731
4055	7100	JPR	BINARY	REWIND TAPE 2	CR01732
4056	0220				
4057	2200	LDF	0		CR01733
4060	6002	ZJF	2		CR01734
4061	4100	STM	ERRSWC	NOR THE JPR INSTRUCTIONS	CR01735

4062	7700								
4063	4100		STM	LP3FRM +4		THAT OUTPUT OBJECT CODE			CR01736:
4064	7605								
4065	4100		STM	LP16FM +1					CR01737:
4066	7651								
4067	0415		LDN	PASSBY =TLTNOP					CR01738:
4070	5315	PASSBY	RAB	TLTNOP		MAKE JUMP EFFECTIVE			CR01739:
4071	2360		LDR	NOSIC2		DIAGNOSTIC MESSAGE CONSISTS OF			CR01740:
4072	4100		STM	OUTBUF 1		B(YDLIST FOR LAST LABEL)			CR01741:
4073	0101								
4074	2356		LDR	LASTNO					CR01742:
4075	0701		SBN	1		A(YDLIST FOR LAST LABEL)			CR01743:
4076	4100		STM	OUTBUF 2					CR01744:
4077	0102								
4100	2373		LDR	L(CURR		INCREMENT FROM LAST LABEL			CR01745:
4101	4100		STM	OUTBUF 3					CR01746:
4102	0103								
4103	0400		LDN	0		DUMP THE MESSAGE			CR01747:
4104	7100		JPR	BINARY					CR01748:
4105	0220								
4106	0431		LDN	COEXIT					CR01749:
4107	6550		NZR	800L -2					CR01750:
			REM			NUMERIC CONVERSION IN			CR01751:
4110	7101	VINEXT	JFI	1					CR01752:
4111	4254	INTOON		VNUMCN =1					CR01753:
4112	0400		LDN	0					CR01754:
4113	4033		STD	WLO					CR01755:
4114	4032		STD	WHI					CR01756:
4115	2167	VBRIN	LDI	NUMBEG					CR01757:
4116	4300	VSTD	STS						CR01758:
4117	0712		SBN	12					CR01759:
4120	6402		ZJR	VSTD					CR01760:
4121	6307		NJF	WM10LT					CR01761:
4122	0425		LDN	VILLEG		ILLEGITIMATE CHARACTER IN NUMERIC FIELD			CR01764:
4123	6553	TLT4	NZR	TILT					CR01765:
4124	5467	WUPWID	AOD	NUMBEG					CR01766:
4125	3460		SBD	L(CHI)					CR01767:
4126	6511		NZR	VBRIN					CR01768:
4127	6417		ZJR	VINEXT					CR01769:
4130	0400	WM10LT	LDN	0		FOR INTEGER CONVERSION IN			CR01770:
4131	4251		STR	WHIP					CR01771:
4132	2033		LDD	WLO					CR01772:
4133	0102		LS1			DOUBLE LOWER WORD			CR01773:
4134	6210		PJF	WNOV1					CR01774:
4135	1200		LPF	0					CR01775:
4136	3777	W3777		3777					CR01776:
4137	4200		STF	0					CR01777:
4140	0000	WLOT							CR01778:
4141	0404		LDN	4		CARRY 4 TO HIGHER			CR01779:
4142	5240		RAR	WHIP					CR01780:
4143	6102		NZF	2					CR01781:
4144	4304	WNOV1	STB	WLOT					CR01782:
4145	4705		SRB	WLOT		REDOUBLE LOWER			CR01783:
4146	6205		PJF	WNOV2					CR01784:
4147	1311		LPR	W3777					CR01785:
4150	4310		STB	WLOT					CR01786:
4151	0402		LDN	2		CARRY 2			CR01787:
4152	5230		RAR	WHIP					CR01788:
4153	2313	WNOV2	LDB	WLOT		ADD IN REDOUBLE LOWER			CR01789:
4154	5033		RAD	WLO		TO LOWER			CR01790:

4155	6205		PJF	WNOV3			CR01794
4156	1320		LPB	W3777			CR01792
4157	4033		STD	WLO			CR01793
4160	0402		LDN	2			CR0179
4161	5221		RAR	WHIP			CR01795
4162	4433	WNOV3	SRD	WLO	DOUBLE FOR ANSWER FOR LOWER		CR01796
4163	6205		PJF	WNOV4			CR01797
4164	1326		LPB	W3777			CR01798
4165	4033		STD	WLO			CR01799
4166	0401		LDN	1	CARRY 1		CR01800
4167	5213		RAR	WHIP			CR01801
4170	2032	WNOV4	LDD	WHI			CR01802
4171	3600		SBF	0			CR01803
4172	0315			205D	2.050 WOULD BE TOO LARGE		CR01804
4173	6304		NJF	4			CR01805
4174	0424	VTIL	LDN	VERMAG	ERROR IN MAGNITUDE		CR01806
4175	6552	TLT5	NZR	TLT4			CR01807
4176	6564	VINTR	NZR	INTCON 1			CR01808
4177	2032		LDD	WHI			CR01809
4200	0112		MUT		MULTIPLY HIGHER BY 10		CR01810
4201	3200		ADF	0	ADD IN CARRIER		CR01811
4202	0000	WHIP					CR01812
4203	4032		STD	WHI			CR01813
4204	6710		NJR	VTIL			CR01814
4205	2300		LDS				CR01815
4206	5033		RAD	WLO			CR01816
4207	6663	WUPR	PJR	WUPWID			CR01817
4210	1352		LPR	W3777			CR01818
4211	4033		STD	WLO			CR01819
4212	5432		ADD	WHI			CR01820
4213	6604		PJR	WUPR			CR01821
4214	6720		NJR	VTIL			CR01822
4215	2000	VINCON	LDD	SWBOOL			CR01823
4216	6520		NZR	VINTR			CR01824
			REM		OCTACL CONVERSION		CR01825
4217	2060		LDD	L(CHI)			CR01826
4220	3467		SBD	NUMBEG			CR01827
4221	0711		SBN	11			CR01828
4222	6303		NJR	VSHO			CR01829
4223	0426	VERRO	LDN	VOFLAG	FAULTY OCTAL FIELD		CR01830
4224	6527		NZR	TLT5			CR01831
4225	2032	VSHO	LDD	NTEMP1			CR01832
4226	0110		LS3				CR01833
4227	4032		STD	NTEMP1			CR01834
4230	2033		LDD	NTEMP2			CR01835
4231	0110		LS3				CR01836
4232	4033		STD	NTEMP2			CR01837
4233	0207		LPN	7			CR01838
4234	1432		LSD	NTEMP1			CR01839
4235	4032		STD	NTEMP1			CR01840
4236	0507		LCN	7			CR01841
4237	1033		LPD	NTEMP2			CR01842
4240	4033		STD	NTEMP2			CR01843
4241	2167	VRES	LDI	NUMBEG			CR01844
4242	0712		SBN	12			CR0184
4243	6006		ZJR	VOCNT			CR01846
4244	0602		ADN	2			CR01847
4245	6622		PJR	VERRO	NON OCTAL DIGIT		CR01848
4246	0610		ADN	10			CR01849
4247	1436		LSD	NTEMP2			CR01850

4250	4033		STD	NTEMP2
4251	5467	VOCNT	AOD	NUMBEG
4252	3460		SBD	L(CHI)
253	6526		NZR	VSHO
			REM	
4254	7101		JFI	1
4255	0000	VNUMCN		
4256	4233		STR	VKIN
4257	0400		LDN	0
4260	4032		STD	WACC
4261	4033		STD	WACC
4262	4034		STD	WACC
4263	4075		STD	VEX
4264	4226		STR	VSGEX
4265	2224		LDR	VKIN
4266	6751		NJR	VINCON
4267	6030		ZJR	VFCON
4270	2077		LDD	LOC(E)
4271	4300		STS	
4272	5477	VUPLOC	AOD	LOC(E)
4273	3460		SBD	L(CHI)
4274	6030		ZJR	VNUMC
4275	2177		LDI	LOC(E)
4276	4215		STR	VEXSIZ
4277	0712		SBN	12
4300	6402		ZJB	2
4301	6303		NJF	VSTNUM
4302	4210		STR	VSGEX
4303	6511		NZR	VUPLOC
4304	2075	VSTNUM	LDD	VEX
4305	0112		MUT	
4306	3205		ADR	VEXSIZ
4307	4075		STD	VEX
4310	6616		PJB	VUPLOC
4311	0000	VKIN		
4312	0000	VSGEX		
4313	0000	VEXSIZ		
4314	7356	BRXSW3		7356
4315	6201	BRXSW1	PJF	1
4316	0000	CHAR		
4317	2060	VFCON	LDD	L(CHI)
4320	4300		STS	
4321	0440		LDN	40
4322	4075		STD	VEX
4323	6207		PJF	VADEC
4324	2312	VNUMC	LDR	VSGEX
4325	6003		ZJF	3
4326	2475		LCD	VEX
4327	4075		STD	VEX
4330	0440		LDN	40
4331	5075		RAD	VEX
4332	2076	VADEC	LDD	LOC(.)
4333	3467		SBD	NUMBEG
4334	5075		RAD	VEX
4335	0400		LDN	0
4336	4076		STD	WDIGCT
4337	4074		STD	VINSIG
4340	2200		LDF	0
4341	5032		RAD	WACC
4342	4230		STF	COMB

NUMERIC CONVERSION IN, ENTER WITH -1,  
0,1 FOR I, F OR E TYPE CONVERSION

E TYPE

0=12

-SIGN

CONSTANT

CR01851:  
CR01852:  
CR01853:  
CR01854:  
CR01855:  
CR01856:  
CR01857:  
CR01858:  
CR01859:  
CR01860:  
CR01861:  
CR01862:  
CR01863:  
CR01864:  
CR01865:  
CR01866:  
CR01867:  
CR01868:  
CR01869:  
CR01870:  
CR01871:  
CR01872:  
CR01873:  
CR01874:  
CR01875:  
CR01876:  
CR01877:  
CR01878:  
CR01879:  
CR01880:  
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CR01890:  
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CR01893:  
CR01894:  
CR01895:  
CR01896:  
CR01897:  
CR01898:  
CR01899:  
CR01900:  
CR01901:  
CR01902:  
CR01903:  
CR01904:  
CR01905:  
CR01906:  
CR01907:  
CR01908:  
CR01909:  
CR01910:

4343	2326		LDR	BRXSW1	
4344	4223		STF	BRANX	
4345	2331		LDR	BRXSW3	
4346	4255		STF	SWTD	
4347	2167	VCONDG	LDI	NUMBEG	
4350	4332		STR	WCHAR	
4351	0712		SBN	12	
4352	6402		ZJB	2	
4353	6226		PJR	WUPPNO	
4354	2076	VTSIG	LDD	WDIGCT	
4355	6105		NZF	5	
4356	2340		LDR	WCHAR	
4357	6103		NZF	3	
4360	5474		AOD	VINSIG	
4361	6120		NZR	WUPPNO	
4362	5476		AOD	WDIGCT	
4363	0711		SBN	11	
4364	6220		PJF	VENDFL	
4365	5602	FLTCON	AOF	BRANX	
4366	2350	NEWD	LDR	CHAR	
4367	6200	BRANX	PJF	0	
4370	0112	XHND	MUT		
4371	0112		MUT		
4372	0000	COMB			
4373	4630		SRR	SWTD	
4374	6305	OUTD	NJR	WUPPNO	
4375	5703		AOD	COMB	
4376	2361		LDR	BRXSW1	
4377	4310		STB	BRANX	
4400	6712		NJB	NEWD	
4401	5467	WUPPNO	AOD	NUMBEG	
4402	3700		SBS		
4403	6534		NZR	VCONDG	
4404	2474	VENDFL	LCD	VINSIG	
4405	5075		RAD	VEX	
4406	1200		LPF	0	
4407	7700	VV77		7700	
4410	6016		ZJF	SNOR	
4411	6303		NJF	3	
4412	0507		LCN	7	
4413	6302		NJF	STVX	
4414	0407		LDN	7	
4415	5075	STVX	RAD	VEX	
4416	1307		LPB	VV77	
4417	6005		ZJF	SETF	
4420	0424		LDN	VERMAG	
4421	7101	WTILT	JFI	1	
4422	4050			TILT	
4423	0000	SWTD		0	
4424	2434	SETF	LCD	WACC	2
4425	4034		STD	WACC	2
4426	2032	SNOR	LDD	WACC	
4427	6015		ZJF	VXXT	-1
4430	0203		LPN	3	
4431	0111		LS6		
4432	0110		LS3		
4433	0102		LS1		
4434	5033		RAD	WACC	1
4435	2032		LDD	WACC	
4436	0115		RS2		

SKIP TO NEXT CHARACTER

=PJF01

SIGNAL MAGNITUDE OUT OF

CR01911  
CR01912  
CR01913  
CR01914  
CR01915  
CR01916  
CR01917  
CR01918  
CR01919  
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CR01967  
CR01968  
CR01969  
CR01970

437	4032	STD	WACC		
4440	2075	LDD	VEX		
4441	0110	LS3			
442	0103	LS2			
443	5032	RAD	WACC		
4444	7101	JFI	1		
445	4254	VXXT	VNUMCN -1		
4446	4577		VADXT		
4447	4255		VNUMCN		
450	2156		MAKEID		
4451	2116		LSTSPY		
4452	2263		NTRID		
453	4611		VMLTIN		
4454	1573		FORMOP		
4455	1365		L(CLAS		
456	7665		PUTWAY		
4457	2003		PACKID		
4460	3572		LBLCHK		
461	3561		STNOID		
4462	7307		I=J,K		
4463	1725		LIB-FN		
464	4021		STATND		
4465	3126		ALGSTR		
4466	3670		MAKSTO		
467	4723		ALGBRA		
4470	2100	(FMBK1	LDM	(TOBK0	
4471	0005				
472	4051	STD	PSUJPR		
473	2151	LDI	PSUJPR		
474	3200	AD <sup>c</sup>	0		
475	2307	LDB	(FMBK1 -2		
4476	4201	STF	1		
477	2307	LDB	(FMBK1		
500	4203	STF	JMPNAM		
4501	2300	LDS			
4502	7100	JPR	01		
503	0000	JMPNAM			
4504	4300	STS			
4505	0402	LDN	(FMBK0		
506	0011	SRJ1			
		REM			
4507	2471	VSUBJ	LCD	OPJ	
510	4071		STD	OPJ	
4511	2472		LCD	OPJ	1
4512	4072		STD	OPJ	1
513	2071	VADS	LDD	OP	
4514	5073		RAD	ACCJ	
4515	2074		LDD	ACCJ	1
516	1472		LSD	OP	1
4517	6320		NJF	VSUBT	
4520	2072	VADDRT	LDD	OP	1
521	5074		RAD	ACCJ	1
4522	1472		LSD	OP	1
4523	6213		PJF	VTSTOV	
24	2074		LDD	ACCJ	1
4525	1600		LSF	0	
4526	4000	V4TH		4000	
4527	4074		STD	ACCJ	1
4530	2073		LDD	ACCJ	
4531	6303		NJF	3	

THIS LIST MUST BE ORDERED

TRANSFER VECTOR FROM  
BANK1 TO BANK0

BANK 0 ROUTINE FOR EFFECTING

PSEUDO-JPR FROM BANK1 TO BANK0

COMPUTE LOCATION IN TRANSFER  
VECTOR OF ADDRESS OF  
DESIRED SUBROUTINE

FETCH SUBROUTINE ENTRANCE  
RESTORE A-REGISTER  
JPR TO REQUIRED ROUTINE

SAVE A-REGISTER

INTEGER ADD AND MULTIPLY

DO SUBTRACTION  
ADD ROUTINE

NO CARRY  
CORRECT SIGN OF LOW ORDER.

4532	5473		AOD	ACCU					CR02021
4533	6103		NZF	VTSTOV					CR02029
4534	0701		SBN	1					CR02030
4535	4073		STD	ACCU					CR0203
4536	7141	VTSTOV	JFI	VADXT			EXIT		CR02032
4537	2072	VSUBT	LDD	OP	1		SUBTRACT		CR02037
4540	5074		RAD	ACCU	1				CR02034
4541	1473		LSD	ACCU					CR020358
4542	6604		PJR	VTSTOV			EXIT		CR02036
4543	2074		LDD	ACCU	1				CR02037
4544	6104		NZF	4					CR02038
4545	0500		LCN	0			PUF IN NEGATIVE ZERO		CR02039
4546	4074		STD	ACCU	1				CR02040
4547	6711		NJR	VTSTOV			EXIT		CR02041
4550	2073		LDD	ACCU					CR02042
4551	6104		NZF	VNZHI					CR02043
4552	0500		LCN	0					CR02044
4553	4073		STD	ACCU					CR02045
4554	6716		NJB	VTSTOV			EXIT		CR02046
4555	6310	VNZHI	NJF	VNEGRE					CR02047
4556	0701		SBN	1			POSITIVE RESULT		CR02048
4557	4073		STD	ACCU					CR02049
4560	2074		LDD	ACCU	1		LOW ORDER NEVER 7777		CR020508
4561	1733		LSB	V4TH					CR02051
4562	0601		ADN	1					CR02052
4563	4074		STD	ACCU	1				CR02053
4564	7113		JFI	VADXT					CR02054
4565	0601	VNEGRE	ADN	1			NEG RESULT		CR02055
4566	4073		STD	ACCU					CR0205
4567	6103		NZF	3					CR02057
4570	0500		LCN	0					CR02058
4571	4073		STD	ACCU					CR02059
4572	2074		LDD	ACCU	1				CR02060
4573	0701		SBN	1					CR02061
4574	1746		LSB	V4TH					CR02062
4575	4074		STD	ACCU	1				CR02063
4576	7101		JFI	1					CR02064
4577	0000	VADXT		0					CR02065
4600	6665		PJR	VADS					CR02066
4601	6772		NJR	VSUBJ					CR02067
4602	2252	VXT	LDR	VISIGN					CR02068
4603	6205		PJF	5					CR02069
4604	2473		LCD	ACCU					CR02070
4605	4073		STD	ACCU					CR020716
4606	2474		LCD	ACCU	1				CR02072
4607	4074		STD	ACCU	1				CR02073
4610	7101		JFI	1					CR02074
4611	0000	VMLTIN		0			ENTRY FOR JPR RETURN		CR02075
4612	2073	VIMLT	LDD	ACCU			INTEGER MULTIPLY		CR02076
4613	1471		LSD	OP					CR02077
4614	4240		STR	VISIGN					CR02078
4615	6210		PJF	VSAME					CR02079
4616	2073		LDD	ACCU			SIGNS DIFFER		CR02080
4617	6214		PJF	VXOP					CR02081
4620	2474		LCD	ACCU	1				CR02082
4621	4074		STD	ACCU	1				CR02083
4622	2473		LCD	ACCU			NEGATIVE ACC		CR02084
4623	4073		STD	ACCU					CR02085
4624	6213		PJR	VFINMR					CR020860
4625	2073	VSAME	LDD	ACCU					CR02087

00143

626	6211		PJR	VFINMR						CR02088:
4627	2474		LCD	ACCJ	1	FLIP ACC				CR02089:
4630	4074		STD	ACCJ	1					CR02090:
31	2473		LCD	ACCJ						CR02091:
4632	4073		STD	ACCJ						CR02092:
4633	2471	VXUP	LCD	OP		FLIP OP				CR02093:
634	4071		STD	OP						CR02094:
4635	2472		LCD	OP	1					CR02095:
4636	4072		STD	OP	1					CR02096:
637	2073	VFINMR	LDD	ACCJ		FIND MULTIPLIER				CR02097:
4640	6020		ZJF	VSAVR						CR02098:
4641	4215		STR	VM1						CR02099:
642	1071		LPD	OP						CR02100:
4643	6541	VXTQ	NZR	VXT						CR02101:
4644	2074		LDD	ACCJ	1					CR02102:
645	4210		STR	VM2						CR02103:
4646	2072		LDD	OP	1					CR02104:
4647	6116		NZF	VSMD						CR02105:
650	0400	VZERO	LDN	0						CR02106:
4651	4073		STD	ACCJ						CR02107:
4652	4074		STD	ACCJ	1					CR02108:
653	6451		ZJR	VXT						CR02109:
4654	0000	VISIGN								CR02110:
4655	0000	VM2								CR02111:
656	0000	VM1								CR02112:
4657	0000	VMLTR								CR02113:
4660	2071	VSAVR	LDD	OP						CR02114:
661	4303		STR	VM1						CR02115:
662	2072		LDD	OP	1					CR02116:
663	4306		STR	VM2						CR02117:
664	2074		LDD	ACCJ	1					CR02118:
4665	4306	VSMD	STR	VMLTR						CR02119:
4666	0400		LDN	0						CR02120:
667	4073		STD	ACCJ						CR02121:
4670	4074		STD	ACCJ	1					CR02122:
4671	2312		LDR	VMLTR						CR02123:
672	6105		NZF	VFIN						CR02124:
4673	2314	VSTAR	LDR	VMLTR		SHIFT MULTIPLIER				CR02125:
4674	0114		RS1							CR02126:
675	6473		ZJR	VXT						CR02127:
4676	4317		STR	VMLTR						CR02128:
4677	0201	VFIN	LPN	1						CR02129:
700	6011		ZJF	VDOM						CR02130:
4701	2324		LDR	VM2						CR02131:
4702	5074		RAD	ACCJ	1					CR02132:
703	6204		PJF	VNOC						CR02133:
4704	1211		LPF	V3777						CR02134:
705	4074		STD	ACCJ	1					CR02135:
706	5473		AGD	ACCJ						CR02136:
4707	2331	VNOC	LDR	VM1						CR02137:
710	5073		RAD	ACCJ						CR02138:
711	4733	VDOM	SRR	VM1		DOUBLE MULTIPLICAND				CR02139:
4712	4735		SRR	VM2						CR02140:
713	6620		PJB	VSTAR						CR02141:
714	1200		LPF	0						CR02142:
4715	3777	V3777		3777						CR02143:
716	4341		STB	VM2						CR02144:
717	5741		AOR	VM1						CR02145:
4720	6625		PJB	VSTAR						CR02146:
721	6756		NJR	VXTQ						CR02147:



0032	WACC	EQU	ACC		CR02148
4316	WCHAR	EQU	CHAR		CR02149
7777	Z	EQU	7777		CR02150
4722	7101	ALGBR1	JFI	1	CR02151
4723	7700	ALGBRA	HLT		CR02152
			REM		CR02153
4724	2022	BSCANB	LDD	BINIT	CR02154
4725	4072		STD	BINITB	CR02155
4726	2172	HSCNBA	LDI	BINITB	CR02156
4727	0217		LPN	17	CR02157
4730	3306		AD9	ALGBR1	CR02158
4731	4201		STF	BSCNBB	CR02159
4732	7101	BSCNBB	JFI	1	CR02160
4733	4767			R0	CR02161
4734	4772			B1	CR02162
4735	5000			B2	CR02163
4736	5000			B2	CR02164
4737	5026			B4	CR02165
4740	5026			B4	CR02166
4741	5066			B6	CR02167
4742	5047			B7	CR02168
4743	5032			B10	CR02169
4744	4753			BBERR	CR02170
4745	4753			BBERR	CR02171
4746	4767			R0	CR02172
4747	5041			B14	CR02173
4750	5055			B15	CR02174
4751	4755			B16	CR02175
4752	4755			B16	CR02176
4753	0427	BBERR	LDN	COMPER	CR02177
4754	6135		NZR	TLT6	CR02178
4755	0400	B16	LDN	0	CR02179
4756	4066		STD	BFIRSW	CR02180
4757	2071		LDD	BVARSW	CR02181
4760	3073		ADD	BPARSW	CR02182
4761	6104		NZR	B16B	CR02183
4762	4067	B16A	STD	BOPRSW	CR02184
4763	5471		AOD	BVARSW	CR02185
4764	6103		NZR	R0	CR02186
4765	0435	B16B	LDN	DBLVAR	CR02187
4766	6123		NZR	TLT6	CR02188
4767	5472	B0	AOD	BINITB	CR02189
4770	4016		STD	BEND	CR02190
4771	6543		NZB	BSCNBA	CR02191
4772	2065	B1	LDD	BPWRSW	CR02192
4773	6003		ZJF	B1A	CR02193
4774	0430		LDN	DBLPWR	CR02194
4775	6114		NZR	TLT6	CR02195
4776	5465	B1A	AOD	BPWRSW	CR02196
4777	6103		NZF	B2C	CR02197
5000	0400	B2	LDN	0	CR02198
5001	4065		STD	BPWRSW	CR02199
5002	2066	B2C	LDD	BFIRSW	CR02200
5003	6003		ZJR	B2A	CR02201
5004	0431		LDN	LEADOP	CR02202
5005	6104		NZR	TLT6	CR02203
5006	2067	B2A	LDD	BOPRSW	CR02204
5007	6004		ZJF	B2B	CR02205
5010	0432		LDN	DBLOPR	CR02206
5011	7101	TLT6	JFI	1	CR02207

INDICATES BLANK CONSTANT
RETURN ADDRESS
SCAN FOR ERRORS
INITIAL LOCATION
OPERATION CODE (JFI OR COMMAND)
SET SWITCHBOARD
BLANK
**
*
/
+
-
END
)
.
FUNC.
(
START
2-WORD VAR.
3-WORD VAR.
RESET 1ST OPER. SWITCH
VARIABLE SW. SET
N0 -- ZERO OPERATOR SWITCH
SET VARIABLE SWITCH
INCREASE LOCATION COUNTER
PRECEDING POWER OPERATOR YES
SET POWER SWITCH
ZERO POWER SWITCH
ILLEGAL LEADING OPERATOR YES
PRECEDING OPERATOR YES

5012	4050		TILT						C802217:
5013	4071	B2B	STD	BVARSW	ZERO VARIABLE SWITCH				C802218:
5014	4073		STD	BPARSW	ZERO RT. PAR. SWITCH				C802219:
5015	5467		ACD	BOPRSW	SET OPERATOR SWITCH				C802220:
5016	2000		LDD	SWBOOL					C802221:
5017	6530		NZR	B0	BOOLEAN STATEMENT				C802222:
5020	5572		AOI	BINITB	YES -> MODIFY OPERATOR				C802223:
5021	0706		SBN	6					C802224:
5022	6533		NZR	B0					C802225:
5023	0401		LDN	1	YES				C802226:
5024	4172		STI	BINITB	CHANGE TO 1				C802227:
5025	6636	B2D	PJR	B0					C802225:
5026	0400	B4	LDN	0					C802229:
5027	4065		STD	BPWRSW	ZERO POWER SWITCH				C802230:
5030	4066		STD	BFIRSW	ZERO 1ST OPER. SWITCH				C802231:
5031	6423		ZJR	B2A					C802232:
5032	5466	B10	ACD	BFIRSW	SET 1ST OPER. SWITCH				C802233:
5033	2070		LDD	BPRCNT					C802234:
5034	6103		NZR	B10A	BAD COMMA				C802235:
5035	0440		LDN	BADCOMA	YES				C802236:
5036	6525		NZR	TLT6					C802237:
5037	0400	B10A	LDN	0					C802238:
5040	6021		ZJR	B15A					C802239:
5041	5470	B14	ACD	BPRCNT	INCREASE PARENTHESES COUNT				C802240:
5042	5466		ACD	BFIRSW	SET 1ST OPER. SWITCH				C802241:
5043	2073		LDD	BPARSW					C802242:
5044	3071		ADD	BVARSW					C802243:
5045	6014		ZJR	B15A	LEFT PAR. AFTER RT. PAR				C802244:
5046	6561		NZR	B16B	YES				C802245:
5047	0501	B7	LCN	1					C802246:
5050	5070		RAD	BPRCNT	REDUCE PARENTHESES COUNT				C802247:
5051	6323		NJR	B6B	MORE ) THAN (				C802248:
5052	5473		ACD	BPARSW	NO - SET RT. PAR. SW				C802249:
5053	0400		LDN	0					C802250:
5054	6006		ZJR	B15B					C802251:
5055	0401	B15	LDN	1					C802252:
5056	4066		STD	BFIRSW	SET 1ST OPER. SWITCH				C802253:
5057	0400		LDN	0	ZERO SWITCHES				C802254:
5060	4070		STD	BPRCNT					C802256:
5061	4073	B15A	STD	BPARSW					C802257:
5062	4065	B15B	STD	BPWRSW					C802258:
5063	4067		STD	BOPRSW					C802259:
5064	4071		STD	BVARSW					C802260:
5065	6640		PJR	B2D					C802261:
5066	2067	B6	LDD	BOPRSW					C802262:
5067	6003		ZJF	B6A	TRAILING OPERATOR				C802263:
5070	0433		LDN	TRLOPR	YES				C802264:
5071	6560		NZR	TLT6					C802265:
5072	2070	B6A	LDD	BPRCNT					C802266:
5073	6003		ZJF	BOUT	UNEQUAL ( AND )				C802267:
5074	0434	B6B	LDN	UNEQPR	YES				C802268:
5075	6564		NZR	TLT6					C802269:
5076	0400	BOUT	LDN	0	ZERO SWITCHES				C802270:
5077	4300		STS						C802271:
5080	4053		STD	ERSBIT					C802272:
5101	4036		STD	BSTOSW					C802273:
5102	4154		STI	ERSLOC					C802274:
5103	2022		LDD	BINIT	INITIAL LOCATION				C802275:
5104	7100		JPR	BSCANC	MODE OF STATEMENT DETERMINATION				C802276:
5105	6066								

00146

5106	2030	LDD	BMODE			CR02277
5107	6103	NZR	BOUTA	INTEGER MODE		CR02278
5110	4200	STF	0	YES		CR02279
5111	7777	L(FLOP	7777	ZERO IF FLOATING POINT USED		CR02280
5112	4026	BOUTA	STD	SAVE MODE OF ENCOMPASSING GROUP		CR02281
5113	0440	LDN	RMDSAV			CR02282
5114	4056	STD	LRASE	PRESET PERASE STATEMENT COUNTER		CR02283
5115	0400	BPG	LDN	ZERO SWITCHES		CR02284
5116	4055	STD	FORBAK			CR02285
5117	4037	STD	BSTRSW			CR02286
5120	2026	LDD	BMDSAV	MODE OF STATEMENT		CR02287
5121	4030	STD	BMODE	TO CURRENT MODE		CR02288
5122	0402	LDN	2			CR02289
5123	4014	STD	ACCN			CR02290
5124	7100	JPR	BSCANH	PAREN. GROUP DETERMINATION		CR02291
5125	6523					
5126	2023	LDD	BINITA			CR02292
5127	4074	STD	BSAVE1	SAVE START OF PAREN. GROUP		CR02293
5130	2024	LDD	BINITC			CR02294
5131	4023	STD	BINITA			CR02295
5132	7100	JPR	BSCANA	SUBGROUP SCAN		CR02296
5133	5746					
5134	2200	BPGYB	LDF	0	CONTENTS SWITCH	
5135	0001	BPGYC		1		
5136	3073		ADD	BPARSW	PAREN. SWITCH	
5137	3017		ADD	BENDSW	END OF STATEMENT SWITCH	
5140	6104		NZR	BPGYA	JUMP FOR CONT.	
5141	4135		STI	BSONLC	ZERO RIGHT PAREN.	
5142	4174		STI	BSAVE1	ZERO FOR LEFT PAREN.	
5143	6056		ZJR	BPGZ	JUMP FOR ERASE STORE	
5144	2041	BPGYA	LDD	BTEMP2		CR02297
5145	4043		STD	BTRMOP	SAVE TERMINAL OPERATOR	CR02298
5146	2072		LDD	BINITB		CR02299
5147	4042		STD	BTRMNL	SAVE TERMINAL LOCATION	CR02300
5150	0411		LDN	11	PSEUDO END TO	CR02301
5151	4142		STI	BTRMNL	TERMINAL LOCATION	CR02302
5152	2073		LDD	BPARSW		CR02303
5153	6104		NZR	BPGB	PAREN. GROUP IN SUBGROUP	CR02304
5154	7100		JPR	BWPG1	NO -- EVALUATE SUBGROUP	CR02305
5155	5373					
5156	6221		PJR	BPGD		CR02306
5157	2074	BPGB	LDD	BSAVE1		CR02307
5160	4023		STD	BINITA	RESET INITIAL LOCATION	CR02308
5161	0420		LDN	20		CR02309
5162	5123		RAI	BINITA	INCREASE COMMA COUNT	CR02310
5163	0115		RS2			CR02311
5164	0115		RS2			CR02312
5165	4015		STD	BCOMAS		CR02313
5166	7100		JPR	BWPG1		CR02314
5167	5373					
5170	2020	BPGBA	LDD	BFUNSW		CR02315
5171	6142		NZR	BFG	NOT ZERO MEANS YES	CR02316
5172	7100	BPGC	JPR	BSCANT	PAREN GROUP STORE CHECK	CR02317
5173	7204					
5174	4142		STI	BTRMNL	PSEUDO END TO TERMINAL LOCATION	CR0231
5175	7100		JPR	BWPG1	GO TO EVALUATE	CR023208
5176	5373					
5177	2024	BPGD	LDD	BINITC		CR02321
5200	4023		STD	BINITA	HI LEVEL LOCATION	CR023228
5201	7100		JPR	BSCANA	SUBGROUP SCAN	CR02323

00147

202	5746					
5203	2070		LDD	B0COUNT		CR02324:
204	6110		NZR	BPGDA	CONTENTS EXHAUSTED	CR02325:
05	2017	BPGDB	LDD	BENDSW	YES	:
5206	4351		STR	BPGYC	SET CONTENTS SWITCH	:
207	6472		ZJR	BPG		CR02327:
210	7100		JPR	BPTSUB	YES	:
5211	5716					:
212	7101		JFI	1		:
213	4722			ALGBR1		:
5214	5437	BPGDA	ADD	BSTRSW <i>meet</i> STR BPGYC	SET CONTENTS SWITCH	CR02330:
215	7100		JPR	BSCANU	MODE COMPARISON CHECK	CR02331:
216	7264					:
5217	2073		LDD	BPARSW		CR02332:
220	6464		ZJR	BPGYB	PAREN. GROUP ENCOUNTERED	CR02333:
221	0501	BPGZ	LCN	1		CR02334:
5222	5035		RAD	BSCNLC	REDUCE LOC. COUNTER	CR02335:
223	7100	BPGG	JPR	BSCANS	STORE ERASE SUBROUTINE	CR02336:
224	7140					:
5225	0401		LDN	1		:
226	4371		STR	BPGYC	RESET SWITCH	:
227	7101		JFI	1		CR02337:
5230	5115			BPG		CR02338:
231	4400	BFGKA		4400		CR02344:
232	0000	LERASE				CR02345:
5233	2301	BFG	LDR	LERASE		CR02346:
234	6103		NZR	BFGM	1ST FUNCTION ENCOUNTERED	CR02347:
235	0440		LDN	32D		CR02348:
236	4304		STR	LERASE	SET ERASE PROGRAM COUNTER	CR02349:
237	0400	BFGM	LDN	0		CR02350:
240	4162		STI	BOPLOC	ZERO RIGHT PARENTHESES	CR02351:
5241	2120		LDI	BFUNSW		CR02352:
242	0111		LS6		RELATIVE FUNCTION LOCATION	CR02353:
243	0277		LPN	77	TO LOW ORDER	CR02354:
5244	4074		STD	BSAVE1		CR02355:
245	6111		NZR	BFGF	OTH. RELATIVE FUNCTION	CR02356:
246	7100		JPR	BPTSUB	YES -- STORE PREVIOUS COMMAND	CR02357:
5247	5716					:
250	2030		LDD	BMODE		CR02358:
251	0201		LPN	1	MODE BIT INDICATOR	CR02359:
5252	3200		ADC	4640	SSR COMMAND	CR02360:
253	4640					:
254	4046		STD	BWORD1		CR02361:
5255	6140		NZR	BFGI		CR02362:
256	2154	BFGF	LDI	ERSLOC	PREVIOUS FUNCTION LOCATION	CR02363:
257	6103		NZR	BFGK	1ST FUNCTION	CR02364:
5260	5454		ADD	ERSLOC	YES	CR02365:
261	6116		NZR	BFGI		CR02366:
262	1420	BFGK	LSD	BFUNSW	CURRENT FUNCTION LOCATION	CR02367:
5263	6017		ZJR	BFGC	FUNC. SAME AS PREV. FUNC.	CR02368:
264	5454		ADD	ERSLOC	NO	CR02369:
265	7100		JPR	BPTSUB	PUTAWAY PREVIOUS COMMAND	CR02370:
5266	5716					:
267	2154		LDI	ERSLOC	NO. OF PREVIOUS FUNCTION PARAMETERS	CR02371:
70	1737		LSR	BFGKA	INCR ERASE COUNTER COMMAND	CR02372:
5271	4046		STD	BWORD1	TO COMMAND STORAGE	CR02373:
272	5456		ADD	LRASE	INCREMENT ERASE STATEMENT CNTR.	CR02374:
273	3741		SBR	LERASE	ERASE PROGRAM COUNTER	CR02375:
5274	6303		NJR	BFGI	PROGRAM COUNT GREATER STATEMENT COUNT	CR02376:
275	2056		LDD	LRASE	NO	CR02377:

5276	4344		STR	LERASE	RESET PROGRAM COUNT	CB02378
5277	5454	BFGI	AGD	ERSLOC		CB02379
5300	2020		LDD	BFUNSW		CB02380
5301	4154		STI	ERSLOC	FUNCTION LOCATION TO LIST	CB02381
5302	2054	BFGC	LDD	ERSLOC		CB02382
5303	0601		ADN	1		CB02383
5304	4040		STD	BTEMP1		CB02384
5305	3445		SBD	BOXLST		CB02385
5306	1440		SCD	BTEMP1		CB02386
5307	1445		SCD	BOXLST		CB02387
5310	0201		LPN	1		CB02388
5311	6112		NZR	BFGC		CB02389
5312	0437		LDN	NMRLST	NO	CB02390
5313	7101		JFI	1		CB02391
5314	4050			TILT		CB02392
5315	0500	BFGI	LCN	0		CB02393
5316	4033		STD	BOPTST	SET FUNC. ERASE STORE SWITCH	CB02394
5317	0400	BFGN	LDN	0	ZERO FUNCTION IDENT	CB02395
5320	4120		STI	BFUNSW		CB02396
5321	7101		JFI	1		CB02397
5322	5172			BPGC		CB02398
5323	2015	BFGB	LDD	BCOMAS	NO. OF FUNCTION PARAMETERS	CB02399
5324	4140		STI	BTEMP1	TO LIST	CB02400
5325	1434		LSD	BRTPAR		CB02401
5326	6013		ZJR	BFGC	JUMP FOR SINGLE VALUED FUNC.	CB02402
5327	7100		JPR	BPTSUB	PUTAWAY PREVIOUS COMMAND	CB02403
5330	5716					
5331	2015		LDD	BCOMAS		CB02404
5332	3200		ADC	2417		CB02405
5333	2417					
5334	4046		STD	BWORD1	STORE ERSM COMMAND	CB02406
5335	2034		LDD	BRTPAR		CB02407
5336	6103		NZR	BFGC	TERMINAL FUNCTION PARAMETER	CB02408
5337	7101		JFI	1	NO	CB02409
5340	5115			BPG	EXIT	CB02410
5341	0502	BFGC	LCN	2		CB02411
5342	5054		RAD	ERSLOC	REDUCE LOCATION INDICATOR	CB02412
5343	0601		ADN	1		CB02413
5344	4075		STD	BSAVE2		CB02414
5345	7100	BFGA	JPR	BPTSUB	PUTAWAY PREVIOUS COMMAND	CB02415
5346	5716					
5347	2074		LDD	BSAVE1	RELATIVE FUNCTION LOC.	CB02416
5350	1600		LSC	200		CB02417
5351	0200					
5352	4046		STD	BWORD1	TRANSFER COMMAND	CB02418
5353	2120		LDI	BFUNSW		CB02419
5354	0220		LPN	20	MODE BIT	CB02420
5355	6002		ZJR	BFGG	INTEGER MODE	CB02421
5356	0405		LDN	5	YES	CB02422
5357	4030	BFGG	STD	BMODE	STORE MODE INDICATOR	CB02423
5360	2154		LDI	ERSLOC		CB02424
5361	6444		ZJR	BFGI	DECREMENT ERASE COMMAND NEEDED	CB02425
5362	5431	BFGJ	ADD	BNOWDS	YES	CB02426
5363	0501		LCN	1	DECREMENT STATEMENT COUNT	CB02427
5364	5056		RAD	LRASE		CB02428
5365	2175		LDI	BSAVE2	MAGNITUDE OF DECREMENT	CB02429
5366	1600		LSC	4440		CB02430
5367	4440					
5370	4047		STD	BWORD2	DECREMENT ERASE COMMAND	CB02431
5371	6554		NZR	BFGI		CB02432

5372	7101	BWPG1Z	JFI	1			CR024338
5373	7700	BWPG1	HLT				CR02434:
5374	0400	BWPG	LDN	0	ZERO SWITCHES		CR02435:
5375	4075		STD	BWRONG	SET SWITCH		CR02436:
5376	4074		STD	BVARTP			CR024378
5377	2037		LDD	BSTRSW			CR02438:
5400	6003		ZJR	BWPGZW	STORE SWITCH SET		CR024398
5401	7101		JFI	1	YES -> DO STORE		CR02440:
5402	5634			BWPGAR			CR02441:
5403	2055	BWPGZW	LDD	FORBAK			CR024428
5404	6003		ZJR	BWPGZV	BACKWARD SCAN		CR02443:
5405	7101		JFI	1	YES		CR02444:
5406	5567			BWPGAK			CR02445:
5407	2023	BWPGZV	LDD	BINITA			CR024468
5410	7100		JPR	BSCANC	MODE DETERMINATION		CR024478
5411	6066						:
5412	7100	BWPGZY	JPR	BSCANA	OPERATOR SCAN		CR024488
5413	5746						:
5414	0404		LDN	4			CR02449:
5415	4064		STD	BOPRTR	SET FOR ADD		CR02450:
5416	4052		STD	BOPFST	SET FOR BOOLEAN		CR024510
5417	2061		LDD	BH3SW			CR02452:
5420	6104		NZR	BWPGZZ	** OPERATOR		CR02453:
5421	4075		STD	BWRONG			CR02454:
5422	7101		JFI	1	NO		CR024558
5423	5546			BWPGA			CR02456:
5424	4035	BWPGZZ	STD	BSCNLC	STORE OPERATOR LOC.		CR024578
5425	4062		STD	BOPLOC			CR024588
5426	2000		LDD	SWBOOL			CR024598
5427	6105		NZR	BWPGZU	BOOLEAN STATEMENT		CR02460:
5430	0401		LDN	1	YES		CR02461:
5431	4064		STD	BOPRTR	SET OPERATOR INDICATOR		CR02462:
5432	7101		JFI	1			CR02463:
5433	5565			BWPGAH	PROCESS STRING		CR02464:
5434	0400	BWPGZU	LDN	0			CR02467:
5435	4161		STI	BH3SW	ZERO ** OPERATOR		CR02468:
5436	4057		STD	**OPT	CLEAR OPTION SWITCH		CR02469:
5437	0500		LCN	0			CR024708
5440	4075		STD	BWRONG	SET SWITCH		CR02471:
5441	7100		JPR	BSCANR	TO LOAD ROUTINE		CR02472:
5442	7100						:
5443	4074		STD	BVARTP	CLEAR VARIABLE TYPE SWITCH		CR02473:
5444	2014		LDD	ACCN			CR02474:
5445	4063		STD	BOPRSV	SAVE ACCN INDICATOR		CR02475:
5446	0401		LDN	1			CR02476:
5447	4014		STD	ACCN	SET ACCN TO 1		CR02477:
5450	7100		JPR	BSCANN	ACCN STORE ROUTINE		CR02478:
5451	6753						:
5452	2063		LDD	BOPRSV			CR02479:
5453	4014		STD	ACCN	RESTORE ACCN INDICATOR		CR024800
5454	0500		LCN	0			CR024818
5455	4055		STD	FORBAK	SET FOR REVERSE SCAN		CR02482:
5456	7100		JPR	BSCANQ	LOG. OF A (A**B)		CR024838
5457	7065						:
5460	2457		LCN	**OPT			CR024848
5461	1135		LPI	BSCNLC			CR02485:
5462	0220		LPN	20			CR02486:
5463	6003		ZJR	BWPGF	I**A OPTION		CR02487:
5464	0400		LDN	0	YES -> RESET SWITCH		CR02488:
5465	4075		STD	BWRONG			CR024898

5466	7100	BWPGF	JPR	BSCANR	TO LOAD ROUTINE	CR02490
5467	7100					
5470	4075		STD	BWRONG	RESET SWITCH	CR02491
5471	7100		JFR	BPTSUB	GENERATE PREVIOUS COMMAND	CR02492
5472	5716					
5473	2057		LDD	**OPT	PWR BIT INDICATOR	CR02493
5474	0111		LS6			CR02494
5475	0103		LS2		TO LOW ORDER BITS	CR02495
5476	0203		LPN	3		CR02496
5477	4040		STD	BTEMP1		CR02497
5500	0114		RS1			CR02498
5501	4041		STD	BTEMP2	BASE BIT	CR02499
5502	1040		LPD	BTEMP1	CHANGE I**B TO A**B OPTION	CR02500
5503	3041		ADD	BTEMP2		CR02501
5504	3200		ADC	5000		CR02502
5505	5000					
5506	4046		STD	BWORD1	TRANSFER COMMAND	CR02503
5507	0203		LPN	3	OPTION BITS	CR02504
5510	0102		LS1		TIMES 2	CR02505
5511	6102		NZF	BSTBTA		CR02506
5512	0601		ADN	1	PLUS ONE	CR02507
5513	4040	BSTBTA	STD	BTEMP1		CR02508
5514	2440		LCD	BTEMP1	INCLUSIVE OR OF	CR02509
5515	1216		LPR	PWRBIT	BIT AND CELL	CR02510
5516	1440		LSD	BTEMP1	PWRBIT	CR02511
5517	4214		STR	PWRBIT		CR02512
5520	2030		LDD	BMODE		CR02513
5521	0201		LPN	1	MODE BIT INDICATOR	CR02514
5522	1600		LSC	4600		CR02515
5523	4600					
5524	4047		STD	BWORD2	CONVERT ACCUMULATOR COMMAND	CR02516
5525	0102		LS1			CR02517
5526	1446		LSD	BWORD1		CR02518
5527	0202		LPN	2	MODE OF POWER ROUTINE EQUAL	CR02519
5530	6037		ZJR	BWPGAK	MODE OF GROUP	CR02520
5531	5431		AOD	BNOWDS	NO -- GENERATE CONVERT COMMAND	CR02521
5532	6135		NZR	BWPGAK		CR02522
5533	0000	PWRBIT				CR02523
5534	2135	BWPGAS	LDI	BSCNLC	CURRENT SCAN LOCATION	CR02524
5535	1200		LPC	7700	PREVIOUS OPERATOR INDICATOR	CR02525
5536	7700					CR02526
5537	1055		LPD	FURBAK	7777 FOR REVERSE SCAN	CR02527
5540	6025		ZJR	BWPGAH	PREVIOUS / OPERATOR	CR02528
5541	5435		AOD	BSCNLC	YES	CR02529
5542	2043		LDD	BTRMOP		CR02530
5543	4142		STI	BTRMNL	RESTORE TERMINAL OPERATOR	CR02531
5544	7101		JFI	1	GENERATE STORE ERASE COMMAND	CR02532
5545	5223			BPGG		CR02533
5546	2071	BWPGA	LDD	BH2SW		CR02534
5547	6073		ZJR	BWPGBA	* OR / OPERATORS	CR02535
5550	2067		LDD	B*/SW	YES	CR02536
5551	4035		STD	BSCNLC	OPERAND LOCATION	CR02537
5552	2066		LDD	B+SW		CR02538
5553	4064		STD	BOPRTR	ADD OR SUB OPERATOR	CR02539
5554	4052		STD	BOPFST		CR02540
5555	2070		LDD	FRSTOP		CR02541
5556	6103		NZR	BWPGAQ	STARTING OPERATOR	CR02542
5557	4167		STI	B*/SW	YES -- ZERO OPERATOR	CR02543
5560	5435		AOD	BSCNLC	OPERAND LOCATION	CR02544
5561	7100	BWPGAQ	JPR	BSCANR	LOAD DRIVER ROUTINE	CR02545

5562	7100						
5563	5435	BWPGAB	AOD	BSCNLC	OPERATOR LOCATION		CR02547:
564	6103		NZR	BWPGAK			CR02548:
565	7100	BWPGAH	JPR	BSCANO	INTERROGATE OPERAND		CR02549:
5566	7011						
567	7100	BWPGAK	JPR	BSCANJ	DETERMINE OPERATOR		CR02550:
5570	6577						
5571	6535		NZR	BWPGAS	*,/		CR02551A
572	6103		NZR	BWPGAI	+,*		CR02552:
5573	6127		NZR	BWPGAM	END		CR02553:
5574	6116		NZR	BWPGAL	START		CR02554A
575	2455	BWPGAI	LCD	FORBAK			CR02555A
5576	6124		NZR	BWPGAM	BACKWARD DIRECTION		CR02556A
5577	4135		STI	BSCNLC	NO -- ZERO +, = OPERATOR		CR02559A
600	2064		LDD	BOPRTR	OPERATOR		CR02560:
5601	0201		LPN	1			CR02561:
5602	6011		ZJR	BWPGAG	-SIGN		CR02562:
603	7100		JPR	BPTSUB	YES -- GENERATE PREVIOUS COMMAND		CR02563A
5604	5716						
5605	2030		LDD	BMODE			CR02564:
606	0201		LPN	1	MODE INDICATOR BIT		CR02565:
5607	3200		ADC	4642	PLUS CHS COMMAND		CR02566A
5610	4642						
611	4046		STD	BWORD1			CR025670
5612	0400	BWPGAL	LDN	0			CR02568A
5613	4055	BWPGAG	STD	FORBAK	RESET SWITCH TO FORWARD DIRECTION		CR02569A
614	2065		LDD	BWRSW	NO. OF ** OPERATORS		CR02570:
5615	0114		RS1				CR02571A
16	6433		ZJR	BWPGAB	MULTIPLE ** OPERATORS		CR02572:
617	0416		LDN	16	YES -- OPERAND INDICATOR		CR025730
5620	4161		STI	BH3SW	TO SCAN LIST		CR02574:
5621	6115		NZR	BWPGAP			CR02575:
622	2000	BWPGAM	LDD	SWBOOL			CR02576A
5623	6006		ZJR	BWPGAN	BOOLEAN		CR02577:
5624	2037		LDD	BSTRSW	NO		CR02578:
625	6004		ZJR	BWPGAN	ADD COMMAND NECESSARY		CR02579:
5626	0404		LDN	4	ADD OPERATOR		CR02580A
5627	7100		JPR	BSCANM	ACCN ARITHMETIC		CR02581A
630	6701						
5631	5437	BWPGAN	AOD	BSTRSW	SET STORAGE SWITCH		CR02582A
5632	7100	BWPGAC	JPR	BSCANA	SUB GROUP SCAN		CR02583
633	5746						
5634	2077	BWPGAR	LDD	BH23SW			CR02584:
5635	6003		ZJR	BWPGAO	*,/ OPERATORS LEFT		CR02585A
536	7100	BWPGAP	JPR	BSCANN	YES -- GENERATE STORE COMMAND		CR02586:
5637	6753						
5640	7101	BWPGAO	JFI	1			CR02587:
541	5412			BWPGZY	RETURN FOR NEXT SUBGROUP		CR02588:
5642	2023	BWPGBA	LDD	BINITA			CR02589:
5643	0601		ADM	1			CR02590:
544	4035		STD	BSCNLC	RESET LOCATION COUNTER		CR02591:
5645	7100	BWPGBG	JPR	BSCANJ	OPERATOR SCAN		CR02592A
5646	6577						
547	0001		NOPI				CR02593:
50	6112		NZR	BWPGBC	+,* OPERATOR		CR02594:
5651	0001		NOPI		END OF SUBGROUP		CR02595:
552	2066		LDD	BVARCD			CR02596:
5653	6111		NZR	BWPGBI	SINGLE OPERAND LEFT		CR02597A
5654	4037		STD	BSTRSW	NO		CR02598:
555	4135		STI	BSCNLC	ZERO ENDING OPERATOR		CR025990



5656	2043	LDD	BTRMOP	RESTORE TERMINAL OPERATOR	CR02600
5657	4142	STI	BTRMNL		CR02601
5660	7101	JFI	1	EXIT	CR02602
5661	5372		BWPG1Z		CR02603
5662	2066	BWPGBC	LDD	BVARCD	CR02607
5663	6015	ZJR	BWPGBF	VARIABLE ENCOUNTERED	CR02608
5664	2000	BWPGBI	LDD	BWBOOL	CR02609
5665	6103	NZR	BWPGBH	BOOLEAN STATEMENT	CR02610
5666	2052	LDD	BOPFST	YES -- GET LAST OPERATOR	CR02611
5667	6202	PJR	BWPGBJ		CR02612
5670	0404	BWPGBH	LDN	4	CR02613
5671	4064	BWPGBJ	STD	BOPRTR	CR02614
5672	4063		STD	BOPRSV	CR02615
5673	2023		LDD	BINITA	CR02616
5674	4035		STD	BSCNLC	CR02617
5675	0601		ADN	1	CR02618
5676	4062		STD	BOPLOC	CR02619
5677	6103		NZR	BWPGBB	CR02620
5700	0400	BWPGBF	LDN	0	CR02621
5701	4135		STI	BSCNLC	CR02622
5702	2037	BWPGBB	LDD	BSTRSW	CR02623
5703	6107		NZR	BWPGBD	CR02624
5704	5435		AOD	BSCNLC	CR02625
5705	7100		JPR	BSCANR	CR02626
5706	7100				
5707	5437		AOD	BSTRSW	CR02627
5710	5435	BWPGBE	AOD	BSCNLC	CR02628
5711	6544		NZR	BWPGBG	CR02629
5712	7100	BWPGBD	JPR	BSCAN0	CR02630
5713	7011				
5714	6404		ZJR	BWPGBE	CR02631
			REM		CR02632
5715	7101	BPTSBJ	JFI	1	CR02633
5716	7700	BPTSUB	HLT		CR02634
5717	2300		LDS		CR02635
5720	6110		NZR	BPTSBA	CR02636
5721	5700		AOS		CR02637
5722	0400		LDN	0	CR02638
5723	4032	BPTSBJ	STD	BNSW	CR02639
5724	4033		STD	BPUTST	CR02640
5725	0401		LDN	1	CR02641
5726	4031		STD	BNOWDS	CR02642
5727	6512		NZR	BPTSBJ	CR02643
5730	2200	BPTSBA	LDF	0	CR02644
5731	1446		LSD	BWORD1	CR02645
5732	4202		STF	BPTSBJ	CR02646
5733	2032		LDD	BNSW	CR02647
5734	1446	BPTSBJ	LSD	BWORD1	CR02648
5735	7100		JPR	PUTWAY	CR02649
5736	7665				
5737	0501		LDN	1	CR02650
5740	5031		RAD	BNOWDS	CR02651
5741	6416		ZJR	BPTSBJ	CR02652
5742	5706		AOR	BPTSBJ	CR02653
5743	0400		LDN	0	CR02654
5744	6410		ZJR	BPTSBJ	CR02655
			REM		CR02656
5745	7101	BSCNAZ	JFI	1	CR02657
5746	7700	BSCANA	HLT		CR02658
5747	2023		LDD	BINITA	CR02659

5750	0601		ADN	1					CR02660:
5751	4072		STD	BINITB					CR02661:
752	4067		STD	B*/SW		SET SWITCH			CR02662:
753	4076		STD	FRSTOP					CR02663:
5754	0400		LDN	0					CR02664:
755	4061		STD	BH3SW		ZERO			CR02665:
5756	4071		STD	BH2SW		SWITCHES			CR02666:
5757	4070		STD	BCOUNT					CR02667:
760	4040		STD	BTEMP1					
5761	4073		STD	BPARSW					CR02668:
5762	4065		STD	BPWRSW					CR02669:
763	4077		STD	BH23SW					CR02670:
5764	4027		STD	BMDSV1					CR02671:
5765	0404		LDN	4					CR02672:
766	4066		STD	B+=SW		ADD OPERATOR			CR02673:
5767	2172	BSCNAA	LDI	BINITB					CR02674:
5770	0217		LPN	17		OPERATION CODE			CR02675:
771	4041		STD	BTEMP2					CR02676:
5772	6016		ZJR	A0A					CR02677:
5773	0114		RS1						CR02678:
774	3327		ADR	BSCNAZ		(JFI 01 COMMAND)			CR02679:
5775	4201		STF	BSCNAB		SET SWITCHBOARD			CR02680:
5776	7101	BSCNAB	JFI	1					CR02681:
777	6012			A1		**			CR02682:
6000	6021			A2		**			CR02683:
6001	6034			A4		**			CR02684:
002	5745			BSCNAZ		END.)			CR02685:
6003	5745			BSCNAZ		, PSEUDO END			CR02686:
04	6007			A0		FALSE COMMA,FUNCTION			CR02687:
005	6044			A14		(,START			CR02688:
6006	6007			A0		OPERAND			CR02689:
6007	5470	A0	A0D	BCOUNT		INCREMENT ELEMENT COUNTER			CR02690:
010	5472	A0A	A0D	BINITB		INCREASE LOCATION COUNTER			CR02691:
6011	6522		NZB	BSCNAA					CR02692:
6012	2061	A1	LDD	BH3SW					CR02693:
013	6103		NZR	A1B		** ALREADY ENCOUNTERED			CR02694:
6014	2072		LDD	BINITB		NO			CR02695:
6015	4061		STD	BH3SW		SET ** SWITCH			CR02696:
016	5465	A1B	A0D	BPWRSW		INCREMENT ** COUNTER			CR02697:
6017	5477	A1A	A0D	BH23SW		** , , / INDICATOR			CR02698:
6020	6511		NZR	A0					CR02699:
021	0401	A2	LDN	1					
6022	1040		LPD	BTEMP1		0 FOR *, 1 FOR /			
6023	0111		LS6			TO UPPER HALF			
024	3041		ADD	BTEMP2		PLUS OPERATOR			
6025	4172		STI	BINITB		TO SCAN LIST			
6026	4040		STD	BTEMP1		SET PREVIOUS OPERATOR			
027	2071		LDD	BH2SW					
6030	6511		NZR	A1A		** , / ALREADY ENCOUNTERED			CR02702:
6031	2072		LDD	BINITB		NO			CR02701:
032	4071		STD	BH2SW		SET ** / SWITCH			CR02703:
6033	6514		NZR	A1A					CR02704:
6034	2077	A4	LDD	BH23SW					CR02705:
35	6570		NZR	BSCNAZ		B*/SW SET CORRECTLY			CR02706:
6036	4076		STD	FRSTOP					CR02707:
6037	2072		LDD	BINITB		NO			CR02708:
040	4067		STD	B*/SW		SET			CR02709:
6041	2041		LDD	BTEMP2		SWITCHES			CR02710:
6042	4066		STD	B+=SW					CR02711:
043	6534		NZR	A0					CR02712:

6044	0401	A14	LDN	1			CR02713
6045	4075		STD	BTEMP3	INITIALIZE COUNTER		CR02714
6046	5472	A14A	ADD	BINITB	INCR. LOC. COUNTER		CR02715
6047	2172		LDI	BINITB	OPERATION INDICATOR		CR02716
6050	0707		SBN	7			CR02717
6051	6105		NZR	A14B	RIGHT PAREN.		CR02718
6052	0501		LCN	1	YES		CR02719
6053	5075		RAD	BTEMP3			CR02720
6054	6006		ZJR	A14C	MATCHING RIGHT PAREN.		CR02721
6055	5507		NZR	A14A	NO		CR02722
6056	0705	A14B	SBN	5			CR02723
6057	6511		NZR	A14A	LEFT PAREN.		CR02724
6060	5475		ADD	BTEMP3	YES -> INCREASE COUNTER		CR02725
6061	6513		NZR	A14A			CR02726
6062	5473	A14C	ADD	BPARSW	SET PAREN. GROUP SWITCH		CR02727
6063	6554		NZR	A0			CR02728
			REM		MODE DETERMINATION		CR02729
6064	4030	BSCNCZ	STD	BMODE	STORE FLOATING POINT MODE		CR02730
6065	7101	BSCNCY	JFI	1			CR02731
6066	7700	BSCANC	HLT		RETURN ADDRESS		CR02732
6067	4072		STD	BINITB			CR02733
6070	0400		LDN	0			CR02734
6071	4040		STD	BTEMP1	ZERO COUNTER		CR02735
6072	5440	BSCNCD	ADD	BTEMP1	INCREASE COUNTER		CR02736
6073	5472	BSCNCB	ADD	BINITB	INCR. LOC. COUNTER		CR02737
6074	2172		LDI	BINITB			CR02738
6075	0217		LPN	17	OPERATION INDICATOR		CR02739
6076	0706		SBN	6			CR02740
6077	6704		NJR	BSCNCB	OPERATOR INDICATOR		CR02741
6100	4041		STD	BTEMP2			CR02742
6101	0115		RS2		NO		CR02743
6102	6105		NZR	BSCNCA	ENDING INDICATOR		CR02744
6103	0501		LCN	1	YES		CR02745
6104	5040		RAD	BTEMP1	DECREASE COUNTER		CR02746
6105	6512		NZR	BSCNCB	JUMP FOR MULTIPLE PAREN. GROUPS		CR02747
6106	6421		ZJR	BSCNCY	JUMP FOR SINGLE PAREN. GROUP		CR02748
6107	0102	BSCNCA	LS1				CR02749
6110	1041		LPD	BTEMP2			CR02750
6111	6517		NZR	BSCNCD			CR02751
6112	2172		LDI	BINITB	YES		CR02752
6113	0220		LPN	20	MODE INDICATOR		CR02753
6114	6430		ZJR	BSCNCZ	FINAL EXIT		CR02754
6115	0405		LDN	5			CR02755
6116	4030		STD	BMODE			CR02756
6117	6524		NZR	BSCNCB			CR02757
			REM		INDEX REGISTER TEST		CR02758
6120	7101	BSCNDZ	JFI	1			CR02759
6121	7700	BSCAND	HLT		RETURN ADDRESS		CR02760
6122	2135		LDI	BSCNLC			CR02761
6123	0103		LS2				CR02762
6124	0111		LS6				CR02763
6125	1200		LPC	376	RELATIVE OPERAND LOCATION		CR02764
6126	0376						
6127	0732		SBN	26D			CR02765
6130	6710		NJR	BSCNDZ	ERASE OR PSEUDO ACC. OPERAND		CR02766
6131	3044		ADD	BOPPLST	NO		CR02767
6132	4071		STD	BOPRLS	ABSOLUTE OPER. LOC.		CR02768
6133	0601		ADN	1			CR02769
6134	4072		STD	BOPRLS			CR02770
6135	2171		LDI	BOPRLS			CR02771

6136	0111	LS6				CR02772:
6137	0102	LS1				CR02773:
40	0217	LPN	17	B-BOX MASK		CR02774:
41	4073	STD	BOXSW			CR02775:
6142	6422	ZJR	BSCNDZ	B-BOX THIS VARIABLE		CR02776:
143	3421	SBD	BINDSW	CURRENT I.R. SETTING		CR02777:
6144	6424	ZJR	BSCNDZ	EQUAL TO THIS B-BOX		CR02778:
6145	5021	RAD	BINDSW			CR02779:
146	0102	LS1				CR02780:
6147	0702	SBN	2	(RELATIVE B-BOX LOC.)*2		CR02781:
6150	3045	ADD	BOXLST			CR02782:
151	4076	STD	BINDLC	ABSOLUTE B-BOX LOCATION		CR02783:
6152	7100	JPR	BPTSUB			CR02784:
6153	5716					
154	2176	LDI	BINDLC			CR02785:
6155	1600	LSC	7400			CR02786:
6156	7400					
157	4046	STD	BWORD1	1ST WORD OF LOAD I.R. COMMAND		CR02787:
6160	5476	AOD	BINDLC			CR02788:
6161	2176	LDI	BINDLC			CR02789:
162	4047	STD	BWORD2	2ND WORD OF LOAD I.R. COMMAND		CR02790:
6163	5431	AOD	BWORD2	TWO WORDS IN COMMAND		CR02791:
6164	6544	NZR	BSCNDZ			CR02792:
		REM		VARIABLE TYPE TEST		CR02793:
6165	0600	BSCNEZ	ADN 0			CR02794:
6166	7101	JFI	1			CR02795:
167	7700	BSCANE	HLT	RETURN ADDRESS		CR02796:
6170	0400	LDN	0			CR02797:
71	4025	STD	BLODSW	ZERO LOAD SWITCH		CR02798:
172	4074	STD	BVARTP	ZERO VAR. TYPE SWITCH		CR02799:
6173	0500	LCN	0			CR02800:
6174	4060	STD	ACCTYP	SET PSEUDO ACC. TYPE SWITCH		CR02801:
175	2135	LDI	BSCNLC			CR02802:
6176	0111	LS6				CR02803:
6177	0102	LS1				CR02804:
200	1200	LPC	177	OPERAND LIST LOCATION		CR02805:
6201	0177					
6202	6415	ZJR	BSCNEZ	ACCN VARIABLE		CR02806:
203	4066	STD	BANK	NO		CR02807:
6204	0715	SBN	13D			CR02808:
6205	6237	PJR	BSCNED			CR02809:
206	0401	LDN	1	YES		CR02810:
6207	4040	STD	BTEMP1	BIT SEARCHER		CR02811:
6210	0400	LDN	0			CR02812:
211	4041	STD	BTEMP2	CLEAR ERASABLE COUNTER		CR02813:
6212	5441	BSCNEF	AOD BTEMP2	INCREMENT COUNTER		CR02814:
6213	1466	LSD	BANK			CR02815:
214	6003	ZJR	BSCNEE	OPERAND EQUAL COUNTER		CR02816:
6215	4440	SRD	BTEMP1	NO		CR02817:
6216	6504	NZR	BSCNEF	REPEAT FOR NEXT BIT		CR02818:
217	2053	BSCNEE	LDD ERSBIT			CR02819:
6220	1440	LSD	BTEMP1	ZERO ERASABLE BIT INDICATOR		CR02820:
6221	4053	STD	ERSBIT			CR02821:
22	2000	LDD	SWROOL			CR02822:
6223	6116	NZR	BSCNEH	BOOLEAN STATEMENT		CR02823:
6224	2066	LDD	BANK	YES		CR02824:
225	0102	LS1				CR02825:
6226	3066	ADD	BANK	3*REL. LOC.		CR02826:
6227	3200	ADF	0			CR02827:
230	0175	ERASE	3			CR02828:

6231	4100	STM	INSTR	ABSOLUTE ERASE LOC.	CB02829
6232	0254				
6233	2301	LDB	1		CB02830
6234	4072	STD	BOPRLS 1	LOG. (LOG. ERASE)	CB02831
6235	0400	LDN	0		CB02832
6236	4066	STD	BANK	ZERO BANK	CB02833
6237	4073	STD	BOXSW	NO I, B.	CB02834
6240	6015	ZJR	BSCNEG		CB02835
6241	0500	BSCNEH	LCN		CB02836
6242	4074	STD	BVARTP	SAVE VARIABLE TYPE	CB02837
6243	6556	NZR	BSCNEZ	EXIT	CB02838
6244	2171	BSCNED	LDI		CB02839
6245	0110		LS3		CB02840
6246	0207		LPN		CB02841
6247	4066	STD	BANK	OPERAND BANK	CB02842
6250	2135	LDI	BSCNLC	1ST WORD	CB02843
6251	0201		LPN		CB02844
6252	6105	NZR	BSCNEB	3-WORD OPERAND	CB02845
6253	2066		LDD		CB02846
6254	6006	ZJR	BSCNEA	NON-ZERO BANK	CB02847
6255	0401	BSCNEG	LDN	YES	CB02848
6256	6102		NZR		CB02849
6257	0402	BSCNEB	LDN		CB02850
6260	5371	BSCNEC	RAR	INCR. RETURN ADDRESS	CB02851
6261	6574		NZR		CB02852
6262	2172	BSCNEA	LDI	2ND WORD	CB02853
6263	0740		SBN		CB02854
6264	6705		NJR	ERASABLE VARIABLE	CB02855
6265	6610		PJR	NO -- NORMAL VARIABLE	CB02856
			REM	ARITHMETIC ERASE COMMAND	CB02857
6266	0500	BSCNFZ	LCN		CB02858
6267	4033		STD	SET ERASE OPERATOR SWITCH	CB02859
6270	7101		JFI		CB02860
6271	7700	BSCANF	HLT	RETURN ADDRESS	CB02861
6272	7100		JPR		CB02862
6273	6672				
6274	3200	ADF	0		CB02863
6275	3235	ADF	BSNFLS = BSCNFA		CB02864
6276	4237	STR	BSCNFA	PRESET ARITHMETIC COMMAND	CB02865
6277	7100	JPR	BPTSUB	GENERATE COMMAND	CB02866
6300	5716				
6301	2036	LDD	BSTOSW		CB02867
6302	6013	ZJR	BSCNFI	STORE COMMAND	CB02868
6303	2070	LDD	BMDSW	YES	CB02869
6304	6024	ZJR	BSCNFJ	CONVERSION NECESSARY	CB02870
6305	2430	LCD	BMODE		CB02872
6306	0201		LPN		CB02873
6307	1600		LSC	4600	CONVER ACCUMULATOR
6310	4600				
6311	4046	STD	BWORD1	COMMAND	CB02875
6312	7100	JPR	BPTSUB	YES -- GENERATE COMMAND	CB02871
6313	5716				
6314	6114	NZR	BSCNFJ		CB02876
6315	2025	BSCNFI	LDD		CB02877
6316	6110		NZR	LOAD COMMAND	CB02878
6317	2000	LDD	SWBOOL	NO	CB02879
6320	6106	NZR	BSCNFH	BOOLEAN STATEMENT	CB02880
6321	5431	AOD	BNOWDS	INCREASE WORD COUNT	CB02881
6322	0413		LDN	YES	CB02882
6323	5212		RAR	INCREMENT COMMAND LOCATER	CB02883

6324	0400		LDN	0					CR02884
6325	6010		ZJR	BSCNFA					CR02885
326	2075	BSCNFH	LDD	BWRONG		MODE CHECK SWITCH			CR02886
327	6003		ZJR	BSCNFF		CHECK SWITCH SET			CR02887
6330	2070	BSCNFJ	LDD	BMDSW		YES -- GENERATE PROPER MODE			CR02888
331	0102		LS1						CR02889
6332	1430	BSCNFF	LSD	BMODE					CR02890
6333	0204		LPN	4		MODE BIT			CR02891
334	0110		LS3						CR02892
6335	3235	BSCNFA	ADR	BSNFLS					CR02893
6336	4046		STD	BWORD1					CR02894
337	4050		STD	BWORD3					CR02895
6340	2171		LDI	BOPRLS		ERASABLE LOCATION			CR02896
6341	0237		LPN	37					CR02897
342	4047		STD	BWORD2					CR02898
6343	4051		STD	BWORD4					CR02899
6344	2031		LDD	BNOWDS					CR02901
345	0114		RS1						CR02901
6346	6104		NZR	BSCNFG		BOOLEAN STATEMENT			CR02901
6347	2047		LDD	BWORD2		NO -- ERASE LOG,			CR02902
350	5046		RAD	BWORD1		TO COMMAND			CR02903
6351	4050		STD	BWORD3					CR02904
6352	2535	BSCNFG	LCI	BSCNLC					CR02905
353	0201		LPN	1					CR02906
6354	6566	BSCNFK	NZR	BSCNFZ		3-WORD COMMAND			CR02907
6355	2066		LDD	BANK		OPERAND BANK			CR02908
356	3200		ADC	7500		3-WORD ERASE OPERATOR			CR02909
6357	7500								
60	4046		STD	BWORD1					CR02910
361	2073		LDD	BQXSW		YES			CR02911
6362	6003		ZJR	BSCNFD		INDEX REGISTER THIS COMMAND			CR02912
6363	0420		LDN	20		YES			CR02913
364	5046		RAD	BWORD1		SET I.R. BIT			CR02914
6365	2172	BSCNFD	LDI	BOPRLS	1				CR02915
6366	4047		STD	BWORD2		STORE 2ND WORD CONTENTS			CR02916
367	0402		LDN	2					CR02917
6370	5031		RAD	BNOWDS		INCREASE NO. OF WORDS COUNT			CR02918
6371	6515		NZR	BSCNFK					CR02919
372	2700	BSNFLS		2700		MPY ERASE			CR02920
6373	3000			3000		DIV ERASE			CR02921
6374	2500			2500		ADD ERASE			CR02922
375	2600			2600		SUB ERASE			CR02923
6376	3100			3100		INV. DIV ERASE			CR02924
6377	3200			3200		LOAD ERASE			CR02925
400	3300			3300		LOAD NEG. ERASE			CR02926
6401	3240			3240		LOAD AND CONVERT ERASE			CR02927
6402	3400			3400		LOAD NEG. AND CONVERT ERASE			CR02928
403	2400			2400		STORE ERASE			CR02929
6404	7210			7210		LOAD COMPLEMENT			CR02930
6405	7310			7310		SHIFT			CR02931
406	7220			7220		AND			CR02932
6407	7230			7230		EXCLUSIVE OR			CR02933
6410	7200			7200		INCLUSIVE OR			CR02934
						ARITHMETIC COMMAND			CR02935
411	7101	BSCNGZ	JFI	1					CR02936
6412	7700	BSCANG	HLT			RETURN ADDRESS			CR02937
413	7100		JPR	BSCANL					CR02938
6414	6672								
6415	3200		ADF	0					CR02939
416	3212		ADF	BSNGLS - BSCNGB					CR02940

6417	4234	STR	BSCNGB	PRESET ARITHMETIC COMMAND LOC,	CR02941
6420	2036	LDD	BSTOSW		CR02942
6421	6010	ZJR	BSCNGF	STORE COMMAND	CR02943
6422	3070	ADD	BMDSW	YES	CR02944
6423	5230	RAR	BSCNGB		CR02945
6424	2135	LDI	BSCNLC		CR02946
6425	0115	RS2			CR02947
6426	0115	RS2			CR02948
6427	0201	LPN	1	MODE BIT	CR02949
6430	6217	PJR	BSCNGE		CR02950
6431	2025	BSCNGF LDD	BLODSW		CR02951
6432	6105	NZR	BSCNGG	LOAD COMMAND	CR02952
6433	2000	LDD	SWBOOL	NO	CR02953
6434	6103	NZR	BSCNGG	BOOLEAN STATEMENT	CR02954
6435	0431	LDN	31	YES	CR02955
6436	6111	NZR	BSCNGE		CR02956
6437	2030	BSCNGG LDD	BMODE	MODE OF ARITHMETIC	CR02957
6440	3070	ADD	BMDSW	CONVERT SWITCH	CR02958
6441	1075	LPD	BWRONG	MODE CHECK SWITCH	CR02959
6442	0202	LPN	2		CR02960
6443	6003	ZJR	BSCNGC	CHECK SWITCH SET	CR02961
6444	0403	LDN	3	YES -a INTEGER MODE	CR02962
6445	6102	NZR	BSCNGE		CR02963
6446	2030	BSCNGC LDD	BMODE		CR02964
6447	5204	BSCNGE RAR	BSCNGB	MODIFY COMMAND LOC,	CR02965
6450	7100	BSCNGD JPR	BPTSUB	GENERATE PREVIOUS COMMAND	CR02966
6451	5716				
6452	2066	LDD	BANK	BANK SETTING	CR02967
6453	3212	BSCNGB ADR	BSNGLS	PLUS COMMAND	CR02968
6454	4046	STD	BWORD1	NO WORD1	CR02969
6455	2073	LDD	BQXSW		CR02970
6456	6003	ZJR	BSCNGA	INDEX REGISTER THIS COMMAND	CR02971
6457	0440	LDN	40	YES	CR02972
6460	5046	RAD	BWORD1		CR02973
6461	2172	BSCNGA LDI	BOPRLS 1		CR02974
6462	4047	STD	BWORD2	ABSOLUTE LOCATION	CR02975
6463	5431	AOD	BNOWDS	TWO WORDS IN COMMAND	CR02976
6464	6553	NZR	BSCNGZ		CR02977
6465	5400	BSNGLS	5400	FL, MPY	CR02978
6466	5500		5500	FL, DIV	CR02979
6467	5200		5200	FL, ADD	CR02980
6470	5300		5300	FL, SUB	CR02981
6471	5600		5600	FL, IDV	CR02982
6472	6100		6100	INF, MPY	CR02983
6473	6200		6200	INF, DIV	CR02984
6474	5700		5700	INF, ADD	CR02985
6475	6000		6000	INF, SUB	CR02986
6476	6300		6300	INF, IDV	CR02987
6477	6400		6400	FL, LOAD	CR02988
6500	6500		6500	FL, NEG, LOAD	CR02989
6501	6700		6700	LOAD AND FLOAT	CR02990
6502	7000		7000	NEG, LOAD AND FLOAT	CR02991
6503	0000		0	BLANK	CR02992
6504	6400		6400	INF, LOAD	CR02993
6505	6600		6600	INF, NEG, LOAD	CR02994
6506	0000		0	BLANK	CR02995
6507	0000		0	BLANK	CR02996
6510	0000		0	BLANK	CR02997
6511	5100		5100	STORE FLOATING	CR02998
6512	5110		5110	STORE INTEGER	CR02999

6513	5120			5120	FLDRT AND STORE	CRO3000:
6514	5130			5130	FIX AND STORE	CB03001:
15	7110			7110	LOAD COMPLEMENT	CB03002:
6516	7300			7300	SHIFT	CB03003:
6517	7120			7120	AND	CB03004:
520	7130			7130	EXCLUSIVE OR	CB03005:
6521	7100			7100	INCLUSIVE OR	CB03006:
					PARENTHESES GROUP DETERMINATION	CB03007:
522	7101	BSCNHZ	REM	1		CB03008:
6523	7700	BSCANH	JFI		RETURN ADDRESS	CB03009:
6524	2022		HLT			CB03010:
525	4040		LDD	BINIT	INITIAL LOCATION	CB03011:
6526	0400		STD	BTEMP1	ZERO SWITCHES	CB03012:
6527	4034		LDN	0		CB03013:
530	4020		STD	BRTPAR		CB03014:
6531	4017		STD	BFUNSW		CB03015:
6532	2140	BSCNHB	LDI	BENDSW		CB03016:
533	0217		LPN	BTEMP1	OPERATOR	CB03017:
6534	0706		SBN	17		CB03018:
6535	6316		NJR	6	ARITHMETIC OPERATOR	CB03019:
536	3314		ADR	H0	(JFI 01 COMMAND)	CB03020:
6537	4201		STF	BSCNHZ	SET SWITCHBOARD	CB03021:
6540	7101	BSCNHA	JFI	1		CB03022:
541	6555			H6	END	CB03023:
6542	6557			H7	)	CB03024:
6543	6522			BSCNHZ		CB03025:
544	6522			BSCNHZ	PSEUDO END	CB03026:
6545	6522			BSCNHZ	FALSE COMMA	CB03027:
46	6561			H13	FUNCTION	CB03028:
547	6565			H14	(	CB03029:
6550	6574			H15	START	CB03030:
6551	6553			H0	2-WORD	CB03031:
552	6553			H0	3-WORD	CB03032:
6553	5440	H0	AOD	BTEMP1	INCREASE LOC. COUNTER	CB03033:
6554	6522		NZR	BSCNHB		CB03034:
555	5417	H6	AOD	BENDSW	SET END SWITCH	CB03035:
6556	6534		NZR	BSCNHZ		CB03036:
6557	5434	H7	AOD	BRTPAR	SET RIGHT PARENTHESES SWITCH	CB03037:
560	6536		NZR	BSCNHZ	EXIT	CB03038:
6561	2040	H13	LDD	BTEMP1		CB03039:
6562	4020		STD	BFUNSW	SET FUNCTION ADDRESS	CB03040:
563	5440		AOD	BTEMP1	INCR. LOC. COUNTER	CB03041:
6564	6103		NZR	H14B		CB03042:
6565	0400	H14	LDN	0		CB03043:
566	4020		STD	BFUNSW		CB03044:
6567	2023	H14B	LDD	BINITA		CB03045:
6570	4024	H14A	STD	BINITC	SET PREVIOUS STARTING LOC.	CB03046:
571	2040		LDD	BTEMP1		CB03047:
6572	4023		STD	BINITA	SET STARTING LOC.	CB03048:
6573	6520		NZR	H0		CB03049:
574	2040	H15	LDD	BTEMP1		CB03050:
6575	6505		NZR	H14A		CB03051:
			REM		DETERMINE OPERATOR	CB03052:
76	7101	BSCNJZ	JFI	1		CB03053:
6577	7700	BSCANJ	HLT		RETURN ADDRESS	CB03054:
6600	0400		LDN	0		CB03055:
601	4066		STD	BVARCD	ZERO SWITCH	CB03056:
6602	2135	BSCNJB	LDI	BSCNLC		CB03057:
6603	0217		LPN	17	OPERATOR	CB03058:
604	4064		STD	BOPRTR		CB03059:



6605	4063		STD	BOPRSV			CR03060
6606	0114		RS1				CR03061
6607	3311		ADR	BSCNJZ	(JFI 01 COMMAND)		CR03062
6610	4201		STR	BSCNJA	SET SWITCHBOARD		CR03063
6611	7101	BSCNJA	JFI	1			CR03064
6612	6623			J0	BLANK. **		CR03065
6613	6632			BSCNJY	*,/		CR03066
6614	6631			J4	*,,		CR03067
6615	6630			J6	END.,)		CR03068
6616	6630			J6	,, PSEUDO END		CR03069
6617	6627			J14	FALSE COMMA, FUNCTION		CR03070
6620	6627			J14	(, START		CR03071
6621	6622			J16	OPERAND		CR03072
6622	5466	J16	ADD	BVARCD			CR03073
6623	2055	J0	LDD	FORBAK	DIRECTION SWITCH		CR03074
6624	0301		LSN	1	+1 FORWARD, -1 BACKWARD		CR03075
6625	5035		RAD	BSCNLC			CR03076
6626	6524		NZR	BSCNJB			CR03077
6627	5730	J14	AOR	BSCANJ	INCREMENT		CR03078
6630	5731	J6	AOR	BSCANJ	RETURN		CR03079
6631	5732	J4	AOR	BSCANJ	ADDRESS		CR03080
6632	2035	BSCNJY	LDD	BSCNLC			CR03081
6633	4062		STD	BOPLOC	SAVE OPERATOR LOCATION		CR03082
6634	6536		NZR	BSCNJZ	EXIT		CR03083
			REM		MODE EQUALITY TEST		CR03084
6635	2070	BSCNKZ	LDD	BMDSW			CR03085
6636	6003		ZJR	BSCNKY	CONVERSION NECESSARY		CR03086
6637	4200		STF	0	YES		CR03087
6640	0000	L(FLF1		0	ZERO FOR NO CONVERSION		CR03088
6641	7101	BSCNKY	JFI	1			CR03089
6642	7700	BSCANK	HLT		RETURN ADDRESS		CR03090
6643	4457		SRD	**OPT	SHIFT OPTION INDICATOR		CR03091
6644	2135		LDI	BSCNLC			CR03092
6645	0220		LPN	20	MODE BIT		CR03093
6646	4040		STD	RTEMP1			CR03094
6647	5057		RAD	**OPT	SET OPTION SWITCH		CR03095
6650	2030		LDD	BMODE			CR03096
6651	0204		LPN	4	0 OR 1		CR03097
6652	0103		LS2				CR03098
6653	1440		LSD	RTEMP1			CR03099
6654	6002		ZJR	BSCNKB			CR03100
6655	0402		LDN	2			CR03101
6656	4070	BSCNKB	STD	BMDSW	ZERO IF MODES EQUAL		CR03102
6657	2000		LDD	SWBOOL			CR03103
6660	6823		NZR	BSCNKZ	BOOLEAN STATEMENT		CR03104
6661	4070		STD	BMDSW	YES -- ZERO MODE EQUALITY SWITCH		CR03105
6662	6425		ZJR	BSCNKZ			CR03106
			REM		DETERMINE RELATIVE OPERATOR		CR03107
6663	0601	BSCNLZ	ADN	1			CR03108
6664	4040		STD	RTEMP1			CR03109
6665	2025		LDD	BLODSW			CR03110
6666	6002		ZJR	BSCNLY	LOAD SWITCH SET		CR03111
6667	3070		ADD	BMDSW	YES -- ADD CONVERT SWITCH		CR03112
6670	3040	BSCNLY	ADD	RTEMP1			CR03113
6671	7101		JFI	1			CR03114
6672	7700	BSCANL	HLT		RETURN ADDRESS		CR03115
6673	0703		SBN	3			CR03116
6674	6511		NZR	BSCNLZ	DIVIDE COMMAND		CR03117
6675	0403		LDN	3			CR03118
6676	1055		LPD	FORBAK			CR03119

6677	6614		PJR	BSCNLZ	0 FOR DIVIDE 3 FOR INVERSE DIV.	CR03120:
			REM		ACCN ARITHMETIC	CR03121:
700	7101	BSCNMZ	JFI	1		CR03122:
6701	7700	BSCANM	HLT		RETURN ADDRESS	CR03123:
6702	7100		JPR	BSCANL		CR03124:
703	6672					:
6704	3200		ADF	0		CR03125:
6705	3203		ADF	BSNMLS -BSCNMA		CR03126:
706	4231		STR	BSCNMA	PRESET ARITHMETIC COMMAND LOC.	CR03127:
6707	7100		JPR	BPTSUB	GENERATE COMMAND	CR03128:
6710	5716					:
711	2074		LDD	BVARTP	VARIABLE TYPE INDICATOR	CR03129:
6712	6017		ZJR	BSCNMB	ERASABLE OPERAND	CR03130:
6713	4033		STD	BOPTST	YES	CR03131:
714	2475		LCD	BWRONG		CR03132:
6715	1070		LPD	BMDSW		CR03133:
6716	6005		ZJR	BSCNMC	MODES NOT EQUAL	CR03134:
717	2200		LDC	4600	YES	CR03135:
6720	4600					:
6721	4047		STD	BWORD2	CONVERT ACCUMULATOR COMMAND	CR03136:
722	5431		AOD	BNOWDS		CR03137:
6723	2030	BSCNMC	LDD	BMODE		CR03138:
6724	0204		LPN	4	MODE BIT	CR03139:
725	0110		LS3			CR03140:
6726	3214		ADR	BSNMLS		CR03141:
6727	1466		LSD	BANK	ERASABLE LOCATION	CR03142:
730	6107		NZR	BSCNMA		CR03143:
6731	0501	BSCNMB	LCN	1		CR03144:
32	5014		RAD	ACCN	DECREMENT PSEUDO ACC. COUNTER	CR03145:
733	2030		LDD	BMODE		CR03146:
6734	0204		LPN	4	0 FOR FLOAT -- 4 FOR INTEGER	CR03147:
6735	3014		ADD	ACCN		CR03148:
736	1060		LPD	ACCTYP	COMMAND TYPE MASK	CR03149:
6737	3203	BSCNMA	ADR	BSNMLS		CR03150:
6740	4046		STD	BWORD1		CR03151:
741	6541		NZR	BSCNMZ		CR03152:
6742	2000	BSNMLS		2000	MPW	CR03153:
6743	2100			2100	DIV	CR03154:
744	1600			1600	ADD	CR03155:
6745	1700			1700	SUB	CR03156:
6746	2200			2200	IDW	CR03157:
747	2300			2300	LOD	CR03158:
6750	1500			1500	STD	CR03159:
			REM		STORE ACCN TEST	CR03160:
751	5414	BSCNNZ	AOD	ACCN	INCREMENT PSEUDO ACC. COUNTER	CR03161:
6752	7101	BSCNNY	JFI	1		CR03162:
6753	7700	BSCANN	HLT		RETURN ADDRESS	CR03163:
754	2000		LDD	SXBOOL		CR03164:
6755	6112		NZR	BSCNNB	BOOLEAN STATEMENT	CR03165:
6756	0501		LCN	1	YES	CR03166:
757	5035		RAD	BSCNLC	DECREMENT SCAN LOCATION	CR03167:
6760	7100		JPR	BSCANS	STORE ERASE ROUTINE	CR03168:
6761	7140					:
62	0501		LCN	1		CR03169:
6763	5035		RAD	BSCNLC	REDUCE SCAN LOCATION	CR03170:
6764	2052		LDD	BOPFST	PREVIOUS STARTING OPERATOR	CR03171:
765	4135		STI	BSCNLC		CR03172:
6766	6514		NZR	BSCNNY		CR03173:
6767	2033	BSCNNB	LDD	BOPTST		CR03174:
6770	6111		NZR	BSCNNA	PREVIOUS COMMAND FUNCTION ERASABLE	CR03175:

6771	0430		LDN	30	NO		CR03176
6772	4032		STD	BMSW	OPERAND STORAGE		CR03177
6773	2460		LCD	ACCTYP			CR03178
6774	6523		NZR	BSCNNZ	STORE OPERAND REGISTER COMMAND		CR03179
6775	2014		LDD	ACCN	NO		CR03180
6776	0110		LS3				CR03181
6777	4032		STD	BMSW	SET ACCN INDICATOR		CR03182
7000	6527		NZR	BSCNNZ	EXIT		CR03183
7001	2460	BSCNNA	LCD	ACCTYP			CR03184
7002	6530		NZR	BSCNNY	STORE IN OPERAND REGISTER COMMAND		CR03185
7003	5414		ADD	ACCN	NO		CR03186
7004	0410		LDN	10	STORE INDICATOR		CR03187
7005	7100		JPR	BSCANM	ACCN ARITHMETIC		CR03188
7006	6701						
7007	6536		NZR	BSCNNZ	EXIT		CR03189
			REM		OPERAND INTERROGATION		CR03190
7010	7101	BSCNOZ	JFI	1			CR03191
7011	7700	BSCANO	HLT		RETURN ADDRESS		CR03192
7012	2055		LDD	FORBAK			CR03193
7013	0301		LSN	1	+1 = FORWARD -1 = BACKWARD		CR03194
7014	5035		RAD	BSCNLC			CR03195
7015	7100		JPR	BSCANQ	DETERMINE OPERAND LOC.		CR03196
7016	7065						
7017	7100		JPR	BSCANK	MODE TEST		CR03197
7020	6642						
7021	7100		JPR	BSCAND	INDEX REGISTER TEST		CR03198
7022	6121						
7023	2070		LDD	BMSW			CR03199
7024	6017		ZJR	BSCNOC	OPERAND NEEDS CONVERTING		CR03200
7025	0404		LDN	4			CR03201
7026	4064		STD	BOPRTR	ADD OPERATOR		CR03202
7027	7100		JPR	BSCANR	TO LOAD ROUTINE		CR03203
7030	7100						
7031	0404		LDN	4			CR03204
7032	4060		STD	ACCTYP	SET COMMAND TYPE MASK		CR03205
7033	7100		JPR	BSCANN	ACCN STORE TEST		CR03206
7034	6753						
7035	2063	BSCNOH	LDD	BOPRSV	OPERATOR		CR03207
7036	7100		JPR	BSCANM	ACCN ARITHMETIC		CR03208
7037	6701						
7040	0500		LCN	0			CR03209
7041	4060		STD	ACCTYP	RESET SWITCH		CR03210
7042	6116		NZR	BSCNOF			CR03211
7043	7100	BSCNOC	JPR	BSCANE	VARIABLE TYPE		CR03212
7044	6167						
7045	6410		ZJR	BSCNOH	ACCN VARIABLE		CR03213
7046	6105		NZR	BSCNOD	NORMAL VARIABLE		CR03214
			REM		FUNCTION ERASE VARIABLE		CR03215
7047	2064		LDD	BOPRTR	OPERATION CODE		CR03216
7050	7100		JPR	BSCANF	ERASE ARITH COMMAND		CR03217
7051	6271						
7052	6106		NZR	BSCNOF			CR03218
7053	0400	BSCNOD	LDN	0			CR03219
7054	4070		STD	BMSW	CLEAR MODE EQUALITY SWITCH		CR03220
7055	2064		LDD	BOPRTR	OPERATOR		CR03221
7056	7100		JPR	BSCANQ	ARITHMETIC COMMAND		CR03222
7057	6412						
7060	0400	BSCNOF	LDN	0			CR03223
7061	4135		STI	BSCNLC	ZERO OPERAND		CR03224
7062	4162		STI	BOPLOC	ZERO OPERATOR		CR03225

7063	6453		ZJR	BSCNOZ				CR032261
			REM			OPERAND LOCATION DETERMINATION		CR032271
764	7101	BSCNQZ	JFI	1				CR032281
765	7700	BSCANQ	HLT			RETURN ADDRESS		CR032291
7066	2135	BSCNQA	LDI	BSCNLC		OPERAND LOC.		CR032301
7067	6503		NZR	BSCNQZ		CONTENTS ZERO		CR032311
7070	2055		LDD	FURBAK		YES		CR032321
7071	0301		LSN	1				CR032331
7072	5035		RAD	BSCNLC		NEW OPERAND LOC.		CR032341
7073	6505		NZR	BSCNQA				CR032351
			REM			LOAD DRIVER ROUTINE		CR032361
7074	0400	BSCNRZ	LDN	0				CR032371
7075	4135		STI	BSCNLC		ZERO OPERAND		CR032381
7076	4025		STD	BLODSW		ZERO LOAD SWITCH		CR032391
7077	7101		JFI	1				CR032401
7100	7700	BSCANR	HLT			RETURN ADDRESS		CR032411
7101	2000		LDD	SWBOOL				CR032421
7102	6103		NZR	BSCNRC		BOOLEAN STATEMENT		CR032431
7103	0404		LDN	4		YES		CR032441
7104	4064		STD	BOPRTR		ADD OPERATOR		CR032451
7105	7100	BSCNRC	JPR	BSCANQ		DETERMINE OPERAND LOC.		CR032461
7106	7065							
7107	7100		JPR	BSCANK		CONVERSION CHECK		CR032471
7110	6642							
7111	7100		JPR	BSCAND		INDEX REGISTER TEST		CR032481
7112	6121							
7113	7100		JPR	BSCANE		TYPE OF VAR, STORAGE CHECK		CR032491
7114	6167							
7115	6010		ZJR	BSCNRB		ACCN VARIABLE		CR032501
7116	6113		NZR	BSCNRA		NORMAL VARIABLE		CR032511
			REM			FUNCTION ERASE VARIABLE		CR032521
7117	0403		LDN	3				CR032531
7120	4025		STD	BLODSW		SET FOR LOAD		CR032541
7121	2064		LDD	BOPRTR		ADD OR SUBTRACT		CR032551
7122	7100		JPR	BSCANF		ERASEABLE ARITHMETIC COMMAND		CR032561
7123	6271							
7124	6530		NZR	BSCNRZ		EXIT		CR032571
7125	0407	BSCNRB	LDN	7		LOAD OPERATOR		CR032581
7126	7100		JPR	BSCANM		GENERATE ACCN COMMAND		CR032591
7127	6701							
7130	6534		NZR	BSCNRZ				CR032601
7131	0410	BSCNRA	LDN	10				CR032611
7132	4025		STD	BLODSW		SET FOR LOAD		CR032621
7133	2064		LDD	BOPRTR		ADD OR SUBTRACT		CR032631
7134	7100		JPR	BSCANG		ARITHMETIC COMMAND		CR032641
7135	6412							
7136	6542		NZR	BSCNRZ				CR032651
			REM			STORE ERASABLE ROUTINE		CR032661
7137	7101	BSCNSZ	JFI	1				CR032671
7140	7700	BSCANS	HLT			RETURN ADDRESS		CR032681
7141	0401		LDN	1				CR032691
7142	4040		STD	BTEMP1		SET BIT SHIFTER		CR032701
7143	4066		STD	SANK		ERASABLE COUNT		CR032711
7144	2030		LDD	BMODE				CR032721
7145	0204		LPN	4		MODE BIT		CR032731
7146	0103		LS2					CR032741
7147	0616		ADN	16		OPERAND INDICATOR		CR032751
7150	4135		STI	BSCNLC		SET STORAGE CELL		CR032761
7151	2053	BSCNSB	LDD	ERSBIT		ERASABLE BIT PATTERN		CR032771
7152	1040		LPD	BTEMP1				CR032781

7153	6010	ZJR	BSCNSA	AVAILABLE ERASABLE SLOT	CR03279
7154	5466	AOD	BANK	INCREMENT ERASE COUNT	CR03280
7155	4440	SRD	BTEMP1	NO -- SHIFT BIT SHIFTER	CR03281
7156	0701	SBN	1		CR03282
7157	6506	NZR	BSCNSB	TOTAL ERASABLE USED UP	CR03283
7160	0436	LDN	NOMRER	YES	CR03284
7161	7101	JFI	1		CR03285
7162	4050		TILT		CR03286
7163	4070	BSCNSA	STD	ZERO MODE DIFFERENCE SWITCH	CR03287
7164	2053		LDD		CR03288
7165	1440		LSD	BIT INDICATOR TO	CR03289
7166	4053		STD	ERASABLE BIT PATTERN	CR03290
7167	2066		LDD	ERASABLE COUNT	CR03291
7170	0110		LS3		CR03292
7171	0103		LS2		CR03293
7172	5135		RAI	INCREMENT SCAN LOCATION	CR03294
7173	0410		LDN	STORE INDICATOR	CR03295
7174	4074		STD		CR03296
7175	7100		JPR	GENERATE STORE ERASE	CR03297
7176	6701				
7177	6540				
7200	0500	BSCNTY	LCN	EXIT	CR03298
7201	4055		STD	GROUP STORE CHECK	CR03299
7202	0411		LDN	SET REVERSE SCAN SWITCH	CR03300
7203	7101		JFI	PSEUDO END INDICATOR	CR03301
7204	7700	BSCANT	HLT	RETURN ADDRESS	CR03302
7205	4123		STI	ZERO LEFT PARENTHESES	CR03303
7206	2000		LDD		CR03304
7207	6016		ZJR		CR03305
7210	0502		LCN	BOOLEAN STATEMENT	CR03306
7211	5023		RAD	NO	CR03307
7212	3422		SBD	( # 2 LOCATION	CR03308
7213	6303		NJR		CR03309
7214	2123		LDI	START LOCATION	CR03310
7215	0701		SBN	NO	CR03311
7216	6007	BSCNTE	ZJR	** OPERATOR	CR03312
7217	5462		AOD	NO -- ) * 1 LOCATION	CR03313
7220	3416		SBD		CR03314
7221	6206		PJR	END LOCATION	CR03315
7222	2162		LDI	NO	CR03316
7223	0701		SBN		CR03317
7224	6103		NZR	** OPERATOR	CR03318
7225	7101	BSCNTR	JFI	YES	CR03319
7226	5223				CR03320
7227	2024	BSCNTB	LDD	ENCOMPASSING PAREN, DELIMITER	CR03321
7230	4023		STD		CR03322
7231	7100		JPR	SUBGROUP SCAN	CR03323
7232	5746				CR03324
7233	2070		LDD		CR03325
7234	6103		NZR	CONTENTS EXHAUSTED	CR03326
7235	7101		JFI	RESTART SCAN	CR03327
7236	5205				CR03328
7237	7100	BSCNTE	JPR	MODE COMPARISON CHECK	CR03329
7240	7264				CR03330
7241	2027	BSCNTA	LDD	PREVIOUS MODE	CR03331
7242	1030		LPD	CURRENT MODE	CR03332
7243	4030		STD		CR03333
7244	0411		LDN	NO -- PSEUDO END TO	CR03334
7245	4135		STI	LAST EVALUATION	CR03335

00165

7246	7100	JPR	BSCANA	SUBGROUP SCAN	CR03342:
7247	5746				
750	2035	LDD	BSCNLC	PAREN. GROUP ADDRESS	CR03343:
7251	1472	BSCNTD	LSD	SCAN TERMINATION	CR03344:
7252	6525	NZR	BSCNTR	ADDRESSES EQUAL	CR03345:
253	4135	STI	BSCNLC	YES == CLEAR PSEUDO END	CR03346:
7254	7100	BSCNTC	JPR	SUBGROUP SCAN	CR03347:
7255	5746				
256	2065	LDD	BPWRSW		CR03348:
7257	6532	NZR	BSCNTR	** IN SCAN	CR03349:
7260	2073	LDD	BPARSW	NO	CR03350:
261	6461	ZJR	BSCNTY	( ) IN SUBGROUP	CR03352:
7262	6535	NZR	BSCNTR	YES	CR03353:
7263	7101	BSCNUZ	JFI	EXIT	CR03354:
264	7700	BSCANU	HLT	RETURN ADDRESS	CR03355:
7265	2030	LDD	BMODE		CR03356:
7266	4027	STD	BMDSV1	SAVE MODE	CR03357:
267	1426	LSD	BMDSAV		CR03358:
7270	6405	ZJR	BSCNUZ	MODES IDENTICAL	CR03359:
7271	2023	LDD	BINITA	NO	CR03360:
272	7100	JPR	BSCANC	SCAN FOR MODE	CR03361:
7273	6066				
7274	2030	LDD	BMODE	MODE OF ENCOMPASSING GROUP	CR03362:
275	6512	NZR	BSCNUZ	INTEGER MODE	CR03363:
7276	7100	JPR	BPTSUB	NO -- OUTPUT PREVIOUS COMMAND	CR03364:
7277	5716				
300	2200	LDC	4600	CONVERT ACC. COMMAND	CR03365:
7301	4600				
302	4046	STD	BWORD1		CR03366:
303	6520	NZR	BSCNUZ		CR03367:
7304	0416	INXERR	LDN	IO LIST OR DO-LOOP CONTROL ERROR	CR03368:
7305	7101	JFI	1		CR03369:
7306	4050				CR03370:
7307	0000	I=J,K	TILT	FORM IS I=M1,M2,M3	CR03371:
7310	2006	LDD	L(PROC	AND STRING SHOULD LOOK LIKE	CR03372:
7311	4061	STD	L(CHAR	OP,15,OP,10,OP,10,OP,6	CR03373:
7312	4060	STD	L(CHI)	OR ELSE OP,15,OP,10,OP,6	CR03374:
7313	3444	SBD	BOPLST		CR03375:
7314	0610	ADN	10		CR03376:
7315	6711	NJR	INXERR	-- MEANS STRING TOO LONG	CR03377:
7316	0114	RS1			CR03378:
7317	4051	STD	M3WORD	1 IF M3 IS IMPLIED 1	CR03379:
7320	0702	SBN	2	0 IF M3 IS EXPLICIT	CR03380:
7321	6615	PJR	INXERR	+ MEANS STRING TOO SHORT	CR03381:
7322	0504	LCN	4		CR03382:
7323	3051	ADD	M3WORD	THERE SHOULD BE 4( OR 3)	CR03383:
7324	4300	STS		INTEGER, TYPE OPERANDS	CR03384:
7325	2160	OPLOOP	LDI	L(CHI)	CR03385:
7326	0236	LPN	36		CR03386:
7327	0736	SBN	36		CR03387:
7330	6524	NZR	INXERR		CR03388:
7331	0402	LDN	2	AND THESE ARE TWO CELLS APART	CR03389:
7332	5060	RAD	L(CHI)		CR03390:
7333	5700	AOS			CR03391:
7334	6507	NZB	OPLOOP		CR03392:
7335	2061	LDD	L(CHAR		CR03393:
7336	0603	ADN	3		CR03394:
7337	4060	STD	L(CHI)		CR03395:
7340	2160	LDI	L(CHI)		CR03396:
7341	0710	SBN	10	SECOND OPERATOR SHOULD BE COMMA	CR03397:

7342	6536	NZR	INXERR			CR0339A:
7343	2161	LDI	L(CHAR			CR03399:
7344	4160	STI	L(CHI)	REPLACE IT WITH FIRST OPERAND		CR0340:
7345	5461	ADD	L(CHAR			CR03401:
7346	3422	SEB	BINIT	TEST FOR PROPER PLACEMENT OF =		CR03402:
7347	6543	NZR	INXERR			CR03403:
7350	0402	LDN	2	TEST FOR NEXT OPERATOR(S)		CR03404:
7351	0602	ADN	2			CR03405:
7352	5061	RAD	L(CHAR			CR03406:
7353	2161	LDI	L(CHAR			CR03407:
7354	0710	SBN	10			CR03408:
7355	6404	ZJB	4	BACK FOR NEXT IF COMMA		CR03409:
7356	0602	ADN	2			CR03410:
7357	6553	NZR	INXERR	OTHERWISE MUST BE END		CR03411:
7360	0402	LDN	2			CR03412:
7361	5060	RAD	L(CHI)	M3:		CR03413:
7362	0601	ADN	1			CR03414:
7363	4061	STD	L(CHAR			CR03415:
7364	2161	LDI	L(CHAR			CR03416:
7365	4160	STI	L(CHI)			CR03417:
7366	0503	LCN	3			CR03418:
7367	4032	STD	NTEMP1			CR03419:
7370	5060	RAD	L(CHI)			CR03420:
7371	2200	LDF	0			CR03421:
7372	3213	ADF	L(CANB -ADTBL)			CR03422:
7373	6151	NZR	STRADT	SKIP AROUND SUBROUTINE		CR03423:
7374	1160	CHNGI	LPI			CR03424:
7375	0111	LS6				CR03425:
7376	0103	LS2				CR03426:
7377	0732	SBN	32			CR03427:
7400	3044	ADD	BOPLST			CR03428:
7401	4062	STD	MATHST			CR03429:
7402	2162	LDI	MATHST			CR03430:
7403	0207	LPN	7			CR03431:
7404	6010	ZJF	NORMAL			CR03432:
7405	4300	STS				CR03433:
7406	2211	LDF	ADTBL			CR03434:
7407	0612	ADN	12			CR03435:
7410	4202	STF	2			CR03436:
7411	2300	LDS				CR03437:
7412	3200	ADF	0			CR03438:
7413	6111	NZR	L(PTWY			CR03439:
7414	2162	NORMAL	LDI			CR03440:
7415	0110	LS3				CR03441:
7416	0207	LPN	7			CR03442:
7417	3200	ADTBL	ADF			CR03443:
7420	7100	JPR	PUTWAY			CR03444:
7421	7665					
7422	5462	ADD	MATHST			CR03445:
7423	2162	LDI	MATHST			CR03446:
7424	7100	L(PTWY	JPR			CR03447:
7425	7665					
7426	7101	JFI	1			CR03448:
7427	0000	L(OPRD				CR03449:
7430	0537	LCN	37			CR03450:
7431	6735	NJB	CHNGI			CR03451:
7432	6400	L(CANB	6400	CANB		CR03452:
7433	5110		5110	FSLB		CR03453:
7434	6000		6000	ISNB		CR03454:
7435	6200		6200	IDNB		CR03455:

7436	6400		6400	CAMB	CR03456:
7437	3200		3200	FLD	CR03457:
40	2400		2400	FSF	CR03458:
7441	2640		2640	ISB	CR03459:
7442	3040		3040	IDV	CR03460:
443	3200		3200	FLD	CR03461:
7444	4325	STRADT STR	ADTBL		CR03462:
7445	7100	JPR	L(OPRD	GENERATE CODE FOR	CR03463:
446	7427			I#M1 AND M1-M2	CR03464:
7447	5730	AGR	ADTBL		CR03465:
7450	5460	ADD	L(CHI)		CR03466:
451	5432	ADD	NTEMP1		CR03467:
7452	6505	NZB	5		CR03468:
7453	2051	LDD	M3WORD		CR03469:
454	6103	NZF	3		CR03470:
7455	7100	JPR	L(OPRD		CR03471:
7456	7427				CR03472:
457	5740	AGR	ADTBL		CR03473:
7460	0460	LDN	60		CR03474:
7461	3001	ADD	LEVEL		CR03475:
462	0110	LS3			CR03476:
7463	0103	LS2			CR03477:
7464	4071	STD	PRAMBL		CR03478:
465	0423	LDN	23		CR03479:
7466	0111	LS6			CR03480:
7467	4072	STD	PRAMBL 1		CR03481:
470	0403	LDN	3		CR03482:
7471	4027	STD	N(PRAM		CR03483:
72	0432	LDN	IDEN		CR03484:
473	4070	STD	ID*END		CR03
7474	7100	JPR	NTRID		CR03
7475	2263				CR03
476	2065	LDD	LOC(BK	7570+20 = 7610, I.E. STORE INTEGER	CR03
7477	3200	ADC	7570		CR03
7500	7570			FORWARD IN INCR MACRO	CR03
501	7100	JPR	PUTWAY		CR03
7502	7665				CR03
7503	0501	LCN	1		CR03
504	5066	RAD	LOC(ID		CR03
7505	7100	JPR	PUTWAY		CR03
7506	7665				CR03
507	2051	LDD	M3WORD		CR03
7510	6003	ZJF	3		CR03
7511	2054	LDD	ERSLOC	PHONY 1 AT END OF LIST	CR03493:
512	4060	STD	L(CHI)		CR03494:
7513	7100	JPR	L(OPRD		CR03495:
7514	7427				CR03496:
515	2065	LDD	LOC(BK	7670+20 = 7710, I.E. DUMMY FOR	CR03497:
7516	3200	ADC	7670		CR03498:
7517	7670			INTEGER STORE	CR03499:
520	7100	JPR	PUTWAY		CR03500:
7521	7665				CR03501:
7522	2066	LDD	LOC(ID		CR03502:
3	7100	JPR	PUTWAY		CR03503:
7524	7665				CR03504:
7525	0020	*I=J,K SICO			CR03505:
526	2100	LDM	I=J,K		CR03506:
7527	7307				CR03507:
7530	4100	STM	MAKSTO		CR03508:
531	3670				CR03509:



7532	0400	LDN	0		CR03504:
7533	4073	STD	BOXSW		CR03505:
7534	7101	JFI	1		CR03506:
7535	3675		SVCODL		CR03507:
	0200	ERASE	EQU	200	CR03508:
	7557		ORQ	7557	CR03509:
			REM		CR03510:
			REM		CR03511:
			REM		CR03512:
7557	0020	FORMOT	SIC0		CR03513:
7560	2066		LDD	L(CO)ID	CR03514:
7561	0701		SBN	1	CR03515:
7562	4100		STM	LASTNO	CR03516:
7563	4016				
7564	2065		LDD	L(C)BK	CR03517:
7565	4100		STM	NOSIC1	CR03518:
7566	3771				
7567	0400		LDN	0	CR03519:
7570	4100		STM	L(C)CURR	CR03520:
7571	4005				
7572	2005		LDD	DATEND	CR03521:
7573	4033		STD	NTEMP2	CR03522:
7574	2006		LDD	L(PROC	CR03523:
7575	4060		STD	L(CHI)	CR03524:
7576	2004		LDD	B(DATL	CR03525:
7577	0610		ADN	10	CR03526:
7600	4032		STD	NTEMP1	CR03527:
7601	2010	LP3FRM	LDD	OUT	CR03528:
7602	3624		SBFI	FORMCT	CR03529:
7603	6006		ZJFI	6	CR03530:
7604	0400		LDN	0	CR03531:
	7100		JPR	BINARY	CR03532:
	0220				
	2217		LDF	FORMCT	CR03533:
	4010		STD	OUT	CR03534:
	2032		LDD	NTEMP1	CR03535:
	0111		LS6		CR03536:
	0103		LS2		CR03537:
	4110		STI	OUT	CR03538:
	5410		ADD	OUT	CR03539:
	2033		LDD	NTEMP2	CR03540:
	4110		STI	OUT	CR03541:
	5410		ADD	OUT	CR03542:
7621	0021	LP7FRM	SIC1		CR03543:
7622	2160		LDI	L(CHI)	CR03544:
7623	0020		SIC0		CR03545:
7624	4110		STI	OUT	CR03546:
7625	5500		AOI	0	CR03547:
7626	0100	FORMCT		100	CR03548:
7627	5460		ADD	L(CHI)	CR03549:
7630	3413		SBD	L(BUFL	CR03550:
7631	6017		ZJF	LP16FM	CR03551:
7632	5433		ADD	NTEMP2	CR03552:
7633	6110		NZF	LP14FM	CR03553:
7634	4600	ENFRSW	SRC	5252	CR03554:
7635	5252				
7636	6735		NJB	LP3FRM	CR03555:
7637	5432		ADD	NTEMP1	CR03556:
7640	0501		LCN	1	CR03557:
7641	4033		STD	NTEMP2	CR03558:

SUBROUTINE TO OUTPUT  
 FORMAT STATEMENTS  
 CMN-6/5/62  
 FORMOT ASSUMES INDIRECT=1  
 DIRECT=RELATIVE=0  
 LABEL ENCOUNTERED SO RECORD IN L(CO)  
 INITIALIZE LOW CORE  
 LOCATIONS  
 TEST FOR ZERO LENGTH  
 RECORD  
 DUMP BUFFER  
 FIRST WORD OF RECORD IS  
 1(B(OBJECT),WORD COUNT  
 SECOND WORD OF RECORD IS  
 STARTING OBJECT CODE LOCATION  
 MOVE  
 ONE  
 WORD  
 INCREASE WORD COUNT  
 TEST END OF FORMAT  
 TEST END OF BANK  
 END SWITCH  
 INCREASE OBJECT CODE BANK

00169

7642	6722		NJB	LP7FRM	-1			CR035590
7643	5410	LP14FM	AGD	OUT				CR035600
44	3600		SBC	100	+79D	TEST	END OF BUFFER	CR035610
7645	0217							
7646	6445		ZJB	LP3FRM				CR035620
547	6526		NZB	LP7FRM				CR035630
7650	0400	LP16FM	LDN	0				CR035640
7651	7100		JPR	BINARY		DUMP	LAST BLOCK	CR035650
552	0220							
7653	2325		LDB	FORMCT				CR035660
7654	4010		STD	OUT				CR035670
555	4720		SRB	ENFRSW	+1			CR035680
7656	6601		PJB	1				CR035690
7657	0431		LDN	CGEXIT				CR035700
560	4300	BNK1VC	STS					CR035710
7661	0412		LDN	CMNVEC				CR035720
7662	0011		SRJ1					CR035730
563	0021		SIC1					CR035740
7664	7101		JFI	1		PUTWAY	ASSUMES INDIRECT	CR035750
7665	0000	PUTWAY				BANK = 1,	DIRECT = 0	CR035760
566	4300		STS			WORD	IN A-REGISTER	CR035770
7667	2010		LDD	OUT				CR035780
7670	0020		SIC0					CR035790
571	3620	CMNCHK	SRF	A(100)		FIRST	WORD	CR035800
7672	6103		NZF	3				CR035810
7673	4110		STI	OUT		IF	SO, ZERO WORD COUNTER	CR035820
574	5410		AOD	OUT				CR035830
7675	3600		SBC	80D		LAST	WORD	CR035840
76	0120							
577	6106		NZF	6				CR035850
7700	7100	ERRSWC	JPR	BINARY		IF	SO, ZERO WORD COUNTER	CR035860
7701	0220							
702	2207		LDF	A(100)				CR035870
7703	4010		STD	OUT				CR035880
7704	6513		NZB	CMNCHK				CR035890
705	2300		LDS			STORE	WORD	CR035900
7706	4110		STI	OUT				CR035910
7707	5410		AOD	OUT				CR035920
710	5500		AOI	0				CR035930
7711	0100	A(100)		100		INCREASE	WORD COUNTER	CR035940
7712	5604		AOF	CODEND		INCREASE	OBJECT CODE COUNTER	CR035950
713	6530		NZB	PUTWAY	-2			CR035960
7714	5603		AOF	B(CODL				CR035970
7715	6532		NZB	PUTWAY	-2			CR035980
716	0001	CODEND		1				CR035990
7717	0020	B(CODL		20				CR036000
			REM			END	OF PASS1	CR036010
			REM			INITIALIZE	FOR PASS2	CR036020
7720	0020	FINISH	SIC0			RESTORE	BANK SETTINGS	CR036030
7721	2321		LDR	ERRSWC				CR036040
722	3651		SBF	7100(				CR036050
7723	4030		STD	30		SET	DIAGNOSTIC SWITCH	CR036060
7724	2100		LDM	PWRBIT				CR036070
25	5533							
726	4010		STD	10		TABLC	1	CR036080
7727	0400		LDN	0		INITIALIZE	INTERPRETER	CR036090
730	4021		STD	21		(IN	TERP)-MODULE SWITCH TO ZERO	CR036100
7731	2100		LDM	LERASE				CR036110
7732	5232							
733	4020		STD	20		(ERASE)		CR036120

7734	2100	LDM	L(FLOP)		CR03613:
7735	5111				
7736	6004	ZJF	4		CR03614
7737	2100	LDM	L(FLF1)		CR03615
7740	6640				
7741	6004	ZJF	4		CR03616
7742	0440	LDN	40		CR03617
7743	0111	LS6		SET UPPER BIT TO ONE IF	CR03618:
7744	5021	RAD	21	(INTERP) FLOATING PT IS USED	CR03619:
7745	2100	LDM	L(FORM)		CR03620
7746	1110				
7747	6004	ZJF	4		CR03621:
7750	0420	LDN	20		CR03622:
7751	0111	LS6		SET SECOND BIT TO ONE IF	CR03623
7752	5021	RAD	21	(INTERP) FORMAT CONTROL IS USED	CR03624:
7753	2100	LDM	L(BOOL)		CR03625:
7754	4044				
7755	6004	ZJF	4		CR03626:
7756	0410	LDN	10		CR03627:
7757	0111	LS6		SET THIRD BIT TO ONE IF	CR03628:
7760	5021	RAD	21	(INTERP) BOOLEAN IS USED	CR03629:
7761	2100	LDM	I/OTBL +19D	GET NUMBER OF MEMORY MAP	CR03630:
7762	1035				
7763	0277	LPN	77	ROUTINE AND INSERT IN LOWER	CR03631:
7764	5021	RAD	21	(INTERP) SIX BITS OF INTERP	CR03632
7765	2346	LDR	B(CODL)	MOVE LAST ASSIGNED RELATIVE	CR03633:
7766	4031	STD	31	(OBBANK) OBJECT CODE LOCATION TO	CR03634:
7767	2351	LDR	CODEND	OBBANK AND OBLAST	CR03635
7770	4032	STD	32	(OBLAST)	CR03636
7771	2200	LDC	INBUFF	LOAD PASS2	CR03637:
7772	0400				
7773	7100	JPR	220		CR03638:
7774	0220				
7775	7101	JFI	1		CR03639:
7776	2500		2500		CR03640:
0010	TABLCL	EQU	10		CR03641:
0031	ORBANK	EQU	31		CR03642
0032	OBLAST	EQU	32		CR03643
0020	ERASEL	EQU	20		CR03644:
0021	INTERP	EQU	21		CR03645:
0030	DIAGNS	EQU	30		CR03646
2500	PASS2	EQU	2500		CR03647:
0000	END				CR03648

*Halt  
End of Pass one*

	REM		RDCARD = 088	RCC00001
	REM		READS ONE 72 COLUMN CARD PER ENTRY	RCC00001
	REM		NO ERROR CHECKING DONE	RCC00002
	REM		NOT ABSOLUTELY RELOCATABLE	RCC00003
	REM		ASSUMED ALL BANK SETTINGS = 0	RCC00004
	REM		ENTER BY A JPR TO THE 1ST LOCN.	RCC00005
	REM		USES ONLY PRIMARY READ STATION	RCC00006
	REM		SPACE REQUIRED IS 220 OCTAL	RCC00007
	REM		LOW CORE USE 71=77	RCC00008
	ORG	570		RCC00009
0570	0000	0		RCC00010
	INBUFF	EQU 400	ADDRESS WITHIN COMPILER	RCC00011
	0570	ORG 570		RCC00012
0570	0000	RDCARD	ENTRY POINT	RCC00013
371	7500	READ EXC 340	REQUEST CARD READER STATUS	RCC00014
0572	0340			
0573	7600	INA		RCC00015
374	0201	LPN 1		RCC00016
0575	6504	NZB READ	WAIT READY	RCC00017
0576	7500	EXC 301	SELECT PRIMARY READ	RCC00018
377	0301			
0600	2257	LDF WORDLD	BEGINNING OF INPUT AREA	RCC00019
0601	0105	ATE READ		RCC00020
302	0571			
0603	2200	LDC BOTTOM +1	LAST WORD ADDRESS +1	RCC00021
0604	0570			
305	0106	ATX READ		RCC00022
0606	0571			
0607	7200	IBI READ	BEGIN BUFFERED READ	RCC00023
610	0571			
0611	2246	LDF WORDLD	FIRST DATA WORD ADDRESS (FROM CARD)	RCC00024
12	4071	STD WORD		RCC00025
613	4072	STD BUFCHK		RCC00026
0614	2200	LDF 0	PRESET STORER TO CLEAR IMAGE	RCC00027
0615	4173	STI COLUMN		RCC00028
616	4230	STF STORER		RCC00029
0617	2200	LDC TOP	FIRST WORD ADDRESS OF BUFFER	RCC00030
0620	0400			
621	4074	STD BEGINC	CONVERTED CODES BEGIN HERE	RCC00031
0622	0644	ADN 36D		RCC00032
0623	4075	STD ENDCOL	SET TO CONVERT 36 COLUMNS	RCC00033
624	2200	LDF 0		RCC00034
0625	0405	LDN 5		RCC00035
0626	4250	STF ENDROW	SET TO SKIP REMAINING COLUMNS	RCC00036
627	0411	LDN 11		RCC00037
0630	4076	STD CONSNT	VALUE OF FIRST ROW BITS	RCC00038
0631	2341	LDB RDCARD		RCC00039
632	4240	STF EXITAD	SET EXIT ADDRESS	RCC00040
0633	0407	SETWRD LDN 7		RCC00041
0634	5072	RAD BUFCHK	WAIT FOR ROW TO BE READ	RCC00042
635	0107	WAIT ETA		RCC00043
0636	3472	SBD BUFCHK		RCC00044
0637	6702	NJB WAIT		RCC00045
640	2074	COLADD LDD BEGINC		RCC00046
0641	4073	STD COLUMN	RESET TO FIRST COLUMN ADDRESS	RCC00047
0642	2171	LDWORD LDI WORD		RCC00048
43	4215	STF WORDER	WORD TO BE CONVERTED	RCC00049
0644	6315	NEG NJF BIT	JUMP IF BIT WAS READ	RCC00050
0645	0400	LDN 0	IF NOT, VALUE NOT INCREASED	RCC00051
646	4173	STORER STI COLUMN	OR RAI COLUMN	RCC00052

0647	5473	TSTWRD	AOD	COLUMN	INCREASE ADDRESS	RCC0053:
0650	3475		SBD	ENDCOL		RCC0054:
0651	6025		ZJF	ENDROW	JUMP IF EAD OF ROW	RCC0055:
0652	4616		SRF	12COUN	CHECK FOR END OF ROW	RCC0056:
0653	6321		NJF	ENDWRD		RCC0057:
0654	4604		SRF	WORDER	NO SHIFT INPUT WORD	RCC0057:
0655	6511		NZB	NEG	GO BACK	RCC0058:
0656	6412		ZJB	NEG		RCC0060:
0657	0444	WORDLD		IMAGE	BEGINNING OF INPUT DATA FROM CARD	RCC0061:
0660	0000	WORDER			WRD BEING CONVERTED	RCC0062:
0661	2076	BIT	LDD	CONSNT	INCREASE BY VALUE OF CURRENT ROW	RCC0063:
0662	6514		NZB	STORER	GO BACK IF NOT ZERO	RCC0064:
0663	2173		LDI	COLUMN	COLUMN VALUE TO A	RCC0065:
0664	6002		ZJF	ZERO		RCC0066:
0665	0406		LDN	6		RCC0067:
0666	0612	ZERO	ADN	12	ADD 12 IF ZERO	RCC0068:
0667	6521		NZB	STORER		RCC0069:
0670	4000	12COUN		4000	COUNTER FOR 12 BIT WORD	RCC0070:
0671	7101	EXIT	JFI	1	EXIT	RCC0071:
0672	0000	EXITAD			EXIT ADDRESS	RCC0072:
0673	4000	K4000		4000		RCC0073:
0674	5471	ENDWRD	AOD	WORD	INCREASE ADDRESS OF WORD	RCC0074:
0675	6533		NZB	LDWORD		RCC0075:
0676	0405	ENDROW	LDN	5	LDN 5 OR LDN 1 (2ND HALF)	RCC0076:
0677	5071		RAD	WORD	INCREASE ADDRESS OF WORD	RCC0077:
0700	2305		LDB	K4000		RCC0078:
0701	4311		STB	12COUN	RESET 12 COUNTER	RCC0079:
0702	2076		LDD	CONSNT		RCC0080:
0703	0740		SBN	40	MINUS ROW	RCC0081:
0704	6215		PJF	SUB20	YES, GO TO CHECK FURTHER	RCC0082:
0705	2337		LDB	STORER		RCC0083:
0706	1200		LPF	0		RCC0084:
0707	1000	K1000		1000	SET STORER TO RAI IF 8 ROW	RCC0085:
0710	6103		NZF	3		RCC0086:
0711	2302		LDB	K1000		RCC0087:
0712	5344		RAB	STORER		RCC0088:
0713	0501		LCN	1		RCC0089:
0714	5076		RAD	CONSNT	SET CONSNT FOR NEXT ROW	RCC0090:
0715	6662		PJB	SETWRD	GO BACK IF POS	RCC0091:
0716	0440		LDN	40	SET ROW = MINUS	RCC0092:
0717	6105		NZF	SETCON		RCC0093:
0720	6560	INDJMP	NZB	COLADD	INDIRECT JUMP BACKWARD	RCC0094:
0721	0720	SUB20	SBN	20		RCC0095:
0722	6204		PJF	BLANKS	JUMP IF LAST ROW DNE	RCC0096:
0723	0460		LDN	60	SET CONSNT = PLUS	RCC0097:
0724	4076	SETCON	STD	CONSNT		RCC0098:
0725	6572		NZB	SETWRD	GO BACK	RCC0099:
0726	2074	BLANKS	LDD	BEGINC	RESET COLUMN TO FIRST COL. ADR,	RCC0100:
0727	4073		STD	COLUMN		RCC0101:
0730	2173	COLOAD	LDI	COLUMN	SET ZERO = BLANK (20)	RCC0102:
0731	6103		NZF	ADWORD		RCC0103:
0732	0420		LDN	20		RCC0104:
0733	4173		STI	COLUMN		RCC0105:
0734	5473	ADWORD	AOD	COLUMN		RCC0106:
0735	3475		SBD	ENDCOL		RCC0107:
0736	6506		NZB	COLOAD		RCC0108:
0737	0404	SWITCH	LDN	4		RCC0109:
0740	1342		LPB	ENDROW		RCC0110:
0741	6450		ZJB	EXIT	EXIT FROM ROUTINE	RCC0111:
0742	2733		LCB	K1000		RCC0112:

0743	5375	RAB	STORER	RESET STORER FOR FIRST ROW	RCC0113:
0744	2200	LDC	BOTTOM	PRESET TO CONVERT REMAINING IMAGE	RCC0114:
0745	0567				
0746	4076	STD	CONDNS		RCC0115:
0747	0701	SBN	1		RCC0116:
0750	4077	STD	ROW		RCC0117:
0751	0742	SBN	340		RCC0000:
0752	4071	STD	WORD		RCC0000:
0753	2075	LDD	ENDCOL		RCC0000:
0754	4074	STD	BEGINC		RCC0000:
0755	0644	ADN	360		RCC0000:
0756	4075	STD	ENDCOL		RCC0000:
0757	0504	LCN	4		RCC0000:
0760	5362	RAB	ENDROW		RCC0000:
0761	2743	LCB	SUB20 -3		RCC0000:
0762	5072	RAD	BUFCHK		RCC0000:
0763	0503	LAST3	LCN 3	PRESET TO MOVE REMAINING IMAGE	RCC0000:
0764	4300	STS			RCC0118:
0765	2177	LOOP	LDI ROW		RCC0130:
0766	4176	STI	CONDNS		RCC0131:
0767	0501	LCN	1		RCC0132:
0770	5077	RAD	ROW		RCC0133:
0771	0501	LCN	1		RCC0134:
0772	5076	RAD	CONDNS		RCC0135:
0773	5700	ACS			RCC0136:
0774	6507	NZB	LOOP	MOVE THREE WORDS	RCC0137:
0775	0504	LCN	4	SKIP NEXT FOUR	RCC0138:
0776	5077	RAD	ROW		RCC0139:
0777	1600	SCC	IMAGE -2		RCC0140:
1000	0442				
1001	6516	NZB	LAST3	GO BACK IF NOT DONE	RCC0141:
1002	0411	LDN	11	SET ROW VALUE = 9	RCC0142:
1003	4076	STD	CONSNT		RCC0143:
1004	0420	LDN	20		RCC0144:
1005	4100	STM	INBUFF +110		RCC0145:
1006	0510				
1007	6567	NZB	INDJMP	GO BACK TO CONVERT COL. 36 TO 72	RCC0146:
0071	WORD	EQU	71	ADDRESS OF CURRENT IMAGE WORD	RCC0147:
0072	BUFCHK	EQU	72	ADDRESS FOR CHECKING IF BUFFER IS DONE	RCC0148:
0073	COLUMN	EQU	73	ADR OF CURRENT COLUMN	RCC0149:
0074	BEGINC	EQU	74	ADR OF FIRST COLUMN (1 OR 37)	RCC0150:
0075	ENDCOL	EQU	75	ADR OF LAST COLUMN (36 OR 72)	RCC0151:
0076	CONDNS	EQU	76	ADR OF STORAGE FOR IMAGE BEING MOVED	RCC0152:
0076	CONSNT	EQU	76	VALUE OF CURRENT ROW BITS	RCC0153:
0077	ROW	EQU	77	ADR OF WORD TO BE MOVED	RCC0154:
0400	TOP	EQU	INBUFF	BEGINNING ADDRESS OF BUFFER	RCC0155:
0444	IMAGE	EQU	INBUFF +44		RCC0156:
0507	COLEND	EQU	INBUFF +107		RCC0157:
0567	BOTTOM	EQU	INBUFF +167		RCC0158:
0570	READST	EQU	RDCARD		RCC0159:
		SUPB			
0000		END			RCC0160:

	REM			FLEXIN		FX1000
	REM			FLEXIN		FX10001
	REM			PAPER TAPE INPUT TO THE COMPILER		FX10002
	REM			CONVERTS FROM FLEX TO BCD CODES		FX10003
	REM			MAXIMUM RECORD LENGTH = 72 DECIMAL		FX10004
	REM			CHARACTER 73 IS ALWAYS BCD BLANK		FX10005
	REM			EACH RECORD IS ASSUMED TO BEGIN IN		FX10006
	REM			LOWER CASE		FX10007
	REM			NON LEGAL CHARACTERS = BLANKS		FX10008
	REM			ASSUMES ALL BANK SETTINGS = 0		FX10009
	REM			SPACE REQUIRED IS 171 OCTAL		FX10010
	REM			LOW CORE USE 74=77		FX10011
0570	0570	ORG	570			FX10012
0570	0000		0			FX10013
0570	0570	ORG	570			FX10014
0570	0000	FLEXIN				FX10015
0571	2227	A1	LDF	LDN	INITIALIZE LOCATION	FX10016
0572	4077		STD	PARAM	IN BUFFER AND LOAD	FX10017
0573	0105		ATE	A1	BUFFER WITH BLANKS	FX10018
0574	0571					
0575	2200	A2	LDC	512		FX10019
0576	0512					
0577	0106		ATX	A2		FX10020
0600	0575					
0601	0420	A3	LDN	20		FX10021
0602	0100		BLS	A3		FX10022
0603	0601					
0604	2314		LDB	FLEXIN		FX10023
0605	4075		STD	EXITAD		FX10024
0606	7500		EXC	4102		FX10025
0607	4102					
0610	6132		NZF	LOWER	UNCONDITIONAL JUMP	FX10026
0611	7600	READ	INA			FX10027
0612	3200		ADC	TABL		FX10028
0613	0651					
0614	4074	LKUP	STD	TABAD		FX10029
0615	2174		LDI	TABAD		FX10030
0616	6213		PJF	FOUND	JUMP IF BONA-FIDE CHARACTER	FX10031
0617	4202		STF	2	STORE INSTRUCTION	FX10032
0620	0400	LDN	LDN		JUMP INSTRUCTION TO BE SUPPLIED	FX10033
0621	7700		HLT			FX10034
0622	0602		ADN	2		FX10035
0623	0602		ADN	2		FX10036
0624	0602		ADN	2		FX10037
0625	3076		ADD	FLEXUL		FX10038
0626	3200		ADC	TAB2		FX10039
0627	0751					
0630	6514		NZB	LKUP	UNDENIABLE JUMP	FX10040
0631	4177	FOUND	STI	PARAM		FX10041
0632	5477		AOD	PARAM		FX10042
0633	3600		SBC	510		FX10043
0634	0510					
0635	6724		NJB	READ		FX10044
0636	7600	FAN	INA			FX10045





0733	0004		4	4
0734	6410		6410	ILLEGAL
0735	0003		3	3
0736	6410		6410	ILLEGAL
0737	0005		5	5
0740	6410		6410	ILLEGAL
0741	0002		2	2
0742	6410		6410	ILLEGAL
0743	0006		6	6
0744	6410		6410	ILLEGAL
0745	0001		1	1
0746	6410		6410	ILLEGAL
0747	6410		6410	ILLEGAL
0750	6410		6410	DELETE
0751	0034	TAB2	10	(*)+/*
0752	0074			
0753	0060			
0754	0033			
0755	0054			
0756	0021			
0757	0013			
0760	0073			
	0077	PARAM	EQU	77
	0076	FLEXUL	EQU	76
	0075	EXITAD	EQU	75
	0074	TABAD	EQU	74
			SUPB	
	0000		END	

FXI00758  
 FXI00761  
 FXI0077  
 FXI00788  
 FXI00798  
 FXI0081  
 FXI00818  
 FXI0082  
 FXI0083  
 FXI00848  
 FXI0085  
 FXI0086  
 FXI0087  
 FXI0088  
 FXI0089

FXI0090  
 FXI0091  
 FXI0092  
 FXI0093  
 FXI00948

	0570		ORG	570
0570	0000			0
	0570		ORG	570
	0570	RD163C		
	0571		LCN	4
	0572		STD	COUNT
	0573		STD	COUNT1
	0574		LDB	RD163C
	0575		STD	EXITAD
	0576		EXC	1172
	0577			
	0600		LDN	20
	0601		STM	INBUFF +110
	0602			
	0603	RD	EXF	READ
	0604		INP	START
	0605			INBUFF +110
	0606		EXF	STATUS
	0607		INA	
	0610		LPN	54
	0611		ZJF	EXIT
	0612		LPN	60
	0613		NZF	END
	0614		AOD	COUNT
	0615		ZJF	TESTC1
	0616		EXF	BACKSP
	0617		INA	
	0620		NZS	RD
	0621		ZJS	RD
	0622	TESTC1	LDD	COUNT1
	0623		NZF	BACK
	0624		ERR	
	0625	EXIT	JPI	EXITAD
	0626	BACK	EXF	0
	0627	BACKSP		1123
	0630		INA	
	0631		AOD	COUNT1
	0632		ZJF	SUB3
	0633		EXF	0
	0634	STATUS		1143
	0635		INA	
	0636		LPN	40
	0637		ZJS	BACK
	0640		LDD	COUNT1
	0641	SUB3	SBN	3
	0642		STD	COUNT1

RD163C  
RD163C  
READ ONE 72 CHARACTER  
RECORD FOR COMPILER INPUT  
IGNORE EOF. REWIND UNLOAD ON  
EOF. HALT. EXIT ON A NON-ZERO  
READ AGAIN ON A ZERO  
STOP IF PARITY ERRORS PERSIST  
ASSUMES ALL BANK SETTINGS = 0  
LOW CORE USE 75-77  
SPACE REQUIRED IS 73 OCTAL

ENTRY POINT  
SET ERROR COUNTERS

SET EXIT ADDRESS

SELECT BOD PARITY

SELECT READ TAPE 3 - 6 BIT  
INPUT FROM (START)  
LAST WORD ADDRESS +1  
REQUEST STATUS

EXIT IF OK

EOF OR EOT  
PARITY ERROR. BUMP COUNTER  
BEFORE BACKSPACING, WE HAVE  
TRIED 3 TIMES IF ZERO,  
BACKSPACE AND  
READ AGAIN

MOVE THE TAPE BACK, THEN FORWARD  
UNRESOLVED ERROR, RUN TO IGNORE,  
EXIT  
TRY BACKSPACING 3 RECORDS PLUS  
THE CURRENT RECORD.

BACK 4 RECORDS = GO READ 3  
CHECK FOR BEGINNING OF TAPE

AGAIN  
ADJUST COUNTER

RTCC0000:  
RTCC0001:  
RTCC0002:  
RTCC0003:  
RTCC0004:  
RTCC0005:  
RTCC0006:  
RTCC0007:  
RTCC0008:  
RTCC0009:  
RTCC0010:  
RTCC0011:  
RTCC0012:  
RTCC0013:  
RTCC0014:  
RTCC0015:  
RTCC0016:  
RTCC0017:  
RTCC0018:  
RTCC0019:  
RTCC0020:  
RTCC0021:  
RTCC0022:  
RTCC0023:  
RTCC0024:  
RTCC0025:  
RTCC0026:  
RTCC0027:  
RTCC0028:  
RTCC0029:  
RTCC0030:  
RTCC0031:  
RTCC0032:  
RTCC0033:  
RTCC0034:  
RTCC0035:  
RTCC0036:  
RTCC0037:  
RTCC0038:  
RTCC0039:  
RTCC0040:  
RTCC0041:  
RTCC0042:  
RTCC0043:  
RTCC0044:  
RTCC0045:  
RTCC0046:  
RTCC0047:  
RTCC0048:  
RTCC0049:  
RTCC0050:  
RTCC0051:  
RTCC0052:  
RTCC0053:  
RTCC0054:

0643	6006	ZJF	RESET	BAD RECORD WAS FIRST	RTCC055:
0644	7500	R3	EXF	PASS A RECORD	RTCC056:
0645	1133	READ		READ 6 BIT	RTCC057:
0646	7800	INA			RTCC058:
0647	5475	ADD	COUNT1	MOVE TAPE UNTIL READY TO	RTCC059:
0650	6504	NZR	R3	READ CURRENT RECORD	RTCC060:
0651	0504	RESET	LCN	RESET TO TRY CURRENT	RTCC061:
0652	4076		STD	RECORD 3 MORE TIMES	RTCC062:
0653	6550		NZR		RTCC063:
0654	0240	END	LPN		RTCC064:
0655	6464		ZJB	IGNORE EOF	RTCC065:
0656	7500		EXC	REWIND UNLOAD IF EOT	RTCC066:
0657	1153				RTCC067:
0660	7700		HLT		RTCC068:
0661	6534		NZR	USE LAST RECORD	RTCC069:
0662	6471		ZJB	READ NEW RECORD	RTCC070:
0663	0400	START	RD163C +1	BEGINNING ADDRESS OF BUFFER	RTCC071:
	0076	COUNT	INBUFF	ERROR COUNTER	RTCC072:
	0075	COUNT1	EQU		RTCC073:
	0077	EXITAD	EQU	EXIT ADDRESS	RTCC074:
	0570	READST	EQU		RTCC075:
	0400	INBUFF	EQU	ADDRESS WITHIN COMPILER	RTCC076:
			SUPB		
	0000		END		

		REM		R1607C		TC10000A
		REM		R1607C		TC10001:
		REM		READ ONE 72 CHARACTER (TAPE 3)		TC10002:
		REM		RECORD FOR COMPILER INPUT		TC10003:
		REM		STOP IF PARITY ERRORS PERSIST		TC10004:
		REM		ALL BANK SETTINGS ASSUMED=0		TC10005:
		REM		CHARACTER 73 IS SET TO BLANK		TC10006A
		REM		SPACE REQUIRED IS105 OCTAL		TC10007A
		REM		LOW CORE USE 74=77		TC10008A
		ORG	570			TC10009:
0570	0000		0			TC10010:
	0570	ORG	570			TC10011:
0570	0000	R1607C		ENTRY POINT		TC10012:
0571	0504	LCN	4			TC10013:
0572	4076	STD	COUNT	SET ERROR COUNTER		TC10014:
0573	2303	LDB	R1607C			TC10015A
0574	4077	STD	EXITAD	SET EXIT ADDRESS		TC10016:
0575	7500	EXC	5032	SELECT READ TAPE 3=CODED		TC10017:
0576	5032					
0577	7100	JPR	WAIT			TC10018A
0600	0664					
0601	7500	RD	EXC	5002	READ SELECTED TAPE=CODED	TC10019:
0602	5002					
0603	7250	INP	START			TC10020:
0604	0510		INBUFF	+110	INBUFF+44 TO INBUFF+110	TC10021:
0605	7100	JPR	WAIT			TC10022:
0606	0664					
0607	0454	LDN	54			TC10023:
0610	1075	LPD	STORE			TC10024
0611	6014	ZJF	UNPACK		NO ERRORS	TC10025:
0612	0214	LPN	14		END OF FILE AND END OF TAPE	TC10026:
0613	6141	NZR	END		EOF OR EOT	TC10027:
0614	5476	ADD	COUNT		TRY THREE TIMES	TC10028A
0615	6006	ZJF	STOP		3RD TIME	TC10029:
0616	7500	EXC	5006		BACKSPACE TAPE	TC10030A
0617	5006					
0620	7100	JPR	WAIT			TC10031A
0621	0664					
0622	6421	ZJB	RD		TRY AGAIN	TC10032:
0623	0000	STOP	ERR		BAD TAPE	TC10033:
0624	6026	ZJF	EXIT		IGNORE	TC10034:
0625	0544	UNPACK	LCN	44		TC10035:
0626	4076	STD	COUNT		SET CHARACTER COUNTER	TC10036:
0627	3224	ADF	START			TC10037:
0630	4075	STD	STORE		STORAGE ADDRESS	TC10038A
0631	2222	LDF	START			TC10039:
0632	4074	STD	PICKUP		PICKUP ADDRESS	TC10040:
0633	0577	LOOP	LCN	77	LEFT CHARACTER	TC10041:
0634	1174	LPI	PICKUP			TC10042:
0635	0111	LS6				TC10043:
0636	4175	STI	STORE		STORE	TC10044:
0637	5475	ADD	STORE		INCREASE ADDRESS	TC10045:
0640	2174	LDI	PICKUP		PICKUP 2 CHARACTERS	TC10046:
0641	0277	LPN	77		MASK OFF 2ND ONE	TC10047A
0642	4175	STI	STORE		STORE	TC10048:

0643	5475	ACD	STORE		ADJUST ADDRESSES	TC100490
0644	5474	ACD	PICKUP			TC100500
0645	5476	ACD	COUNT		AND COUNTER	TC100510
0646	6513	NZB	LOOP		LOOP UNTIL DONE	TC100520
0647	0420	LDN	20		SET 73RD CHARACTER	TC100530
0650	4175	STI	STORE		EQUAL TO BCD BLANK	TC100540
0651	0400	LDN	0		SET A=0 FOR NORMAL EXIT	TC100550
0652	7077	EXIT	JPI	EXITAD	EXIT	TC100560
0653	0444	START		INBUFF +44	FIRST WORD ADDRESS OF BUFFER	TC100570
0654	0204	END	LPN	4		TC100580
0655	6464	ZJB	R1607C	+1	IGNORE EOF	TC100590
0656	7500	EXC	5005		REWIND	TC100600
0657	5005					
0660	7700	HLT				TC100610
0661	6507	NZR	EXIT		USE LAST READ IF NOW ZERO	TC100620
0662	6471	ZJR	R1607C	+1	READ AGAIN	TC100630
0663	7101	JFI	1			TC100640
0664	0000	WAIT			WAIT READY ROUTINE	TC100650
0665	7500	EXC	6053		STATUS	TC100660
0666	6053					
0667	7600	INA				TC100670
0670	4075	STD	STORE		SAVE	TC100680
0671	1200	LPC	200		READY BIT	TC100690
0672	0200					
0673	6506	NZB	WAIT	+1	WAIT	TC100700
0674	6411	ZJB	WAIT	-1	GO	TC100710
	0400	INBUFF	EQU	400	LOCATION IN COMPILER	TC100720
	0076	COUNT	EQU	76	ERROR AND UNPACKING COUNTER	TC100730
	0077	EXITAD	EQU	77	EXIT ADDRESS	TC100740
	0075	STORE	EQU	75	STORAGE ADDRESS FOR UNPACKING	TC100750
	0074	PICKUP	EQU	74	PICKUP ADDRESS FOR UNPACKING	TC100760
	0000	SUPB	END			TC100770

	REM			RD167C - 167 CARD READER
	REM			COMPILER INPUT
	REM			READS ONE 72 COLUMN CARD PER ENTRY
	REM			NO ERROR CHECKING DONE
	REM			ASSUMED ALL BANK SETTINGS=0
	REM			ENTER BY A JPR TO THE 1ST LOCATION
	REM			SPACE REQUIRED IS 107 OCTAL
	REM			LOW CORE USE 72=77
	ORG	570		
0570	0000	0		
	INBUFF EQU	400		ADDRESS WITHIN COMPILER
	0570	ORG	570	
0570	0000	RD167C		ENTRY POINT
0571	7514	STATUS EXF	Z +1	
0572	7600	INA		
0573	6502	NZB	STATUS	WAIT READY
0574	2304	LDB	RD167C	
0575	4077	STD	RETURN	SET EXIT ADDRESS
0576	7500	EXC	4502	SINGLE CYCLE READ
0577	4502			
0600	7213	INP	X +1	READ 2 COL9LWA+1 SHOULD BE
0601	0402	Y	INBUFF +2	COL 3, IF NOT THERE WAS A
0602	3701	SBB	1	FAILURE
0603	6007	ZJF	X	
0604	7500	Z	EXC 4540	DISPLAY STATUS RESPONSE. ON
0605	4540			
0606	7600	INA		FEED FAILURE. CARD DID NOT PASS
0607	0224	LPN	24	ON AMP FAILURE, IT DID.
0610	0000	ERR		CLEAR AND RUN FROM 611.
0611	6420	ZJB	STATUS	
0612	2200	X	LDC INBUFF	
0613	0400			
0614	4076	STD	PAIR	STORING ADDRESS
0615	3200	ADC	110	
0616	0110			
0617	4075	STD	LAST	LWA +1
0620	0420	LDN	20	
0621	4175	STI	LAST	
0622	2076	LOOP	LDD PAIR	THE FIRST TWO COLS. ARE
0623	3722	SBB	Y	ALREADY IN THE BUFFER.
0624	6304	NJF	LFTSFT	
0625	7600	INA		READ SINGLE COLUMN BEGINNING
0626	6003	ZJF	LFTSFT +1	WITH COL, 3)
0627	6102	MZF	LFTSFT +1	
0630	2176	LFTSFT	LDI PAIR	PICK UP FOR COL 1 AND 2
0631	0103	LS2		CONVERT TO BCD
0632	4073	STD	LOOK	WILL BE USED WITH SHIFT REPLACE
0633	0102	LS1		
0634	6011	ZJF	ONE	ZERO IS BLANK
0635	0207	LPN	7	LOOK AT ZONE FIRST
0636	6010	ZJF	ZERO	NO ZONE
0637	0701	SBN	1	ASSUME 1 ZONE BIT, IF NOT, TREAT
0640	6005	ZJF	ONE	AS 12 ZONE.
0641	0701	SBN	1	
0642	6002	ZJF	TWO	
0643	0420	FOUR	LDN 20	

FC10000:  
FC10001:  
FC10002:  
FC10003:  
FC10004:  
FC10005:  
FC10006:  
FC10007:  
FC10008:  
FC10009:  
FC10010:  
FC10011:  
FC10012:  
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FC10049:  
FC10050:  
FC10051:  
FC10052:

0644	0620	TWO	ADN	20		RC100538
0645	0620	ONE	ADN	20		RC100541
0646	4176	ZERO	STI	PAIR	STORE VALUE	RC10055
0647	0511	DIGIT	LCN	11	NINE DIGITS	RC100561
0650	4072		STD	COUNT		RC100571
0651	4473	LOOP9	SRD	LOOK	TEST FOR EACH BIT IN TURN	RC10058
0652	6204		PJF	BUMP	NO BIT	RC100591
0653	2072		LDD	COUNT	ADD 1001	RC100601
0654	0612		ADN	12		RC10061
0655	5176		RAI	PAIR		RC100628
0656	5472	BUMP	ACD	COUNT		RC100631
0657	6506		NZB	LOOP9		RC10064
0660	2176		LDI	PAIR		RC10065
0661	0277		LPN	77	MASK OUT UPPER 6 BITS	RC100661
0662	4176		STI	PAIR		RC10067
0663	2073	NEXT	LDD	LOOK		RC100681
0664	3600		SBC	400	ZERO ALONE IS SPECIAL	RC100691
0665	0400					
0666	6103		NZF	GOBACK		RC100708
0667	0412		LDN	12		RC100710
0670	4176		STI	PAIR		RC10072
0671	5476	GOBACK	ACD	PAIR		RC100731
0672	3475		SBD	LAST		RC100741
0673	6551		NZB	LOOP		RC10075
0674	7500		EXC	4500	LOCK OUT TIMING FAULT	RC100761
0675	4500					
0676	7077	END	JPI	RETURN		RC10077
	0077	RETURN	EQU	77		RC100788
	0076	PAIR	EQU	76		RC100791
	0075	LAST	EQU	75		RC10080
	0073	LOOK	EQU	73		RC10081
	0072	COUNT	EQU	72		RC10081
			SUPB			
	0000	END	END			RC100838

Address	Code	Label	Operation	Value	Description	Index
	REM				R167CS=167 CARD READER, COMPILER	RCS0000
	REM				R167CS=167 CARD READER, COMPILER	RCS0001
	REM				INPUT WITH AUTO, SOURCE LISTING	RCS0002
	REM				READS ONE 72 COLUMN CARD PER ENTRY	RCS0003
	REM				NO ERROR CHECKING DONE	RCS0004
	REM				ASSUMED ALL BANK SETTINGS=0	RCS0005
	REM				ENTER BY A JPR TO THE 1ST LOCATION	RCS0006
	REM				SPACE REQUIRED IS 210 OCTAL	RCS0007
	REM				LOW CORE USE 73=77	RCS0008
0570	ORG			570		RCS0009
				0		RCS0010
	INBUFF	EQU		400	ADDRESS WITHIN COMPILER	RCS0011
		ORG		570		RCS0012
0570	R167CS				ENTRY POINT	RCS0013
571	7514	STATUS	EXF	Z +1		RCS0014
0572	7600		INA			RCS0015
0573	6502		NZB	STATUS	WAIT READY	RCS0016
574	2304		LDB	R167CS		RCS0017
0575	4077		STD	RETURN	SET EXIT ADDRESS	RCS0018
0576	7500		EXC	4502	SINGLE CYCLE READ	RCS0019
577	4502					
0600	7213		INP	X +1	READ 2 COL, LWA*1 SHOULD BE	RCS0020
0601	0402	Y	INBUFF	+2	COL. 3, IF NOT THERE WAS A	RCS0021
502	3701		SBB	1	FAILURE,	RCS0022
0603	6007		ZJFI	X		RCS0023
0604	7500	Z	EXC	4540	DISPLAY STATUS RESPONSE, ON	RCS0024
505	4540					
506	7600		INA		FEED FAILURE, CARD DID NOT PASS,	RCS0025
07	0224		LPN	24	ON AMP, FAILURE, IT DID,	RCS0026
510	0000		ERR		CLEAR AND RUN FROM 611,	RCS0027
0611	6420		ZJB	STATUS		RCS0028
0612	2200	X	LDC	INBUFF		RCS0029
513	0400					
0614	4076		STD	PAIR	STORING ADDRESS	RCS0030
0615	3200		ADC	110		RCS0031
516	0110					
0617	4075		STD	LAST	LWA + 1	RCS0032
0620	0420		LDN	20		RCS0033
521	4175		STI	LAST		RCS0034
0622	2076	LOOP	LDD	PAIR	THE FIRST TWO COLS, ARE	RCS0035
0623	3722		SBB	Y	ALREADY IN THE BUFFER,	RCS0036
524	6304		NJFI	SPECL		RCS0037
0625	7600		INA		READ SINGLE COL, BEGINNING	RCS0038
0626	6103		NZF	SPECL +1	WITH COL. 3.	RCS0039
527	6002		ZJFI	SPECL +1		RCS0040
0630	2176	SPECL	LDI	PAIR	PICK UP FOR COL 1 AND 2	RCS0041
0631	0103		LS2		CONVERT TO BCD	RCS0042
532	4073		STD	LOOK	WILL BE USED WITH SHIFT REPLACE	RCS0043
0633	0102		LS1			RCS0044
0634	6011		ZJFI	ONE	ZERO IS BLANK	RCS0045
535	0207		LPN	7	LOOK AT ZONE FIRST	RCS0046
0636	6010		ZJFI	ZERO	NO ZONE	RCS0047
0637	0701		SBN	1	ASSUME 1 ZONE BIT, IF NOT, TREAT	RCS0048
40	6005		ZJFI	ONE	AS 12 ZONE,	RCS0049
0641	0701		SBN	1		RCS0050
0642	6002		ZJFI	TWO		RCS0051
543	0420	FOUR	LDN	20		RCS0052



0644	0620	TWO	ADN	20		RCS00531
0645	0620	ONE	ADN	20		RCS00541
0646	4176	ZERO	STI	PAIR	STORE VALUE	RCS0055
0647	0511	DIGIT	LCN	11	NINE DIGITS	RCS00561
0650	4072		STD	COUNT		RCS00571
0651	4473	LOOP9	SRD	LOOK	TEST FOR EACH BIT IN TURN	RCS005
0652	6204		PJF	BUMP	NO BIT	RCS00591
0653	2072		LDD	COUNT	ADD 10=1	RCS00601
0654	0612		ADN	12		RCS0061
0655	5176		RAI	PAIR		RCS00621
0656	5472	BUMP	AOD	COUNT		RCS00631
0657	6506		NZB	LOOP9		RCS0064
0660	2176		LDI	PAIR		RCS00651
0661	0277		LPN	77		RCS00661
0662	4176		STI	PAIR		RCS0067
0663	2073	NEXT	LDD	LOOK		RCS00681
0664	3600		SBC	400	ZERO ALONE IS SPECIAL	RCS00691
0665	0400					
0666	6103		NZF	GOBACK		RCS00701
0667	0412		LDN	12		RCS00711
0670	4176		STI	PAIR		RCS0072
0671	5476	GOBACK	AOD	PAIR		RCS00731
0672	3475		SBD	LAST		RCS00741
0673	6551		NZB	LOOP		RCS0075
0674	7500		EXC	4500	LOOK OUT TIMING FAULT	RCS00761
0675	4500					
0676	2200		REM		LPR166 PRINTER	RCS0077
0677	0400		LDC	INBUFF		RCS00781
0700	4075		STD	PICKUP	FWA OF ACTUAL PRINTING	RCS0079
0701	4076		STD	STORE		RCS0080
0702	7500	READY	EXC	740		RCS0081
0703	0740					
0704	7600		INA			RCS00821
0705	6503		NZB	READY		RCS00831
0706	2200		LDC	INBUFF: 110	LWA*1 OF BUFFER	RCS0084
0707	0510					
0710	4072		STD	COUNT		RCS00851
0711	2175	LOOP1:	LDI	PICKUP	PACK LOOP	RCS0086
0712	0111		LS6		LEFT HALF	RCS00871
0713	4176		STI	STORE		RCS00881
0714	5475		AOD	PICKUP		RCS00891
0715	2175		LDI	PICKUP	RIGHT HALF	RCS00901
0716	5176		RAI	STORE	CANT BE 7777	RCS00911
0717	5476		AOD	STORE		RCS00921
0720	5475		AOD	PICKUP		RCS00931
0721	3472		SBD	COUNT	CHECK END OF BUFFER	RCS00941
0722	6511		NZB	LOOP1:		RCS00951
0723	7500		EXC	700	SELECT AND	RCS00961
0724	0700					
0725	7332	OUT	OUT	END	OUTPUT HALF THE BUFFER	RCS00971
0726	0444			444		RCS00981
0727	7500		EXC	720	MOVE PAPER AFTER EACH	RCS00991
0730	0720					
0731	2303		LDB	OUT 1	UNPACK, ONLY NEED TO UNPACK	RCS01001
0732	0701		SNB	1	HALF OF WHAT WAS PACKED,	RCS01011
0733	4076		STD	STORE	WORK FROM RIGHT TO LEFT,	RCS010
0734	0722		SNB	22		RCS01031
0735	4075		STD	PICKUP		RCS01041
0736	0477	LOOP2	LDN	77	RIGHT HALF	RCS01051

0737	1175	LPI	PICKUP		RCS01061
0740	4176	STI	STORE		RCS01071
741	0501	LCN	1		RCS01081
0742	5076	RAD	STORE	REDUCE STORE	RCS01091
0743	0577	LCN	77	LEFT HALF	RCS01101
44	1175	LPI	PICKUP		RCS01111
0745	0111	LS6			RCS01121
0746	4176	STI	STORE		RCS01131
747	0501	LCN	1		RCS01141
0750	5075	RAD	PICKUP	REDUCE PICKUP AND STORE	RCS01151
0751	0501	LCN	1		RCS01161
752	5076	RAD	STORE		RCS01171
0753	3600	SBC	377		RCS01181
0754	0377				:
755	6517	NZB	LOOP2		RCS01191
0756	7077	JPI	RETURN		RCS01201
0757	0400	END	400		RCS01211
0757		N400	EQU	END	RCS01221
0076		STORE	EQU	76	RCS01231
0075		PICKUP	EQU	75	RCS01241
0072		COUNT	EQU	72	RCS01251
0077		RETURN	EQU	77	RCS01261
0076		PAIR	EQU	76	RCS01271
0075		LAST	EQU	75	RCS01281
0074		LOOK1	EQU	74	RCS01291
0073		LOOK	EQU	73	RCS01301
			SUPB		:
0000		END			RCS01311

	REM		DBH167 = CARD READER	RCH0000:
	REM		COMPILER INPUT	RCH0001:
	REM		READS ONE 72 COL CARD	RCH0002:
	REM		ERROR CHECKING ONLY FOR READER FAILURE	RCH0003:
	REM		STATUS + 1000 DISPLAYED IN A REG	RCH0004:
	REM		ASSUMED ALL BANK SETTINGS = 0	RCH0005:
	REM		ENTER BY A JPR TO THE FIRST LOCATION.	RCH0006:
	REM		SPACE REQUIRED IS	RCH0007:
	REM		LOW CORE USED = 74-77	RCH0008:
0570	ORG	570		RCH0009:
		0		RCH0010:
	ORG	570		RCH0011:
0570	DBH167	-0	ENTRY	RCH0012:
0571	LDB	DBH167	SAVE ENTRY	RCH0013:
0572	STD	RETURN		RCH0014:
0573	LDC	INBUFF		RCH0015:
0574				
0575	STD	STORE	BEGINNING OF CARD IMAGE	RCH0016:
0576	LCN	360		
0577	STD	TEMP		RCH0018:
0600	LDC	BUF		RCH0019:
0601				
0602	STD	PAIR		RCH0020:
0603	LDR	ENDFLG	CHECK TO DETERMINE WHETHER BUFFER	RCH0021:
0604	NZR	START1	IS LOADED WITH SECOND CARD	RCH0022:
0605	STATUS	EXF TEST +1		RCH0023:
0606	INA			RCH0024:
0607	NZR	STATUS		RCH0025:
0610	START	LDD PAIR	INITIATE FIRST CARD	RCH0026:
0611	JPR	INITIA		RCH0027:
0612				
0613	START1	LDN 0		RCH0028:
0614	STR	ENDFLG		RCH0029:
0615	LDD	PAIR	INITIATE SECOND CARD	RCH0030:
0616	JPR	INITIA		RCH0031:
0617				
0620	UNPACK	AOR ENDFLG	INDICATES SECOND CARD STORED IN BUFFER	RCH0032:
0621	LDI	PAIR	LEFT HALF	RCH0033:
0622	LS6			RCH0034:
0623	LPN	77		RCH0035:
0624	STI	STORE		RCH0036:
0625	AOD	STORE		RCH0037:
0626	LDN	77	RIGHT HALF	RCH0038:
0627	LPI	PAIR		RCH0039:
0630	STI	STORE		RCH0040:
0631	AOD	STORE		RCH0041:
0632	AOD	PAIR		RCH0042:
0633	AOD	TEMP		RCH0043:
0634	NZR	UNPACK		RCH0044:
0635	JPI	RETURN		RCH0045:
	INBUFF	EQU 400		RCH0046:
0636	ENDFLG	0		RCH0047:
0637	HOLD	0		RCH0048:
0640	OK	EXC 4506		RCH0049:
0641				RCH0050:
0642	SBU0			

0643	7200	WAIT	IBI	WAIT		RCH0051:
0644	0643					RCH0052:
0645	7101		JFI	1		RCH0053:
0646	7777	INITIA		-0		RCH0054:
0647	0105		ATE	INITIA +1		RCH0055:
50	0647					RCH0056:
0651	0650		ADN	400		RCH0057:
0652	0106	PAUSE:	ATX	PAUSE		RCH0058:
0653	0652					RCH0059:
0654	7500	TEST	EXC	4540		RCH0060:
0655	4540					RCH0061:
0656	7600		INA			RCH0062:
0657	6417		ZJR	OK		RCH0063:
0660	4321		STR	HOLD	SAVE ERROR STATUS TO BE PLACED IN A REG	RCH0064:
0661	0701		SBN	1	CHECK FOR HOPPER EMPTY	RCH0065:
0662	6441		ZJR	UNPACK	PROCESS PREVIOUS CARD	RCH0066:
0663	2324		LDR	HOLD		RCH0067:
0664	3200		ADC	1000		RCH0068:
0665	1000					RCH0069:
0666	0000		ERR		A REGISTER CONTAINS STATUS + 1000	RCH0070:
			REM		CLEAR A REGISTER AND RUN	RCH0071:
0667	0400		LDN	0		RCH0072:
0670	6414		ZJR	TEST		RCH0073:
071	0000	BUF				RCH0074:
	0074	TEMP	EQU	74		
	0075	PAIR	EQU	75		
	0076	STORE	EQU	76		
	0077	RETURN	EQU	77		
			SUPB			
	0000		END			

	REM			R167CP=167 CARD READER, COMPILER	RCP6000
	REM			INPUT WITH AUTO, SOURCE LISTING ON 1612	RCP6001
	REM			READS ONE 72 COLUMN CARD PER ENTRY	RCP6002
	REM			ASSUMED ALL BANK SETTINGS=0	RCP6003
	REM			ENTER BY A JPR TO THE 1ST LOCATION	RCP6004
	REM			SPACE REQUIRED IS 126 OCTAL	RCP6005
	REM			LOW CORE USE 73=77	RCP6006
0570	0570	ORG	570		RCP6007
	0000		0		RCP6008
	0400	INBUFF EQU	400	ADDRESS WITHIN COMPILER	RCP6009
	0570	ORG	570		RCP6010
0570	0000	R167CS		ENTRY POINT	RCP6011
0571	7514	STATUS EXF	Z +1		RCP6012
0572	7600	INA			RCP6013
0573	6502	NZB	STATUS	WAIT READY	RCP6014
0574	2304	LDB	R167CS		RCP6015
0575	4077	STD	RETURN	SET EXIT ADDRESS	RCP6016
0576	7500	EXC	4502	SINGLE CYCLE READ	RCP6017
0577	4502				
0600	7213	INP	X +1	READ 2 COL. LWA*1 SHOULD BE	RCP6018
0601	0402	Y	INBUFF +2	COL. 3, IF NOT THERE WAS A	RCP6019
0602	3701	SBB	1	FAILURE.	RCP6020
0603	6007	ZJF	X		RCP6021
0604	7500	Z	EXC 4540	DISPLAY STATUS RESPONSE, ON	RCP6022
0605	4540				
0606	7600	INA		FEED FAILURE, CARD DID NOT PASS,	RCP6023
0607	0224	LPN	24	ON AMP. FAILURE, IT DID,	RCP6024
0610	0000	ERR		CLEAR AND RUN FROM 611,	RCP6025
0611	6420	ZJB	STATUS		RCP6026
0612	2200	X	LDC INBUFF		RCP6027
0613	0400				
0614	4076	STD	PAIR	STORING ADDRESS	RCP6028
0615	3200	ADC	110		RCP6029
0616	0110				
0617	4075	STD	LAST	LWA + 1	RCP6030
0620	0420	LDN	20		RCP6031
0621	4175	STI	LAST		RCP6032
0622	2076	LOOP	LDD PAIR	THE FIRST TWO COLS, ARE	RCP6033
0623	3722	SBB	Y	ALREADY IN THE BUFFER,	RCP6034
0624	6304	NJF	SPECL		RCP6035
0625	7600	INA		READ SINGLE COL, BEGINNING	RCP6036
0626	6103	NZF	SPECL +1	WITH COL. 3.	RCP6037
0627	6002	ZJF	SPECL +1		RCP6038
0630	2176	SPECL	LDI PAIR	PICK UP FOR COL 1 AND 2	RCP6039
0631	0103	LS2		CONVERT TO BCD	RCP6040
0632	4073	STD	LOOK	WILL BE USED WITH SHIFT REPLACE	RCP6041
0633	0102	LS1			RCP6042
0634	6011	ZJF	ONE	ZERO IS BLANK	RCP6043
0635	0207	LPN	7	LOOK AT ZONE FIRST	RCP6044
0636	6010	ZJF	ZERO	NO ZONE	RCP6045
0637	0701	SBN	1	ASSUME 1 ZONE BIT, IF NOT, TREAT	RCP6046
0640	6005	ZJF	ONE	AS 12 ZONE,	RCP6047
0641	0701	SBN	1		RCP6048
0642	6002	ZJF	TWO		RCP6049
0643	0420	FOUR	LDN 20		RCP6050
0644	0620	TWO	ADN 20		RCP6051
0645	0620	ONE	ADN 20		RCP6052
0646	4176	ZERO	STI PAIR	STORE VALUE	RCP6053

0647	0511	DIGIT	LCN	11	NINE DIGITS	RCP6054:
0650	4074		STD	COUNT		RCP6055:
0651	4473	LOOP9	SRD	LOOK	TEST FOR EACH BIT IN TURN	RCP6056:
0652	6204		PJF	BUMP	NO BIT	RCP6057:
0653	2074		LDD	COUNT	ADD 10=1	RCP6058:
0654	0612		ADN	12		RCP6059:
0655	5176		RAI	PAIR		RCP6060:
0656	5474	BUMP	AOD	COUNT		RCP6061:
0657	6506		NZB	LOOP9		RCP6062:
0660	2176		LDI	PAIR		RCP6063:
0661	0277		LPN	77		RCP6064:
0662	4176		STI	PAIR		RCP6065:
0663	2073	NEXT	LDD	LOOK		RCP6066:
0664	3600		SBC	400	ZERO ALONE IS SPECIAL	RCP6067:
0665	0400					RCP6068:
0666	6103		NZF	GOBACK		RCP6069:
0667	0412		LDN	12		RCP6070:
0670	4176		STI	PAIR		RCP6071:
0671	5476	GOBACK	AOD	PAIR		RCP6072:
0672	3475		SBD	LAST		RCP6073:
0673	6551		NZB	LOOP		RCP6074:
0674	7500		EXC	4500	LOCK OUT TIMING FAULT	RCP6075:
0675	4500					RCP6076:
0676	7500		REM		16#2 PRINTER	RCP6077:
0677	0600		EXC	600	SELECT PRINTER	RCP6078:
0700	2200		LDC	INBUFF	FWA	RCP6079:
0701	0400					RCP6080:
0702	4212		STF	BEGIN		RCP6081:
0703	2075		LDD	LAST	LWA #1	RCP6082:
0704	4204		STF	PRINT1		RCP6083:
0705	7600	PRINT	INA		CHECK STATUS	RCP6084:
0706	6401		ZJR	PRINT		RCP6085:
0707	7305		OUT	BEGIN	PRINT	RCP6086:
0710	0000	PRINT1				RCP6087:
0711	7500		EXC	605	AND ADVANCE PAPER	RCP6088:
0712	0605					RCP6089:
0713	7077		JPI	RETURN	EXIT	RCP6090:
0714	0000	BEGIN			1ST WORD ADDRESS OF BUFFER	RCP6091:
0074		COUNT	EQU	74		RCP6092:
0077		RETURN	EQU	77		RCP6093:
0076		PAIR	EQU	76		RCP6094:
0075		LAST	EQU	75		RCP6095:
0073		LOOK	EQU	73		RCP6096:
			SUPB			RCP6097:
0000		END				RCP6098:

RCP6095:  
RCP6096:  
RCP6097:  
RCP6098:

	REM		DB405C - CARD READER	RC400001
	REM		COMPILER INPUT	RC400001
	REM		READS ONE 72 COL CARD	RC400002
	REM		ERROR CHECKING ONLY FOR READER FAILURE	RC400003
	REM		STATUS + 1000 DISPLAYED IN A REG	RC400004
	REM		ASSUMED ALL BANK SETTINGS = 0	RC400005
	REM		ENTER BY A JPR TO THE FIRST LOCATION.	RC400006
	REM		SPACE REQUIRED IS	RC400007
	REM		LOW CORE USED = 74-77	RC400008
0570	0570	ORG	570	RC400009
	0000		0	RC400108
	0570	ORG	570	RC400011
0570	7777	DB405C	-0	RC400012
			ENTRY	RC400013
0571	2301	LDB	DB405C	RC400014
			SAVE ENTRY	RC400015
0572	4077	STD	RETURN	
0573	2200	LDC	INBUFF	
0574	0400			
0575	4076	STD	STORE	BEGINNING OF CARD IMAGE
0576	0544	LCN	36D	
0577	4074	STD	TEMP	
0600	2200	LDC	BUF	
0601	0700			
0602	4075	STD	PAIR	
0603	2233	LDR	ENDFLG	CHECK TO DETERMINE WHETHER BUFFER
0604	6107	NZR	START1	IS LOADED WITH SECOND CARD
0605	7547	STATUS	EXF	TEST +1
0606	7600	INA		
0607	6502	NZB	STATUS	
0610	2075	START	LDD	PAIR
0611	7100	JPR	INITIA	INITIATE FIRST CARD
0612	0645			
0613	0400	START1	LDN	0
0614	4222	STR	ENDFLG	
0615	2075	LDD	PAIR	
0616	7100	JPR	INITIA	INITIATE SECOND CARD
0617	0645			
0620	5616	AOR	ENDFLG	INDICATES SECOND CARD STORED IN BUFFER
0621	2175	UNPACK	LDI	PAIR
0622	0111	LS6		LEFT HALF
0623	0277	LPM	77	
0624	4176	STI	STORE	
0625	5476	AOD	STORE	
0626	0477	LDN	77	RIGHT HALF
0627	1175	LPI	PAIR	
0630	4176	STI	STORE	
0631	5476	AOD	STORE	
0632	5475	AOD	PAIR	
0633	5474	AOD	TEMP	
0634	6513	NZR	UNPACK	
0635	7077	JPI	RETURN	
	0400	INBUFF	EQU	400
0636	0000	ENDFLG		0

637	0000	HOLD		0			RC400488
640	7535	OK	EXP	SELECT +1	SELECT CARD READER		RC40049:
641	0140		SBU0				RC40050:
642	7200	WAIT	IBI	WAIT			RC40051:
643	0642						:
644	7101		JFI	1			RC40052:
645	7777	INITIA		-0			RC400538
646	0105		ATE	INITIA +1			RC400548
647	0646						:
650	0650		ADN	400			:
651	0106	PAUSE	ATX	PAUSE			RC40056:
652	0651						:
653	7500	TEST	EXC	4540			RC400578
654	4540						:
655	7600		INA				RC40058:
656	6416		ZJR	OK			RC400598
657	4320		STR	HOLD	SAVE ERROR STATUS TO BE PLACED IN A REG		RC40060:
660	0701		SNB	1	CHECK FOR HOPPER EMPTY		RC40061:
661	6440		ZJR	UNPACK	PROCESS PREVIOUS CARD		RC40062:
662	0601		ADN	1			:
663	1200		LPC	124	CHECK FOR READ FAILURE		:
664	0124						:
665	6003		ZJR	NEXT			RC400648
666	7500		EXC	4510	GATE CARD TO SECONDARY HOPPER		RC40065:
667	4510						:
670	2331	NEXT	LDR	HOLD			RC400668
671	3200		ADC	1000			RC40067:
672	1000						:
673	0000		ERR		A REGISTER CONTAINS STATUS + 1000		RC40068:
674	7500	SELECT	EXC	4502			RC40069:
675	4502						:
676	7101		JFI	1			RC40070:
677	0653			TEST			RC40071:
0700	0000	BUF					RC40072:
	0074	TEMP	EQU	74			RC400738
	0075	PAIR	EQU	75			RC40074:
	0076	STORE	EQU	76			RC40075:
	0077	RETURN	EQU	77			RC40076:
			SUPB				:
	0000		END				RC40077:



REM  
REM  
REM  
ORG 400  
0  
CON 1

AUGUST 8, 1963 NOR PASS 2 PART 1 WITH CHANGES  
FOR ALLOWING I/O ROUTINES IN BANK 1  
18 JULY 1963 + PASS 2 PART 1

DUMMY START ADDRESS FOR EDIT PROGRAM

OUTPUT BUFFER LOCATOR  
BANK OF LAST IDLIST ENTRY  
ADDRESS OF LAST IDLIST ENTRY  
0,0,0,B(CONLST)  
ADDRESS OF LAST CONSTANT  
SIG B(TABLC2)  
SIG B(TABLC1)  
CURRENT IDLIST ENTRY  
NUMBER OF BANKS  
NEXT IDLIST ENTRY  
0,0,0,B(INTLTH)  
END OF INTERPRETER

LAST CONDENSED IDLIST LCN  
REQUIRED NUMBER OF ERASABLE LOCATIONS  
BITS FOR INTERPRETER MODULES + MAP NO.  
NON-ZERO=MEMORY MAP ROUTINE IN

ZERO=NO LENGTH ERROR  
NON-ZERO MEANS PASS1 DIAGNOSTICS  
BANK OF LAST OBJECT CODE ENTRY  
ADDRESS OF LAST OBJECT CODE ENTRY  
NON-ZERO=UNASSIGNED LABEL  
LIBRARY FUNCTION BITS

PS200  
PS20002  
PS2000  
PS2000  
PS20005  
PS2000  
PS2000  
PS20008  
PS2000  
PS2001  
PS2001  
PS20011  
PS2001  
PS2001  
PS20014  
PS2001  
PS2002  
PS20030  
PS2001  
PS2001  
PS20020  
PS2002  
PS2002  
PS20023  
PS2002  
PS2002  
PS2002  
PS2002  
PS20027  
PS2002  
PS2003  
PS20032  
PS20037  
PS2003  
PS20035  
PS2003  
PS20037  
PS20038  
PS2003  
PS20040  
PS200418  
PS2004  
PS20046  
PS200448  
PS2004  
PS20046  
PS20046  
PS2004  
PS20048  
PS20049  
PS2005

0400 0000  
0001 0000 STOBUF  
0002 0000 IDBANK  
0003 0000 IDLAST  
0004 0000 BNKCON  
0005 0000 CONLST  
0006 0000 NEXTBK  
0007 0000 BNKTAB  
0010 0000 TABLC1  
0011 0000 BANKS  
0012 0000 TABLC2  
0013 0000 BNKINT  
0014 0000 INTLTH  
0015 0000 NPGOBK  
0016 0000 NPGCAD  
0017 0000 NEWID  
0020 0000 ERASEL  
0021 0000 INTERP  
0022 0000 MAPSWC  
0023 0000 BANK  
0024 0000 LOCC  
0025 0000 RLN BSS 2  
0027 0000 LONGSW  
0030 0000 DIAGNS  
0031 0000 OBBANK  
0032 0000 OBLAST  
0033 0000 LABSWC  
0034 0000 SUBRTN BSS 5  
0041 0000 TEMP0  
0042 0000 TEMP1  
0043 0000 TEMP2  
0044 0000 TEMP3  
0045 0000 TEMP4  
0046 0000 TEMP5  
0047 0000 TEMP6  
0050 0000 TEMP7  
0051 0000 TEMP10  
0052 0000 TEMP11  
0053 0000 TEMP12  
0054 0000 TEMP13  
0055 0000 TEMP14  
0056 0000 TEMP15  
0057 0000 TEMP16  
0060 0000 TEMP17  
0061 0000 BNK1LB  
0013 OBJRKN EQU BNKINT  
0014 OBJECT EQU INTLTH  
0007 ENDBNK EQU BNKTAB  
0010 OBJEND EQU TABLC1  
0057 EXP EQU TEMP16  
0060 EXPONT EQU TEMP17  
0041 COUNTR EQU TEMP0  
3301 HPY EQU 3301  
3302 LEFT EQU 3302  
3303 RIGHT EQU 3303

0100	0000	PRG	100			PS200510
		REM		LOAD AND CORRECT OBJECT CODE		PS200520
0100	0000	BUFFER	BSS	800		PS200530
20	0000	BINARY	BSS	160		PS200540
	0400		ORG	400		PS200550
0400	0404			LOADIT -1		PS200560
0401	2301	LODINT	LDB	1		PS200570
0402	7100		JPR	BINARY		PS200580
0403	0220					
0404	7101		JFI	1	OBJECT CODE LOADER	PS200590
0405	0000	LOADIT				PS200600
0406	0401		LDM	1		PS200610
0407	7100		JPR	BINARY	BRING IN ONE RECORD	PS200620
0410	0220					
0411	6705		NJB	LOADIT -1	NEGATIVE MEANS EOF READ	PS200630
0412	2200		LDC	BUFFER		PS200640
0413	0100					
0414	4001		STD	STOBUF	STOBUF=100	PS200650
0415	2101		LDI	STOBUF		PS200660
0416	6321		NJF	FRMAT	FIRST WORD NEGATIVE MEANS	PS200670
0417	1600		LSF	0	FORMAT STATEMENT	PS200680
0420	7777	MINUS0		7777		PS200690
0421	4042		STD	TEMP1	TEMP1 HAS - COUNT	PS200700
0422	2007	OBLOOP	LDD	ENDBNK		PS200710
0423	4203		STF	BANKER		PS200720
0424	5401		AOD	STOBUF		PS200730
0425	2101		LDI	STOBUF		PS200740
0426	0027	BANKER	SIC7			PS200750
127	4110		STI	OBJEND	STORE WORD	PS200760
430	0020		SIC0			PS200770
0431	5410		AOD	OBJEND	INCREASE OBJEND	PS200780
0432	6102		NZF	2		PS200790
0433	5407		AOD	ENDBNK		PS200800
0434	5442		AOD	TEMP1		PS200810
0435	6513		NZB	OBLOOP		PS200820
0436	6430		ZJB	LOADIT +1		PS200830
0437	4043	FRMAT	STD	TEMP2		PS200840
0440	1200		LPC	177		PS200850
0441	0177					
0442	1722		LSB	MINUS0		PS200860
0443	4042		STD	TEMP1		PS200870
0444	2043		LDD	TEMP2		PS200880
0445	0102		LS1			PS200890
0446	0110		LS3			PS200900
0447	0207		LPN	7	GET BANK OF FORMAT	PS200910
0450	0620		ADN	20		PS200920
0451	4206		STF	FRMBNK		PS200930
0452	5401		AOD	STOBUF		PS200940
0453	2101		LDI	STOBUF		PS200950
0454	4043		STD	TEMP2	TEMP2 HAS LOAD ADDRESS	PS200960
0455	5401	FRLOOP	AOD	STOBUF		PS200970
0456	2101		LDI	STOBUF		PS200980
0457	0027	FRMBNK	SIC7		STORE A WORD	PS200990
0460	4143		STI	TEMP2		PS201000
461	0020		SIC0			PS201010
0462	5443		AOD	TEMP2	IF NEXT FORMAT WORD	PS201020
0463	6103		NZF	3	IS TO GO INTO =0	PS201030
0464	0500		LCN	0	AND THIS CARD IS NOT	PS201040
0465	4043		STD	TEMP2	EXHAUSTED SET TEMP2 = -0	PS201050
0466	5442		AOD	TEMP1		PS201060

00194

0467	6512		NZB	FRLOOP		PS20107:
0470	6462		ZJR	LOADIT +1		PS20108:
0471	0420	LODOBJ	LDN	20	CHANGE OBJBNK TO	PS20109:
0472	5013		RAD	OBJBNK	SIC (OBJBNK)	PS20110:
0473	4007		STD	ENDBNK		PS20111:
0474	2014		LDD	OBJECT	INITIALIZE OBJEND TO	PS20112:
0475	4010		STD	OBJEND	END OF INTERPRETER + SUBROUTINES	PS20113:
0476	7100		JPR	LOADIT		PS20114:
0477	0405					
0500	2013	LOFIN	LDD	OBJBNK	OBJECT DONE LOADED	PS20115:
0501	4220		STF	LIBNK		PS20116:
0502	4201		STF	1		PS20117:
0503	0020		SIC0			PS20118:
0504	2114		LDI	OBJECT		PS20119:
0505	4042		STD	TEMP1		PS20120:
0506	0111		LS6			PS20121:
0507	0277		LPN	77	GET OP-CODE	PS20122:
0510	0701		SNB	1		PS20123:
0511	6062		ZJF	MACRO		PS20124:
0512	0701		SNB	1		PS20125:
0513	6111		NZF	TSTONE		PS20126:
0514	2042		LDD	TEMP1		PS20127:
0515	0277		LPN	77		PS20128:
0516	6062		ZJF	DROPIN	DROPOUT INSTRUCTION	PS20128:
0517	7100		JPR	GETLIB		PS20128:
0520	1075					PS20130:
0521	0027	LIBNK	SIC7			PS20131:
0522	7614		HWI	OBJECT		PS20132:
0523	6144		NZF	ONUP		PS20133:
0524	0747	TSTONE	SNB	47		PS20134:
0525	6342		NJF	ONUP		PS20135:
0526	0723		SEN	23	TEST FOR LIX COMMAND	PS20136:
0527	6033		ZJF	TWOFIX		PS20137:
0530	0702		SNB	2	TEST UP OR GO TO	PS20138:
0531	6105		NZF	DUMTST		PS20139:
0532	2042		LDD	TEMP1		PS20139:
0533	0210		LPN	10		PS20139:
0534	6026		ZJF	TWOFIX		PS20139:
0535	6107		NZF	DUMSTO		PS20139:
0536	0701	DUMTST	SNB	1		PS20140:
0537	6126		NZF	TWOP		PS20141:
0540	2042		LDD	TEMP1		PS20142:
0541	1600		LSC	2600		PS20143:
0542	2600					
0543	4114		STI	OBJECT		PS20144:
0544	0401	DUMSTO	LDN	1		PS20145:
0545	7100		JPR	FIX		PS20146:
0546	1000					
0547	0402		LDN	2	INCREASE STORE ADDRESS	PS20149:
0550	5143		RAI	TEMP2	BY TWO	PS20150:
0551	0702		SNB	2		PS20151:
0552	1543		LSI	TEMP2		PS20152:
0553	0201		LPN	1		PS20153:
0554	6011		ZJF	TWOP		PS20154:
0555	0502		LCN	2		PS20155:
0556	5043		RAD	TEMP2		PS20156:
0557	0410		LDN	10		PS20157:
0560	5143		RAI	TEMP2		PS20158:
0561	6104		NZF	TWOP		PS20159:
0562	0401	TWOFIX	LDN	1		PS20160:

0563	7100		JPR	FIX		PS20161:
0564	1000					PS20162:
0565	0402	TWOUP	LDN	2		PS20163:
0566	6102		NZF	ONUP	+1	PS20164:
0567	0401	ONUP	LDN	1	ONE-WORD OP	PS20165:
0570	7100		JPR	ICROBJ		PS20166:
0571	0725					PS20167:
0572	6472		ZJB	LUFIN		PS20168:
0573	2042	MACRO	LDD	TEMP1		PS20169:
0574	0277		LPN	77	GET LAST 6 BITS	PS20170:
0575	6406		ZJB	ONUP	0=BPR	PS20171:
0576	0712		SBN	12		PS20172:
0577	6610		PJB	ONUP		PS20173:
0600	3200	DROPIN	ADC	7112		PS20174:
0601	7112					PS20175:
0602	4207		STF	TRNSVC	OTHERWISE INCREASE BY 1,	PS20176:
0603	0401		LDN	1	SET BANK = OBJECT BANK, AND	PS20177:
0604	7100		JPR	ICROBJ	GO TO APPROPRIATE SUBROUTINE	PS20178:
0605	0725					PS20179:
0606	2013		LDD	OBJBNK		PS20180:
0607	4201		STF	1		PS20181:
0610	0020		SIC0			PS20182:
0611	7101	TRNSVC	JFI	1	TRANSFER VECTOR FOR MACROS	PS20183:
0612	1104		INCR		DO LOOP INCREMENTATION	PS20184:
0613	0500		LUFIN		RETURN	PS20185:
0614	0673		IF		IF	PS20186:
0615	0705		IFOV		IF OVERFLOW	PS20187:
0616	0705		IFOV		IF DIVIDE CHECK	PS20188:
0617	0705		IFOV		IF SENSE SWITCH	PS20189:
0620	0650		CMPUTD		COMPUTED GO TO	PS20190:
0621	0624		I/O		I/O-IN	PS20191:
0622	0624		I/O		I/O-OUT	PS20192:
0623	0716		DRO		DROPOUT	PS20193:
0624	2013	I/O	LDD	OBJBNK		PS20194:
0625	4216		STF	I/OBNK		PS20195:
0626	2114		LDI	OBJECT		PS20196:
0627	0111		LS6			PS20197:
0630	0103		LS2		MOVE I/O ROUTINE NUMBER TO	PS20198:
0631	4042		STD	TEMP1	LOWER 5 BITS, KEEP IN TEMP1	PS20199:
0632	0237		LPN	37		PS20200:
0633	7100		JPR	GETLIB		PS20201:
0634	1075					PS20202:
0635	4043		STD	TEMP2	GET ACTUAL I/O ROUTINE NUMBER	PS20203:
0636	0537		LCN	37		PS20204:
0637	1042		LPD	TEMP1		PS20205:
0640	1443		LSD	TEMP2	INSERT NUMBER IN INSTRUCTION	PS20206:
0641	0103		LS2			PS20207:
0642	0103		LS2			PS20208:
0643	0027	I/OBNK	SIC07			PS20209:
0644	4114		STI	OBJECT	REPLACE IN OBJECT CODE	PS20210:
0645	0210		LPN	10		PS20211:
0646	6464		ZJB	TWOFIX	IF NOT BINARY, FIX FORMAT ADDRESS	PS20212:
0647	6562		NZ8	TWOUP		PS20213:
0650	0507	CMPUTD	LCN	7		PS20214:
0651	1114		LPI	OBJECT		PS20215:
0652	0111		LS6			PS20216:
0653	0110		LS3			PS20217:
0654	4051		STD	TEMP10	TEMP10 HAS *(LENGTH)	PS20218:
0655	2451		LCD	TEMP10	OF COMPUTED GO TO	PS20219:
0656	4051		STD	TEMP10		PS20220:

0657	0402		LDN	2					PS20213
0660	7100		JPR		ICROBJ				PS20213
0661	0725								
0662	0401	CMLOOP	LDN	1			CORRECT EACH GO TO ADDRESS		PS2021
0663	7100		JPR		FIX				PS20213
0664	1000								
0665	0402		LDN	2			INCREASE OBJECT CODE COUNT BY 2		PS20216
0666	7100		JPR		ICROBJ				PS20217
0667	0725								
0670	5451		AOD		TEMP10				PS20218
0671	6477		ZJB		ONUP	+3			PS20219
0672	6510		NZB		CMLOOP				PS20220
0673	0404	IF	LDN	4			FIX 3 ADDRESSES		PS20221
0674	7100		JPR		SHIFCR				PS20222
0675	0752								
0676	2114		LDI		OBJECT				PS20223
0677	0110		LS3						PS20224
0700	4114		STI		OBJECT				PS20225
0701	0020		SICO						PS20226
0702	0404		LDN	4					PS20227
0703	7101		JFI	1					PS20228
0704	0570				ONUP	+1			PS20229
0705	0403	IFOV	LDN	3			IFGV		PS20230
0706	7100		JPR		SHIFCR		CORRECT		PS20231
0707	0752								
0710	2114		LDI		OBJECT		TWO		PS20232
0711	0111		LS6				ADDRESSES		PS20233
0712	4114		STI		OBJECT				PS20234
0713	0020		SICO						PS2023
0714	0403		LDN	3					PS20236
0715	6512		NZB		IFOV	-2			PS20237
0716	2114	DRO	LDI		OBJECT				PS20238
0717	4030		STD		DIAGNS				PS20238
0720	0401		LDN	1					PS20236
0721	4114		STI		OBJECT				PS20238
0722	2030		LDD		DIAGNS				PS20238
0723	6520		NZB		IFOV	-2			PS20238
0724	7101		JFI	1					PS20239
0725	0000	ICROBJ					INCREASE		PS20240
0726	0020		SICO						PS20241
0727	4060		STD		TEMP17		OBJECT		PS20242
0730	5014		RAD		OBJECT		CODE		PS20243
0731	3460		SBD		TEMP17				PS20244
0732	1460		LSD		TEMP17				PS20245
0733	1414		LSD		OBJECT				PS20246
0734	0201		LPN	1					PS20247
0735	5013		RAD		OBJBNK				PS20248
0736	2014		LDD		OBJECT				PS20249
0737	3410		SBD		OBJEND				PS20250
0740	6107		NZF		ZEROT				PS20251
0741	2013		LDD		OBJBNK				PS20252
0742	1407		LSD		ENDBNK				PS20253
0743	0207		LPN	7					PS20254
0744	6103		NZF		ZEROT				PS20255
0745	7101		JFI	1			IF ALL OBJECT CODE UPDATED		PS20256
0746	0401				LODINT		LOAD INTERPRETER AND LIBRARY		PS20257
0747	0400	ZEROT	LDN	0					PS20258
0750	6424		ZJB		ICROBJ	-1			PS20259
0751	7101		JFI	1					PS20260
0752	0000	SHIFCR					SHIFT AND FIX		PS20261

0753	4060		STD	TEMP17	NUMBER OF LOCATIONS TO FIX	PS20262:
0754	0401		LDN	1		PS20263:
55	4057		STD	TEMP16		PS20264:
0756	2013		LDD	OBJBNK		PS20265:
0757	4201		STF	1		PS20266:
760	0020	SFBK	SICO			PS20267:
0761	2114		LDI	OBJECT	MOVE BANK INTO PROPER	PS20268:
0762	0110		LS3		LOCATION FOR FIX ROUTINE	PS20269:
763	4114		STI	OBJECT		PS20270:
0764	0020		SICO			PS20271:
0765	2057		LDD	TEMP16	FIX A LOCATION	PS20272:
766	7100		JPR	FIX		PS20273:
0767	1000					!
0770	5457		AOD	TEMP16		PS20274:
771	3460		SBD	TEMP17		PS20275:
0772	6512		NZB	SFBK		PS20276:
0773	2313		LDB	SFBK	IF ALL LOCATIONS OF THIS	PS20277:
774	4201		STF	1	MAGRO ARE FIXED = EXIT	PS20278:
0775	0020		SICO			PS20279:
0776	6525		NZB	SHIFCR =1		PS20280:
777	7101		JFI	1		PS20281:
1000	0000	FIX			REPLACE IDLIST LOCATION	PS20282:
1001	4041		STD	TEMPO	WITH OBJECT CODE	PS20283:
002	2013		LDD	OBJBNK	LOCATION	PS20284:
1003	4202		STF	2		PS20285:
1004	4252		STF	FIX3	SET BANK FOR STORE	PS20286:
005	0020	FIXBNK	SICO		BANK OF OBJECT CODE INSTRUCTION	PS20287:
1006	2114		LDI	OBJECT		PS20288:
07	4045		STD	TEMP4	TEMP0=DEPTH OF FIX	PS20289:
010	2041		LDD	TEMPO	TEMP1=OBJECT CODE LCNA(I)	PS20290:
1011	3014		ADD	OBJECT	TEMP2=CONDENSED IDLIST LCN	PS20291:
1012	4042		STD	TEMP1	TEMP3=B(I) (CORRECT)	PS20292:
013	1414		LSD	OBJECT	TEMP4=B(I) (OBJECT)	PS20293:
1014	1441		LSD	TEMPO	TEMP5=A(I) (OBJECT)	PS20294:
1015	0201		LPN	1		PS20295:
016	3311		ADR	FIXBNK		PS20296:
1017	4202		STF	2		PS20297:
1020	4247		STF	FIX4		PS20298:
021	0020	FIXBK1	SICO			PS20299:
1022	2142		LDI	TEMP1		PS20300:
1023	0020		SICO			PS20301:
024	4046		STD	TEMP5	A(I)	PS20302:
1025	2200		LDC	LAST	*1	PS20303:
1026	1174					!
027	4043		STD	TEMP2		PS20304:
1030	2143	FIXLP	LDI	TEMP2	SEARCH THE CONDENSED IDLIST	PS20305:
1031	1446		LSD	TEMP5	TO FIND AN ENTRY WHICH	PS20306:
032	6003		ZJF	3	MATCHES TEMP4,5	PS20307:
1033	0403		LDN	3		PS20308:
1034	6110		NZF	FXINCR		PS20309:
035	0501		LCN	1	IF A(I) MATCHES GO BACK 1, CHECK B(I)	PS20310:
1036	5043		RAD	TEMP2		PS20311:
1037	2143		LDI	TEMP2		PS20312:
40	1445		LSD	TEMP4		PS20313:
1041	0207		LPN	7		PS20314:
1042	6007		ZJF	FWND		PS20315:
043	0404		LDN	4		PS20316:
1044	5043	FXINCR	RAD	TEMP2		PS20317:
1045	3417		SBD	NEWID		PS20318:
046	0701		SBN	1		PS20319:

1047	6517		NZR	FIXLP		PS20320:
1050	0000		ERR		ENTRY NOT IN CONDENSED IDLIST	PS20321:
1051	2143	FWND	LDI	TEMP2	FOUND ENTRY	PS20322:
1052	0111		LS6			PS20323:
1053	0110		LS3		GET CORRECT BANK FOR ENTRY	PS20324:
1054	0207		LPN	7		PS20325:
1055	4044		STD	TEMP3		PS20326:
1056	0020	FIX3	SIC0			PS20327:
1057	0507		LCN	7	INSERT BANK IN OBJECT CODE	PS20328:
1060	1045		LPD	TEMP4	ENTRY AND STORE	PS20329:
1061	1444		LSD	TEMP3		PS20330:
1062	4114		STI	OBJECT		PS20331:
1063	0020		SIC0			PS20332:
1064	0402		LDN	2		PS20333:
1065	5043		RAD	TEMP2		PS20334:
1066	2143		LDI	TEMP2		PS20335:
1067	0020	FIX4	SIC0			PS20336:
1070	4142		STI	TEMP1	STORE CORRECT ADDRESS	PS20337:
1071	0020		SIC0			PS20338:
1072	0400		LDN	0		PS20339:
1073	6474		ZJR	FIX	-1	PS20340:
			REM			PS20341:
			REM		SUBROUTINE TO GET CORRECT I/O	PS20342:
			JFI	1	ROUTINE NUMBER	PS20343:
1074	7101					PS20344:
1075	0000	GETLIB			CURRENT NUMBER IN A-REGISTER	PS20345:
1076	0020		SIC0			PS20346:
1077	3200		ADC	UPTBL	-1	PS20347:
1100	1134					PS20348:
1101	4044		STD	TEMP3		PS20349:
1102	2144		LDI	TEMP3		PS20350:
1103	6507		NZR	GETLIB	-1	PS20351:
1104	0404	INCR	LDN	4		PS20352:
1105	7100		JPR	ICROBJ		PS20353:
1106	0725					PS20354:
1107	2014		LDD	OBJECT		PS20355:
1110	4030		STD	DIAGNS	USE DIAGNS FOR TEMPORARY STORAGE	PS20356:
1111	2013		LDD	OBJBNK		PS20357:
1112	4217		STF	INCBNK		PS20358:
1113	0402		LDN	2		PS20359:
1114	7100		JPR	ICROBJ		PS20360:
1115	0725					PS20361:
1116	2013		LDD	OBJBNK		PS20362:
1117	4201		STF	1		PS20363:
1120	0027		SIC7			PS20364:
1121	2016		LDD	NPGOAD	INCREASE INCR RETURN ADDRESS	PS20365:
1122	5114		RAI	OBJECT	BY LENGTH OF INTERPRETER	PS20366:
1123	3416		SBD	NPGOAD		PS20367:
1124	1416		LSD	NPGOAD		PS20368:
1125	1514		LSI	OBJECT		PS20369:
1126	0201		LPN	1		PS20370:
1127	3015		ADD	NPGOBK		PS20371:
1130	0111		LS6			PS20372:
1131	0027	INCBNK	SIC7			PS20373:
1132	5130		RAI	DIAGNS		PS20374:
1133	7101		JFI	1		PS20375:
1134	0567			ONUP		PS20376:
1135	0000	UPTBL	BSS	30D	LIBRARY FUNCTIONS	PS20377:
1173	0000	WRKBUF				PS20378:
	1173	LAST	EQU	WRKBUF		PS20379:
	1173	CALTBL	EQU	LAST		PS20380:





2564	7100	JPR	IDINTL		PS20424
2565	7513				
2566	2036	LDD	SUBRTN +2		PS20425
2567	0103	LS2			PS20426
2570	6205	PJF	LBFNCT		PS20427
2571	0446	LDN	46	IF A**B IS CALLED, CALL	PS20428
2572	4055	STD	TEMP14	ALSO LOGP AND EXPF	PS20429
2573	7101	JFI	1		PS20430
2574	2675		CALENT		PS20431
2575	7100	LBFNCT JPR	IDTYPE	SEARCH FOR LIBRAY FUNCTIONS	PS20432
2576	7524				
2577	6203	PJF	3		PS20433
2600	7101	JFI	1	LIBRARY FUNCTIONS ALL	PS20434
2601	2773		INTMOD	FOUND	PS20435
2602	0315	LSN	15		PS20436
2603	6506	NZR	LBFNCT		PS20437
2604	7100	JPR	VRLOAD	FOUND LIBRARY FUNCTION	PS20438
2605	7131				
2606	2047	LDD	TEMP6	MOVE TO TEMP6-11	PS20439
2607	0207	LPN	7		PS20440
2610	0702	SBN	2		PS20441
2611	6011	ZJF	SERCH	THREE WORD IDENTIFIER	PS20442
2612	4054	STD	TEMP13	TEMP13 HAS 3=(LENGTH)	PS20443
2613	2200	LDC	2020		PS20444
2614	2020				
2615	4053	STD	TEMP12	BLANK OUT LAST WORD	PS20445
2616	5454	AOD	TEMP13		PS20446
2617	6003	ZJF	SERCH		PS20447
2620	2309	LDB	4		PS20448
2621	4052	STD	TEMP11	BLANK OUT SECOND WORD	PS20449
2622	2200	SERCH LDC	LIBTBL		PS20450
2623	4113				
2624	4054	STD	TEMP13		PS20451
2625	0405	LDN	5		PS20452
2626	4055	STD	TEMP14	SET NUMBER IN TRANSFER	PS20453
2627	0451	SERCH1 LDN	TEMP10	VECTOR TO 5	PS20454
2630	4056	STD	TEMP15		PS20455
2631	2156	SERCH2 LDI	TEMP15	NEW ENTRY	PS20456
2632	1554	LSI	TEMP13	TABLE ENTRY	PS20457
2633	6106	NZF	SERCH3	NO	PS20458
2634	5454	AOD	TEMP13		PS20459
2635	5456	AOD	TEMP15		PS20460
2636	0754	SBN	TEMP13	TEST FOR 3 COMPARISONS MADE	PS20461
2637	6024	ZJF	FOUNDT	FOUND LABEL	PS20462
2640	6507	NZR	SERCH2		PS20463
2641	5455	SERCH3 AOD	TEMP14	INCREASE TRANS VEC NUMBER	PS20464
2642	0454	LDN	TEMP13	INCREASE TABLE LOCATOR BY	PS20465
2643	3456	SBD	TEMP15	3-(NO. OF SUCCESSFUL COMPARISONS)	PS20466
2644	5054	RAD	TEMP13		PS20467
2645	3600	SBC	LIBTBL +1800		PS20468
2646	4377				
2647	6520	NZR	SERCH1		PS20469
2650	0506	LCN	6		PS20470
2651	5010	RAD	TABLC1		PS20471
2652	2007	LDD	BKNTAB		PS20472
2653	4201	STF	1		PS20473
2654	0027	SIC7			PS20474
2655	2200	LDC	5777		PS20475
2656	5777				
2657	5110	RAI	TABLC1	SET FLAG OF LIBRARY	PS20476

660	0020	SIC0		ROUTINE NOT ON TAPE	PS20477:
2661	6564	NZB	LBFNCT		PS20478:
2662	6465	ZJB	LBFNCT		PS20479:
63	2055	FOUNDT	LDD	TEMP14	PS20480:
2664	7100	JPR	SETFLG	SET FLAG FOR THIS ROUTINE	PS20481:
2665	2735				:
666	2050	LDD	TEMP7		PS20482:
2667	0277	LPN	77		PS20483:
2670	3200	ADC	UPTBL	=1	PS20484:
671	1134				:
2672	4050	STD	TEMP7		PS20485:
2673	2055	LDD	TEMP14		PS20486:
674	4150	STI	TEMP7	MAKE UPTBL ENTRY	PS20487:
2675	2200	CALENT	LDC	CALTRL	PS20488:
2676	1173				:
677	4047	STD	TEMP6		PS20489:
2700	2547	CALTST	LCI	TEMP6	PS20490:
2701	6103	NZF	3	GET -(1ST WORD) OF CALTBL ENTRY	PS20491:
6702	7101	JFI	1	CALTBL FINISHED=GO PROCESS	PS20492:
2703	2575		LBFNCT	NEXT LIBRARY FUNCTION	PS20493:
2704	4050	STD	TEMP7	TEMP7 HAS =(LENGTH CALTBL ENTRY)	PS20494:
6705	5447	AOD	TEMP6		PS20495:
2706	2147	LDI	TEMP6		PS20496:
2707	0111	LS6			PS20497:
6710	1455	SCD	TEMP14		PS20498:
2711	0277	LPN	77		PS20499:
2712	6015	ZJF	CLTST2		PS20500:
6713	2450	LCD	TEMP7		PS20501:
6714	5047	RAD	TEMP6		PS20502:
6715	6515	NZB	CALTST		PS20503:
6716	5447	CLTST1	AOD	TEMP6	PS20504:
2717	5450	AOD	TEMP7		PS20505:
2720	6416	ZJB	CALTST	+2	FINISHED WITH CALLS
6721	2147	LDI	TEMP6		PS20506:
2722	0111	LS6			PS20507:
2723	0277	LPN	77		PS20508:
6724	6003	ZJF	CLTST2		PS20509:
2725	7100	JPR	SETFLG		PS20510:
2726	2735				PS20511:
6727	2147	CLTST2	LDI	TEMP6	PS20512:
2730	0277	LPN	77		PS20513:
2731	7100	JPR	SETFLG		PS20514:
6732	2735				:
2733	6515	NZB	CLTST1		PS20515:
2734	7101	JFI	1	SET FLAG CORRESPONDING	PS20516:
6735	0000	SETFLG		TO NUMBER IN A-REGISTER	PS20517:
2736	0704	SBN	4	NUMBER GREATER THAN 60D	PS20518:
2737	4060	STD	TEMP17		PS20519:
6740	0775	SBN	61D		PS20520:
2741	6302	NJF	2		PS20521:
2742	0000	ERR			PS20522:
6743	0434	LDN	SUBRTN		PS20523:
2744	4057	STD	TEMP16		PS20524:
2745	2060	WRDLP	LDD	TEMP17	PS20525:
6746	0715	SBN	13D	FIND THE WORD FOR	PS20526:
2747	6305	NJF	BITLP	THIS FLAG	PS20527:
2750	0601	ADN	1		PS20528:
6751	4060	STD	TEMP17		PS20529:
2752	5457	AOD	TEMP16		PS20530:
2753	6506	NZB	WRDLP		PS20531:

2754	0615	BITLP	ADN	13D	FIND CORRECT BIT	PS20532
2755	1600		LSC	=0		PS20533
2756	7777					
2757	4060		STD	TEMP17		PS20534
2760	0401		LDN	1		PS20535
2761	4056		STD	TEMP15		PS20536
2762	5460		AOD	TEMP17		PS20537
2763	6003		ZJF	INCLOR	SHIFT BIT TO CORRECT	PS20538
2764	4456		SRD	TEMP15	POSITION	PS20539
2765	6503		NZR	3		PS20540
2766	2456	INCLOR	LCD	TEMP15	INCLUSIVE OR BIT INTO WORD	PS20541
2767	1157		LPI	TEMP16		PS20542
2770	1456		LSD	TEMP15		PS20543
2771	4157		STI	TEMP16		PS20544
2772	6536		NZR	SETFLG =1		PS20545
2773	0400	INTMOD	LDN	0		PS20546
2774	4013		STD	BNKINT	TRANSFER VECTOR	PS20547
2775	2200		LDC	INTBL		PS20548
2776	2400					
2777	4044		STD	TEMP3	TEMP3 HAS LENGTHS OF ROUTINES	PS20549
3000	2200		LDC	INTERL	INTERL HAS STARTING	PS20550
3001	7640					
3002	4045		STD	TEMP4	ADDRESSES FOR INTERPRETER	PS20551
3003	2144		LDI	TEMP3	MODULES	PS20552
3004	4145		STI	TEMP4		PS20553
3005	0601		ADN	1	+1 FOR BINARY	PS20554
3006	4014		STD	INTLTH		PS20555
3007	5444		AOD	TEMP3		PS20556
3010	5445		AOD	TEMP4		PS20557
3011	4421	LLOOP	SRD	INTERP	CREATE TRANSFER VECTOR	PS20558
3012	0201		LRN	1	FOR INTERPRETER MODULES	PS20559
3013	6005		ZJF	5		PS20560
3014	2014		LDD	INTLTH	ADDRESS OF NEW MODULE	PS20561
3015	4145		STI	TEMP4		PS20562
3016	2144		LDI	TEMP3	INCREASE LENGTH OF INTERPRETER	PS20563
3017	5014		RAD	INTLTH		PS20564
3020	5444		AOD	TEMP3		PS20565
3021	5445		AOD	TEMP4		
3022	4600		SRC	4444		
3023	4444					
3024	6613		PJR	LLOOP		PS20566
3025	2021		LDD	INTERP	RESTORE INTERPRETER SWITCH	PS20567
3026	0111		LS6			PS20568
3027	0110		LS3			PS20569
3030	4021		STD	INTERP		PS20570
3031	0401		LDN	1		PS20571
3032	4046		STD	TEMP5	TEMP5 HAS BIT MASK	PS20572
3033	0434		LDN	SUBRTN	TEMP4=VECTOR	PS20573
3034	4047		STD	TEMP6	TEMP3=FUNCTION LENGTHS	PS20574
3035	2147	SBLOOP	LDI	TEMP6	TEMP6 HAS WORD OF FLAGS	PS20575
3036	1046		LPD	TEMP5		PS20576
3037	6026		ZJF	NOTCAL	0=SUBROUTINE NOT CALLED	PS20577
3040	2013		LDD	BNKINT		PS20578
3041	6135		NZF	BNK1		PS20579
3042	2014		LDD	INTLTH	SET ADDRESS EVEN	PS20580
3043	0201		LRN	1	IN BANK ZERO	PS20581
3044	5014		RAD	INTLTH		PS20582
3045	4145		STI	TEMP4		PS20583
3046	2144		LDI	TEMP3		PS20584
3047	5014		RAD	INTLTH		PS20585

050	1545	LSI	TEMP4		PS20586:
051	1544	LSI	TEMP3		PS20587:
052	0201	LPN	1		PS20588:
053	4013	STD	BNKINT		PS20589:
054	6011	ZJF	NOTCAL		PS20590:
055	4145	STI	TEMP4	IF OVERFLOW, PLACE ROUTINE	PS20591:
056	3144	ADI	TEMP3	IN NEXT BANK	PS20592:
057	4014	STD	INTLTH		PS20593:
060	2045	LDD	TEMP4		:
061	3600	SBC	INTERL +44		:
062	7704				:
063	6202	PJF	NOTCAL		:
064	5461	AOD	BNK1LB	I/O ROUTINE GOING INTO BNK1	:
065	5444	NOTCAL AOD	TEMP3		PS20594A
066	5445	AOD	TEMP4		PS20595B
067	4446	SRD	TEMP5		PS20596:
070	0201	LPN	1		PS20597:
071	6434	ZJ8	SBLOOP		PS20598:
072	5447	AOD	TEMP6		PS20599:
073	0741	SEB	SUBRTN +5	PLACE TO ADD SUBROUTINES	PS20600:
074	6012	ZJF	LSTCOR	EXIT FROM SUBROUTINES	PS20601:
075	6540	NZB	SBLOOP		PS20602:
076	2014	BNK1 LDD	INTLTH	MAKE ADDRESS ODD	PS20603:
077	0201	LPN	1	FOR BANK 1.	PS20604:
100	0301	LSN	1		PS20605:
101	5014	RAD	INTLTH		PS20606A
102	4145	STI	TEMP4		PS20607:
103	2144	LDI	TEMP3		PS20608:
104	5014	RAD	INTLTH		PS20609:
105	6520	NZB	NOTCAL		PS20610A
106	2013	LSTCOR LDD	BNKINT		PS20611:
107	5031	RAD	OBBANK	ADD LENGTH OF OBJECT CODE TO	PS20612A
110	0501	LCN	1	COMPUTED LENGTH OF INTERPRETER	PS20613B
111	5014	RAD	INTLTH	-11SINCE RELATIVES BEGIN AT U)	PS20614A
112	4042	STD	TEMP1		PS20615:
113	7100	JPR	INCRLS		PS20616:
114	3552				:
115	2031	LDD	OBBANK	SAVE LAST TRUE	PS20617B
116	4025	STD	RLN	OBJECT CODE LOCATION	PS20618:
117	2032	LDD	OBLAST	FOR BIELSKER	PS20619D
120	4026	STD	RLN +1		PS20620:
121	2200	LDC	100		PS20621:
122	0100				:
123	4001	STD	STOBUF		PS20622:
124	7100	CONTIN JPR	IDINTL		PS20623:
125	7513				:
126	7100	B-BOX JPR	IDTYPE	CREATE PSEUDO B-BOX ENTRIES	PS20624:
127	7524				:
130	6203	PJF	3		PS20625:
131	7101	JFI	1		PS20626A
132	3241		UPSUBR		PS20627:
133	0315	LSN	16	16 IDENTIFIES PSEUDO B-BOX	PS20628:
134	6506	NZB	B-BOX		PS20629:
135	2007	LDD	BNKTAB	GET BANK OF IDLIST ENTRY	PS20630B
136	4201	STF	BNKSET		PS20631:
137	0000	BNKSET			PS20632:
140	7100	JPR	B-BOXL		PS20633:
141	3607				:
142	4043	STD	TEMP2	DIMENSIONALITY	PS20634:
143	2443	LDC	TEMP2	00204	PS20635B

3144	4050	STD	TEMP7	TEMP7 HAS COUNT	PS20636:
3145	5410	ADD	TABLC1		PS20637:
3146	2110	LDI	TABLC1	B-BOX HAS FORM	PS20638:
3147	4044	STD	TEMP3	0	PS20639:
3150	0270	LPN	70	0	PS20640:
3151	0111	LS6		B(F1),B(F2),B(F3),3	PS20641:
3152	5043	RAD	TEMP2	A(F1). ETC.	PS20642:
3153	0570	LCN	70		PS20643:
3154	1044	LPD	TEMP3		PS20644:
3155	4044	STD	TEMP3		PS20645:
3156	2031	LDD	OBANK	INSERT OBJECT CODE LOCATION OF	PS20646:
3157	0110	LS3		THIS B-BOX INTO IDLIST ENTRY	PS20647:
3160	3044	ADD	TEMP3	SO THAT LIX AND UP COMMANDS	PS20648:
3161	4110	STI	TABLC1	CAN BE TREATED PROPERLY	PS20649:
3162	5410	ADD	TABLC1		PS20650:
3163	2110	LDI	TABLC1		PS20651:
3164	4044	STD	TEMP3		PS20652:
3165	2032	LDD	OBLAST		PS20653:
3166	4110	STI	TABLC1		PS20654:
3167	5450	ADD	TEMP7		PS20655:
3170	6027	ZJF	WTBBOX		PS20656:
3171	0402	LDN	2		PS20657:
3172	5010	RAD	TABLC1		PS20658:
3173	2200	LDC	7070		PS20659:
3174	7070				
3175	1110	LPI	TABLC1		PS20660:
3176	4045	STD	TEMP4	COMPLETE	PS20661:
3177	0270	LPN	70	WORD	PS20662:
3200	0110	LS3		OF	PS20663:
3201	1445	LSD	TEMP4	BANK	PS20664:
3202	0111	LS6		SETTINGS	PS20665:
3203	0277	LPN	77		PS20666:
3204	0110	LS3			PS20667:
3205	5043	RAD	TEMP2		PS20668:
3206	5410	ADD	TABLC1		PS20669:
3207	2110	LDI	TABLC1		PS20670:
3210	4045	STD	TEMP4		PS20671:
3211	5450	ADD	TEMP7		PS20672:
3212	6005	ZJF	WTBBOX		PS20673:
3213	0402	LDN	2		PS20674:
3214	5010	RAD	TABLC1		PS20675:
3215	2110	LDI	TABLC1		PS20676:
3216	4046	STD	TEMP5		PS20677:
3217	0020	WTBBOX SICO		OUTPUT B=BOX	PS20678:
3220	2043	LDD	TEMP2		PS20679:
3221	0207	LPN	7		PS20680:
3222	0603	ADN	3		PS20681:
3223	4042	STD	TEMP1		PS20682:
3224	4057	STD	TEMP16	INCREASE LENGTH OF OBJECT	PS20683:
3225	7100	JPR	INCRLS	CODE BY LENGTH OF B=BOX	PS20684:
3226	3552				
3227	0400	LDN	0		PS20685:
3230	4041	STD	TEMP0		PS20686:
3231	4042	STD	TEMP1		PS20687:
3232	0441	LDN	TEMP0		PS20688:
3233	4060	STD	TEMP17		PS20689:
3234	2057	LDD	TEMP16		PS20690:
3235	7100	JPR	OUTBUF		PS20691:
3236	7606				
3237	7101	JFI	1		PS20692:

240	3126		B=BOX			PS20693:
		REM		END GENERATION OF B=BOXES		PS20694:
		REM		BEGIN GENERATION OF UP=SUBROUTINES		PS20695:
41	7100	UPSUBR	JPR	IDINTL		PS20696:
3242	7513					PS20697:
243	7100	NEWUPR	JPR	IDTYPE	IDTYPE USES TEMP1,2	PS20698:
244	7524					PS20699:
3245	6203	PJF	3			PS20700:
246	7101	JFI	1			PS20701:
247	3630		DGNSTC	TEST FOR ERRORS		PS20702:
3250	0302	LSN	2	2 IDENTIFIES INTEGER		PS20703:
251	6003	ZJF	3			PS20704:
252	0304	LSN	4			PS20705:
3253	6510	NZR	NEWUPR	VALUED VARIABLE		PS20706:
254	2006	LDD	NEXTBK			PS20707:
255	4045	STD	TEMP4	TEMP4,5,SAVE THIS		PS20708:
3256	2012	LDD	TABLC2	IDLIST LOCATION		PS20709:
257	4046	STD	TEMP5			PS20710:
258	2007	LDD	BNKTAB	TEMP7,10 HAVE THE IDLIST		PS20711:
3261	4212	STF	GETIBK			PS20712:
262	0207	LPN	7	LOCATION OF THIS INTEGER VARIABLE		PS20713:
263	4050	STD	TEMP7			PS20714:
3264	2010	LDD	TABLC1			PS20715:
265	4051	STD	TEMP10			PS20716:
266	0601	ADN	1			PS20717:
3267	4052	STD	TEMP11			PS20718:
270	2200	LDC	WRKBUF			PS20719:
271	1173					PS20720:
72	4047	STD	TEMP6			PS20721:
273	0027	GETIBK	SIC7			PS20722:
274	2152	LDI	TEMP11	MOVE OBJECT CODE LOCATION		PS20723:
3275	0207	LPN	7	OF I TO FIRST TWO WORDS		PS20724:
276	0620	ADN	20	OF UP-SUBROUTINE IN FORM		PS20725:
277	4053	STD	TEMP12	0,0,SICB(I)		PS20726:
3300	5452	AOD	TEMP11	A(I)		PS20727:
301	2152	LDI	TEMP11			PS20728:
302	4054	STD	TEMP13			PS20729:
3303	0020	SIC0				PS20730:
304	0721	SBN	17D			PS20731:
305	1454	SCD	TEMP13	TEST FOR I IN ERASABLE		PS20732:
3306	0201	LPN	1			PS20733:
307	6107	NZF	STRIAD			PS20734:
310	2053	LDD	TEMP12			PS20735:
3311	0207	LPN	7			PS20736:
312	6104	NZF	STRIAD			PS20737:
313	2200	LDC	4000			PS20738:
3314	4000					PS20739:
315	5053	RAD	TEMP12			PS20740:
316	2053	STRIAD	LDD	TEMP12		PS20741:
317	4147	STI	TEMP6			PS20742:
320	5447	AOD	TEMP6			PS20743:
321	2054	LDD	TEMP13			PS20744:
3322	6102	NZF	2			PS20745:
323	0400	LDN	0			PS20746:
324	4147	STI	TEMP6			PS20747:
3325	5447	AOD	TEMP6			PS20748:
326	4600	SRC	4444	THEN ZERO THE NEXT TWO		PS20749:
3327	4444					PS20750:
3330	6605	PJB	5			PS20751:
331	7100	JPR	IDINTL	FOR NEXT ADDRESS		PS20752:

3332	7513					
3333	7100	GTBBOX	JPR	IDTYPE		PS20748:
3334	7524					
3335	6203		PJF	3		PS2074
3336	7101		JFI	1		PS20750:
3337	3444			WRITUP		PS20751:
3340	0316		LSN	16	LOOK FOR PSEUDO B=BOX	PS20752:
3341	6506		NZB	GTBBOX		PS20753:
3342	2007		LDD	BKNTAB		PS20754:
3343	4201		STF	1		PS20755:
3344	0020	GETBNK	SICO		IDLIST LOCATION OF B-BOX	PS20756:
3345	7100		JPR	B=BOXL		PS20757:
3346	3607					
3347	4057		STD	TEMP16	TEMP 12 HAS MINUS	PS20758:
3350	2457		LDD	TEMP16	DIMENSION	PS20759:
3351	4053		STD	TEMP12	TEMP 16 HAS DIMENSION	PS20760:
3352	5410		ADD	TABLC1		PS20761:
3353	2110		LDI	TABLC1		PS20762:
3354	4054		STD	TEMP13	TEMP 13,14 CONTAIN B-BOX	PS20763:
3355	5410		ADD	TABLC1	OBJECT CODE LOCATION	PS20764:
3356	2110		LDI	TABLC1		PS20765:
3357	4055		STD	TEMP14	TEST TO SEE IF THIS INTEGER	PS20766:
3360	5410		ADD	TABLC1	OCCURS AT DIMENSION 1	PS20767:
3361	2110		LDI	TABLC1		PS20768:
3362	1451		LSD	TEMP10		PS20769:
3363	6107		NZF	DIM1		PS20770:
3364	2050		LDD	TEMP7	TEST B(1)	PS20771:
3365	1454		LSD	TEMP13		PS20772:
3366	0207		LPN	7		PS2077:
3367	6103		NZF	DIM1		PS20774:
3370	7100		JPR	ADDBOX		PS20775:
3371	3422					
3372	5453	DIM1	ADD	TEMP12	TEST IN DIMENSIONS 2 AND 3	PS20776:
3373	6440		ZJB	GTBBOX		PS20777:
3374	5410		ADD	TABLC1		PS20778:
3375	2110		LDI	TABLC1		PS20779:
3376	4056		STD	TEMP15	SAVE BANK SETTINGS	PS20780:
3377	0402	UPPLPP	LDN	2		PS20781:
3400	5010		RAD	TABLC1		PS20782:
3401	2110		LDI	TABLC1		PS20783:
3402	1451		LSD	TEMP10		PS20784:
3403	6110		NZF	DIM2		PS20785:
3404	2056		LDD	TEMP15		PS20786:
3405	0111		LS6			PS20787:
3406	1450		LSD	TEMP7		PS20789:
3407	0207		LPN	7		PS20790:
3410	6103		NZF	DIM2		PS20791:
3411	7100		JPR	ADDBOX		PS20792:
3412	3422					
3413	2056	DIM2	LDD	TEMP15		PS20793:
3414	0111		LS6			PS20793:
3415	4056		STD	TEMP15		PS20793:
3416	5453		ADD	TEMP12		PS20793:
3417	6424		ZJB	DIM1	+1	PS20794:
3420	6521		NZB	UPPLPP		PS2079:
			REM		SUBROUTINE ADD B=BOX	PS20796:
3421	7101		JFI	1		PS20797:
3422	0000	ADDBOX				PS20798:
3423	2054		LDD	TEMP13		PS20799:
3424	0270		LPN	70		PS20800

00207

425	3057	ADD	TEMP16	MOVE THE OBJECT CODE	PS20801:
3426	3053	ADD	TEMP12	LOCATION OF THIS B=BOX	PS20802:
3427	0601	ADN	1	INTO THE UP=SUBROUTINE	PS20803:
30	0110	LS3			PS20804:
3431	0111	LS6		COMPUTE DIMENSION	PS20805:
3432	0020	SIC0			PS20806:
433	4147	STI	TEMP6		PS20807:
3434	5447	ADD	TEMP6		PS20808:
3435	2055	LDD	TEMP14		PS20809:
436	4147	STI	TEMP6		PS20810:
3437	5447	ADD	TEMP6		PS20811:
3440	2374	LDB	GETBNK		PS20812:
441	4201	STF	1		PS20813:
3442	0020	SIC0			PS20814:
3443	6522	NZB	ADDBOX =1		PS20815:
3444	0020	REM		BEGIN OUTPUT OF UP=SUBROUTINE	PS20816:
3445	2047	WRITUP SIC0			PS20817:
446	3600	LDD	TEMP6		PS20818:
3447	1173	SBC	WRKBUF		PS20819:
3450	4042	STD	TEMP1	IF ONLY 4 LOCATIONS ARE USED	PS20820:
451	0704	SBN	4	UP=ROUTINE IS NOT USED	PS20821:
3452	6013	ZJF	NOUPPR		PS20822:
3453	2304	LDB	4	WRITE UP=SUBROUTINE	PS20823:
454	4060	STD	TEMP17	IF USED	PS20824:
3455	0502	LCN	2		PS20825:
3456	5047	RAD	TEMP6		PS20826:
457	0470	LDN	70		PS20827:
460	5147	RAI	TEMP6		PS20828:
61	2042	LDD	TEMP1		PS20829:
462	7100	JPR	OUTBUF		PS20830:
3463	7606				PS20831:
3464	6003	ZJF	UPENTR		PS20832:
465	0410	NOUPPR LDN	10		PS20833:
3466	5050	RAD	TEMP7		PS20834:
3467	0421	UPENTR LDN	21	CREATE AN IDLIST ENTRY	PS20835:
470	0110	LS3		FOR THIS UP=SUBROUTINE	PS20836:
3471	3050	ADD	TEMP7	OF THE FORM	PS20837:
3472	0110	LS3		0,0,B,LENGTH (4=7)	PS20838:
473	4050	STD	TEMP7	21 OR 22, B(I),B(U)	PS20839:
3474	2031	LDD	QBBANK	A(I)	PS20840:
3475	5050	RAD	TEMP7	A(U)	PS20841:
476	2032	LDD	OBLAST		PS20842:
3477	4052	STD	TEMP11		PS20843:
3500	2050	LDD	TEMP7		PS20844:
501	0111	LS6			PS20845:
3502	0201	LPN	1		PS20846:
3503	6004	ZJF	4		PS20847:
504	2042	LDD	TEMP1		PS20848:
3505	7100	JPR	INCRLS	INCREASE LENGTH OF OBJECT CODE	PS20849:
3506	3552				PS20850:
507	0401	LDN	1	BY LENGTH OF UP=ROUTINE	PS20851:
3510	4047	STD	TEMP6		PS20852:
3511	2003	LDD	IDLAST		PS20853:
2	6311	NJF	UPSTOR		PS20854:
513	0704	SBN	4	COMPUTE STARTING ADDRESS	PS20855:
3514	6210	PJF	UPSTOR +1	FOR UP=ROUTINE IDLIST ENTRY	PS20856:
515	2003	LDD	IDLAST		PS20857:
3516	5047	RAD	TEMP6		PS20858:
3517	0501	LCN	1		PS20859:

00208



3520	5002		RAD	IDBANK			PS20858:
3521	0504		LCN	4			PS20859:
3522	6102		NZF	UPSTOR +1			PS20860:
3523	0704	UPSTOR	SBN	4			PS20861:
3524	4003		STD	IDLIST			PS20862:
3525	4053		STD	TEMP12	TEMP12 HAS IDLIST ADDRESS		PS20863:
3526	0447		LDN	TEMP6			PS20864:
3527	4054		STD	TEMP13			PS20865:
3530	2002		LDD	IDBANK			PS20866:
3531	0620		ADN	20			PS20867:
3532	4202		STF	UPSTLP +1			PS20868:
3533	2154	UPSTLP	LDI	TEMP13	STORE NEW IDLIST ENTRY		PS20869:
3534	0020		SIC0				PS20870:
3535	4153		STI	TEMP12			PS20871:
3536	0020		SIC0				PS20872:
3537	5453		AOD	TEMP12			PS20873:
3540	5454		AOD	TEMP13			PS20874:
3541	0753		SBN	TEMP12			PS20875:
3542	6507		NZR	UPSTLP			PS20876:
3543	2045		LDD	TEMP4			PS20877:
3544	4006		STD	NEXTBK			PS20878:
3545	2046		LDD	TEMP5	REINITIALIZE IDTYPE		PS20879:
3546	4012		STD	TABLC2			PS20880:
3547	7101		JFI	1			PS20881:
3550	3243			NEWUPR			PS20882:
			REM		SUBROUTINE TO INCREASE		PS20883:
			REM		OBLAST CMN 4/13/62		PS20884:
3551	7101		JFI	1			PS20885:
3552	0000	INCRLS					PS20886:
3553	5032		RAD	OBLAST			PS20887:
3554	3442		SBD	TEMP1			PS20888:
3555	1442		LSD	TEMP1	INGRLS		PS20889:
3556	1432		LSD	OBLAST			PS20890:
3557	0201		LPN	1			PS20891:
3560	5031		RAD	OBBANK			PS20892:
3561	2032		LDD	OBLAST	IMPINGING ON VARIABLE		PS20893:
3562	3020		ADD	ERASEL	STORAGE AREA		PS20894:
3563	4042		STD	TEMP1			PS20895:
3564	1432		LSD	OBLAST	INCREASE OBJECT CODE LENGTH		PS20896:
3565	1420		LSD	ERASEL	BY LENGTH OF REQUIRED ERASABLE		PS20897:
3566	0201		LPN	1	AND TEST FOR BANK OVERFLOW		PS20898:
3567	3031		ADD	OBBANK			PS20899:
3570	3404		SBD	BNKCON			PS20900:
3571	6720		NJB	INCRLS -1			PS20901:
3572	6106		NZF	SIZERR			PS20902:
3573	2005		LDD	CONLST			PS20903:
3574	1442		LSD	TEMP1			PS20904:
3575	6205		PJF	SAMEBK			PS20905:
3576	2005		LDD	CONLST			PS20906:
3577	6726		NJB	INCRLS -1			PS20907:
3600	5427	SIZERR	AOD	LONGSW	OBJECT CODE EXCEEDS MEMORY		PS20908:
3601	6530		NZR	INCRLS -1			PS20909:
3602	2005	SAMEBK	LDD	CONLST			PS20910:
3603	3442		SBD	TEMP1			PS20911:
3604	6704		NJB	SIZERR			PS20912:
3605	6634		PJB	INCRLS -1			PS20913:
3606	7101		JFI	1			PS20914:
3607	0000	B-BOXL			COMPUTE DIMENSION OF B-BOX		PS20915:
3610	2110		LDI	TABLC1			PS20916:
3611	0217		LPN	17			PS20917:

012	0603	ADN	3			PS209181
3613	4214	STF	LN	LENGTH OF ENTRY		PS209191
514	3010	ADD	TABLC1			PS209201
15	1410	LSD	TABLC1			PS209210
3616	1611	LSF	LN			PS209220
617	0201	LPN	1			PS209230
620	6005	ZJF	6	IF NOT TRUE LENGTH		PS209241
3621	2410	LCD	TABLC1	USE -TABLC1 AS LENGTH		PS209251
622	0702	SBN	2			PS209260
623	0114	RS1				PS209271
3624	6516	NZB	B=BOXL -1			PS209281
625	2202	LDF	LN			PS209290
626	6504	NZB	4			PS209300
3627	0000	LN				PS209311
630	2032	DGNSTC	LDD	OBLAST	MAKE SURE THAT ERASABLE	PS209321
631	4042		STD	TEMP1	CONSISTS OF AN INTEGRAL	PS209330
3632	0403	DIVBY3	LDN	3	NUMBER OF SLOTS	PS209341
633	5042		RAD	TEMP1	IN EACH BANK	PS209351
634	6013		ZJF	MODOK		PS209371
3635	0701		SBN	1		PS209381
636	6103		NZF	3		PS209391
637	0402		LDN	2		PS209400
3640	6104		NZF	MODERS		PS209411
641	0701		SBN	1		PS209421
642	6510		NZB	DIVBY3		PS209431
3643	0401		LDN	1		PS209441
644	4042	MODERS	STD	TEMP1		PS209451
645	7100		JPR	INCRLS		PS209461
46	3552					
647	7100	MODOK	JPR	OUT+EF	DUMP LAST OF B=BOXES AND	PS209471
650	7571					
3651	2200		LDC	ERTABL	BRING IN DIAGNOSTICS	PS209481
652	1500					
653	7100		JPR	BINARY		PS209491
3654	0220					
655	0501		LCN	1	UP=SUBROUTINES	PS209501
656	4033		STD	LABSWC	LABSWC TELLS IF FIRST BAD LABEL	PS209511
3657	7100		JPR	IDINTL		PS209520
660	7513					
661	7100	SRCHLB	JPR	IDTYPE	SEARCH THE IDLIST FOR	PS209531
3662	7524					
663	6374		NJF	LABFIN		PS209540
664	0713		SBN	13	13#STATEMENT NUMBER	PS209551
3665	6004		ZJF	FWDLBL		PS209561
666	0701		SBN	1	14#SUBPROGRAM NAME	PS209570
667	6002		ZJF	FWDLBL		PS209581
3670	0703		SBN	3	17#FORMAT STATEMENT	PS209590
671	4300	FWDLBL	STS	-1	FOR LIBRARY	PS209600
672	6004		ZJF	4		PS209610
3673	0602		ADN	2		PS209620
674	6513		NZB	SRCHLB		PS209631
675	5700		AGS			PS209631
3676	7100		JPR	VRLOAD	MOVE IDLIST ENTRY TO LOW CORE	PS209640
677	7131					
00	2300		LDS			PS209650
3701	6006		ZJF	ZRTEST	GO TEST ZERO ADDRESS	PS209661
702	2047		LDD	TEMP6	TEST FOR BAD LIBRARY FUNCTION	PS209671
703	0102		LS1		(FIRST OCTAL DIGIT NOT 2)	PS209680
3704	6723		NJB	SRCHLB		PS209685
705	5447		ADD	TEMP6		PS209691

3706	6206		PJF	MP1	=2		PS20969:
3707	2050	ZRTEST	LDD	TEMP7			PS20969:
3710	0207		LPN	7			PS20971:
3711	6530		NZB	SRCHLB	BANK OF LABEL NOT ZERO		PS20972:
3712	2051		LDD	TEMP10			PS20973:
3713	6532		NZR	SRCHLB	ADDRESS NOT ZERO		PS20974:
3714	5433		AOD	LARSWC	FOUND UNASSIGNED LABEL		PS20975:
3715	6122		NZF	OUTLBL	IS HEADING OUT		
3716	7100	MP1	JPR	MAPIN	GET MAP ROUTINE		
3717	5741						
3720	5422		AOD	MAPSWC	SET MAPSWC TO SHOW ROUTINE IN		PS20981:
3721	2200		LDC	100			PS20982:
3722	0100						
3723	4001		STD	STOBUF	INITIALIZE OUTPUT AREA		PS20983:
3724	0404		LDN	4			PS20984:
3725	7100		JPR	BLANKS			PS20985:
3726	5766						
3727	0421		LDN	17D			PS20986:
3730	7100		JPR	ALPHA	OUTPUT UNASSIGNED LABELS		PS20987:
3731	6002						
3732	5651			ALPH24	HEADING		PS20988:
3733	7100		JPR	LINER			PS20989:
3734	6035						
3735	7100		JPR	LINER			PS20990:
3736	6035						
3737	0402	OUTLBL	LDN	2			PS20991:
3740	7100		JPR	BLANKS			PS20992:
3741	5766						
3742	0452		LDN	TEMP11			PS20993:
3743	3300		ADS				PS20994:
3744	4206		STF	1STLAB			PS20995:
3745	2047		LDD	TEMP6			PS20996:
3746	0207		LPN	7	GET LENGTH OF LABEL		PS20997:
3747	0102		LS1				PS20998:
3750	7100		JPR	ALPHA			PS20999:
3751	6002						PS21000:
3752	0000	1STLAB					PS21001:
3753	7100		JPR	LINER			PS21002:
3754	6035						PS21003:
3755	6474		ZJB	SRCHLB			PS21004:
3756	6575		NZB	SRCHLB			PS21005:
3757	2030	LABFIN	LDD	DIAGNS	DIAGNOSTICS FROM PASS1		PS21006:
3760	6045		ZJF	TSTLAB	ZERO = NO ERRORS		PS21007:
3761	5422		AOD	MAPSWC			PS21008:
3762	6103		NZF	TAPE2	ZERO=MAP NOT LOADED		PS21009:
3763	7100	MP2	JPR	MAPIN	GET MAP ROUTINE		PS21010:
3764	5741						PS21011:
3765	0403	TAPE2	LDN	3	REWIND TAPE 2 TO GET		PS21012:
3766	7100		JPR	BINARY	DIAGNOSTIC MESSAGES		PS21013:
3767	0220						PS21014:
3770	2200	STINTL	LDC	100			PS21015:
3771	0100						PS21016:
3772	4001		STD	STOBUF	INITIALIZE AND OUTPUT		PS21017:
3773	7100		JPR	LINER			PS21018:
3774	6035						
3775	0417		LDN	15D	DIAGNOSTICS HEADING		PS21019:
3776	7100		JPR	ALPHA			PS21020:
3777	6002						
4000	5662			ALPH25			PS21021:
4001	7100		JPR	LINER			PS21022:

00211

002	6035								
4003	7100	JPR	LINER						PS21019:
004	6035								
005	0422	LDN	18D						PS21020:
4006	7100	JPR	ALPHA						PS21021:
007	6002								
010	5502		ALPH10						PS21022:
4011	0432	LDN	26D						PS21023:
012	7100	JPR	ALPHA						PS21024:
013	6002								
4014	5672		ALPH26						PS21025:
015	7100	JPR	LINER						PS21026:
016	6035								
4017	7100	JPR	LINER						PS21027:
020	6035								
021	0401	READDG	LDN	1					PS21028:
4022	7100	JPR	BINARY						PS21029:
023	0220								
024	6203	PJF	3						PS21030:
4025	7101	TSTLAB	JFI	1		NEGATIVE=EOF:			PS21031:
026	4106		TESTSG						PS21032:
027	2336	LDB	STINTL	+1					PS21033:
4030	0604	ADN	4						PS21034:
031	4001	STD	STOBUF			SET STORUF=104 AND MOVE			PS21035:
032	2101	LDI	STOBUF			DIAGNOSTIC MESSAGE TO LOW CORE			PS21036:
4033	0103	LS2				FIRST WORD IS NUMBER OF ERROR			PS21037:
034	0103	LS2							PS21038:
035	3200	ADC	ERTABL	-20					PS21039:
036	1460								
037	4242	STF	MESSAG						PS21040:
040	0503	LCN	3						PS21041:
4041	5001	RAD	STOBUF						PS21042:
042	2101	LDI	STOBUF			GET BANK OF IDLIST ENTRY			PS21043:
043	4007	STD	BNKTAB			OF STATEMENT NUMBER			PS21044:
4044	5401	AOD	STOBUF						PS21045:
045	2101	LDI	STOBUF			GET IDLIST ADDRESS AND INITIALIZE			PS21046:
046	4010	STD	TABLC1			FOR ROUTINE VRLOAD			PS21047:
4047	5401	AOD	STOBUF						PS21048:
050	2101	LDI	STOBUF			SAVE INCREMENT IN TEMPO			PS21049:
051	4041	STD	TEMPO						PS21050:
4052	0505	LCN	5			RESET STOBUF:			PS21051:
053	5001	RAD	STOBUF						PS21052:
4054	0406	LDN	6						PS21053:
4055	7100	JPR	BLANKS						PS21054:
056	5766								
4057	7100	JPR	VRLOAD			BRING IDLIST ENTRY FOR			PS21055:
4060	7131								
061	7100	JPR	IDENTR			OUTPUT IDENTIFIER:			PS21056:
4062	6203								
4063	0506	LCN	6						PS21056:
064	5001	RAD	STOBUF						PS21056:
4065	2041	LDD	TEMPO						PS21057:
4066	4051	STD	TEMP10						PS21058:
067	0400	LDN	0						PS21059:
070	4050	STD	TEMP7						PS21060:
4071	7100	JPR	ENTDIM			ENTER INCREMENT			PS21061:
072	5271								
4073	0410	LDN	10						PS21062:
4074	7100	JPR	BLANKS						PS21063:
075	5766								

4076	0440	LDN	40			PS21064
4077	7100	JPR	ALPHA			PS21065
4100	6002					
4101	0000	MESSAG			OUTPUT ERROR MESSAGE	PS21066
4102	7100	JPR	LINER			PS21067
4103	6035					
4104	6563	NZB	READDG			PS21068
4105	6464	ZJR	READDG			PS21069
4106	5433	TESTSG	AOB	LABSWC		PS21070
4107	6002		ZJF	2		PS21071
4110	4030		STD	DIAGNS	SET DIAGNS IF LABEL	PS21072
4111	7101		JFI	1	ERROR HAS OCCURED	PS21073
4112	4406			LISTNG		PS21074
4113	0000	LIBTBL	RSS	182D		PS21075
			REM		GENERATE LISTING	PS21076
4401	0500	NO-LST	LCN	0	SEARCH EOF	PS21077
4402	7100	JPR	BINARY			PS21078
4403	0220					PS21079
4404	7101		JFI	1		PS21080
4405	5416			TESTDG		PS21081
4406	2200	LISTNG	LDC	BUFFER	BLANK	PS21082
4407	0100					
4410	4001		STD	STOBUF	OUT FIRST	PS21083
4411	0404		LDN	4	FOUR WORDS	PS21084
4412	7100	JPR	BLANKS		OF BUFFER AREA	PS21085
4413	5766					
4414	2027		LDD	LONGSW		PS21086
4415	6014		ZJF	ST1LST		PS21087
4416	4030		STD	DIAGNS	ALL ERRORS SET DIAGNS	PS21088
4417	5422		AOB	MAPSWC		PS21089
4420	6103		NZF	3		PS21090
4421	7100	JPR	MAPIN		BRING IN MAP ROUTINE	PS21091
4422	5741					
4423	0432		LDN	26D		PS21092
4424	7100	JPR	ALPHA			PS21093
4425	6002					
4426	5714			ALPH28	OBJECT CODE EXCEEDS MEMORY	PS21094
4427	7100	JPR	LINER			PS21095
4430	6035					
4431	5422	ST1LST	AOB	MAPSWC		PS21096
4432	6106		NZF	STRTLS		PS21097
4433	2021		LDD	INTERP		PS21098
4434	0277		LPN	77		PS21099
4435	6434		ZJB	NO-LST		PS21100
4436	7100	JPR	MAPIN			PS21101
4437	5741					PS21102
4440	7100	STRTLS	JPR	IDINTL	START LIST FOR INTEGER	PS21103
4441	7513					
4442	0412		LDN	10D		PS21104
4443	7100	JPR	ALPHA			PS21105
4444	6002					
4445	5707			ALPH27		PS21106
4446	7100	JPR	LINER			PS21107
4447	6035					
4450	7100	JPR	LINER			PS21108
4451	6035					
4452	0501		LCN	1	VALUED VARIABLES	PS21109
4453	4045		STD	TEMP4	HESWC IS TEMP4	PS21110
4454	7100	INTVAR	JPR	IDTYPE	INTEGER VALUED VARIABLES	PS21111
4455	7524					

4456	6203	PJF	3			PS21106:
4457	7101	JFI	1			PS21107:
4460	4517		FLTVAR			PS21108:
4461	0302	LSN	2	TEST INTEGER-VALUED		PS21109:
4462	6506	NZB	INTVAR			PS21110:
4463	5445	AOD	TEMP4			PS21111:
4464	6127	NZF	CONINT			PS21112:
4465	0410	LDN	8D			PS21113:
4466	7100	JPR	ALPHA			PS21114:
4467	6002					:
4470	5423		ALPH1			PS21115:
4471	0412	LDN	10D			PS21116:
4472	7100	JPR	ALPHA			PS21117:
4473	6002					:
4474	5437		ALPH4			PS21118:
4475	7100	JPR	LINER			PS21119:
4476	6035					:
4477	0450	LDN	40D			PS21120:
4500	7100	JPR	ALPHA			PS21121:
4501	6002					:
4502	5502		ALPH10			PS21122:
4503	0415	LDN	13D			PS21123:
4504	7100	JPR	ALPHA			PS21124:
4505	6002					:
4506	5611		ALPH19			PS21125:
4507	7100	JPR	LINER			PS21126:
4510	6035					:
4511	7100	JPR	LINER			PS21127:
4512	6035					:
4513	7100	CONINT	JPR	IVARBL		PS21128:
4514	6354					:
4515	6441	ZJB	INTVAR			PS21129:
4516	6542	NZB	INTVAR			PS21130:
4517	7100	FLTVAR	JPR	IDINTL	FLOATING POINT VARIABLES	PS21131:
4520	7513					:
4521	0501	LCN	1			PS21132:
4522	4044	STD	TEMP3	TEMP3=HEDSWC		PS21133:
4523	7100	FLTSRC	JPR	IDTYPE		PS21134:
4524	7524					:
4525	6322	NJF	INTARR			PS21135:
4526	0301	LSN	1			PS21136:
4527	6504	NZB	FLTSRC			PS21137:
4530	5444	AOD	TEMP3			PS21138:
4531	6113	NZF	FLTOUT			PS21139:
4532	7100	JPR	LINER			PS21140:
4533	6035					:
4534	0432	LDN	26D			PS21141:
4535	7100	JPR	ALPHA			PS21142:
4536	6002					:
4537	5427		ALPH2			PS21143:
4540	7100	JPR	LINER			PS21144:
4541	6035					:
4542	7100	JPR	ILO			PS21145:
4543	6054					:
4544	7100	FLTOUT	JPR	VARBLE		PS21146:
4545	6311					:
4546	6423	ZJB	FLTSRC	END FLOATING VARIABLES		PS21147:
4547	7100	INTARR	JPR	IDINTL	BEGIN INTEGER ARRAY	PS21148:
4550	7513					:
4551	0501	LCN	1	00214		PS21149:

4552	4044		STD	TEMP3		PS21150:
4553	7100	IARSRC	JPR	IDTYPE		PS21151:
4554	7524					
4555	6326		NJF	FLTARR		PS21152:
4556	0304		LSN	4		PS21153:
4557	6504		NZB	IARSRC		PS21154:
4560	5444		AOD	TEMP3		PS21155:
4561	6117		NZF	IAROUT		PS21156:
4562	7100		JPR	LINER		PS21157:
4563	6035					:
4564	0410		LDN	8D		PS21158:
4565	7100		JPR	ALPHA		PS21159:
4566	6002					:
4567	5423			ALPH1		PS21160:
4570	0406		LDN	6		PS21161:
4571	7100		JPR	ALPHA		PS21162:
4572	6002					:
4573	5444			ALPH5		PS21163:
4574	7100		JPR	LINER		PS21164:
4575	6035					:
4576	7100		JPR	ILOD		PS21165:
4577	6070					:
4600	7100	IAROUT	JPR	ARRRAY		PS21166:
4601	6457					:
4602	6427		ZJB	IARSRC	END INTEGER ARRAYS	PS21167:
4603	7100	FLTARR	JPR	IDINTL	FLOATING ARRAYS	PS21168:
4604	7513					:
4605	0501		LCN	1		PS21169:
4606	4044		STD	TEMP3		PS21170:
4607	7100	FARSRC	JPR	IDTYPE		PS21171:
4610	7524					:
4611	6326		NJF	CONSTS		PS21172:
4612	0303		LSN	3		PS21173:
4613	6504		NZB	FARSRC		PS21174:
4614	5444		AOD	TEMP3		PS21175:
4615	6117		NZF	FAROUT		PS21176:
4616	7100		JPR	LINER		PS21177:
4617	6035					:
4620	0420		LDN	16D		PS21178:
4621	7100		JPR	ALPHA		PS21179:
4622	6002					:
4623	5427			ALPH2		PS21180:
4624	0407		LDN	7		PS21181:
4625	7100		JPR	ALPHA		PS21182:
4626	6002					:
4627	5444			ALPH5		PS21183:
4630	7100		JPR	LINER		PS21184:
4631	6035					:
4632	7100		JPR	ILOD		PS21185:
4633	6070					:
4634	7100	FAROUT	JPR	ARRRAY		PS21186:
4635	6457					:
4636	6427		ZJB	FARSRC	END FLOATING ARRAYS	PS21187:
4637	7100	CONSTS	JPR	IDINTL	CONSTANTS	PS21188:
4640	7513					:
4641	0501		LCN	1		PS21189:
4642	4044		STD	TEMP3		PS21190:
4643	7100	CONSRC	JPR	IDTYPE		PS21191:
4644	7524					:
4645	6203		PJF	3		PS21192:

646	7101	JFI	1			PS211931
4647	4730		SUBPRG			PS211940
50	0711	SBN	11			PS211951
51	4045	STD	TEMP4			PS211961
4652	6003	ZJFI	3			PS211970
653	0701	SBN	1			PS211980
654	6511	NZB	CONSRC			PS211991
4655	5444	ADD	TEMP3			PS212000
656	6125	NZF	CONOUT			PS212010
657	7100	JPR	LINER			PS212021
4660	6035					
661	0412	LDN	10D			PS212030
662	7100	JPR	ALPHA			PS212041
4663	6002					
664	5475		ALPH9			PS212051
665	7100	JPR	LINER			PS212061
4666	6035					
667	0422	LDN	18D			PS212070
670	7100	JPR	ALPHA			PS212081
4671	6002					
672	5624		ALPH21			PS212091
673	0424	LDN	20D			PS212100
4674	7100	JPR	ALPHA			PS212111
675	6002					
676	5513		ALPH12			PS212121
4677	7100	JPR	LINER			PS212131
700	6035					
701	7100	JPR	LINER			PS212141
02	6035					
703	7100	CONOUT	JPR	VRLOAD	GET IDLIST ENTRY	PS212150
704	7131					
4705	0402	LDN	2			PS212161
706	7100	JPR	BLANKS			PS212171
707	5766					
4710	2045	LDD	TEMP4		0=FLOATING, 1=FIXED	PS212181
711	6007	ZJFI	FLCN			PS212191
712	7100	JPR	ENTRFX			PS212201
4713	6563					
714	0413	LDN	11D			PS212201
715	7100	JPR	BLANKS			PS212201
4716	5766					
717	6003	ZJFI	GNAD			PS212211
720	7100	FLCN	JPR	ENTRFL		PS212221
4721	6744					
722	7100	GNAD	JPR	ADENTR		PS212231
723	6154					
4724	7100		JPR	LINER		PS212240
725	6035					
726	7101	JFI	1			PS212251
4727	4643		CONSRC		END CONSTANTS	PS212261
730	7100	SUBPRG	JPR	IDINTL	SUBPROGRAMS	PS212271
731	7513					
4732	0501	LCN	1			PS212281
733	4044	STD	TEMP3			PS212291
734	7100	SUBSRC	JPR	IDTYPE		PS212301
4735	7524					
736	6322	NJFI	INTSUB			PS212311
4737	0314	LSN	14			PS212321
4740	6504	NZB	SUBSRC			PS212331
741	5444	ADD	TEMP3			PS212341

00216



4742	6113	NZF	SUBOUT		PS21235
4743	7100	JPR	LINER		PS21236
4744	6035				
4745	0413	LDN	11D		PS21237
4746	7100	JPR	ALPHA		PS21238
4747	6002				
4750	5467		ALPH8		PS21239
4751	7100	JPR	LINER		PS21240
4752	6035				
4753	7100	JPR	ILO		PS21241
4754	6054				
4755	7100	SUBOUT JPR	ADVRBL		PS21242
4756	6325				
4757	6423	ZJB	SUBSRC	END SUBPROGRAMS	PS21243
4760	7100	INTSUB JPR	IDINTL	INTEGER SUBPROGRAM ARGUMENTS	PS21244
4761	7513				
4762	0501	LCN	1		PS21245
4763	4044	STD	TEMP3		PS21246
4764	7100	INSBSR JPR	IDTYPE		PS21247
4765	7524				
4766	6354	NJF	FLTSUB		PS21248
4767	0306	LSN	6		PS21249
4770	6504	NZB	INSBSR		PS21250
4771	5444	AOD	TEMP3		PS21251
4772	6144	NZF	INSBOT		PS21252
4773	7100	JPR	LINER		PS21253
4774	6035				
4775	0410	LDN	8D		PS21254
4776	7100	JPR	ALPHA		PS21255
4777	6002				
5000	5423		ALPH1		PS21256
5001	0412	LDN	10D		PS21257
5002	7100	JPR	ALPHA		PS21258
5003	6002				
5004	5437		ALPH4		PS21259
5005	0435	LDN	29D		PS21260
5006	7100	JPR	ALPHA		PS21261
5007	6002				
5010	5450		ALPH6		PS21262
5011	7100	JPR	LINER		PS21263
5012	6035				
5013	0422	LDN	18D		PS21264
5014	7100	JPR	ALPHA		PS21265
5015	6002				
5016	5502		ALPH10		PS21266
5017	0423	LDN	19D		PS21267
5020	7100	JPR	ALPHA		PS21268
5021	6002				
5022	5544		ALPH15		PS21269
5023	0402	LDN	2		PS21270
5024	7100	JPR	BLANKS		PS21271
5025	5766				
5026	0415	LDN	13D		PS21272
5027	7100	JPR	ALPHA		PS21273
5030	6002				
5031	5611		ALPH19		PS21274
5032	7100	JPR	LINER		PS21275
5033	6035				
5034	7100	JPR	LINER		PS21276
5035	6035				

5036	7100	INSBOT	JPR	IVARBL		PS21275:
5037	6354					:
5040	6554		NZB	INSBSR	END INTEGER SUBPROGRAM	PS21276:
5041	6455		ZJB	INSBSR	ARGUMENTS	PS21277:
5042	7100	FLTSUB	JPR	IDINTL	FLOATING SUBPROGRAM ARGUMENTS	PS21278:
5043	7513					:
5044	0501		LDN	1		PS21279:
5045	4044		STD	TEMP3		PS21280:
5046	7100	FTSBSR	JPR	IDTYPE		PS21281:
5047	7524					:
5050	6326		NJF	ISUBAR		PS21282:
5051	0305		LSN	5		PS21283:
5052	6504		NZB	FTSBSR		PS21284:
5053	5444		AOD	TEMP3		PS21285:
5054	6117		NZF	FTSBOT		PS21286:
5055	7100		JPR	LINER		PS21287:
5056	6035					:
5057	0432		LDN	26D		PS21288:
5060	7100		JPR	ALPHA		PS21289:
5061	6002					:
5062	5427			ALPH2		PS21290:
5063	0435		LDN	29D		PS21291:
5064	7100		JPR	ALPHA		PS21292:
5065	6002					:
5066	5450			ALPH6		PS21293:
5067	7100		JPR	LINER		PS21294:
5070	6035					:
5071	7100		JPR	ILE		PS21295:
5072	6105					:
5073	7100	FTSBOT	JPR	VARBLE		PS21296:
5074	6311					:
5075	6427		ZJB	FTSBSR	END FLOATING POINT	PS21297:
5076	7100	ISUBAR	JPR	IDINTL	SUBPROGRAM ARGUMENTS	PS21298:
5077	7513					:
5100	0501		LDN	1	INTEGER ARRAYS USED AS	PS21299:
5101	4044		STD	TEMP3	SUBPROGRAM ARGUMENTS	PS21300:
5102	7100	IASBSR	JPR	IDTYPE		PS21301:
5103	7524					:
5104	6326		NJF	FSUBAR		PS21302:
5105	0310		LSN	10		PS21303:
5106	6504		NZB	IASBSR		PS21304:
5107	5444		AOD	TEMP3		PS21305:
5110	6117		NZF	IASBOT		PS21306:
5111	7100		JPR	LINER		PS21307:
5112	6035					:
5113	0410		LDN	8D		PS21308:
5114	7100		JPR	ALPHA		PS21309:
5115	6002					:
5116	5423			ALPH1		PS21310:
5117	0445		LDN	37D		PS21311:
5120	7100		JPR	ALPHA		PS21312:
5121	6002					:
5122	5444			ALPH5		PS21313:
5123	7100		JPR	LINER		PS21314:
5124	6035					:
5125	7100		JPR	ILED		PS21315:
5126	6125					:
5127	7100	IASBOT	JPR	ARRRAY		PS21316:
5130	6457					:
5131	6427		ZJB	IASBSR	END INTEGER ARRAY-TYPE	PS21317:

5132	7100	FSUBAR	JPR	IDINTL	SUBPROGRAM ARGUMENTS	PS21318
5133	7513					
5134	0501		LCN	1		PS21319
5135	4044		STD	TEMP3	FLOATING ARRAYS USED AS	PS21320
5136	7100	FASBSR	JPR	IDTYPE	SUBPROGRAM ARGUMENTS	PS21321
5137	7524					
5140	6326		NJF	STATMT		PS21322
5141	0307		LSN	7		PS21323
5142	6504		NZB	FASBSR		PS21324
5143	5444		AOD	TEMP3		PS21325
5144	6117		NZF	FASBOT		PS21326
5145	7100		JPR	LINER		PS21327
5146	6035					
5147	0420		LDN	16D		PS21328
5150	7100		JPR	ALPHA		PS21329
5151	6002					
5152	5427			ALPH2		PS21330
5153	0445		LDN	37D		PS21331
5154	7100		JPR	ALPHA		PS21332
5155	6002					
5156	5444			ALPH5		PS21333
5157	7100		JPR	LINER		PS21334
5160	6035					
5161	7100		JPR	ILED		PS21335
5162	6125					
5163	7100	FASBOT	JPR	ARRRAY	END FLOATING POINT ARRAY-TYPE	PS21336
5164	6457					
5165	6427		ZJB	FASBSR	SUBPROGRAM ARGUMENTS	PS21338
5166	7100	STATMT	JPR	IDINTL	STATEMENT NUMBERS	PS21339
5167	7513					
5170	0501		LCN	1		PS21339
5171	4044		STD	TEMP3		PS21340
5172	7100	STATSR	JPR	IDTYPE		PS21341
5173	7524					
5174	6342		NJF	FORMAT		PS21342
5175	0313		LSN	13		PS21343
5176	6504		NZB	STATSR		PS21344
5177	5444		AOD	TEMP3		PS21345
5200	6113		NZF	STATOT		PS21346
5201	7100		JPR	LINER		PS21347
5202	6035					
5203	0421		LDN	17D		PS21348
5204	7100		JPR	ALPHA		PS21349
5205	6002					
5206	5567			ALPH17		PS21350
5207	7100		JPR	LINER		PS21351
5210	6035					
5211	7100		JPR	ILO		PS21352
5212	6054					
5213	0403	STATOT	LDN	3	TEST FOR ALPHABETIC LABEL,	PS21353
5214	4046		STD	TEMP5		PS21354
5215	2010		LDD	TARLC1		PS21355
5216	5046		RAD	TEMP5		PS21356
5217	2007		LDD	BNKTAB		PS21357
5220	4201		STF	1		PS21358
5221	0027		SIC7			PS21359
5222	2146		LDI	TEMP5		PS21360
5223	0020		SICO			PS21361
5224	0111		LS6			PS21362
5225	0277		LPN	77		PS21363

5226	0713	SBN	13			PS21364:
5227	6304	NJF	4			PS21365:
5230	7100	JPR	VARBLE			PS21366:
5231	6311					
5232	6440	ZJB	STATSR			PS21367:
5233	7100	JPR	ADVRBL			PS21368:
5234	6325					
5235	6443	ZJR	STATSR			PS21369:
5236	7100	FORMAT JPR	IDINTL	END STATEMENT NUMBERS		PS21370:
5237	7513			FORMAT STATEMENTS		
5240	0501	LCN	1			PS21371:
5241	4044	STD	TEMP3			PS21372:
5242	7100	FRMSRC JPR	IDTYPE			PS21373:
5243	7524					
5244	6322	NJF	LIBRY			PS21374:
5245	0317	LSN	17			PS21375:
5246	6504	NZB	FRMSRC			PS21376:
5247	5444	AOD	TEMP3			PS21377:
5250	6113	NZF	FORMOT			PS21378:
5251	7100	JPR	LINER			PS21379:
5252	6035					
5253	0422	LDN	18D			PS21380:
5254	7100	JPR	ALPHA			PS21381:
5255	6002					
5256	5556		ALPH16			PS21382:
5257	7100	JPR	LINER			PS21383:
5260	6035					
5261	7100	JPR	ILO			PS21384:
5262	6054					
5263	7100	FORMOT JPR	VARBLE			PS21385:
5264	6311					
5265	6423	ZJB	FRMSRC	END FORMAT STATEMENTS		PS21386:
5266	0501	LIBRY LCN	1	LIBRARY FUNCTIONS		PS21387:
5267	4044	STD	TEMP3			PS21388:
5270	2200	LDC	VECTOR			PS21389:
5271	7644					
5272	4045	STD	TEMP4			PS21390:
5273	2200	LDC	LIBTBL			PS21391:
5274	4113					
5275	4046	STD	TEMP5			PS21392:
5276	0434	LDN	SUBRTN			PS21393:
5277	4047	STD	TEMP6			PS21394:
5300	0401	LDN	1			PS21395:
5301	4052	STD	TEMP11			PS21396:
5302	2147	LIBSRC LDI	TEMP6			PS21397:
5303	1052	LPD	TEMP11			PS21398:
5304	6113	NZF	LIBHED			PS21399:
5305	5445	AOD	TEMP4			PS21400:
5306	0403	LDN	3			PS21401:
5307	5046	RAD	TEMP5			PS21402:
5310	4452	SRD	TEMP11			PS21403:
5311	0201	LPN	1			PS21404:
5312	6410	ZJR	LIBSRC			PS21405:
5313	5447	AOD	TEMP6			PS21406:
5314	0741	SBN	SUBRTN +5			PS21407:
5315	6513	NZB	LIBSRC			PS21408:
5316	6043	ZJF	COMPER			PS21409:
5317	5444	LIBHED AOD	TEMP3			PS21410:
5320	6113	NZF	LIBROT			PS21411:
5321	7100	JPR	LINER			PS21412:

00220

5322	6035								
5323	0421	LDN	17D						PS21413:
5324	7100	JPR	ALPHA						PS21414:
5325	6002								
5326	5600		ALPH18						PS21415:
5327	7100	JPR	LINER						PS21416:
5330	6035								
5331	7100	JPR	LLO						PS21417:
5332	6054								
5333	0402	LIBROT LDN	2						PS21418:
5334	7100	JPR	BLANKS						PS21419:
5335	5766								
5336	2046	LDD	TEMP5						PS21420:
5337	4204	STF	4						PS21421:
5340	0406	LDN	6						PS21422:
5341	7100	JPR	ALPHA						PS21423:
5342	6002								
5343	0000		0						PS21424:
5344	0421	LDN	17D						PS21425:
5345	7100	JPR	BLANKS						PS21426:
5346	5766								
5347	2145	LDI	TEMP4						PS21427:
5350	4051	STD	TEMP10						PS21428:
5351	0201	LPN	1						PS21429:
5352	4050	STD	TEMP7						PS21430:
5353	7100	JPR	ADENTR						PS21431:
5354	6154								
5355	7100	JPR	LINER						PS21432:
5356	6035								
5357	7101	JFI	1						PS21433:
5360	5305		LIBSRC +3		END LIBRARY				PS21434:
5361	7100	COMPER JPR	LINER		COMPUTE LENGTH OF ERASABLE				PS21435:
5362	6035								
5363	7100	JPR	LINER						PS21436:
5364	6035								
5365	0420	LDN	16D						PS21437:
5366	7100	JPR	ALPHA						PS21438:
5367	6002								
5370	5636		ALPH22						PS21439:
5371	0405	LDN	5						PS21440:
5372	7100	JPR	BLANKS						PS21441:
5373	5766								
5374	2031	LDD	OBBANK						PS21442:
5375	4050	STD	TEMP7						PS21443:
5376	2032	LDD	OBLAST						PS21444:
5377	4051	STD	TEMP10						PS21445:
5400	7100	JPR	ADENTR						PS21446:
5401	6154								
5402	0404	LDN	4						PS21447:
5403	7100	JPR	ALPHA						PS21448:
5404	6002								
5405	5647		ALPH23						PS21449:
5406	2004	LDD	BNKCON						PS21450:
5407	4050	STD	TEMP7						PS21451:
5410	2005	LDD	CONLST						PS21452:
5411	4051	STD	TEMP10						PS21453:
5412	7100	JPR	ADENTR						PS21454:
5413	6154								
5414	7100	JPR	LINER						PS21455:
5415	6035								

5416	2030	TESTDG	LDD	DIAGNS		PS21456:
5417	6002		ZJF	2		PS21457:
5420	0000		ERR		END OF COMPILATION (ERROR STOP)	PS21458:
5421	7101		JFI	1		PS21459:
5422	7172			CONDNS		PS21460:
5423	7145	ALPH1	BCD	8D	INTEGER	PS21461:
5424	2365					:
5425	6765					:
5426	5120					:
5427	6643	ALPH2	BCD	10D	FLOATING	PS21462:
5430	4661					:
5431	2371					:
5432	4567					:
5433	2020					:
5434	4746	ALPH3	BCD	6	POINT	PS21463:
5435	7145					:
5436	2320					:
5437	2561	ALPH4	BCD	10D	VARIABLES	PS21464:
5440	5171					:
5441	6162					:
5442	4365					:
5443	2220					:
5444	6151	ALPH5	BCD	8D	ARRAYS	PS21465:
5445	5161					:
5446	3022					:
5447	2020					:
5450	2422	ALPH6	BCD	20D	USED AS SUBPROGRAM	PS21466:
5451	6564					:
5452	2061					:
5453	2220					:
5454	2224					:
5455	6247					:
5456	5146					:
5457	6751					:
5460	6144					:
5461	2020					:
5462	6151	ALPH7	BCD	10D	ARGUMENTS	PS21467:
5463	6724					:
5464	4465					:
5465	4523					:
5466	2220					:
5467	2224	ALPH8	BCD	12D	SUBPROGRAMS	PS21468:
5470	6247					:
5471	5146					:
5472	6751					:
5473	6144					:
5474	2220					:
5475	6346	ALPH9	BCD	10D	CONSTANTS	PS21469:
5476	4522					:
5477	2361					:
5500	4523					:
5501	2220					:
5502	2020	ALPH10	BCD	10D	IDENT	PS21470:
5503	7164					:
5504	6545					:
5505	2320					:
5506	2020					:
5507	4365	ALPH11	BCD	8D	LEVEL	PS21471:
5510	2565					:
5511	4320					:

5512	2020						
5513	4662	ALPH12 BCD	22D	OBJECT CODE LOCATION			PS21472
5514	4165						
5515	6323						
5516	2063						
5517	4664						
5520	6520						
5521	4346						
5522	6361						
5523	2371						
5524	4645						
5525	2020						
5526	6471	ALPH13 BCD	12D	DIMENSION			PS21473
5527	4465						
5530	4522						
5531	7146						
5532	4520						
5533	2020						
5534	6471	ALPH14 BCD	15D	DIM1	DIM2		PS21474
5535	4401						
5536	2020						
5537	2020						
5540	2020						
5541	2064						
5542	7144						
5543	0220						
5544	6551	ALPH15 BCD	19D	ERASABLE LOCATION			PS21475
5545	6122						
5546	6162						
5547	4365						
5550	2043						
5551	4663						
5552	6123						
5553	7146						
5554	4520						
5555	2020						
5556	6646	ALPH16 BCD	18D	FORMAT STATEMENTS			PS21476
5557	5144						
5560	6123						
5561	2020						
5562	2223						
5563	6123						
5564	6544						
5565	6545						
5566	2322						
5567	2223	ALPH17 BCD	18D	STATEMENT NUMBERS			PS21477
5570	6123						
5571	6544						
5572	6545						
5573	2320						
5574	4524						
5575	4462						
5576	6551						
5577	2220						
5600	4371	ALPH18 BCD	18D	LIBRARY FUNCTIONS			PS2147
5601	6251						
5602	6151						
5603	3020						
5604	6624						
5605	4563						

5606	2371					
5607	4645					
5610	2220					
5611	2447	ALPH19 BCD	14D	UP SUBROUTINE		PS21479
5612	2022					
5613	2462					
5614	5146					
5615	2423					
5616	7145					
5617	6520					
5620	4546	ALPH20 BCD	8D	NOT USED		PS21480
5621	2320					
5622	2422					
5623	6564					
5624	2020	ALPH21 BCD	20D	VALUE		PS21481
5625	2020					
5626	2020					
5627	2561					
5630	4324					
5631	6520					
5632	2020					
5633	2020					
5634	2020					
5635	2020					
5636	6551	ALPH22 BCD	18D	ERASABLE STORAGE		PS21482
5637	6122					
5640	6162					
5641	4365					
5642	2022					
5643	2346					
5644	5161					
5645	6765					
5646	2020					
5647	2023	ALPH23 BCD	4	TU		PS21483
5650	4620					
5651	2445	ALPH24 BCD	17D	UNASSIGNED LABELS		PS21484
5652	6122					
5653	2271					
5654	6745					
5655	6564					
5656	2043					
5657	6162					
5660	6543					
5661	2220					
5662	2020	ALPH25 BCD	15D	DIAGNOSTICS		PS21485
5663	2020					
5664	6471					
5665	6167					
5666	4546					
5667	2223					
5670	7163					
5671	2220					
5672	2020	ALPH26 BCD	26D	INCREMENT ERROR		PS21486
5673	2020					
5674	2020					
5675	2071					
5676	4563					
5677	5165					
5700	4465					
701	4523					



5702	2020							
5703	2020							
5704	6551							
5705	5146							
5706	5120							
5707	4465	ALPH27 BCD	10D		MEMORY MAP			PS21487
5710	4446							
5711	5130							
5712	2044							
5713	6147							
5714	4662	ALPH28 BCD	26D		OBJECT CODE EXCEEDS MEMORY			PS21488
5715	4165							
5716	6323							
5717	2063							
5720	4664							
5721	6520							
5722	6527							
5723	6365							
5724	6564							
5725	2220							
5726	4465							
5727	4446							
5730	5130							
5731	6527	ALPH30 BCD	14D		EXP EXCEEDS 32			PS21488
5732	4720							
5733	6527							
5734	6365							
5735	6564							
5736	2220							
5737	0302							
		REM			LISTING SUBPROGRAMS:			PS21489:
5740	7101	JFI	1					PS21490:
5741	0000	MAPIN			SUBROUTINE TO LOAD THE			PS21491
5742	2021	LDD	INTERP					PS21491
5743	0277	LPN	77					PS21491
5744	6102	NZF	2		ENTER NUMBER OF DESIRED			PS21491
5745	0000	ERR			ROUTINE INTO A-REGISTER TO CONTINUE			PS21491:
5746	1623	LSF	MINZER		MEMORY MAP I/O DRIVER			PS21492:
5747	4042	STD	TEMP1					PS21493
5750	2200	MAP	LDC	LISTER				PS21494:
5751	1200							
5752	7100	JPR	BINARY		LOAD A ROUTINE:			PS21495
5753	0220							
5754	6202	PJF	2					PS21496:
5755	0000	ERR			STANDARD I/O TABLE IN ERROR			PS21497
5756	5442	AOD	TEMP1					PS21498:
5757	6507	NZB	MAP		IF TEMP1 = 0 THIS IS THE CORRECT			PS21499:
5760	0500	LCN	0		ROUTINE, SEARCH FORWARD			PS21500
5761	7100	JPR	BINARY		FOR END OF FILE			PS21501:
5762	0220							
5763	6423	ZJB	MAPIN	-1				PS21502
5764	6524	NZB	MAPIN	-1				PS21503:
5765	7101	JFI	1					PS21504:
5766	0000	BLANKS			GENERATE N BLANKS			PS21505
5767	6402	ZJB	2					PS21505
5770	1600	LSF	0					PS21506:
5771	7777	MINZER	7777					PS21507
5772	4057	STD	TEMP16					PS21508:
5773	0420	LDN	20					PS21509
5774	4101	STI	STOBUF					PS21510

00225

1036 - *comp*  
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5775	5401	AOD	STOBUF			PS21511:
5776	5457	ACD	TEMP16			PS21512:
77	6412	ZJB	BLANKS -1			PS21513:
500	6505	NZR	MINZER +2	END BLANKS		PS21514:
6001	7101	JFI	1			PS21515:
102	0000	ALPHA		MOVE N CHARACTERS TO		PS21516:
5003	1712	LSB	MINZER	OUTPUT BUFFER		PS21517:
6004	4057	STD	TEMP16			PS21518:
105	2303	LDB	ALPHA			PS21519:
6006	4203	STF	3	GET STARTING ADDRESS		PS21520:
5007	5705	AOB	ALPHA			PS21521:
110	2100	LDI	0			PS21522:
6011	0000		0			PS21523:
6012	4060	STD	TEMP17			PS21524:
113	2160	ALPH+	LDI TEMP17			PS21525:
5014	0111	LS6				PS21526:
6015	4220	STF	LINER	UNRACK WORD		PS21527:
116	0277	LPN	77			PS21528:
6017	4101	STI	STOBUF			PS21529:
5020	5401	AOD	STOBUF			PS21530:
121	5457	AOD	TEMP16			PS21531:
5022	6421	ZJB	ALPHA -1			PS21532:
6023	2212	LDF	LINER			PS21533:
124	0111	LS6				PS21534:
6025	0277	LPN	77			PS21535:
6026	4101	STI	STOBUF			PS21536:
127	5401	AOD	STOBUF			PS21537:
6030	5460	AOD	TEMP17			PS21538:
31	5457	AOD	TEMP16			PS21539:
132	6431	ZJB	ALPHA -1			PS21540:
6033	6520	NZR	ALPH+	END ALPHA		PS21541:
6034	7101	JFI	1			PS21542:
135	0000	LINER		OUTPUT LINE		PS21543:
6036	0420	LDN	20	AND RE-INITIALIZE STORUF		PS21544:
6037	4101	STI	STOBUF			PS21545:
140	5401	AOD	STOBUF			PS21546:
6041	3600	SBC	BUFFER +81D			PS21547:
6042	0221					:
143	6505	NZR	LINER +1			PS21548:
5044	2200	LDC	BUFFER +4			PS21549:
6045	0104					:
146	4001	STD	STOBUF			PS21550:
6047	7100	JPR	LISTER			PS21551:
6050	1200					:
151	0400	LDN	0			PS21552:
6052	6416	ZJB	LINER -1			PS21553:
6053	7101	JFI	1			PS21554:
154	0000	ILO		IDENT, LEVEL, OBJECT CODE LCN		PS21555:
6055	0450	LDN	40D			PS21556:
6056	7100	JPR	ALPHA			PS21557:
157	6002					:
6060	5502		ALPH10			PS21558:
6061	7100	JPR	LINER			PS21559:
162	6035					:
6063	7100	JPR	LINER			PS21560:
6064	6035					:
165	0400	LDN	0			PS21561:
6066	6413	ZJB	ILO -1	END		PS21562:
6067	7101	JFI	1			PS21563:
170	0000	ILOD		IDENT, OBJECT CODE LCN		PS21564:

6071	2200	LDC	67D		PS21565:
6072	0103				
6073	7100	JPR	ALPHA		PS21566:
6074	6002				
6075	5502		ALPH10		PS21567:
6076	7100	JPR	LINER		PS21568:
6077	6035				
6100	7100	JPR	LINER		PS21569:
6101	6035				
6102	0400	LDN	0		PS21570:
6103	6414	ZJB	ILOD -1	END	PS21571:
6104	7101	JFI	1		PS21572:
6105	0000	ILE		IDENT, LEVEL, ERASABLE LCN	PS21573:
6106	0422	LDN	18D		PS21574:
6107	7100	JPR	ALPHA		PS21575:
6110	6002				
6111	5502		ALPH10		PS21576:
6112	0423	LDN	19D		PS21577:
6113	7100	JPR	ALPHA		PS21578:
6114	6002				
6115	5544		ALPH15		PS21579:
6116	7100	JPR	LINER		PS21580:
6117	6035				
6120	7100	JPR	LINER		PS21581:
6121	6035				
6122	0400	LDN	0		PS21582:
6123	6417	ZJB	ILE -1	END ILE	PS21583:
6124	7101	JFI	1		PS21584:
6125	0000	ILED		IDENT, LEVEL, ERASABLE LCN	PS21585:
6126	0422	LDN	18D		PS21586:
6127	7100	JPR	ALPHA		PS21587:
6130	6002				
6131	5502		ALPH10		PS21588:
6132	0423	LDN	19D		PS21589:
6133	7100	JPR	ALPHA		PS21590:
6134	6002				
6135	5544		ALPH15		PS21591:
6136	0403	LDN	3		PS21592:
6137	7100	JPR	BLANKS		PS21593:
6140	5766				
6141	0433	LDN	27D		PS21594:
6142	7100	JPR	ALPHA		PS21595:
6143	6002				
6144	5526		ALPH13		PS21596:
6145	7100	JPR	LINER		PS21597:
6146	6035				
6147	7100	JPR	LINER		PS21598:
6150	6035				
6151	0400	LDN	0		PS21599:
6152	6426	ZJB	ILED -1	END ILED	PS21600:
6153	7101	JFI	1		PS21601:
6154	0000	ADENTR		ENTER 15-BIT ADDRESS FROM	PS21602:
6155	2050	LDD	TEMP7	TEMP7, TEMP10	PS21603:
6156	0207	LPN	7		PS21604:
6157	6102	NZF	2		PS21605:
6160	0412	LDN	12		PS21606:
6161	4101	STI	STOBUF	BANK	PS21607:
6162	5401	AOD	STOBUF		PS21608:
6163	0420	LDN	20	INSERT BLANK	PS21609:
6164	4101	STI	STOBUF	00227	PS21610:



6261	0412	LDN	12		PS21666:
6262	4101	STI	STOBUF		PS21667:
6263	5401	AOD	STOBUF		PS21668:
6264	0413	LDN	11D		PS21669:
6265	7100	JPR	BLANKS		PS21670:
6266	5766				
6267	6465	ZJB	IDENTR -1	END IDENTR	PS21671:
6270	7101	JFI	1		PS21672:
6271	0000	ENTDIM		ENTER A 15-BIT QUANTITY FROM TEMP7,10	PS21673:
6272	2050	LDD	TEMP7	CONVERT 15 BITS	PS21674:
6273	0207	LPN	7	TO 22-BIT FORMAT	PS21675:
6274	0102	LS1			PS21676:
6275	4052	STD	TEMP11		PS21677:
6276	2051	LDD	TEMP10		PS21678:
6277	6205	PJF	5		PS21679:
6300	5452	AOD	TEMP11		PS21680:
6301	2051	LDD	TEMP10		PS21681:
6302	1200	LPC	3777		PS21682:
6303	3777				
6304	4053	STD	TEMP12		PS21683:
6305	7100	JPR	ENTRFX		PS21684:
6306	6563				
6307	6517	NZB	ENTDIM -1		PS21687:
6310	7101	JFI	1		PS21699:
6311	0000	VARBLE			PS21700:
6312	7100	JPR	VRLOAD		PS21701:
6313	7131				
6314	7100	JPR	IDENTR		PS21702:
6315	6203				
6316	7100	JPR	ADENTR		PS21703:
6317	6154				
6320	7100	JPR	LINER		PS21704:
6321	6035				
6322	0400	LDN	0		PS21705:
6323	6413	ZJB	VARBLE -1	END VARBLE	PS21706:
6324	7101	JFI	1		PS21707:
6325	0000	ADVRBL			PS21708:
6326	7100	JPR	VRLOAD		PS21709:
6327	7131				
6330	7100	JPR	IDENTR		PS21710:
6331	6203				
6332	2051	LDD	TEMP10		PS21711:
6333	4056	STD	TEMP15		PS21712:
6334	2014	LDD	INTLTH	INCREASE RELATIVE LOCATION	PS21713:
6335	5051	RAD	TEMP10	TO ACTUAL LOCATION	PS21714:
6336	1456	LSD	TEMP15		PS21715:
6337	1414	LSD	INTLTH		PS21716:
6340	0201	LPN	1		PS21717:
6341	5050	RAD	TEMP7		PS21718:
6342	2013	LDD	BNKINT		PS21719:
6343	0207	LPN	7		PS21720:
6344	5050	RAD	TEMP7		PS21721:
6345	7100	JPR	ADENTR		PS21722:
6346	6154				
6347	7100	JPR	LINER		PS21723:
6350	6035				
6351	0400	LDN	0		PS21724:
6352	6426	ZJB	ADVRBL -1	END ADVRBL	PS21725:
6353	7101	JFI	1		PS21726:
6354	0000	IVARBL			PS21727:

6355	7100	JPR	VRLOAD		PS217288
6356	7131				
6357	7100	JPR	IDENTR		PS217291
6360	6203				
6361	7100	JPR	ADENTR		PS217301
6362	6154				
6363	0411	LDN	9D		PS217318
6364	7100	JPR	BLANKS		PS217321
6365	5766				
6366	2006	LDD	NEXTRK		PS217331
6367	4055	STD	TEMP14	TEMP 15,16 SAVE IDLIST ADDRESS	PS217341
6370	2012	LDD	TABLC2		PS217358
6371	4056	STD	TEMP15		PS217361
6372	2007	LDD	BNKTAB	TEMP7,TEMP10 HAVE	PS217378
6373	0110	LS3		IDLIST LOCATION OF INTEGER	PS217381
6374	4050	STD	TEMP7	VALUED VARIABLE TO COMPARE	PS217398
6375	2010	LDD	TABLC1	TO UP-SUBROUTINE	PS217401
6376	0706	SBN	6		PS217411
6377	4051	STD	TEMP10		PS217421
6400	7100	JPR	IDINTL		PS217431
6401	7513				
6402	7100	UPLSTS JPR	IDTYPE		PS217448
6403	7524				
6404	6202	PJF	2		PS217451
6405	0000	ERR		NO UP-SUBROUTINE	PS217461
6406	0721	SBN	21		PS217471
6407	6705	NJB	UPLSTS		PS217480
6410	4060	STD	TEMP17		PS217491
6411	2007	LDD	BNKTAB		PS217500
6412	4201	STF	1		PS217511
6413	0020	SICO			PS217521
6414	5410	ADD	TABLC1		PS217531
6415	2110	LDI	TABLC1	COMPARE B(I)	PS217541
6416	1450	LSD	TEMP7		PS217551
6417	0270	LPN	70		PS217561
6420	6516	NZB	UPLSTS		PS217571
6421	5410	ADD	TABLC1		PS217588
6422	2110	LDI	TABLC1	COMPARE A(I)	PS217591
6423	1451	LSD	TEMP10		PS217601
6424	6522	NZB	UPLSTS		PS217611
6425	5410	ADD	TABLC1	FOUND UP-SUBROUTINE	PS217621
6426	2110	LDI	TABLC1	ENTER OBJECT CODE	PS217631
6427	4051	STD	TEMP10	LOCATION IN LINE	PS217641
6430	0502	LCN	2		PS217651
6431	5010	RAD	TABLC1	ENTER CORRECT	PS217668
6432	2110	LDI	TABLC1	BANK NUMBER IN LINE	PS217678
6433	4050	STD	TEMP7		PS217688
6434	0020	SICO			PS217691
6435	2060	LDD	TEMP17		PS217708
6436	6104	NZF	4	IF IDTYPE=22	PS217718
6437	7100	JPR	ADENTR	OUTPUT NOT USED	PS217721
6440	6154				
6441	6105	NZF	5		PS217731
6442	0410	LDN	8D		PS217740
6443	7100	JPR	ALPHA		PS217751
6444	6002				
6445	5620		ALPH20		PS217761
6446	7100	JPR	LINER		PS217771
6447	6035				
6450	2055	LDD	TEMP14		PS217781

00230

6451	4006	STD	NEXTRK	RESET IDTYPE COUNTERS	PS21779:
6452	2056	LDD	TEMP15		PS21780:
6453	4012	STD	TABLC2		PS21781:
6454	7101	JFI	1		PS21782:
6455	6353		IVARBL -1	END IVARBL	PS21783:
6456	7101	JFI	1		PS21784:
6457	0000	ARRRAY	JPR		PS21785:
6460	7100	JPR	VRLOAD		PS21786:
6461	7131				PS21787:
6462	2053	LDD	TEMP12		PS21788:
6463	0207	LPN	7		PS21789:
6464	4055	STD	TEMP14	TEMP 14 HAS DIMENSION	PS21790:
6465	2455	LCD	TEMP14		PS21791:
6466	0701	SBN	1		PS21792:
6467	5047	RAD	TEMP6	TEMP6-DIMENSION GIVES	PS21793:
6470	2055	LDD	TEMP14	LENGTH OF IDENTIFIER	PS21794:
6471	0702	SBN	2		PS21795:
6472	5010	RAD	TABLC1		PS21796:
6473	2007	LDD	BNKTAB		PS21797:
6474	4201	STF	1		PS21798:
6475	0020	SICO			PS21799:
6476	2110	LDI	TABLC1	MOVE IDENTIFIER TO PROPER	PS21800:
6477	4052	STD	TEMP11	LOCATIONS FOR IDENTR	PS21801:
6500	5410	ADD	TABLC1		PS21802:
6501	2110	LDI	TABLC1		PS21803:
6502	4053	STD	TEMP12		PS21804:
6503	5410	ADD	TABLC1		PS21805:
6504	2110	LDI	TABLC1		PS21806:
6505	4054	STD	TEMP13		PS21807:
6506	0020	SICO			PS21808:
6507	7100	JPR	IDENTR		PS21809:
6510	6203				PS21810:
6511	7100	JPR	ADENTR		PS21811:
6512	6154				PS21812:
6513	2455	LCD	TEMP14		PS21813:
6514	0705	SBN	5		PS21814:
6515	5010	RAD	TABLC1		PS21815:
6516	7100	JPR	VRLOAD		PS21816:
6517	7131				PS21817:
6520	0415	LDN	13D		PS21818:
6521	7100	JPR	BLANKS		PS21819:
6522	5766				PS21820:
6523	2052	LDD	TEMP11	ENTER DIMENSION IN OUTPUT LINE	PS21821:
6524	0207	LPN	7		PS21822:
6525	4055	STD	TEMP14		PS21823:
6526	4101	STI	STOBUF		PS21824:
6527	5401	ADD	STOBUF		PS21825:
6530	2455	LCD	TEMP14		PS21826:
6531	0601	ADN	1		PS21827:
6532	6024	ZJF	ARRFIN		PS21828:
6533	4027	STD	LONGSW	SAVE DIMENSION	PS21829:
6534	2052	LDD	TEMP11		PS21830:
6535	0110	LS3			PS21831:
6536	4050	STD	TEMP7		PS21832:
6537	2053	LDD	TEMP12		PS21833:
6540	4051	STD	TEMP10		PS21834:
6541	7100	JPR	ENTDIM	ENTER DIM1	PS21835:
6542	6271				PS21836:
6543	5427	ADD	LONGSW		PS21837:
6544	6012	ZJF	ARRFIN	00231	PS21838:

6545	0501	LCN	1		PS21838:
6546	5001	RAD	STOBUF		PS21839:
6547	2052	LDD	TEMP11		PS21840:
6550	0111	LS6			PS21841:
6551	4050	STD	TEMP7		PS21842:
6552	2054	LDD	TEMP13		PS21843:
6553	4051	STD	TEMP10		PS21844:
6554	7100	JPR	ENTDIM	ENTER DIM2	PS21845:
6555	6271				PS21846:
6556	7100	ARRFIN JPR	LINER		PS21847:
6557	6035				PS21848:
6560	7101	JFI	1		PS21849:
6561	6456		ARRRAY =1	END ARRAY	PS21850:
6562	7101	JFI	1		PS21851:
6563	0000	ENTRFX			PS21852:
6564	0512	LCN	100	100 IS LENGTH OF ENTIRE FIELD	PS21853:
6565	4057	STD	TEMP16		PS21854:
6566	0420	LDD	20		PS21855:
6567	4101	STI	STOBUF		PS21856:
6570	5401	ADD	STOBUF		PS21857:
6571	4060	STD	TEMP17		PS21858:
6572	0400	LDD	0	ZERO ENTIRE FIELD	PS21859:
6573	4160	STI	TEMP17		PS21860:
6574	5460	ADD	TEMP17		PS21861:
6575	5457	ADD	TEMP16		PS21862:
6576	6504	NZB	4		PS21863:
6577	0420	LDD	20	SET SIGNFX=BLANK	PS21864:
6600	4250	STF	SIGNFX		PS21865:
6601	2052	LDD	TEMP11		PS21866:
6602	6207	PJF	7	IF INTEGER IS NEGATIVE, COMPLEMENT AND SET SIGNFX=#	PS21867:
6603	2452	LDD	TEMP11		PS21868:
6604	4052	STD	TEMP11		PS21869:
6605	2453	LDD	TEMP12		PS21870:
6606	4053	STD	TEMP12		PS21871:
6607	0440	LDD	40		PS21872:
6610	4240	STF	SIGNFX		PS21873:
6611	2200	LDD	MILLON	INITIALIZE ARITHMETIC	PS21874:
6612	6725				PS21875:
6613	4060	STD	TEMP17		PS21876:
6614	4656	SRF	COMSWC		PS21877:
6615	4655	SRF	COMSWC		PS21878:
6616	2560	CVTLP LCI	TEMP17	LOW ORDER DIGITS	PS21879:
6617	3053	ADD	TEMP12		PS21880:
6620	4056	STD	TEMP15		PS21881:
6621	6210	PJF	NOBOR	IF POSITIVE, NO BORROW	PS21882:
6622	1200	LPC	3777.		PS21883:
6623	3777				PS21884:
6624	0601	ADN	1		PS21885:
6625	4056	STD	TEMP15	TURN SIGN BIT OFF	PS21886:
6626	0501	LCN	1	SET TEMP14 FOR BORROW	PS21887:
6627	4055	STD	TEMP14		PS21888:
6630	6103	NZF	3		PS21889:
6631	0400	NOBOR LDD	0		PS21890:
6632	4055	STD	TEMP14	IF NEGATIVE, THEN THIS POWER OF TEN IS FINISHED	PS21891:
6633	5460	ADD	TEMP17		PS21892:
6634	2560	LCI	TEMP17		PS21893:
6635	3052	ADD	TEMP11		PS21894:
6636	3055	ADD	TEMP14		PS21895:
6637	6320	NJF	SIGNSW +3.		PS21896:
6640	4052	STD	TEMP11	OTHERWISE, REPEAT	PS21897:

00232



6641	2056	LDD	TEMP15			PS218924
6642	4053	STD	TEMP12			PS218930
6643	0501	LCN	1			PS218936
6644	5060	RAD	TEMP17	END SUBTRACT		PS218942
6645	2207	LDF	SIGNSW	SIGNIFICANT DIGIT, INSERT SIGN		PS218948
6646	6207	PJF	SIGNSW +1	IF NOT ALREADY DONE		PS218954
6647	2200	LDF	0			PS218960
6650	0000	SIGNFX				PS218966
6651	4101	STI	STOBUF			PS218972
6652	5401	AOD	STOBUF			PS218978
6653	4600	SRF	0			PS218984
6654	5252	SIGNSW	5252			PS218990
6655	5501	AOI	STOBUF			PS218996
6656	6540	NZB	CVTLP			PS219002
6657	2101	LDI	STOBUF	IF SIGNSW IS POSITIVE, THEN		PS219008
6660	6110	NZF	FIXINC	THIS IS NOT A LEADING ZERO		PS219014
6661	2305	LDR	SIGNSW			PS219020
6662	6204	PJF	4			PS219026
6663	0420	LDN	20	SUPPRESS LEADING ZEROES		PS219032
6664	4101	STI	STOBUF			PS219038
6665	6103	NZF	FIXINC			PS219044
6666	0412	LDN	12			PS219050
6667	4101	STI	STOBUF			PS219056
6670	5401	FIXINC	AOD			PS219062
6671	4600	SRF	0			PS219068
6672	4444	COMSWC	4444	INSERT COMMAS		PS219074
6673	6211	PJF	SUBINC			PS219080
6674	2320	LDR	SIGNSW			PS219086
6675	6204	PJF	4			PS219092
6676	0420	LDN	20	SUPPRESS LEADING COMMAS		PS219098
6677	4101	STI	STOBUF			PS219104
6700	6103	NZF	SUBINC -1			PS219110
6701	0433	LDN	33			PS219116
6702	4101	STI	STOBUF			PS219122
6703	5401	AOD	STOBUF			PS219128
6704	5460	SUBINC	AOD			PS219134
6705	3600	SBC	ONE +2			PS219140
6706	6743					PS219146
6707	6571	NZB	CVTLP	IF TABLE EXHAUSTED, FINISH		PS219152
6710	0501	LCN	1			PS219158
6711	5001	RAD	STOBUF			PS219164
6712	4736	SRB	SIGNSW			PS219170
6713	6805	NJF	5			PS219176
6714	4740	SRB	SIGNSW			PS219182
6715	0412	LDN	12			PS219188
6716	4101	STI	STOBUF			PS219194
6717	5401	AOD	STOBUF			PS219200
6720	0420	LDN	20			PS219206
6721	4101	STI	STOBUF			PS219212
6722	5401	AOD	STOBUF			PS219218
6723	7101	JFI	1			PS219224
6724	6862	MILLON	ENTRFX -1			PS219230
6725	1100		1100	3,641,100=1,000,000D		PS219236
6726	0750		750			PS219242
6727	3240		3240	308,240=100,000D		PS219248
6730	0040		60			PS219254
6731	3420		3420	23,420=10,000D		PS219260
6732	0040		4			PS219266
6733	1750		1750	1750=1000D		PS219272
6734	0000		0			PS219278

512 320 000  
 1750 200  
 1000

6735	0144		144	144=1000	PS219548
6736	0000		0		PS219558
6737	0012		12	12#10D	PS219561
6740	0000		0		PS219571
6741	0001	ONE	1	1=1D	PS219581
6742	0000		0	END ENTRFX	PS219598
6743	7101	JFI	1		PS219601
6744	0000	ENTRFL			PS219610
6745	2052	LDD	TEMP11		PS219628
6746	1200	LPC	4000	GET SIGN OF NUMBER	PS219631
6747	4000				
6750	6002	ZJF	2		PS219641
6751	0420	LDN	20		PS219658
6752	0620	ADN	20		PS219661
6753	4101	STI	STOBUF		PS219671
6754	5401	AOD	STOBUF		PS219688
6755	0412	LDN	12	ALL NUMBERS START 0.	PS219691
6756	4101	STI	STOBUF		PS219701
6757	5401	AOD	STOBUF		PS219711
6760	0473	LDN	73		PS219721
6761	4101	STI	STOBUF		PS219738
6762	5401	AOD	STOBUF		PS219741
6763	2052	LDD	TEMP11		PS219751
6764	6107	NZF	7		PS219761
6765	0412	LDN	12		PS219771
6766	4101	STI	STOBUF		PS219781
6767	5401	AOD	STOBUF		PS219791
6770	0423	LDN	19D	FO ZERO HAVE 0,0	PS219801
6771	7100	JPR	BLANKS		PS219811
6772	5766				
6773	6430	ZJB	ENTRFL =1		PS219821
6774	2052	LDD	TEMP11		PS219838
6775	0237	LPN	37		PS219841
6776	0103	LS2			PS219851
6777	4055	STD	TEMP14		PS219861
6780	2053	LDD	TEMP12		PS219871
6781	0103	LS2			PS219888
6782	0203	LPN	3		PS219891
6783	5055	RAD	TEMP14		PS219901
6784	7100	JPR	DIGEN1	ENTER FIRST TWO DIGITS	PS219911
6785	7066				
6786	2053	LDD	TEMP12		PS219928
6787	1200	LPC	1777	INSERT	PS219921
6788	1777				
6789	4055	STD	TEMP14		PS219941
6790	7100	JPR	DIGENT		PS219951
6791	7077				
6792	2054	LDD	TEMP13		PS219961
6793	6213	PJF	13	REPLACE	PS219961
6794	5430	AOD	DIAGNS	INSERT	PS219961
6795	0510	LCN	8D	TO LARGE FOR NORMAL	PS219961
6796	5001	RAD	STOBUF	SYSTEM, BUT SMALL	PS219961
6797	0416	LDN	14D	ENOUGH FOR 168-2	PS219961
6798	7100	JPR	ALPHA	VERSION AND INSERT	PS219961
6799	6002				
6800	5731		ALPH30	A DIAGNOSTIC IN THE MAP	PS219961
6801	0402	LDN	2		PS219961
6802	5362	RAB	ENTRFL		PS219961
6803	6564	NZB	ENTRFL =1		PS219971
6804	4055	STD	TEMP14		PS219981

00234

7031	7100	JPR	DIGENT	ENTER LAST THREE DIGITS	PS21999
7032	7077				
7033	0420	LDN	20	BLANK E. BLANK	PS22000
7034	4101	STI	STOBUF		PS22001
7035	5401	ADD	STOBUF		PS22002
7036	0465	LDN	65		PS22003
7037	4101	STI	STOBUF		PS22004
7040	5401	ADD	STOBUF		PS22005
7041	0420	LDN	20		PS22006
7042	4101	STI	STOBUF		PS22007
7043	2052	LDD	TEMP11		PS22008
7044	0111	LS6			PS22009
7045	0102	LS1			PS22010
7046	0277	LPN	77	ISOLATE EXPONENT	PS22011
7047	0740	SBN	40	SUBTRACT BIAS	PS22012
7050	4055	STD	TEMP14		PS22013
7051	6205	PJF	5		PS22014
7052	2455	LDD	TEMP14		PS22015
7053	4055	STD	TEMP14		PS22016
7054	0420	LDN	20		PS22017
7055	5101	RAI	STOBUF		PS22018
7056	5401	ADD	STOBUF		PS22019
7057	7100	JPR	DIGEN1		PS22020
7060	7066				
7061	0407	LDN	7		PS22021
7062	7100	JPR	BLANKS		PS22022
7063	5766				
7064	7101	JFI	1		PS22023
7065	6743		ENTRFL -1		PS22024
7066	0000	DIGEN1		DECIMAL CONVERSION ROUTINES	PS22025
7067	2200	LDC	TEN		PS22026
7070	7126				
7071	4060	STD	TEMP17		PS22027
7072	4630	SRF	DIGCNT		PS22028
7073	2305	LDR	DIGEN1		PS22029
7074	4203	STF	DIGENT		PS22030
7075	6106	NZF	DIGLP		PS22031
7076	7101	JFI	1		PS22032
7077	0000	DIGENT			PS22033
7100	2200	LDC	HND		PS22034
7101	7125				
7102	4060	STD	TEMP17		PS22035
7103	0400	DIGLP	LDN	0	PS22036
7104	4101	STI	STOBUF		PS22037
7105	2055	DIGTST	LDD	TEMP14	PS22038
7106	3560	SBI	TEMP17		PS22039
7107	6304	NJF	TSTZER		PS22040
7110	4055	STD	TEMP14		PS22041
7111	5501	AOI	STOBUF		PS22042
7112	6505	NZR	DIGTST		PS22043
7113	2101	TSTZER	LDI	STOBUF	PS22044
7114	6103	NZF	3		PS22045
7115	0412	LDN	12		PS22046
7116	4101	STI	STOBUF		PS22047
7117	5401	ADD	STOBUF		PS22048
7120	5460	ADD	TEMP17		PS22049
7121	4600	SRF	0		PS22050
7122	4444	DIGCNT	4444		PS22051
7123	6620	PJB	DIGLP		PS22052
7124	6726	NJB	DIGENT -1		PS22053

7125	0144	HND		100D		PS22054:
7126	0012	TEN		10D		PS22055:
7127	0001			1		PS22056:
130	7101		JFI	1		PS22057:
7131	0000	VRLOAD				PS22058:
7132	2200		LDF	0		PS22059:
7133	4050		STD	TEMP7		PS22060:
7134	4226		STF	VRLPLD +1		PS22061:
7135	2007		LDD	BNKTAB		PS22062:
7136	4201		STF	1		PS22063:
7137	0020		SICO			PS22064:
7140	2110		LDI	TABLC1	THESE INSTRUCTIONS	PS22065:
7141	4047		STD	TEMP6	CHECK TO SEE IF THE	PS22066:
7142	0217		LPN	17	LENGTH IN TEMP6 IS THE	PS22067:
7143	0603		ADN	3	TRUE LENGTH, AND IF NOT	PS22068:
7144	4050		STD	TEMP7	COMPUTE IT	PS22069:
7145	3010		ADD	TABLC1		PS22070:
7146	1410		LSD	TABLC1		PS22071:
7147	1450		LSD	TEMP7		PS22072:
7150	0201		LPN	1		PS22073:
7151	6007		ZJF	VRLPLD -1		PS22074:
7152	0537		LCN	37		PS22075:
7153	1047		LPD	TEMP6		PS22076:
7154	4047		STD	TEMP6	IF NOT TRUE LENGTH	PS22077:
7155	2410		LCD	TABLC1	USE -TABLC1 AS LENGTH	PS22078:
7156	0703		SBN	3		PS22079:
7157	5047		RAD	TEMP6		PS22080:
7160	5410		AOD	TABLC1		PS22081:
7161	2110	VRLPLD	LDI	TABLC1	MOVE FIRST 6 WORDS OF IDLIST	PS22082:
7162	4050		STD	TEMP7	ENTRY TO LOW CORE BEGINNING	PS22083:
7163	5410		AOD	TABLC1	AT TEMP6	PS22084:
7164	5702		AOR	VRLPLD +1		PS22085:
7165	3600		SBF	0		PS22086:
7166	4055		STD	TEMP14		PS22087:
7167	6506		NZB	VRLPLD		PS22088:
7170	0020		SICO			PS22089:
7171	6441		ZJB	VRLOAD -1	END VRLOAD	PS22090:
			REM		CONDENSE IDLIST	PS22091:
7172	2200	CONDNS	LDC	BUFFER		PS22092:
7173	0100					PS22093:
7174	4001		STD	STOBUF	INITIALIZE OUTPUT BUFFER	PS22094:
7175	2013		LDD	BNKINT	SET -0 TO LAST LOCATION	PS22095:
7176	6107		NZF	SCONLS	AVAILABLE FOR CONDENSED	PS22096:
7177	2014		LDD	INTLTH	IDLIST INFORMATION	PS22097:
7200	6203		PJF	3	EITHER END OF INTERPRETER	PS22098:
7201	3605		SBF	SCONLS +1	OR LOCATION SCON	PS22099:
7202	6203		PJF	SCONLS		PS22100:
7203	2014		LDD	INTLTH		PS22101:
7204	6103		NZF	3		PS22102:
7205	2200	SCONLS	LDC	SCON		PS22103:
7206	7215					PS22104:
7207	4300		STS			PS22105:
7210	2200		LDC	LAST		PS22106:
7211	1173					PS22107:
7212	4017		STD	NEWID	NEWID HAS LOCATION OF NEXT	PS22108:
7213	7100		JPR	IDINTL	ENTRY IN CONDENSED IDLIST	PS22109:
7214	7513					PS22110:
7215	7100	SCON	JPR	IDTYPE		PS22111:
7216	7524					PS22112:
7217	6331		NJF	EOF	IF IDLIST TYPE LESS THAN	PS22113:

00236

7220	0711	SBN	11	11, ENTRY IS A VARIABLE	PS22109
7221	4704	NJR	SCON		PS22110
7222	3200	ADF	0		PS22111
7223	7101	JFI	1		PS22112
7224	4210	STF	SWCHBD		PS22113
7225	2007	LDD	BNKTAB		PS22114
7226	0207	LPN	7		PS22115
7227	4060	STD	TEMP17		PS22116
7230	2010	LDD	TABLC1		PS22117
7231	4056	STD	TEMP15		PS22118
7232	7100	JPR	VRLOAD	GET IDLIST ENTRY	PS22119
7233	7131				
7234	7101	SWCHBD	JFI	1	PS22120
7235	7336		OUTCON	FLOATING CONSTANT	PS22121
7236	7336		OUTCON	INTEGER CONSTANT	PS22122
7237	7357		LABEL	STATEMENT NUMBER	PS22123
7240	7353		SUBR	SUBPROGRAM	PS22124
7241	7215		SCON	LIBRARY FUNCTION	PS22125
7242	7415		PBBOX	PSEUDO=BOX	PS22126
7243	7355		FORMT	FORMAT STATEMENT	PS22127
7244	7302		GOTON	ASSIGN TRANSFER	PS22128
7245	7427		UP	UP=SUBROUTINE	PS22129
7246	7447		NUP	UNUSED UPSUBROUTINE	PS22130
7247	7353		SUBR	23*TRM INCR	PS22131
7250	7100	EOF	JPR	OUT+EF	PS22132
7251	7571			WRITE LAST OF CONSTANTS	
7252	2200		LDC	BUFFER	PS22133
7253	0100				
7254	4001		STD	STOBUF	PS22134
7255	2200		LDC	INTERL	PS22135
7256	7640				
7257	4060		STD	TEMP17	PS22136
7260	2200		LDC	64D	PS22137
7261	0100			OUTPUT TRANSFER VECTOR	
7262	7100		JPR	OUTBUF	PS22138
7263	7606				
7264	7100		JPR	OUT+EF	PS22139
7265	7571				
7266	2013		LDD	BNKINT	PS22140
7267	4015		STD	NPGOBK	PS22141
7270	2014		LDD	INTLTH	PS22142
7271	4016		STD	NPGOAD	PS22143
7272	5414		AOD	INTLTH	PS22144
7273	6102		NZF	2	PS22145
7274	5413		AOD	BNKINT	PS22146
7275	0403		LDN	3	PS22147
7276	7100		JPR	BINARY	PS22148
7277	0220				
7300	7101		JFI	1	PS22149
7301	0471			LODOBJ	PS22150
7302	2050	GOTON	LDD	TEMP7	TEMP7=0,0,B(ID(I)),B(T(I))
7303	0270		LPN	70	TEMP10=BA(T(I))
7304	0111		LS6		TEMP11=BA(ID(I))
7305	0110		LS3		PS22153
7306	0620		ADN	20	PS22154
7307	4202		STF	2	PS22155
7310	5452		AOD	TEMP11	PS22156
7311	0027		SIC7		PS22157
7312	2152		LDI	TEMP11	PS22158
7313	0207		LPN	7	X,X,X,B(RO(I))
					PS22159
					PS22160

7314	4055		STD	TEMP14		PS22161:
7315	5452		AOD	TEMP11		PS22162:
7316	2152		LDI	TEMP11		PS22163:
7317	4057		STD	TEMP16		PS22164:
7320	0020		SIGD			PS22164:
7321	7100		JPR	INCRAD	LABELS DO NOT INCREMENT	PS22165:
7322	7474					:
7323	0476		LDN	76		PS22166:
7324	0111		LS6			PS22167:
7325	3055		ADD	TEMP14		PS22168:
7326	4052		STD	TEMP11		PS22169:
7327	2057		LDD	TEMP16		PS22170:
7330	4053		STD	TEMP12		PS22171:
7331	2050		LDD	TEMP7		PS22172:
7332	0207		LPN	7		PS22173:
7333	3200		ADC	1200		PS22174:
7334	1200					:
7335	4050		STD	TEMP7		PS22175:
7336	0450	OUTCON	LDN	TEMP7		PS22176:
7337	4060		STD	TEMP17		PS22177:
7340	2050		LDD	TEMP7		PS22178:
7341	0110		LS3			PS22179:
7342	0103		LS2			PS22180:
7343	6203		PJF	3	POSITIVE=INTEGER	PS22181:
7344	0405		LDN	5		PS22182:
7345	6102		NZF	2		PS22183:
7346	0404		LDN	4		PS22184:
7347	7100		JPR	OUTBUF		PS22185:
7350	7606					:
7351	7101	SCNRET	JFI	1		PS22186:
7352	7215		SCON			PS22187:
7353	0400	SUBR	LDN	0		PS22188:
7354	6002		ZJF	2		PS22189:
7355	0501	FORMT	LCN	1		PS22190:
7356	4052		STD	TEMP11		PS22191:
7357	2050	LABEL	LDD	TEMP7		PS22192:
7360	0207		LPN	7		PS22193:
7361	4055		STD	TEMP14		PS22194:
7362	2051		LDD	TEMP10		PS22195:
7363	4057		STD	TEMP16		PS22196:
7364	2052		LDD	TEMP11	TEST FOR ALPHABETIC	PS22197:
7365	0105	ATEADD	ATE	ATEADD		PS22198:
7366	7365					:
7367	0111		LS6		LABEL	PS22199:
7370	0277		LPN	77		PS22200:
7371	0713		SBN	13		PS22201:
7372	6203		PJF	3		PS22202:
7373	7100	CORREC	JPR	INCRAD	CORRECT RELATIVE LOCATION	PS22203:
7374	7474					:
7375	0107		ETA			PS22204:
7376	1600		LSC	1220	TEST FOR STATEMENT NAME	PS22205:
7377	1220					:
7400	6105		NZF	5	ZERO-BLANK	PS22206:
7401	2055		LDD	TEMP14	INITIALIZE BANK AND LOCC	PS22207:
7402	4023		STD	BANK		PS22208:
7403	2057		LDD	TEMP16		PS22209:
7404	4024		STD	LOCC		PS22210:
7405	2055		LDD	TEMP14		PS22211:
7406	0110		LS3			PS22212:
7407	4055		STD	TEMP14		PS22213:

7410	2060		LDD	TEMP17		PS22214
7411	5055		RAD	TEMP14		PS22215
7412	7100		JPR	NEWENT		PS22216
7413	7456					
7414	6443		ZJB	SONRET		PS22217
7415	2050	FBBOX	LDD	TEMP7		PS22218
7416	0270		LPN	70		PS22219
7417	4055		STD	TEMP14		PS22220
7420	2060		LDD	TEMP17		PS22221
7421	5055		RAD	TEMP14		PS22222
7422	2051		LDD	TEMP10		PS22223
7423	4057		STD	TEMP16		PS22224
7424	7100		JPR	NEWENT		PS22225
7425	7456					
7426	6455		ZJB	SONRET		PS22226
7427	2050	UP	LDD	TEMP7	UP=SUBROUTINE	PS22227
7430	0110		LS3			PS22228
7431	0111		LS6			PS22229
7432	0207		LPN	7		PS22230
7433	4055		STD	TEMP14		PS22231
7434	2050		LDD	TEMP7		PS22232
7435	0110		LS3			PS22233
7436	0270		LPN	70		PS22234
7437	5055		RAD	TEMP14		PS22235
7440	2051		LDD	TEMP10		PS22236
7441	4056		STD	TEMP15		PS22237
7442	2052		LDD	TEMP11		PS22238
7443	4057		STD	TEMP16		PS22239
7444	7100		JPR	NEWENT		PS22240
7445	7456					
7446	6420		ZJB	UP	-1	PS22241
7447	0500	NUP	LCN	0	UNUSED UP-SUBROUTINE INSERT #0 AS ADDRESS	PS22242
7450	4052		STD	TEMP11		PS22243
7451	0307		LSN	7		PS22244
7452	1050		LPD	TEMP7		PS22245
7453	4050		STD	TEMP7		PS22246
7454	6524		NZB	UP	+1	PS22247
7455	7101		JFI	1		PS22248
7456	0000	NEWENT			MAKE CONDENSED IDLIST ENTRY	PS22249
7457	0455		LDN	TEMP14		PS22250
7460	4047		STD	TEMP6		PS22251
7461	2147		LDI	TEMP6		PS22252
7462	4117		STI	NEWID		PS22253
7463	5417		AOD	NEWID		PS22254
7464	3700		SBS			PS22255
7465	6102		NZF	2		PS22256
7466	0000		ERR		CONDENSED IDLIST FULL	PS22257
7467	5447		AOD	TEMP6		PS22258
7470	0760		SBN	TEMP17		PS22259
7471	6510		NZB	NEWENT	+3	PS22260
7472	6415		ZJB	NEWENT	-1	PS22261
7473	7101		JFI	1		PS22262
7474	0000	INCRAD				PS22263
7475	2013		LDD	BKINT		PS22264
7476	0207		LPN	7		PS22265
7477	5055		RAD	TEMP14		PS22266
7500	2057		LDD	TEMP16		PS22267
7501	4052		STD	TEMP11		PS22268
7502	2014		LDD	INTLTH		PS22269
7503	5057		RAD	TEMP16		PS22270

504	1452		LSD	TEMP11		PS22271:
7505	1414		LSD	INTLTH		PS22272:
506	0201		LPN	1		PS22273:
07	5055		RAD	TEMP14		PS22274:
7510	6515		NZB	INCRAD -1		PS22275:
511	6416		ZJB	INCRAD -1		PS22276:
			REM		SUBROUTINE TO INITIALIZE	PS22277:
			REM		SUBROUTINE IDTYPE	PS22278:
512	7101		JFI	1		PS22279:
513	0000	IDINTL				PS22280:
7514	2002		LDD	IDBANK	INITIALIZE IDTYPE TO	PS22281:
515	0620		ADN	20	FIRST IDLIST ENTRY	PS22282:
516	4006		STD	NEXTRK		PS22283:
7517	2003		LDD	IDLAST		PS22284:
520	4012		STD	TABLC2		PS22285:
521	6507		NZB	IDINTL -1		PS22286:
7522	6410		ZJB	IDINTL -1		PS22287:
			REM		SUBROUTINE IDTYPE	PS22288:
			REM		CNR 3/26/62	PS22289:
7523	7101		JFI	1		PS22290:
524	0000	IDTYPE			RETURN JUMP SUBROUTINE	PS22291:
525	2006		LDD	NEXTRK		PS22292:
7526	6703		NJB	IDTYPE -1	-INDICATES IDLIST FINISHED	PS22293:
527	4007		STD	BNKTAB		PS22294:
530	4201		STF	1	SET INDIRECT BANK TO	PS22295:
7531	0020		SICO		BANK OF TABLC2	PS22296:
532	2112		LDI	TABLC2		PS22297:
533	0217		LPN	17		PS22298:
534	0603		ADN	3		PS22299:
535	4042		STD	TEMP1		PS22300:
536	5412		AOD	TABLC2		PS22301:
7537	2112		LDI	TABLC2		PS22302:
540	0111		LS6			PS22303:
541	0277		LPN	77		PS22304:
7542	4043		STD	TEMP2	TYPE OF ENTRY	PS22305:
543	0020		SICO			PS22306:
544	0501		LCN	1		PS22307:
7545	5012		RAD	TABLC2		PS22308:
546	4010		STD	TABLC1		PS22309:
7547	6306		NJF	CKOVER		PS22310:
7550	2042		LDD	TEMP1		PS22311:
551	5012		RAD	TABLC2	INCREASE TABLC2	PS22312:
7552	2043	TYPE	LDD	TEMP2		PS22313:
7553	6530		NZB	IDTYPE -1	RETURN WITH TYPE IN A-REG	PS22314:
554	6431		ZJB	IDTYPE -1		PS22315:
7555	2042	CKOVER	LDD	TEMP1		PS22316:
7556	5012		RAD	TABLC2		PS22317:
557	6705		NJB	TYPE		PS22318:
7560	5406		AOD	NEXTRK		PS22319:
7561	0207		LPN	7		PS22320:
562	6003		ZJF	3		PS22321:
7563	3411		SBD	BANKS	NUMBER OF BANKS	PS22322:
7564	6712		NJB	TYPE		PS22323:
565	0500		LCN	0	IF IDLIST FINISHED SET	PS22324:
566	4006		STD	NEXTRK	NEXTRK NEGATIVE	PS22325:
7567	6715		NJB	TYPE		PS22326:
			REM		SUBROUTINE TO WRITE	PS22327:
			REM		LAST OF BUFFER AND EOF	PS22328:
7570	7101		JFI	1		PS22329:
571	0000	OUT+EF				PS22330:

00240



7572	2001	LDD	STOBUF	IF THIS IS A ZERO-LENGTH	PS22331
7573	3637	SBF	BUFFAD	RECORD DO NOT WRITE IT	PS22332
7574	6004	ZJF	4		PS22333
7575	0400	LDN	0		PS22334
7576	7100	BLOCK2 JPR	BINARY		PS22335
7577	0220				
7600	0402	LDN	2		PS22336
7601	7100	JPR	BINARY	WRITE AN END-OF-FILE	PS22337
7602	0220				
7603	6513	NZR	OUT+EF -1		PS22338
7604	6414	ZJR	OUT+EF -1		PS22339
		REM		SUBROUTINE OUTBUF	PS22340
7605	7101	JFI	1		PS22341
7606	0000	OUTBUF			PS22342
7607	1600	LSC	7777		PS22343
7610	7777				
7611	4057	STD	TEMP16	TEMP16 HAS -LENGTH	PS22344
7612	2001	LOOP10 LDD	STOBUF		PS22345
7613	3617	SBF	BUFFAD		PS22346
7614	6103	NZF	3		PS22347
7615	4101	STI	STOBUF	FIRST WORD OF RECORD	PS22348
7616	5401	AOD	STOBUF		PS22349
7617	3600	SBC	800		PS22350
7620	0120				
7621	6106	NZF	LOOP20		PS22351
7622	7100	BLOCK1 JPR	BINARY		PS22352
7623	0220				
7624	2200	LDF	BUFFAD		PS22353
7625	4001	STD	STOBUF		PS22354
7626	6513	NZR	LOOP10 +1		PS22355
7627	2160	LOOP20 LDI	TEMP17		PS22356
7630	4101	STI	STOBUF		PS22357
7631	5500	AOI	0	INCREASE LENGTH OF RECORD	PS22358
7632	0100	BUFFAD	BUFFER		PS22359
7633	5460	AOD	TEMP17	INCREASE	PS22360
7634	5401	AOD	STOBUF	LOCATORS	PS22361
7635	5457	AOD	TEMP16	INCREASE COUNTER,	PS22362
7636	6431	ZJR	OUTBUF -1		PS22363
7637	6525	NZR	LOOP10	END OUTBUF	PS22364
7640	0000	INTERL BSS	4		PS22365
7644	0000	VECTOR BSS	600		PS22366
		SUPB			
	0000	END			PS22367

			REM		TABLE OF DIAGNOSTIC MESSAGES	
	1500		ORG	1500		DGNS0000
500	0000			0		DGNS0001
	1500		ORG	1500		DGNS0028
1500	4461	D1	BCD	32D	MACHINE ERROR OF UNKNOWN TYPE	DGNS0031
501	6370					DGNS0048
502	7145					
1503	6520					
504	6551					
505	5146					
1506	5120					
507	4666					
510	2024					
1511	4542					
512	4546					
513	2645					
1514	2023					
515	3047					
516	6520					
1517	2020					
520	2346	D2	BCD	32D	TOO MANY CHARACTERS IN NAME	DGNS005
521	4620					
22	4461					
523	4530					
1524	2063					
1525	7061					
526	5161					
1527	6323					
1530	6551					
531	2220					
1532	7145					
1533	2045					
534	6144					
1535	6520					
1536	2020					
537	2020					
1540	2223	D3	BCD	32D	STATEMENT TOO LONG TO PROCESS	DGNS0068
1541	6123					
542	6544					
1543	6545					
1544	2320					
545	2346					
1546	4620					
1547	4346					
550	4567					
1551	2023					
1552	4620					
553	4751					
554	4663					
1555	6522					
556	2220					
1557	2020					
1560	7143	D4	BCD	32D	ILLEGAL BCD CHARACTER READ	DGNS007
561	4365					

1562 6761  
1563 4320  
1564 6263  
1565 6420  
1566 6370  
1567 6151  
1570 6163  
1571 2365  
1572 5120  
1573 5165  
1574 6164  
1575 2020  
1576 2020  
1577 2020  
1600 4751  
1601 4662  
1602 6162  
1603 4365  
1604 2044  
1605 6163  
1606 7071  
1607 4565  
1610 2065  
1611 5151  
1612 4651  
1613 2020  
1614 2020  
1615 2020  
1616 2020  
1617 2020  
1620 2223  
1621 6123  
1622 6544  
1623 6545  
1624 2320  
1625 2346  
1626 4620  
1627 4346  
1630 4567  
1631 2023  
1632 4620  
1633 4751  
1634 4663  
1635 6522  
1636 2220  
1637 2020  
1640 6551  
1641 5146  
1642 5120  
1643 7145  
1644 2022  
1645 2462  
1646 2263  
1647 5171  
1650 4723  
1651 2065  
1652 2747  
1653 5165  
1654 2222  
1655 7146

D5

BCD

32D

PROBABLE MACHINE ERROR

DGNS0088

D6

BCD

32D

STATEMENT TOO LONG TO PROCESS

DGNS009

D7

BCD

32D

ERROR IN SUBSCRIPT EXPRESSION

DGNS010

00243

656	4520					
1657	2020					
660	4751	D10	BCD	32D	PROBABLY IMPLICIT MULTIPLICATION	DGNS011
61	4662					
1662	6162					
663	4330					
664	2071					
1665	4447					
666	4371					
667	6371					
1670	2320					
671	4424					
672	4323					
1673	7147					
674	4371					
675	6361					
1676	2371					
677	4645					
700	6461	D11	BCD	32D	DATA STORAGE EXCEEDS MEMORY	DGNS012
1701	2361					
702	2022					
703	2346					
1704	5161					
705	6765					
706	2065					
1707	2763					
710	6565					
711	6422					
712	2044					
713	6544					
714	4651					
1715	3020					
716	2020					
717	2020					
1720	7144	D12	BCD	32D	IMPROPER STATEMENT LABEL	DGNS013
721	4751					
722	4647					
1723	6551					
724	2022					
725	2361					
1726	2365					
727	4465					
730	4523					
1731	2043					
732	6162					
733	6543					
1734	2020					
735	2020					
1736	2020					
1737	2020					
740	4471	D13	BCD	32D	MISSING FORMAT PARENTHESIS	DGNS014
1741	2222					
1742	7145					
743	6720					
744	6646					
1745	5144					
746	6123					
1747	2047					
1750	6151					
751	6545					

00244  
00244

1752	2370						
1753	6522						
1754	7122						
1755	2020						
1756	2020						
1757	2020						
1760	4751	D14	BCD	32D	PREVIOUS ASSIGNMENT OF LABEL	DGNS015	
1761	6525						
1762	7146						
1763	2422						
1764	2061						
1765	2222						
1766	7167						
1767	4544						
1770	6545						
1771	2320						
1772	4666						
1773	2043						
1774	6162						
1775	6543						
1776	2020						
1777	2020						
2000	4546	D15	BCD	32D	NO FORMAT STATEMENT LABEL	DGNS016	
2001	2066						
2002	4651						
2003	4461						
2004	2320						
2005	2223						
2006	6123						
2007	6544						
2010	6545						
2011	2320						
2012	4361						
2013	6265						
2014	4320						
2015	2020						
2016	2020						
2017	2020						
2020	7146	D16	BCD	32D	IO=LIST OR DO-LOOP CONTROL ERROR	DGNS017	
2021	4043						
2022	7122						
2023	2320						
2024	4651						
2025	2064						
2026	4640						
2027	4346						
2030	4647						
2031	2063						
2032	4645						
2033	2351						
2034	4643						
2035	2065						
2036	5151						
2037	4651						
2040	6551	D17	BCD	32D	ERROR IN LABEL IN DO STATEMENT	DGNS018	
2041	5146						
2042	5120						
2043	7145						
2044	2043						
2045	6162						

2046	6543					
2047	2071					
2050	4520					
051	6446					
2052	2022					
2053	2361					
2054	2365					
2055	4465					
2056	4523					
2057	2020					
2060	7144	D20	BCD	32D	IMPROPER DO-NESTING	DGNS019
2061	4751					
2062	4647					
2063	6551					
2064	2064					
2065	4640					
2066	4565					
2067	2223					
2070	7145					
2071	6720					
2072	2020					
2073	2020					
2074	2020					
2075	2020					
2076	2020					
2077	2020					
2100	2223	D21	BCD	32D	STATEMENT TYPE NOT IMPLEMENTED	DGNS020
2101	6123					
2102	6544					
2103	6545					
2104	2320					
2105	2330					
2106	4765					
2107	2045					
2110	4623					
2111	2071					
2112	4447					
2113	4365					
2114	4465					
2115	4523					
2116	6564					
2117	2020					
2120	6551	D22	BCD	32D	ERROR IN FORM OF PAUSE OR STOP	DGNS021
2121	5146					
2122	5120					
2123	7145					
2124	2066					
2125	4651					
2126	4420					
2127	4666					
2130	2047					
2131	6124					
2132	2265					
2133	2046					
134	5120					
2135	2223					
2136	4647					
2137	2020					
2140	2223	D23	BCD	32D	STATEMENT TYPE NOT IMPLEMENTED	DGNS022
2141	6123					

2142 6544  
2143 6545  
2144 2320  
2145 2330  
2146 4765  
2147 2045  
2150 4623  
2151 2071  
2152 4447  
2153 4365  
2154 4465  
2155 4523  
2156 6564  
2157 2020  
2160 6346  
2161 4525  
2162 6551  
2163 2365  
2164 6420  
2165 4524  
2166 4462  
2167 6551  
2170 2071  
2171 2220  
2172 2346  
2173 4620  
2174 4361  
2175 5167  
2176 6520  
2177 2020  
2200 7143  
2201 4365  
2202 6761  
2203 4320  
2204 6370  
2205 6151  
2206 6163  
2207 2365  
2210 5120  
2211 7145  
2212 2045  
2213 2444  
2214 6265  
2215 5120  
2216 2020  
2217 2020  
2220 7144  
2221 4751  
2222 4647  
2223 6551  
2224 2046  
2225 6323  
2226 6143  
2227 2045  
2230 2444  
2231 6265  
2232 5120  
2233 2020  
2234 2020  
2235 2020

D24 BCD 32D

CONVERTED NUMBER IS TOO LARGE

DGNS023

D25 BCD 32D

ILLEGAL CHARACTER IN NUMBER

DGNS02

BCD 32D

IMROPER OCTAL NUMBER

DGNS025

2236	2020					
2237	2020					
2240	6346	D26	BCD	32D	COMPILER TRANSLATION ERROR	DGNS026
2241	4447					
2242	7143					
2243	6551					
2244	2023					
2245	5161					
2246	4522					
2247	4361					
2250	2371					
2251	4645					
2252	2065					
2253	5151					
2254	4651					
2255	2020					
2256	2020					
2257	2020					
2260	7143	D27	BCD	32D	ILLEGAL EXPONENTIATION	DGNS027
2261	4365					
2262	6761					
2263	4320					
2264	6527					
2265	4746					
2266	4565					
2267	4523					
2270	7161					
2271	2371					
2272	4645					
2273	2020					
2274	2020					
2275	2020					
2276	2020					
2277	2020					
2300	4365	D30	BCD	32D	LEADING OPERATOR(NOT + OR =)	DGNS028
2301	6164					
2302	7145					
2303	6720					
2304	4647					
2305	6551					
2306	6123					
2307	4651					
2310	3445					
2311	4623					
2312	2060					
2313	2046					
2314	5120					
2315	4074					
2316	2020					
2317	2020					
2320	4546		BCD	32D	NO OPERAND BETWEEN OPERATORS	DGNS029
2321	2046					
2322	4765					
2323	5161					
2324	4564					
2325	2062					
2326	6523					
2327	2665					
2330	6545					
2331	2046					

06248



2332	4765				
2333	5161				
2334	2346				
2335	5122				
2336	2020				
2337	2020				
2340	4546	BCD	32D	NO OPERAND AFTER OPERATOR	DGNS030
2341	2046				
2342	4765				
2343	5161				
2344	4564				
2345	2061				
2346	6623				
2347	6551				
2350	2046				
2351	4765				
2352	5161				
2353	2346				
2354	5120				
2355	2020				
2356	2020				
2357	2020				
2360	4546	D32	BCD 32D	NON-MATCHING PARENTHESES	DGNS031
2361	4540				
2362	4461				
2363	2363				
2364	7071				
2365	4567				
2366	2047				
2367	6151				
2370	6545				
2371	2370				
2372	6522				
2373	6522				
2374	2020				
2375	2020				
2376	2020				
2377	2020				
2400	4546	D33	BCD 32D	NO OPERATOR BETWEEN OPERANDS	DGNS032
2401	2046				
2402	4765				
2403	5161				
2404	2346				
2405	5120				
2406	6265				
2407	2326				
2410	6565				
2411	4520				
2412	4647				
2413	6551				
2414	6145				
2415	6422				
2416	2020				
2417	2020				
2420	2271	D34	BCD 32D	SIMPLIFY ALGEBRAIC EXPRESSION	DGNS033
2421	4447				
2422	4371				
2423	6630				
2424	2061				
2425	4367				

<426 6562  
2427 5161  
430 7163  
431 2065  
2432 2747  
433 5165  
2434 2222  
2435 7146  
436 4520  
2437 2020  
2440 2223  
441 6123  
2442 6544  
2443 6545  
444 2320  
2445 2346  
2446 4620  
447 4346  
2450 4567  
2451 2023  
452 4620  
2453 4751  
2454 4663  
455 6522  
2456 2220  
2457 2020  
460 7144  
2461 4751  
462 4647  
463 6551  
2464 2063  
2465 7061  
466 5161  
2467 6323  
2470 6551  
471 2071  
2472 4520  
2473 2223  
474 6123  
2475 6544  
2476 6545  
477 2320  
2500 4446  
2501 5165  
502 2022  
2503 2462  
2504 2263  
505 5171  
2506 4723  
2507 2220  
510 2370  
2511 6145  
2512 2064  
513 7144  
514 6545  
2515 2271  
516 4645  
2517 6564  
2520 7144  
521 4751

D35 BCD 32D

STATEMENT TOO LONG TO PROCESS

DGNS034

BCD 32D

IMPROPER CHARACTER IN STATEMENT

DGNS035

BCD 32D

MORE SUBSCRIPTS THAN DIMENSIONED

DGNS036

NATNAM BCD 40

IMPROPER ARRAY NAME

DGNS037

00250

2522	4647				
2523	6551				
2524	2061				
2525	5151				
2526	6130				
2527	2045				
2530	6144				
2531	6520				
2532	2020				
2533	2020				
2534	2020				
2535	2020				
2536	2020				
2537	2020				
2540	4471	DIM() BCD 40	MISSING DIMENSION PARENTHESIS	DGNS038	
2541	2222				
2542	7145				
2543	6720				
2544	6471				
2545	4465				
2546	4522				
2547	7146				
2550	4520				
2551	4761				
2552	5165				
2553	4523				
2554	7065				
2555	2271				
2556	2220				
2557	2020				
2560	4424	SYMDIM BCD 40	MUST HAVE NUMERIC DIMENSION	DGNS03	
2561	2223				
2562	2070				
2563	6125				
2564	6520				
2565	4524				
2566	4465				
2567	5171				
2570	6320				
2571	6471				
2572	4465				
2573	4522				
2574	7146				
2575	4520				
2576	2020				
2577	2020				
2600	4446	DIMEN4 BCD 40	MORE THAN THREE DIMENSION	DGNS040	
2601	5165				
2602	2023				
2603	7061				
2604	4520				
2605	2370				
2606	5165				
2607	6520				
2610	6471				
2611	4465				
2612	4522				
2613	7146				
2614	4520				
2615	2020				

00251

2610	2020				
2617	2020				
2620	6551	COMMON BCD	40	ERROR IN COMMON STATEMENT	DGNS041
2621	5146				
2622	5120				
2623	7145				
2624	2063				
2625	4644				
2626	4446				
2627	4520				
2630	2223				
2631	6123				
2632	6544				
2633	6545				
2634	2320				
2635	2020				
2636	2020				
2637	2020				
2640	7145	SUBPRG BCD	40	INCORRECT SUBROUTINE FORMAT	DGNS042
2641	6346				
2642	5151				
2643	6563				
2644	2320				
2645	2224				
2646	6251				
2647	4624				
2650	2371				
2651	4565				
2652	2066				
2653	4651				
2654	4461				
2655	2320				
2656	2020				
2657	2020				
2660	7144	LIST() BCD	40	IMPROPER CHARACTER IN I/O LIST	DGNS043
2661	4751				
2662	4647				
2663	6551				
2664	2063				
2665	7061				
2666	5161				
2667	6323				
2670	6551				
2671	2071				
2672	4520				
2673	7121				
2674	4620				
2675	4371				
2676	2223				
2677	2020				
2700	7144	TAPLBL BCD	40	IMPROPER MAGNETIC TAPE LABEL	DGNS044
2701	4751				
2702	4647				
2703	6551				
2704	2044				
2705	6167				
2706	4565				
2707	2371				
2710	6320				
2711	2361				

2712	4765				
2713	2043				
2714	6162				
2715	6543				
2716	2020				
2717	2020				
2720	4471	IFERR BCD 32D	MISSING ) IN IF STATEMENT	DGNS045	
2721	2222				
2722	7145				
2723	6720				
2724	7420				
2725	7145				
2726	2071				
2727	6620				
2730	2223				
2731	6123				
2732	6544				
2733	6545				
2734	2320				
2735	2020				
2736	2020				
2737	2020				
2740	4471	SNSERR BCD 32D	MISSING SENSE SWITCH NUMBER	DGNS046	
2741	2222				
2742	7145				
2743	6720				
2744	2265				
2745	4522				
2746	6520				
2747	2226				
2750	7123				
2751	6370				
2752	2045				
2753	2444				
2754	6265				
2755	5120				
2756	2020				
2757	2020				
2760	4471	NEED, BCD 32D	MISSING , IN IF STATEMENT	DGNS047	
2761	2222				
2762	7145				
2763	6720				
2764	3320				
2765	7145				
2766	2071				
2767	6620				
2770	2223				
2771	6123				
2772	6544				
2773	6545				
2774	2320				
2775	2020				
2776	2020				
2777	2020				
3000	2270	COMPGO BCD 32D	SHOULD BE COMMA OR RIGHT PARENS	DGNS048	
3001	4624				
3002	4364				
3003	2062				
3004	6520				
3005	6346				

3006 4444  
3007 6120  
3010 4651  
3011 2051  
3012 7167  
3013 7023  
3014 2047  
3015 6151  
3016 6545  
3017 2220  
3020 4471  
3021 2222  
3022 7145  
3023 6720  
3024 7420  
3025 7145  
3026 2063  
3027 6143  
3030 4320  
3031 2223  
3032 6123  
3033 6544  
3034 6545  
3035 2320  
3036 2020  
3037 2020  
3040 4546  
3041 2065  
3042 4564  
3043 2062  
3044 6566  
3045 4651  
3046 6520  
3047 2224  
3050 6251  
3051 4624  
3052 2371  
3053 4565  
3054 2020  
3055 2020  
3056 2020  
3057 2020  
3060 6143  
3061 6765  
3062 6251  
3063 6171  
3064 6320  
3065 6527  
3066 4751  
3067 6522  
3070 2271  
3071 4645  
3072 2043  
3073 6566  
3074 2320  
3075 4666  
3076 2013  
3077 2020  
3100 6424  
3101 4743

CALFRM BCD 32D

MISSING ) IN CALL STATEMENT

DGNS0498

NOEND BCD 32D

NO END BEFORE SUBROUTINE

DGNS0501

EXP= BCD 32D

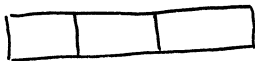
ALGEBRAIC EXPRESSION LEFT OF =

DGNS0511

DUPFRM BCD 32D

DUBLICATE FORMAT STATEMENT

DGNS0528



OUTPUT DEVICE

0 = 166

1 = 1612

2 = FLEX

3 = 523

4 = 163 (#4)

INPUT DEVICE

0 = 167

1 = 088

2 = FLEY

3,4 = 163 (#3)

5 = 405

6,7 = ERRORS, NO  
AND INTERMED  
PARAM

JUMP TO WIND

PARAM 0 1

LPC 0 1

SRV 11

STM 2777

3102 7153  
3103 6123  
3104 6520  
3105 6646  
3106 5144  
3107 6123  
3110 2022  
3111 2361  
3112 2365  
3113 4465  
3114 4523  
3115 2020  
3116 2020  
3117 2020  
3120 4471  
3121 2247  
3122 4361  
3123 6365  
3124 6420  
3125 6346  
3126 4444  
3127 4645  
3130 2046  
3131 5120  
3132 6550  
3133 2471  
3134 2561  
3135 4365  
3136 4563  
3137 6520  
3140 6643  
3141 4661  
3142 2371  
3143 4567  
3144 2045  
3145 6144  
3146 6520  
3147 7145  
3150 2066  
3151 4651  
3152 4461  
3153 2320  
3154 4361  
3155 6265  
3156 4320  
3157 2020  
3160 4651  
3161 7167  
3162 7145  
3163 6143  
3164 2063  
3165 4644  
3166 4446  
3167 4520  
3170 6151  
3171 6561  
3172 2065  
3173 2763  
3174 6565  
3175 6465

COMERR BCD 32D

MISPLACED COMMON OR EQUIVALENCE

ALPLBL BCD 32D

FLOATING NAME IN FORMAT LABEL

DGNS05

COMTBL BCD 32D

ORIGINAL COMMON AREA EXCEEDED

00255



176 6420  
3177 2020  
3200 2561  
201 5171  
202 6162  
3203 4365  
204 2045  
3205 6144  
3206 6520  
207 6143  
3210 5165  
3211 6164  
212 3020  
3213 6122  
3214 2271  
215 6745  
3216 6564  
3217 2020  
220 7144  
3221 4751  
3222 4647  
223 6551  
3224 2022  
3225 2361  
226 2365  
3227 4465  
3230 4523  
231 2045  
3232 2444  
33 6265  
234 5120  
3235 2020  
3236 2020  
237 2020  
3240 6551  
3241 5146  
242 5120  
3243 7145  
3244 2065  
245 5024  
3246 7125  
3247 6143  
250 6545  
3251 6365  
3252 2022  
253 2361  
3254 2365  
3255 4465  
256 4523  
3257 2020

DOUBLE BCD 32D

VARIABLE NAME ALREADY ASSIGNED

BADLBL BCD 32D

IMPROPER STATEMENT NUMBER

EQERR BCD 32D

ERROR IN EQUIVALENCE STATEMENT

0000

SUPB  
END

DQNS0551

00257

00258

	REM		CDLIST=LISTER	CDL0000.
	REM		FOR COMPILER USE	CDL0001.
	REM		ENTER BY JPR TO THE FIRST	CDL0002.
	REM		LOCATION OF THE ROUTINE	CDL0003.
	REM		ASSUMES ALL BANKS SET TO ZERO	CDL0004.
	REM		ROUTINE IS ABSOLUTELY	CDL0005.
	REM		RELOCATABLE BUT BUFFER	CDL0006.
	REM		AREA IS ALWAYS 100-220.	CDL0007.
	REM		SPACE REQUIRED IS 275 OCTAL	CDL0008.
	REM		LOW CORE USE 72-77.	CDL0009.
1200	ORG	1200		CDL0010.
		0		CDL0011.
	ORG	1200		CDL0012.
1200	CDLIST		ENTRY POINT	CDL0013.
1201	ZJF	CDLEX.		CDL0014.
1202	LDC	100		CDL0015.
1203				
1204	STD	TOP	TOP=BUFFER ADDRESS	CDL0016.
1205	CDL1	LCC	120	CDL0017.
1206				
1207	STD	COUNT	SET CHARACTER COUNTER	CDL0018.
1210	CDL3	LDC	SET TO ZERO PUNCH IMAGE	CDL0019.
1211				
1212	CDL4	ATE	CDL4	CDL0020.
1213				
1214		ADC	124	CDL0021.
1215				
1216	CDL5	ATX	CDL5	CDL0022.
1217				
1220		LDN	0	CDL0023.
1221	CDL6	BLS	CDL6	CDL0024.
1222			BLOCK STORE	
1223		ETA		CDL0025.
1224		SBN	25	CDL0026.
1225		STD	ROW0	CDL0027.
1226		SBN	70	CDL0028.
1227		STD	ROW8	CDL0029.
1230		LDF	0	CDL0030.
1231			4000	CDL0031.
1232		STD	BIT	CDL0032.
1233	PICKUP	LDI	TOP	CDL0033.
1234		SBN	20	CDL0034.
1235		ZJF	NXTCHR	CDL0035.
1236		ADN	20	CDL0036.
1237		STR	CHKCHR	CDL0037.
1240		LPN	17	CDL0038.
1241		ZJF	ZPNCH	CDL0039.
1242	SUB12	SBN	12	CDL0040.
1243		NJF	MPNCH	CDL0041.
1244		NZF	8PNCH	CDL0042.
1245		LCN	12	CDL0043.
1246		NJF	MPNCH	CDL0044.
1247	8PNCH	LDD	BIT	CDL0045.
1250		RAI	ROW8	CDL0046.
			SET 8 PUNCH	

251	0407		LDN	7	SET TO PUNCH REMAINING	CDL0047:
1252	1202		LPF	CHKCHR	BITS	CDL0048:
253	6106		NZR	MPNCH		CDL0049:
54	0000	CHKCHR				CDL0050:
1255	2355	CDLEX	LDB	CDLIST		CDL0051:
256	4073		STD	CDL98	SET EXIT ADDRESS	CDL0052:
257	7073		JPI	CDL98	EXIT	CDL0053:
1260	0612	MPNCH	ADN	12	RESTORE BITS	CDL0054:
261	4266	MPNCH	STR	ADDCHK	MULTIPLY TIMES 7	CDL0055:
262	0110		LS3			CDL0056:
1263	3664		SBR	ADDCHK		CDL0057:
264	4263		STR	ADDCHK		CDL0058:
265	2075		LDD	ROW0	COMPUTE ROW ADDRESS	CDL0059:
1266	3661		SBR	ADDCHK		CDL0060:
267	4203		STF	3	SET COMPUTED ADDRESS	CDL0061:
270	2072		LDD	BIT	SET BIT IN ROW	CDL0062:
1271	5100		RAM	SUPPL		CDL0063:
272	0000					:
273	0460	ZPNCH	LDN	60		CDL0064:
1274	1320		LPR	CHKCHR		CDL0065:
275	6014		ZJF	NXTCHR	JUMP IF NO MORE PUNCHES	CDL0066:
276	0720		SBN	20		CDL0067:
1277	6005		ZJF	SETBIT	PUNCH ROW 0	CDL0068:
300	0720		SBN	20		CDL0069:
301	6002		ZJF	2	PUNCH (-) MINUS ROW	CDL0070:
1302	0407		LDN	7	PUNCH (+) PLUS ROW	CDL0071:
303	0607		ADN	7		CDL0072:
304	3075	SETBIT	ADD	ROW0		CDL0073:
305	4203		STF	3		CDL0074:
306	2072		LDD	BIT		CDL0075:
307	5100		RAM	SUPPL		CDL0076:
1310	0000					:
311	5476	NXTCHR	AOD	COUNT		CDL0077:
312	6016		ZJR	PNCH	JUMP IF DONE	CDL0078:
1313	5477		AOD	TOP	INCREASE PICKUP ADDRESS	CDL0079:
314	2072	BITSET	LDD	BIT	SET FOR PROPER BIT POSITION	CDL0080:
315	0114		RS1			CDL0081:
1316	6005		ZJR	RESET		CDL0082:
317	6202		PJF	2		CDL0083:
320	1472		SCD	BIT		CDL0084:
1321	4072		STD	BIT		CDL0085:
322	6567	CDL88	NZB	PICKUP		CDL0086:
323	2372	RESET	LDB	K4000	RESET EVERY 12TH TIME	CDL0087:
1324	4072		STD	BIT		CDL0088:
325	5474		AOD	ROW8	ADJUST ADDRESSES	CDL0089:
326	5475		AOD	ROW0		CDL0090:
1327	6505		NZB	CDL88		CDL0091:
330	7500	PNCH	EXC	3040	REQUEST STATUS	CDL0092:
331	3040					:
1332	7600		INA			CDL0093:
333	1200		LPC	2200	1684 SELECTED=PUNCH NOT READY	CDL0094:
334	2200					:
1335	6505		NZB	PNCH		CDL0095:
336	7500		EXC	3002	SELECT 523 TO PUNCH	CDL0096:
337	3002					:
1340	2200		LDC	BUFFER		CDL0097:
41	1350					:
342	0105	PNCHBU	ATE	PNCHBU	ACTIVATE BUFFER	CDL0098:
1343	1342					:
44	7300	CDL8	IBO	CDL8		CDL0099:

1345	1344			
1346	6571	NZR	CDLEX	
1347	0000	ADDCHK		
1350	0000	BUFFER	BSS	84D
	0000	SUPPL	EQU	0
	0077	TOP	EQU	77
	0076	COUNT	EQU	76
	0075	ROW0	EQU	75
	0074	ROW8	EQU	74
	0073	CDL98	EQU	73
	0072	BIT	EQU	72
			SUPB	
	0000		END	

TEMPORARY-COMPUTE ADDRESS

TO BE SUPPLIED  
 FIRST ADDRESS OF BUFFER  
 CHARACTER COUNTER  
 ADDRESS OF IMAGE ROW0  
 ADDRESS OF IMAGE ROW 8  
 EXIT ADDRESS  
 BIT FOR SETTING PUNCH BITS

CDL0100  
 CDL0101  
 CDL0102  
 CDL0103  
 CDL0104  
 CDL0105  
 CDL0106  
 CDL0107  
 CDL0108  
 CDL0109  
 CDL0110

		REM		PCHFLX	
		REM			FOR USE WITHIN THE COMPILER
		REM			ENTER BY JPR TO THE FIRST
		REM			LOCATION OF THE ROUTINE
		REM			PAGE EJECT CODE = 01 AS THE FIRST
		REM			CHARACTER OF THE RECORD.
		REM			PROVIDES PAGE EJECT EVERY 60 LINES
		REM			SPACE REQUIRED IS 177 OCTAL
		REM			LOW CORE USE 73 = 77
	1200	ORG	1200		
1200	0000		0		
	1200	ORG	1200		
1200	0000	PCHFLX		ENTRY POINT	
1201	6076	ZJR	PCHFCR		
1202	2600	LCC	117		
1203	0117				
1204	4070	STD	COUNT	SET TO PUNCH 80 CHAR. RECORD	
1205	7500	EXC	4104	SELECT PUNCH	
1206	4104				
1207	7447	OTN	47	PUNCH U.C. CODE	
1210	2275	LDF	K100		
1211	4075	STD	PARAM	BEGINNING ADDRESS	
1212	2175	LDI	PARAM		
1213	0701	SBN	1		
1214	6072	ZJF	PCHFJ		
1215	5667	AOF	PCHFLC		
1216	6070	ZJR	PCHFJ		
1217	5475	PCHFO	AOD	PARAM	
1220	2277	LDF	K217		
1221	4077	STD	FLEXUL		
1222	2177	PCHFM	LDI	FLEXUL	
1223	0720	SBN	20		
1224	6106	NZF	PCHFG		
1225	0501	LCN	1		
1226	5077	RAD	FLEXUL		
1227	5476	AOD	COUNT		
1230	6506	NZB	PCHFM		
1231	6045	ZJF	PCHFCR -1		
1232	2175	PCHFG	LDI	PARAM	PICK UP ONE CHARACTER
1233	4074	STD	CHARAC		SAVE IT
1234	2200	LDC	PCHFL		
1235	1320				
1236	4073	STD	TBLADR	SET BEGINNING TABLE ADDRESS	
1237	2173	PCHFA	LDI	TBLADR	
1240	6042	ZJF	PCHFE	JUMP IF NO EQUALITY FOUND	
1241	1474	SCD	CHARAC		
1242	0277	LPN	77		
1243	6003	ZJF	PCHFB	JUMP IF CHARACTER FOUND	
1244	5473	AOD	TBLADR	SET TO CHECK NEXT ENTRY	
1245	6506	NZB	PCHFA	LOOP	
1246	2173	PCHFB	LDI	TBLADR	PICK UP TABLE ENTRY
1247	0111	LS6		SHIFT	
1250	0277	LPN	77	MASK OFF CHARACTER	
1251	4074	STD	CHARAC	SAVE IT	
1252	2073	LDD	TBLADR		
1253	3600	SBC	PCHFU		

FLC0000A  
 FLC0001:  
 FLC0002:  
 FLC0003:  
 FLC0004A:  
 FLC0005:  
 FLC0006:  
 FLC0007:  
 FLC0008:  
 FLC0009:  
 FLC0010A:  
 FLC0011:  
 FLC0012:  
 FLC0013:  
 FLC0014:  
 FLC0015A:  
 FLC0016:  
 FLC0017:  
 FLC0018:  
 FLC0019:  
 FLC0020A:  
 FLC0021:  
 FLC0022A:  
 FLC0023:  
 FLC0024A:  
 FLC0025:  
 FLC0026A:  
 FLC0027:  
 FLC0028:  
 FLC0029:  
 FLC0030:  
 FLC0031:  
 FLC0032A:  
 FLC0033A:  
 FLC0034:  
 FLC0035:  
 FLC0036:  
 FLC0037A:  
 FLC0038:  
 FLC0039:  
 FLC0040A:  
 FLC0041A:  
 FLC0042:  
 FLC0043A:  
 FLC0044:  
 FLC0045:  
 FLC0046:  
 FLC0047A:  
 FLC0048A:  
 FLC0049A:  
 FLC0050:  
 FLC0051:  
 FLC0052A

1254	1336		PJF	PCHFC	JUMP IF UPPER CASE CHAR.	FLC0053
1255	6207		LDD	FLEXUL		FLC0054
1256	2077		ZJF	PCHFH	JUMP IF CASE OK	FLC0055
1257	6012		LDN	0		FLC0056
1260	0400		STD	FLEXUL	RESET CASE FLAG	FLC0057
1261	4077		LDN	57	LOWER CASE CODE	FLC0058
1262	0457		NZF	PCHFD		FLC0059
1263	6105		LDD	FLEXUL		FLC0060
1264	2077	PCHFC	NZF	PCHFH	NO CASE CODE NEEDED	FLC0061
1265	6104		LDN	47	UPPER CASE CODE	FLC0062
1266	0447		STD	FLEXUL	RESET CASE FLAG	FLC0063
1267	4077		OTA	PCHFD	PUNCH CASE CODE	FLC0064
1270	7677	PCHFD	LDD	CHARAC	PICK UP CHARACTER	FLC0065
1271	2074	PCHFH	OTA	PCHFF	PUNCH CHARACTER	FLC0066
1272	7677	PCHFF	AOD	PARAM	INCREASE ADDRESS	FLC0067
1273	5475		AOD	COUNT	INCREASE COUNTER	FLC0068
1274	5476		NZB	PCHFG	JUMP IF NOT DONE	FLC0069
1275	6543		OTN	45		FLC0070
1276	7445		LDN	PCHFLX	SET EXIT ADDRESS	FLC0071
1277	2377	PCHFCR	STD	CHARAC		FLC0072
1300	4074		JPI	CHARAC	EXIT	FLC0073
1301	7074		LDN	4	SET BLANK IF NO EQUALITY	FLC0074
1302	0404	PCHFE	NZB	PCHFF		FLC0075
1303	6511			7703		FLC0076
1304	7703	PCHFLC		100		FLC0077
1305	0100	K100		45		FLC0078
1306	7445	PCHFJ	OTN	45		FLC0079
1307	7445		OTN	45		FLC0080
1310	7445		OTN	45		FLC0081
1311	7445		OTN	45		FLC0082
1312	7445		OTN	45		FLC0083
1313	7445		OTN	45		FLC0084
1314	0574		LCN	600		FLC0085
1315	4311		STR	PCHFLC		FLC0086
1316	6777		NJB	PCHFO		FLC0087
1317	0217	K217		217		FLC0088
1320	4421	PCHFL		4421	SLASH	FLC0089
1321	5474			5474	RPAREN	FLC0090
1322	4633			4633	COMMA	FLC0091
1323	4273			4273	PERIOD	FLC0092
1324	5612			5612	X0	FLC0093
1325	7401			7401	X1	FLC0094
1326	7002			7002	X2	FLC0095
1327	6403			6403	X3	FLC0096
1330	6204			6204	X4	FLC0097
1331	6605			6605	X5	FLC0098
1332	7206			7206	X6	FLC0099
1333	6007			6007	X7	FLC0100
1334	3310			3310	X8	FLC0101
1335	3711			3711	X9	FLC0102
1336	3061	PCHFU		3061	A	FLC0103
1337	2362			2362	B	FLC0104
1340	1663			1663	C	FLC0105
1341	2264			2264	D	FLC0106
1342	2065			2065	E	FLC0107
1343	2666			2666	F	FLC0108
1344	1367			1367	G	FLC0109
1345	0570			570	H	FLC0110
1346	1471			1471	I	FLC0111
1347	3241			3241	J	FLC0112



350	3642		3642
1351	1143		1143
352	0744		744
53	0645		645
1354	0346		346
355	1547		1547
356	3550		3550
1357	1251		1251
360	2422		2422
361	0123		123
1362	3424		3424
363	1725		1725
364	3126		3126
1365	2727		2727
366	2530		2530
367	2131		2131
1370	4454		4454
371	5053		5053
372	5434		5434
1373	4213		4213
374	4660		4660
375	5240		5240
1376	0000		0
	0077	FLEXUL EQU	77
	0076	COUNT EQU	76
	0075	PARAM EQU	75
	0074	CHARAC EQU	74
	0073	TBLADR EQU	73
		SUPB	
	0000	END	

K  
L  
M  
N  
O  
P  
Q  
R  
S  
T  
U  
V  
W  
X  
Y  
Z

APOSTROPHE-ASTERISK  
DOLLAR SIGN-COLON  
LPAREN  
EQUALS  
PLUS  
MINUS  
END OF TABLE  
CASE FLAG-  
EIGHTY CHARACTER COUNTER  
ADDRESS OF BUFFER  
TEMPORARY STORAGE  
TABLE ADDRESS

FLC01128  
FLC0113  
FLC01148  
FLC01158  
FLC0116  
FLC0117  
FLC0118  
FLC0119  
FLC01208  
FLC0121  
FLC0122  
FLC0123  
FLC01248  
FLC0125  
FLC0126  
FLC0127  
FLC0128  
FLC0129  
FLC0130  
FLC0131  
FLC0132  
FLC01338  
FLC01348  
FLC0135  
FLC0136  
FLC0137  
FLC01388  
FLC01398  
:  
FLC01408

	REM		WRBCDC		WRC0000
	REM		WRBCDC		WRC0001
	REM		WRITE BCD INFORMATION IN EVEN		WRC0002
	REM		PARITY ON TAPE 4 ENTER BY A		WRC0003
	REM		JPR TO THE FIRST LOCATION OF WRBCDC		WRC0004
	REM		A # 0 CAUSES AN END OF FILE RECORD		WRC0005
	REM		A NOT ZERO CAUSES A RECORD TO		WRC0006
	REM		BE WRITTEN FROM 100 TO 220		WRC0007
	REM		ASSUMES ALL BANK SETTINGS = 0		WRC0008
	REM		SPACE REQUIRED IS 57 OCTAL		WRC0009
	REM		LOW CORE USE 75 = 77		WRC0010
1200	ORG	1200			WRC0011
1200	ORG	0			WRC0012
1200	ORG	1200			WRC0013
1201	WRBCDC	ZJF	WREOF	ENTRY POINT	WRC0014
1202		LCN	4	JUMP TO WRITE END OF FILE ROUTINE	WRC0015
1203		STD	COUNT		WRC0016
1204		STD	COUNT1	SET COUNTER FOR BACKSPACING	WRC0017
1205		LDN	20	COUNTER FOR WR. E-O-F ERROR ROUTINE	WRC0018
1206		STM	100		WRC0019
1207					WRC0020
1210		STM	101		WRC0021
1211					
1212		STM	102		WRC0022
1213					
1214		STM	103		WRC0023
1215					
1216		AOF	EJPG		WRC0024
1217		ZJR	SETCT		WRC0025
1220	CONT)	EXF	PARITY	SELECT EVEN PARITY(BCD)	WRC0026
1221	OUT	EXF	WRITE	SELECT WRITE TAPE 2	WRC0027
1222		OUT	START	OUTPUT FROM START	WRC0028
1223			220	LWA + 1	WRC0029
1224		EXC	1144	REQUEST STATUS FROM TAPE 4	WRC0030
1225					
1226		INA			WRC0031
1227		LPN	44		WRC0032
1230		ZJR	EXIT	EXIT IF OK	WRC0033
1231		LS6			WRC0034
1232		NJR	ENDTPE	REMINO IF END OF TAPE	WRC0035
1233	PARERR	AOD	COUNT	BUMP COUNTER THEN BACKSPACE	WRC0036
1234		ZJF	BUMPC1	SO THAT AT ERROR TAPE	WRC0037
1235	BK	EXF	BACKSP	IS AFTER RECORD	WRC0038
1236		INA			WRC0039
1237		NZB	OUT	TRY AGAIN	WRC0040
1240		ZJB	OUT		WRC0041
1241	ENDTPE	EXC	1124	BACKSPACE	WRC0042
1242					
1243		INA		WRITE 2 END FILES	WRC0043
1244		EXF	WRITE	REWIND UNLOAD	WRC0044
1245		EXF	WRITE		WRC0045
1246		EXC	1154		WRC0046
1247					
1250		HLT			WRC0047
1251		NZB	CONT)	NEW TAPE	WRC0048

1252	5475	BUMPC1	ADD	COUNT1	TRY EOF 3 TIMES
1253	6010		ZJR	STOP	
1254	7500		EXF	0	BACKSPACE
255	1124	BACKSP		1124	
1256	7600		INA		
1257	7511		EXF	WRITE	EOF
1260	0504		LCN	4	RESET COUNT
1261	4076		STD	COUNT	
1262	6525		NZB	BK	BACKSPACE AND WRITE
1263	0000	STOP	ERR		BAD TARE, RUN TO IGNORE.
1264	6005		ZJR	EXIT	
1265	7500	WEOF	EXF	0	SELECT (BCD) EVEN PARITY
1266	1172	PARITY		1172	
1267	7500		EXF	0	WRITE END OF FILE
1270	1114	WRITE		1114	WRITE CODE
1271	2371	EXIT	LDB	WRBCDC	SET EXIT ADDRESS
1272	4077		STD	EXITAD	
1273	7077		JPI	EXITAD	EXIT
1274	0100	START		100	FIRST WORD ADDRESS OF BUFFER
1275	0401	SETCT	LDN	1	
1276	4100		STM	100	
1277	0100				
1300	0574		LCN	600	
1301	4202		STR	EJPG	
1302	6762		NJR	CONT)	
1303	7704	EJPG		7704	INCLUDES CONTROL CARD.
	0077	EXITAD	EQU	77	EXIT ADDRESS
	0076	COUNT	EQU	76	COUNTER FOR BACKSPACE
	0075	COUNT1	EQU	75	COUNTER FOR WRITE END OF FILE
			SUPB		
	0000	END			

WRC0049:  
 WRC0050:  
 WRC0051:  
 WRC0052:  
 WRC0053:  
 WRC0054:  
 WRC0055:  
 WRC0056:  
 WRC0057:  
 WRC0058:  
 WRC0059:  
 WRC0060:  
 WRC0061:  
 WRC0062:  
 WRC0063:  
 WRC0064:  
 WRC0065:  
 WRC0066:  
 WRC0067:  
 WRC0068:  
 WRC0069:  
 :  
 WRC0070:  
 WRC0071:  
 WRC0072:  
 WRC0073:  
 WRC0074:  
 WRC0075:  
 WRC0076:  
 :  
 WRC0077:

	REM		LPRC - 1612 PRINTER ROUTINE	LPC0000
	REM		LPRC - 1612 PRINTER ROUTINE	LPC0001
	REM		FOR USE BY THE COMPILER. A PAGE	LPC0002
	REM		EJECT IS SUPPLIED EVERY 60 LINES.	LPC0003
	REM		THE ROUTINE IS ENTERED BY A JPR	LPC0004
	REM		TO THE FIRST LOCATION AND THE BANK	LPC0005
	REM		SETTINGS ARE ASSUMED TO BE ZERO	LPC0006
	REM		THE BUFFER AREA IS FROM 100 TO 220.	LPC0007
	REM		SPACE REQUIRED IS 31 OCTAL	LPC0008
	REM		DOES NOT USE LOW CORE CELLS	LPC0009
1200	1200	ORG	1200	LPC0010
	0000		0	LPC0011
	1200	ORG	1200	LPC0012
1200	0000	LPRC	ENTRY POINT	LPC0013
1201	6026	ZJF	LPRC1	LPC0014
1202	7500	EXC	600	LPC0015
1203	0600			
1204	5635	AOF	EJCTP	LPC0016
1205	6026	ZJF	LPRCEJ	LPC0017
1206	2100	LDM	100	LPC0018
1207	0100			
1210	0701	SBN	1	LPC0019
1211	6022	ZJF	LPRCEJ	LPC0020
1212	7600	PRINT	INA	LPC0021
1213	6401	ZJR	PRINT	LPC0022
1214	0420	LDN	20	LPC0023
1215	4100	STM	101	LPC0024
1216	0101			
1217	4100	STM	102	LPC0025
1220	0102			
1221	4100	STM	103	LPC0026
1222	0103			
1223	7315	OUT	LPRCST	LPC0027
1224	0220		220	LPC0028
1225	7500	EXC	605	LPC0029
1226	0605			
1227	2327	LPRC1	LDR	LPC0030
1230	4202	STF	LPRCEX	LPC0031
1231	7101	JFI	1	LPC0032
1232	0000	LPRCEX		LPC0033
1233	7500	LPRCEJ	EXC	LPC0034
1234	0604			
1235	0574	LCN	600	LPC0035
1236	4203	STF	EJCTP	LPC0036
1237	6725	NJB	PRINT	LPC0037
1240	0101	LPRCST	101	LPC0038
1241	7704	EJCTP	7704	LPC0039
	1200	LISTER	EQU	LPC0040
			SUPB	
	0000		END	LPC0041

	1200		ORG	1200
1200	0000			0
	1200		ORG	1200
1200	0000	W1607C		
1201	4074		STD	COUNT2
1202	7500		EXC	6042
1203	6042			
1204	7100		JPR	WAIT
1205	1335			
1206	2074		LDD	COUNT2
1207	6074		ZJF	WREOF
1210	0504		LCN	4
1211	4072		STD	COUNT
1212	4073		STD	COUNT1
1213	0550		LCN	50
1214	4074		STD	COUNT2
1215	2265		LDF	K100
1216	4076		STD	STORE
1217	4075		STD	PICKUP
1220	5667		AOF	EJPG
1221	6067		ZJF	SETCT
1222	2175	CONT)	LDI	PICKUP
1223	0111		LS6	
1224	4176		STI	STORE
1225	5475		AOB	PICKUP
1226	2175		LDI	PICKUP
1227	5176		RAI	STORE
1230	5475		AOB	PICKUP
1231	5476		AOB	STORE
1232	5474		AOB	COUNT2
1233	6511		NZB	CONT)
1234	2200		LDC	2020
1235	2020			
1236	4100		STM	100
1237	0100			
1240	4100		STM	101
1241	0101			
1242	7500	WRITE	EXC	6002
1243	6002			
1244	7336		OUT	K100
1245	0150			150
1246	7100		JPR	WAIT
1247	1335			
1250	0424		LDN	24
1251	1076		LPD	STORE

```

W1607C
W1607C
WRITE BCD INFORMATION
IN EVEN PARITY ON TAPE 4
ENTER BY A JPR TO THE
FIRST LOCATION OF W1607C
A=0 CAUSES AN END OF FILE RECORD
A NOT ZERO CAUSES A RECORD TO
BE WRITTEN FROM 100 TO 220
ALL BANK SETTINGS = 0
SPACE REQUIRED IS 143 OCTAL
LOW CORE USE 72 = 77

```

```

ENTRY POINT
SELECT WRITE TAPE 4 CODED

```

```

JUMP TO WRITE EOF RECORD

```

```

SET PACKING COUNTER
PACKING ADDRESSES
INITIALIZED
PAGE EJECT LINE COUNTER
JUMP TO RESET EVERY 60 LINES
PICK UP ONE CHARACTER
SHIFT
STORE IT
INCREASE ADDRESS
PICK UP NEXT CHARACTER
ADD TO PREVIOUS
INCREASE ADDRESS
INCREASE COUNTER
JUMP UNTIL DONE

```

```

WRITE
100 TO 150

```

00268

TLC0000  
TLC0001  
TLC0002  
TLC0003  
TLC0004  
TLC0005  
TLC0006  
TLC0007  
TLC0008  
TLC0009  
TLC0010  
TLC0011  
TLC0012  
TLC0013  
TLC0014  
TLC0015  
TLC0016  
TLC0017  
  
TLC0018  
  
TLC0019  
TLC0020  
TLC0021  
TLC0022  
TLC0023  
TLC0024  
TLC0025  
TLC0026  
TLC0027  
TLC0028  
TLC0029  
TLC0030  
TLC0031  
TLC0032  
TLC0033  
TLC0034  
TLC0035  
TLC0036  
TLC0037  
TLC0038  
TLC0039  
TLC0040  
TLC0041  
  
TLC0042  
  
TLC0043  
  
TLC0044  
  
TLC0045  
TLC0046  
TLC0047  
  
TLC0048  
TLC0049

1252	6025	ZJR	EXIT	JUMP IF O.K.	TLC0050
1253	0204	LPN	4		TLC0051
1254	6141	NZR	END		TLC0052
1255	5472	ADD	COUNT	TRY THREE TIMES	TLC0053
1256	6005	ZJF	BUMPC1		TLC0054
1257	7567	BCK	EXF	BACKSPACE (PARITY ERROR)	TLC0055
1260	7100	JPR	WAIT		TLC0056
1261	1335				
1262	6420	ZJB	WRITE		TLC0057
1263	5473	BUMPC1	ADD	TRY EOF 3 TIMES	TLC0058
1264	6012	ZJR	STOP		TLC0059
1265	7561	EXF	K6006	BACKSPACE	TLC0060
1266	7100	JPR	WAIT		TLC0061
1267	1335				
1270	7555	EXF	EOFCOD	WRITE END OF FILE	TLC0062
1271	7100	JPR	WAIT		TLC0063
1272	1335				
1273	0504	LCN	4	RESET COUNTER	TLC0064
1274	4072	STD	COUNT		TLC0065
1275	6516	NZB	BCK		TLC0066
1276	0000	STOP	ERR	BAD TAPE	TLC0067
1277	2377	EXIT	LDB		TLC0068
1300	4077	STD	EXITAD		TLC0069
1301	7077	JPI	EXITAD		TLC0070
1302	0100	K100	100	CONSTANT	TLC0071
1303	7542	WREOF	EXF	WRITE END OF FILE FUNCTION	TLC0072
1304	7100	JPR	WAIT		TLC0073
1305	1335				
1306	6407	ZJB	EXIT		TLC0074
1307	7704	EJPG	7704		TLC0075
1310	0401	SETCT	LDN		TLC0076
1311	4176	STI	STORE		TLC0077
1312	0574	LCN	600		TLC0078
1313	4304	STR	EJPG		TLC0079
1314	6772	NJR	CONT)		TLC0080
1315	7531	END	EXF	BACKSPACE	TLC0081
1316	7100	JPR	WAIT		TLC0082
1317	1335				
1320	7525	EXF	EOFCOD	EOF	TLC0083
1321	7100	JPR	WAIT		TLC0084
1322	1335				
1323	7522	EXF	EOFCOD	EOF	TLC0085
1324	7100	JPR	WAIT		TLC0086
1325	1335				
1326	7500	EXC	5005	REWIND	TLC0087
1327	5005				
1330	7700	HLT			TLC0088
1331	7100	JPR	WAIT		TLC0089
1332	1335				
1333	6471	ZJR	WRITE	WRITE AGAIN	TLC0090
1334	7101	JFI	1		TLC0091
1335	0000	WAIT		WAIT READY	TLC0092
1336	7500	EXC	6053	STATUS	TLC0093
1337	6053				
1340	7600	INA			TLC0094
1341	4076	STD	STORE	SAME	TLC0095
1342	1340	LPB	K100	READY T	TLC0096
1343	6505	NZB	WAIT	WAIT	TLC0097
1344	6410	ZJB	WAIT	GO	TLC0098
1345	6003	EOFCOD	6003	WRITE EOF CODE	TLC0099

1346

6006	K6006		6006
0072	COUNT	EQU	72
0073	COUNT1	EQU	73
0074	COUNT2	EQU	74
0075	PICKUP	EQU	75
0076	STORE	EQU	76
0077	EXITAD	EQU	77
		SUPB	
0000		END	

BACKSPACE ERROR COUNTER  
WRITE EOF ERROR COUNTER  
PACKING COUNTER  
ADDRESS  
ADDRESS  
EXIT ADDRESS

TLC0100:  
TLC0101:  
TLC0102:  
TLC0103:  
TLC0104:  
TLC0105:  
TLC0106:  
TLC0107:

		REM		LPI66C = 166 PRINTER	SPC0000
		REM		LPI66C = 166 PRINTER	SPC0001
		REM		FOR USE BY THE COMPILER,	SPC0002
		REM		NO PAGE EJECT.	SPC0003
		REM		THE ROUTINE IS ENTERED	SPC0004
		REM		BY A JPR TO THE FIRST LOCATION AND	SPC0005
		REM		THE BANK SETTINGS ARE ASSUMED TO	SPC0006
		REM		BE ZERO, BUFFER AREA IS 100-220	SPC0007
		REM		SPACE REQUIRED IS 66 OCTAL	SPC0008
		REM		LOW CORE USE 76 - 77	SPC0009
		ORG	1200		SPC0010
1200	0000		0		SPC0011
	1200	ORG	1200		SPC0012
1200	0000	LP166C		ENTRY POINT	SPC0013
1201	6046	ZJF	EXIT		SPC0014
1202	2250	PACK	LDF	K100	SPC0015
1203	0601		ADN	1	SPC0016
1204	4076		STD	STORE	SPC0017
1205	0603		ADN	3	SPC0018
1206	4077		STD	PICKUP	SPC0019
1207	2200		LDC	2020	SPC0020
1210	2020				
1211	4100		STM	100	SPC0021
1212	0100				
1213	0720		SBN	20	SPC0022
1214	4100		STM	101	SPC0023
1215	0101				
1216	6105		NZF	LOOP1	SPC0024
1217	2177	LOOP	LDI	PICKUP	SPC0025
1220	0111		LS6		SPC0026
1221	4176		STI	STORE	SPC0027
1222	5477		AOD	PICKUP	SPC0028
1223	2177	LOOP1	LDI	PICKUP	SPC0029
1224	5176		RAI	STORE	SPC0030
1225	5477		AOD	PICKUP	SPC0031
1226	5476		AOD	STORE	SPC0032
1227	3600		SBC	147	SPC0033
1230	0147				
1231	6512		NZB	LOOP	SPC0034
1232	2177		LDI	PICKUP	SPC0035
1233	0111		LS6		SPC0036
1234	0620		ADN	20	SPC0037
1235	4176		STI	STORE	SPC0038
1236	7515	WAIT	EXF	K740	SPC0039
1237	7600		INA		SPC0040
1240	6502		NZB	WAIT	SPC0041
1241	7500		EXC	700	SPC0042
1242	0700				
1243	7307		OUT	K100	SPC0043
1244	0150			150	SPC0044
1245	7500		EXC	720	SPC0045
1246	0720				
1247	2347	EXIT	LDB	LP166C	SPC0046
1250	4076		STD	STORE	SPC0047
1251	7076		JPI	STORE	SPC0048

LPI66C = 166 PRINTER  
LPI66C = 166 PRINTER  
FOR USE BY THE COMPILER,  
NO PAGE EJECT.  
THE ROUTINE IS ENTERED  
BY A JPR TO THE FIRST LOCATION AND  
THE BANK SETTINGS ARE ASSUMED TO  
BE ZERO, BUFFER AREA IS 100-220  
SPACE REQUIRED IS 66 OCTAL  
LOW CORE USE 76 - 77

ENTRY POINT

SET STORE = 100

SET PICKUP = 101

ONE CHAR TO A  
SHIFT 6  
SAVE  
INCREASE ADDRESS  
ONE CHARACTER TO A  
ADD TO CHAR. 1  
UP ADDRESS  
UP ADDRESS  
CHECK IF DONE

JUMP UNTIL DONE  
SET LAST CHARACTER  
PLUS BOD BLANK CODE

WAIT READY

ASYNCHRONOUS PRINT

OUTPUT FROM 100 TO 147  
LWA+1  
SINGLE SPACE

SET EXIT ADDRESS

RETURN



1252	0100	K100		100
1253	0740	K740		740
	1200	LISTER	EQU	LP166C
	0076	STORE	EQU	76
	0077	PICKUP	EQU	77
			SUPB	
	0000		END	

STORAGE ADDRESS FOR PACKING  
PICKUP ADDRESS FOR PACKING

SPC0049  
SPC0050  
SPC0051  
SPC0052  
SPC0053  
SPC0054

00272



5017	WOUT	EQU	5017
0050	CHKSUM	EQU	TEMP7
0051	IGNORE	EQU	TEMP10
0052	LENGTH	EQU	TEMP11
0053	STOADD	EQU	TEMP12
0054	RELADD	EQU	TEMP13
0055	RELBIT	EQU	TEMP14
0056	BITONT	EQU	TEMP15
		REM	
		REM	
		REM	
0100		ORG	100
0100	0000	BUFFER	BSS 800
0220	0000	BINARY	BSS 164
	0404		ORG 404
0404	7710		SLJ1 LST166
0405	0442		
0406	6106	NZF	IIPRT2
0407	6005	ZJF	IIPRT2
0410	0101	LISTER	PTA
0411	0604		ADN 4
0412	7100		JPR BINARY
0413	0220		
0414	0401	IIPRT2	LDN 1
0415	7100		JPR BINARY
0416	0220		
0417	6331	NJF	CONLOD
420	2200	HUNDRD	LDC 100
421	0100		
0422	4001		STD STOBUF
0423	2501		LCI STOBUF
0424	4041		STD TEMPO
0425	5401	LODBBX	AOD STOBUF
0426	2013		LDD OBJBNK
0427	4202		STF CHNGBK
0430	2101		LDI STOBUF
0431	0027	CHNGBK	SIC7
0432	4110		STI OBJEND
0433	0020		SIC0
0434	5410		AOD OBJEND
0435	6102		NZF 2
0435	5413		AOD OBJBNK
0437	5441		AOD TEMPO
0440	6424		ZJB IIPRT2
0441	6514		NZB LODBBX
0442	2200	LST166	LDC CONLOD 2
0443	0452		
0444	7100		JPR BINARY
0445	0220		
0446	6432		ZJB IIPRT2
0447	6533		NZB IIPRT2
0450	7720	CONLOD	SLJ2 LISTER
0451	0410		
0452	0400		LDN 0
0453	4041		STD TEMPO
0454	4042		STD TEMP1
0455	0401	RDCON	LDN 1
0456	7100		JPR BINARY
0457	0220		
0460	6373	NJF	INVEC

LOAD REMAINING OBJECT CODE,  
CONSTANTS, TRANSFER VECTOR  
AND INTERPRETER MODULES

LOAD PSEUDO B-BOXES AND  
UP-SUBROUTINES

CONSTANTS FOLLOW EOF

INITIALIZE STDBUF=100  
C(100)=LENGTH OF THIS RECORD

BANK OF OBJECT CODE

INCREASE BANK ON OVERFLOW

BYPASS 1612 ROUTINE

TEMPO IS CONTINUATION SWITCH  
TEMP1 IS ADDRESS SWITCH  
BRING IN CONSTANTS

00274

CNT0051:  
CNT0052:  
CNT0053:  
CNT0054:  
CNT0055:  
CNT0056:  
CNT0057:  
CNT0058:  
CNT0059:  
CNT0060:  
CNT0061:  
CNT0062:  
CNT0063:  
CNT0064:  
CNT0065:  
CNT0066:  
:  
CNT0068:  
CNT0069:  
CNT0070:  
CNT0071:  
CNT0072:  
:  
CNT0073:  
CNT0074:  
:  
CNT0075:  
CNT0076:  
:  
CNT0077:  
CNT0078:  
CNT0079:  
CNT0080:  
CNT0081:  
CNT0082:  
CNT0083:  
CNT0084:  
CNT0085:  
CNT0086:  
CNT0087:  
CNT0088:  
CNT0089:  
CNT0090:  
CNT0091:  
CNT0092:  
CNT0092:  
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CNT0092:  
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CNT0092:  
CNT0092:  
CNT0093:  
:  
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CNT0094:  
CNT0095:  
CNT0096:  
CNT0097:  
CNT0098:  
CNT0099:  
CNT0099:

0461	2340	LDR	HUNDRD +1		CNT0100
0462	4001	STD	STOBUF	INITIALIZE STOBUF=100	CNT0101
0463	2501	LCI	STOBUF		CNT0102
0464	4043	STD	TEMP2	TEMP2 HAS LENGTH OF RECORD	CNT0103
0465	5401	ADD	STOBUF		CNT0104
0466	2041	LDD	TEMP0	TEST FOR CONTINUATION	CNT0105
0467	6010	ZJF	NEWCON		CNT0106
0470	0400	LDN	0		CNT0107
0471	4041	STD	TEMP0	RESET CONTINUATION SWITCH	CNT0108
0472	2042	LDD	TEMP1		CNT0109
0473	6031	ZJF	LODIN1		CNT0110
0474	0400	LDN	0		CNT0111
0475	4042	STD	TEMP1	RESET ADDRESS SWITCH	CNT0112
0476	6021	ZJF	GETADD		CNT0113
0477	2101	NEWCON	LDI	GET FIRST WORD	CNT0114
0500	4044	STD	TEMP3		CNT0115
0501	0207	LPN	7		CNT0116
0502	0620	ADN	20		CNT0117
0503	4222	STF	BANKC		CNT0118
0504	2044	LDD	TEMP3		CNT0119
0505	0111	LS6			CNT0120
0506	0277	LPN	77	11#FLOATING	CNT0121
0507	0714	SBN	14	12#FIXED	CNT0122
0510	4044	STD	TEMP3	TEMP3 HAS LENGTH OF CONSTANT	CNT0123
0511	5401	ADD	STOBUF		CNT0124
0512	5443	ADD	TEMP2		CNT0125
0513	6104	NZF	GETADD		CNT0126
0514	5442	ADD	TEMP1	SET ADDRESS AND CONTINUATION	CNT0127
0515	5441	ADD	TEMP0	SWITCHES IF RECORD RUNS	CNT0128
0516	6541	NZR	RDCON	OUT HERE	CNT0129
0517	2101	GETADD	LDI		CNT0130
0520	4045	STD	TEMP4	TEMP4 HAS STORAGE ADDRESS	CNT0131
0521	5401	ADD	STOBUF		CNT0132
0522	5443	ADD	TEMP2		CNT0133
0523	6406	ZJB	GETADD -2		CNT0134
0524	2101	LODIN1	LDI		CNT0135
0525	0027	BANKC	SIC7		CNT0136
0526	4145	STI	TEMP4		CNT0137
0527	0020	SIC0			CNT0138
0530	5401	ADD	STOBUF		CNT0139
0531	2445	LCD	TEMP4	INCREASE ADDRESS	CNT0140
0532	6016	ZJF	EOBNK		CNT0141
0533	5445	ADD	TEMP4		CNT0142
0534	6103	NZF	TSTECC		CNT0143
0535	0500	LCN	0		CNT0144
0536	4045	STD	TEMP4		CNT0145
0537	5443	TSTECC	ADD		CNT0146
0540	6004	ZJF	EORCD		CNT0147
0541	5444	ADD	TEMP3		CNT0148
0542	6516	NZR	LODIN1	NON-ZERO FINISH CONSTANT	CNT0149
0543	6444	ZJB	NEWCON	ZERO GET NEW CONSTANT	CNT0150
0544	5444	EORCD	ADD	END OF RECORD	CNT0151
0545	6530	NZR	GETADD -2		CNT0152
0546	7101	JFI	1	CONSTANT AND RECORD	CNT0153
0547	0455		RDCON	END TOGETHER	CNT0154
0550	4045	EOBNK	STD		CNT0155
0551	5724	AOB	BANKC		CNT0156
0552	6513	NZR	TSTECC		CNT0157
		REM			CNT0158
		REM		LOAD LIBRARY FUNTIONS AND	CNT0159
				INTERPRETER MODULES	

0553	2200	INVEC	LDC	INTVEC	READ IN INTERPRETER	GNT0160
0554	1212					
0555	4042		STD	TEMP1		GNT0161
0556	0601		ADN	1		GNT0162
0557	4041		STD	TEMP0	TRANSFER VECTOR	GNT0163
0560	0500		LCN	0		GNT0164
0561	7100		JPR	BINARY		GNT0165
0562	0220					
0563	0401		LDN	1		GNT0166
0564	7100		JPR	BINARY		GNT0167
0565	0220					
0566	2200		LDC	BUFFER +1		GNT0168
0567	0101					
0570	4001		STD	STOBUF		GNT0169
0571	2101		LDI	STOBUF		GNT0170
0572	4142		STI	TEMP1		GNT0171
0573	5442		AOD	TEMP1		GNT0172
0574	5401		AOD	STOBUF		GNT0173
0575	3600		SBC	BUFFER +64D		GNT0174
0576	0200					
0577	6506		NZR	6		GNT0175
0600	2100		LDM	BUFFER +1	SAVE LENGTH OF INTERPRETER	GNT0175
0601	0101					
0602	4016		STD	NPGOAD		GNT0175
0603	0403		LDN	3		GNT0176
0604	7100		JPR	BINARY	REWIND TAPE 2	GNT0177
0605	0220					
0606	7740	INT1	SLJ4	INTOUT		GNT0178
0607	1063					
0610	0402		LDN	2	SET NUMBER IN TRANSFER VECTOR TO 2 FOR FLOATING POINT	GNT0179
0611	4044		STD	TEMP3		GNT0180
0612	0421		LDN	INTERP		GNT0181
0613	4042		STD	TEMP1		GNT0182
0614	2021		LDD	INTERP		GNT0183
0615	6102		NZF	2		GNT0184
0616	4421	INTRIN	SRD	INTERP		GNT0185
0617	6203		PJF	3		GNT0186
0620	7100		JPR	BINLOD	LOAD A LIBRARY FUNCTION	GNT0187
0621	0714					
0622	5441		AOD	TEMP0		GNT0188
0623	5444		AOD	TEMP3		GNT0189
0624	4600		SRC	4444		GNT0190
0625	4444					
0626	6610		PJB	INTRIN		GNT0191
0627	0434		LDN	SUBRTN	INITIALIZE TO LOAD SUBROUTINES	GNT0192
0630	4042		STD	TEMP1		GNT0193
0631	0401		LDN	1		GNT0194
0632	4043		STD	TEMP2	TEMP2 HAS BIT MASK	GNT0195
0633	2142	SUBRIN	LDI	TEMP1		GNT0196
0634	1043		LPD	TEMP2		GNT0197
0635	6003		ZJF	3		GNT0198
0636	7100		JPR	BINLOD		GNT0199
0637	0714					
0640	5441		AOD	TEMP0	INCREASE LOCATION IN VECTOR	GNT0200
0641	5444		AOD	TEMP3	INCREASE NUMBER	GNT0201
0642	4443		SRD	TEMP2		GNT0202
0643	0201		LPN	1		GNT0203
0644	6411		ZJB	SUBRIN		GNT0204
0645	5442		AOD	TEMP1		GNT0205
0646	0741		SBN	SUBRTN +5		GNT0206

0647	6514		NZR	SUBRIN		GNT0207
0650	0500		LCN	0		GNT0208
0651	7100		JPR	BINARY	PASS OVER REMAINING LIBRARY	GNT0209
0652	0220				FUNCTIONS.	
0653	7740	OBJ1	SLJ4	OBJOUT		GNT0210
0654	1111					
0655	0441	ENDOPT	LDN	TEMPO		GNT0211
0656	4006		STD	NEXTBK		GNT0212
0657	2200		LDC	ENDCOD		GNT0213
0660	1173					
0661	4007		STD	BNKTAB		GNT0214
0662	2107	MOVEN	LDI	BNKTAB	MOVE LAST BLOCK OF	GNT0215
0663	4106		STI	NEXTBK	CORING TO LOW CORE	GNT0216
0664	5406		AOD	NEXTBK		GNT0217
0665	5407		AOD	BNKTAB		GNT0218
0666	3600		SBC	INTVEC		GNT0219
0667	1212					
0670	6506		NZR	MOVEN		GNT0220
0671	2200		LDC	BUFFER		GNT0221
0672	0100					
0673	4006		STD	NEXTBK		GNT0222
0674	2107	MOVECT	LDI	BNKTAB	MOVE THE INTERPRETER	GNT0223
0675	4106		STI	NEXTBK	VECTOR TO LOCATION 100	GNT0224
0676	5406		AOD	NEXTBK		GNT0225
0677	5407		AOD	BNKTAB		GNT0226
0700	3600		SBC	INTVEC +640		GNT0227
0701	1312					
0702	6506		NZR	MOVECT		GNT0228
0703	2200		LDC	7103		GNT0229
0704	7103					
0705	4100		STM	100	TRANSFER TO BOOLEAN	GNT0230
0706	0100					
0707	7740	VECI	SLJ4	VECTOR		GNT0231
0710	1166					
0711	7101		JFI	1		GNT0232
0712	0041			TEMPO		GNT0233
			REM		LOAD AND RELOCATE OSAP=AF	GNT0234
			REM		BINARY OUTPUT	GNT0235
0713	7101		JFI	1		GNT0236
0714	0000	BINLOD				GNT0237
0715	2200	100AD	LDC	100		GNT0238
0716	0100					
0717	7100		JPR	BINARY		GNT0239
0720	0220					
0721	6202		PJF	2		GNT0240
0722	0000		ERR		SOME ERROR ON TAPE OR LIBRARY BITS	GNT0241
0723	2100		LDM	BUFFER +15	GET TRANSFER VECTOR NUMBER	GNT0242
0724	0115					
0725	1444		LSD	TEMP3	COMPARE=IS THIS THE CORRECT ROUTINE	GNT0243
0726	6012		ZJF	LOADFN		GNT0244
0727	2311	PASS	LDB	100AD +1		GNT0245
0730	7100		JPR	BINARY	LIBRARY FUNCTION, PASS OVER	GNT0246
0731	0220					
0732	2100		LDM	BUFFER		GNT0247
0733	0100					
0734	1200		LPC	1770		GNT0248
0735	1770					
0736	5421		ZJB	BINLOD +1		GNT0249
0737	6510		NZR	PASS		GNT0250
0740	2141	LOADFN	LDI	TEMPO	GET LOAD ADDRESS OF FUNCTION	GNT0251

741	4045		STD	TEMP4	TEMP4 HAS STORE ADDRESS	GNT0252:
742	0201		LPN	1		GNT0253:
743	4047	BNKS	STD	TEMP6	TEMP6 HAS BANK INCREMENT	GNT0254:
744	0420		LDN	20		GNT0255:
745	4255		STF	BNKSET		GNT0256:
746	2042		LDD	TEMP1		GNT0257:
747	0721		SBN	INTERP		GNT0258:
750	6004		ZJF	LODE -1		GNT0259:
751	2047		LDD	TEMP6		GNT0260:
752	5250		RAF	BNKSET		GNT0261:
753	6102		NZF	LODE		GNT0262:
754	4047		STD	TEMP6		GNT0263:
755	2337	LODE	LDB	100AD +1	TEMP0,1,4,6 USED	GNT0264:
756	4001		STD	STOBUF		GNT0265:
757	7100		JPR	BINARY		GNT0266:
760	0220					:
761	2101		LDI	STOBUF		GNT0267:
762	4050		STD	CHKSUM		GNT0268:
763	0111		LS6			GNT0269:
764	0110		LS3			GNT0270:
765	4051		STD	IGNORE	IGNORE HAS IGNORE CHECKSUM BIT	GNT0271:
766	1200		LPC	177	ONE POSITION TO THE RIGHT	GNT0272:
767	0177					:
770	6455		ZJR	BINLOD -1	EXIT ON ZERO LENGTH CARD	GNT0273:
771	1600		LSC	7777		GNT0274:
772	7777					:
773	4052		STD	LENGTH		GNT0275:
774	5401		ADD	STOBUF		GNT0276:
775	2101		LDI	STOBUF		GNT0277:
776	4002		STD	IDBANK		GNT0278:
777	5050		RAD	CHKSUM		GNT0279:
1000	2002		LDD	IDBANK		GNT0280:
1001	3045		ADD	TEMP4	TEMP4 HAS INITIAL LOAD ADDRESS	GNT0281:
1002	4053		STD	STOADD	STORAGE ADDRESS	GNT0282:
1003	0701		SBN	1		GNT0283:
1004	4054		STD	RELADD	(STORAGE ADDRESS)-1	GNT0284:
1005	5401		ADD	STOBUF		GNT0285:
1006	4055		STD	RELBIT	ADDRESS OF RELOCATION BITS	GNT0286:
1007	2501		LCI	STOBUF		GNT0287:
1010	5050		RAD	CHKSUM	DECREASE COMPUTED CHKSUM BY ACTUAL	GNT0288:
1011	2200		LDC	2000		GNT0289:
1012	2000					:
1013	4056		STD	BITCNT		GNT0290:
1014	0407		LDN	7	INCREASE STOBUF TO ADDRESS	GNT0291:
1015	5001		RAD	STOBUF	OF FIRST DATA WORD	GNT0292:
1016	6127		NZF	BITCHK		GNT0293:
1017	2101	LODEIN	LDI	STOBUF		GNT0294:
1020	4002		STD	IDBANK		GNT0295:
1021	4555		SRI	RELBIT		GNT0296:
1022	0027	BNKSET	SIC7			GNT0297:
1023	0201		LPN	1	IF THIS BIT IS ONE, INCREMENT MUST	GNT0298:
1024	5006		ZJF	NOINCR	BE ADDED TO WORD AND LAST WORD INCREASED	GNT0299:
1025	2047		LDD	TEMP6	BY NUMBER OF BANK	GNT0300:
1026	5002		ZJF	2		GNT0301:
1027	5154		RAI	RELADD		GNT0302:
1030	2045		LDD	TEMP4		GNT0303:
1031	6102		NZF	2		GNT0304:
1032	0500	NOINCR	LCN	0		GNT0305:
1033	3002		ADD	IDBANK		GNT0306:
1034	4153		STI	STOADD	STORE DATA WORD	GNT0307:

00278

1035	0020	SIC0			ONT0308
1036	2002	LDD	IDBANK		ONT0309
1037	5050	RAD	CHKSUM		ONT0310
1040	5453	AOD	STOADD	INCREASE LOCATORS	ONT0311
1041	5454	AOD	RELADD		ONT0312
1042	5401	AOD	STOBUF		ONT0313
1043	5452	AOD	LENGTH		ONT0314
1044	6010	ZJF	CHECK		ONT0315
1045	4456	BITCHK SRD	BITCNT		ONT0316
1046	5627	PJB	LODEIN		ONT0317
1047	5455	AOD	RELBIT		ONT0318
1050	2155	LDI	RELBIT		ONT0319
1051	5050	RAD	CHKSUM		ONT0320
1052	6533	NZB	LODEIN		ONT0321
1053	6434	ZJB	LODEIN		ONT0322
1054	4451	CHECK SRD	IGNORE	IF IGNORE CHECKSUM BIT	ONT0323
1055	6304	NJF	XT		ONT0324
1056	2050	LDD	CHKSUM		ONT0325
1057	6002	ZJF	XT		ONT0326
1060	0000	ERR		CHECKSUM ERROR	ONT0327
1061	7101	XT JFI	1		ONT0328
1062	0755		LODE		ONT0329
1063	2200	INTOUT LDC	BUFFER		ONT0330
1064	0100				
1065	7100	JPR	BINARY	BRING IN FIRST RECORD OF FILE 4	ONT0331
1066	0220				
1067	2100	LDM	BUFFER +15		ONT0332
1070	0115				
1071	0301	LSN	1		ONT0333
1072	6002	ZJF	2		ONT0334
1073	0000	ERR		WHERE IS THE INTERPRETER	ONT0335
1074	2310	INTWRT LDB	INTOUT +1		ONT0336
1075	7100	JPR	BINARY	COPY THE INTERPRETER IN	ONT0337
1076	0220				
1077	0400	LDM	0	OSAP BINARY FORMAT ONTO	ONT0338
1100	7100	JPR	BINARY	THE OBJECT CODE TAPE	ONT0339
1101	0220				
1102	2100	LDM	BUFFER		ONT0340
1103	0100				
1104	1200	LPC	1770	TEST END OF INTERPRETER	ONT0341
1105	1770				
1106	6512	NZB	INTWRT		ONT0342
1107	7101	JFI	1		ONT0343
1110	0610		INT1 +2	RETURN TO LOAD LIBRARY FUNCTIONS	ONT0344
1111	2325	OBJOUT LDB	INTOUT +1	OUTPUT THE OBJECT CODE	ONT0345
1112	4001	STD	STOBUF	OUTPUT LOW CORE	ONT0352
1113	0402	LDM	2		ONT0353
1114	4041	STD	TEMPO		ONT0354
1115	2141	LDI	TEMPO		ONT0355
1116	4101	STI	STOBUF		ONT0356
1117	5401	AOD	STOBUF		ONT0357
1120	5441	AOD	TEMPO		ONT0358
1121	0741	SBN	TEMPO		ONT0359
1122	6505	NZB	5		ONT0360
1123	7100	JPR	BINARY		ONT0361
1124	0220				
1125	2341	OTLOOP LDB	INTOUT +1		ONT0362
1126	4001	STD	STOBUF		ONT0363
1127	0020	OUTBNK SIC0			ONT0364
1130	2116	LDI	NPGOAD		ONT0365



1131	0020	SIC0			CNT0366:
1132	4101	STI	STOBUF		CNT0367:
1133	5416	AOD	NPGOAD		CNT0368:
1134	6011	ZJF	DONTST		CNT0369:
1135	5401	AOD	STOBUF		CNT0370:
1136	3600	SBC	BUFFER	+800	CNT0371:
1137	0220				
1140	6511	NZB	OUTBNK		CNT0372:
1141	7100	JPR	BINARY	WRITE ONE 80-CHARACTER RECORD	CNT0373:
1142	0220				
1143	6416	ZJB	OTLOOP		CNT0374:
1144	6517	NZB	OTLOOP		CNT0375:
1145	0500	DONTST	LCN	0	CNT0376:
1146	4041	STD	TEMPO	GET LAST WORD IN BANK	CNT0377:
1147	2320	LDB	OUTBNK		CNT0378:
1150	4201	STF	1		CNT0379:
1151	0027	SIC7			CNT0380:
1152	2141	LDI	TEMPO		CNT0381:
1153	0020	SIC0			CNT0382:
1154	4101	STI	STOBUF		CNT0383:
1155	0400	LDN	0		CNT0384:
1156	7100	JPR	BINARY	WRITE END OF BANK RECORD	CNT0385:
1157	0220				
1160	5731	AOB	OUTBNK		CNT0386:
1161	0207	LPN	7		CNT0387:
1162	3411	SBD	BANKS	TEST FOR LAST BANK	CNT0388:
1163	6536	NZB	OTLOOP		CNT0389:
1164	7101	JFI	1		CNT0390:
1165	0655		OBJ1	+2	CNT0391:
1166	0400	VECTOR	LDN	0	CNT0392:
1167	7100	JPR	BINARY	OUTPUT VECTOR	CNT0393:
1170	0220				
1171	7101	JFI	1		CNT0394:
1172	0711		VEC1	+2	CNT0395:
1173	2216	ENDCOD	LDF	TRNSAD	CNT0396:
1174	7100	JPR	BINARY	LOAD INTERPRETER	CNT0397:
1175	0220				
1176	2200	LDC	200		CNT0398:
1177	0200				
1200	4100	STM	371		CNT0399:
1201	0371				
1202	0420	LDN	20		CNT0400:
1203	5023	RAD	BANK		CNT0401:
1204	4201	STF	1		CNT0402:
1205	0027	SIC7			CNT0403:
1206	7707	SLS7		SELECTIVE STOP	CNT0404:
1207	7101	JFI	1		CNT0405:
1210	0411		ARITHA		CNT0406:
1211	0400	TRNSAD	400		CNT0407:
1212	0000	INTVEC			CNT0408:
	0411	ARITHA	EQU	411	CNT0409:
			SUPB		
	0000		END		CNT0410:

10-25-62 1612  
 OBJECT CODE PRINTER LISTING

Object Code	Printer Code	Object Code	Printer Code	Printer Code
0414	0000	REM		OCL1200
0414	0414	REM		OCL1200
0414	0040	ORG	414	OCL1200
0415	0020	ERR	0	OCL1200
0416	0401	ORG	414	OCL1200
0417	4100	SDCO		OCL1200
0420	1471	SICO		OCL1200
0421	5416	LDN	1	OCL1200
0422	6102	STI	0	OCL1200
0423	5415		STOP	OCL1200
0424	2015	ADD	LOCC	OCL1201
0425	0207	NZF	GOA	OCL1201
0426	0620	ADD	BANK	OCL1201
0427	4015	LDD	BANK	OCL1201
0430	4207	LPN	7	OCL1201
0431	2025	ADN	20	OCL1201
0432	0207	STD	BANK	OCL1201
0433	0620	STR	BNKSET	OCL1201
0434	4025	LDD	LAST	OCL1201
0435	7100	LPN	7	OCL1201
0436	1605	ADN	20	OCL1202
0437	0020	STD	LAST	OCL1202
0440	6005	JPR	20S	OCL1202
0441	7100	BNKSET	SICO	OCL1202
0442	1526	ZJR	NXTWDA	OCL1202
0443	7100	NXTWD	JPR	OCL1202
0444	1605	JPR	ILC	OCL1202
0445	2116	JPR	20S	OCL1202
0446	4001	NXTWDA	LDI	OCL1202
0447	0111	STD	LOCC	OCL1202
0450	0277	LS6	FRSTWD	OCL1202
0451	4000	LPN	77	OCL1203
0452	0020	STD	80PCD	OCL1203
0453	0751	SICO		OCL1203
0454	6203	SBN	51	OCL1203
0455	7101	PJR	PRNTC	OCL1203
0456	0670	JFI	1	OCL1203
0457	2001	OWDOP		OCL1203
0460	0207	PRNTC	LDD	OCL1203
0461	6102	LPN	FRSTWD	OCL1203
0462	0412	NZR	7	OCL1203
0463	4100	LDN	12	OCL1203
0464	2732	PRNTD	STI	OCL1204
0465	2001	OUT	0	OCL1204
0466	0114	LDD	100	OCL1204
0467	0115	FRSTWD		OCL1204
0470	0207	RS1		OCL1204
0471	6102	RS2		OCL1204
0472	0412	LPN	7	OCL1204
0473	4100	NZR	PRNTE	OCL1204
0474	2731	LDN	12	OCL1204
		PRNTE	STI	OCL1204
		OUT	0	OCL1204
		OUT	90	OCL1205

475	7100	PRNTEA	JPR	ILC					OCL1205:
0476	1526								
0477	7100		JPR	OCTAL					OCL1205:
500	1624								
501	2000		LDD	80PCD					OCL1205:
0502	0751		SBN	51					OCL1205:
503	6131		NZR	80C64					OCL1205:
0504	2001		LDD	FRSTWD					OCL1205:
0505	0230		LPN	30					OCL1205:
506	3200	80C51	ADC	51LST					OCL1205:
0507	2531								
0510	4003	PRNTJ	STD	TEMP1					OCL1205:
511	2200		LDC	OUT	30D				OCL1206:
0512	2756								
0513	4004		STD	TEMP2					OCL1206:
514	0510		LCN	8D					OCL1206:
0515	4005		STD	TEMP3					OCL1206:
0516	2103	PRNTI	LDI	TEMP1					OCL1206:
517	0111		LS6						OCL1206:
0520	0277		LPN	77					OCL1206:
0521	4104		STI	TEMP2					OCL1206:
522	5404		AOD	TEMP2					OCL1206:
0523	2103		LDI	TEMP1					OCL1206:
0524	0277		LPN	77					OCL1207:
525	4104		STI	TEMP2					OCL1207:
0526	5403		AOD	TEMP1					OCL1207:
0527	5404		AOD	TEMP2					OCL1207:
530	5405		AOD	TEMP3					OCL1207:
0531	6513		NZR	PRNTI					OCL1207:
32	7101		JFI	1					OCL1207:
533	0650			LDCHRS					OCL1207:
0534	0701	80C64	SBN	1					OCL1207:
0535	6117		NZR	80C65					OCL1207:
536	2001		LDD	FRSTWD					OCL1208:
0537	0210		LPN	10					OCL1208:
0540	6035		ZJR	80C67					OCL1208:
541	0442		LDN	42					OCL1208:
0542	4100		STI	0					OCL1208:
0543	2727			OUT	7				OCL1208:
544	0464		LDN	64					OCL1208:
0545	4100		STI	0					OCL1208:
0546	2730			OUT	8D				OCL1208:
547	0463		LDN	63					OCL1208:
0550	4100		STI	0					OCL1209:
0551	2731			OUT	9D				OCL1209:
552	7101		JFI	1					OCL1209:
0553	0664			PUTOUT					OCL1209:
0554	0713	80C65	SBN	13					OCL1209:
555	6003		ZJR	80C65A					OCL1209:
0556	0701		SBN	1					OCL1209:
0557	6116		NZR	80C67					OCL1209:
560	2001	80C65A	LDD	FRSTWD					OCL1209:
0561	0210		LPN	10					OCL1209:
0562	6013		ZJR	80C67					OCL1210:
63	0443		LDN	43					OCL1210:
564	4100		STI	0					OCL1210:
0565	2727			OUT	7				OCL1210:
566	0463		LDN	63					OCL1210:
0567	4100		STI	0					OCL1210:
0570	2730			OUT	8D				OCL1210:

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0571	0445		LDN	45					OCL1210
0572	4100		STI	0					OCL1210
0573	2731			OUT	9D				OCL1210
0574	6170		NZR	PUTOUT					OCL121
0575	2000	BOC67	LDD	BOPCD					OCL1211
0576	0767		SBN	67					OCL1211
0577	6003		ZJR	BOC67A					OCL1211
0600	0701		SBN	1					OCL12114
0601	6106		NZR	BOC71					OCL1211
0602	2001	BOC67A	LDD	FRSTWD					OCL1211
0603	0230		LPN	30					OCL1211
0604	3200		ADC	67LST					OCL1211
0605	2571								
0606	6130		NZR	PRNTJJ					OCL12111
0607	2000	BOC71	LDD	BOPCD					OCL1212
0610	0771		SBN	71					OCL1212
0611	6003		ZJR	BOC71A					OCL1212
0612	0701		SBN	1					OCL1212
0613	6106		NZR	BOC76					OCL1212
0614	2001	BOC71A	LDD	FRSTWD					OCL1212
0615	0230		LPN	30					OCL1212
0616	3200		ADC	71LST					OCL1212
0617	2631								
0620	6116		NZR	PRNTJJ					OCL1212
0621	2000	BOC76	LDD	BOPCD					OCL1212
0622	0776		SBN	76					OCL1213
0623	6115		NZR	BOC52					OCL1213
0624	2001		LDD	FRSTWD					OCL1213
0625	0210		LPN	10					OCL1217
0626	6003		ZJR	BOC76A					OCL121
0627	7101		JFI	1					OCL1213
0630	0506			BOC51					OCL12134
0631	2001	BOC76A	LDD	FRSTWD					OCL1213
0632	0240		LPN	40					OCL1213
0633	0115		RS2						OCL1213
0634	3200		ADC	76LST					OCL1213
0635	2671								OCL1214
0636	7101	PRNTJJ	JFI	1					OCL1214
0637	0510			PRNTJ					OCL1214
0640	2001	BOC52	LDD	FRSTWD					OCL1214
0641	0114		RS1						OCL12144
0642	0115		RS2						OCL1214
0643	0203		LPN	3					OCL1214
0644	6102		NZR	BOC52A					OCL1214
0645	0412		LDN	12					OCL1214
0646	4100	BOC52A	STI	0					OCL1214
0647	2743			OUT	19D				OCL12158
0650	2000	LDCHRS	LDD	BOPCD					OCL1215
0651	0103		LS2						OCL1215
0652	3200		ADC	BOPCDS					OCL1215
0653	1650								
0654	4003		STD	TEMP1					OCL1215
0655	2103		LDI	TEMP1					OCL1215
0656	4100		STI	0					OCL1215
0657	2727			OUT	7				OCL121
0660	5403		AOD	TEMP1					OCL1215
0661	2103		LDI	TEMP1					OCL1215
0662	4100		STI	0					OCL1216
0663	2730			OUT	8D				OCL1216
0664	7100	PUTOUT	JPR	OUTPUT					OCL1216

0665	1546				
0666	7101		JFI	1	
0667	0441			NXTWD	
0670	2000	OWDOP	LDD	BOPCD	
0671	0103		LS2		
0672	3200		ADC	BOPCDS	
0673	1650				
0674	4003		STD	TEMP1	
0675	0504		LCN	4	
0676	4004		STD	TEMP2	
0677	2200		LDC	OUT	7
0700	2727				
0701	4005		STD	TEMP3	
0702	2103	OWDOPA	LDI	TEMP1	
0703	4105		STI	TEMP3	
0704	5403		AOD	TEMP1	
0705	5405		AOD	TEMP3	
0706	5404		AOD	TEMP2	
0707	6505		NZR	OWDOPA	
0710	2000		LDD	BOPCD	
0711	6103		NZR	BOC01	
0712	7101		JFI	1	
0713	1404			BOC47A	
0714	0701	BOC01	SBN	1	
0715	6400		ZJR	BOC01B	
0716	7101		JFI	1	
0717	1063			BOC02	
0720	2001	BOC01B	LDD	FRSTWD	
0721	0277		LPN	77	
0722	6113		NZR	BOC01A	
0723	0464		LDN	64	
0724	4100		STI	0	
0725	2727			OUT	7
0726	0451		LDN	51	
0727	4100		STI	0	
0730	2730			OUT	8D
0731	0446		LDN	46	
0732	4100		STI	0	
0733	2731			OUT	9D
0734	6550		NZR	PUTOUT	
0735	2001	BOC01A	LDD	FRSTWD	
0736	0207		LPN	7	
0737	6102		NZR	BOC01C	
0740	0412		LDN	12	
0741	4100	BOC01C	STI	0	
0742	2736			OUT	14D
0743	2001		LDD	FRSTWD	
0744	0114		RS1		
0745	0115		RS2		
0746	0207		LPN	7	
0747	6102		NZR	BOC01D	
0750	0412		LDN	12	
0751	4100	BOC01D	STI	0	
0752	2735			OUT	13D
0753	2001		LDD	FRSTWD	
0754	0277		LPN	77	
0755	0701		SBN	1	
0756	0103		LS2		
0757	3200		ADC	MACLST	
0760	2244				

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0761	4003		STD	TEMP1					OCL1221
0762	2200		LDC	OUT	300				OCL1222
0763	2756								
0764	4004		STD	TEMP2					OCL122
0765	0504		LCN	4					OCL1222
0766	4005		STD	TEMP3					OCL1222
0767	2103	B0001E	LDI	TEMP1					OCL1222
0770	0111		LS6						OCL1222
0771	0277		LPN	77					OCL1222
0772	4104		STI	TEMP2					OCL1222
0773	5404		AOD	TEMP2					OCL1222
0774	2103		LDI	TEMP1					OCL1222
0775	0277		LPN	77					OCL1223
0776	4104		STI	TEMP2					OCL1223
0777	5403		AOD	TEMP1					OCL1223
1000	5404		AOD	TEMP2					OCL1223
1001	5405		AOD	TEMP3					OCL1223
1002	6513		NZR	B0001E					OCL1223
1003	2001		LDD	FRSTWD					OCL1223
1004	0277		LPN	77					OCL1223
1005	0701		SBN	1					OCL1223
1006	3200		ADC	MACNT					OCL1223
1007	2314								
1010	4003		STD	TEMP1					OCL1224
1011	2103		LDI	TEMP1					OCL1224
1012	4202		STR	COUNT					OCL1224
1013	5600		AOF	0					OCL1224
1014	0000	COUNT							OCL1224
1015	6027		ZJR	CNTB					OCL1224
1016	7100	CNTA	JPR	OUTPUT					OCL1224
1017	1546								
1020	7100		JPR	ILC					OCL1224
1021	1526								
1022	2116		LDI	LUCC					OCL1224
1023	4002		STD	SECWD					OCL1224
1024	7100		JPR	20S					OCL1225
1025	1605								
1026	7100		JPR	OCTALI					OCL1225
1027	1624								
1030	5714		AOR	COUNT					OCL1225
1031	6013		ZJR	CNTB					OCL1225
1032	7100	CNTC	JPR	OUTPUT					OCL1225
1033	1546								
1034	7100		JPR	ILC					OCL12255
1035	1526								
1036	7100		JPR	20S					OCL1225
1037	1605								
1040	7100		JPR	OCTALI					OCL1225
1041	1624								
1042	5726		AOR	COUNT					OCL1225
1043	6511		NZR	CNTC					OCL1225
1044	2001	CNTB	LDD	FRSTWD					OCL1226
1045	0277		LPN	77					OCL12261
1046	0707		SBN	7					OCL1226
1047	6003		ZJR	CNTD					OCL1226
1050	7101	CNTR	JFI	1					OCL12264
1051	0664			PUTOUT	OUT				OCL1226
1052	4001	CNTD	STD	FRSTWD					OCL12264
1053	2002		LDD	SECWD					OCL1226
1054	0115		RS2						OCL1226

1055	0114		RS1						OCL12269
1056	0102		LS1						OCL12270
1057	1600		LSC	7777					OCL12271
1060	7777								
1061	4345		STR	COUNT					OCL12272
1062	6730		NJR	CNTC					OCL12273
1063	0701	BOC02	SBN	1					OCL12274
1064	6164		NZR	BOC03					OCL12275
1065	2001		LDD	FRSTWD					OCL12276
1066	0277		LPN	77					OCL12277
1067	6112		NZR	BOC02E					OCL12278
1070	0451		LDN	51					OCL12279
1071	4100		STI	0					OCL12280
1072	2727		OUT	7					OCL12281
1073	4100		STI	0					OCL12282
1074	2731		OUT	9D					OCL12283
1075	0423		LDN	23					OCL12284
1076	4100		STI	0					OCL12285
1077	2730		OUT	8D					OCL12286
1100	6500		NZR	CNTE					OCL12287
1101	0207	BOC02E	LPN	7					OCL12288
1102	6102		NZR	BOC02A					OCL12289
1103	0412		LDN	12					OCL12290
1104	4100	BOC02A	STI	0					OCL12291
1105	2736		OUT	14D					OCL12292
1106	2001		LDD	FRSTWD					OCL12293
1107	0114		RS1						OCL12294
1110	0115		RS2						OCL12295
1111	0207		LPN	7					OCL12296
1112	6102		NZR	BOC02B					OCL12297
1113	0412		LDN	12					OCL12298
1114	4100	BOC02B	STI	0					OCL12299
1115	2735		OUT	13D					OCL12300
1116	2001		LDD	FRSTWD					OCL12301
1117	0277		LPN	77					OCL12302
1120	0751		SBN	41D					OCL12303
1121	0103		LS2						OCL12304
1122	3200		ADC	02LST					OCL12305
1123	2326								
1124	4003	BOC02F	STD	TEMP1					OCL12306
1125	0504		LCN	4					OCL12307
1126	4004		STD	TEMP2					OCL12308
1127	2200		LDC	OUT	30D				OCL12309
1130	2756								
1131	4005		STD	TEMP3					OCL12310
1132	2103	BOC02C	LDI	TEMP1					OCL12311
1133	0111		LS6						OCL12312
1134	0277		LPN	77					OCL12313
1135	4105		STI	TEMP3					OCL12314
1136	5405		ADD	TEMP3					OCL12315
1137	2103		LDI	TEMP1					OCL12316
1140	0277		LPN	77					OCL12317
1141	4105		STI	TEMP3					OCL12318
1142	5403		ADD	TEMP1					OCL12319
1143	5405		ADD	TEMP3					OCL12320
1144	5404		ADD	TEMP2					OCL12321
1145	6513		NZR	BOC02C					OCL12322
1146	7101	BOC02D	JFI	1					OCL12323
1147	0664		PUTOUT						OCL12324
1150	2000	BOC03	LDD	BOPCD					OCL12325

OUT

00286

1151	0715	SBN	15		OCL1232
1152	6203	PJR	BOC15		OCL1232
1153	7101	JFI	1		OCL1232
1154	1404		BOC47A		OCL123
1155	0707	BOC15	SBN	7	OCL1233
1156	6233	PJR	BOC24		OCL1233
1157	2001	LDD	FRSTWD		OCL1233
1160	0207	LPN	7		OCL1233
1161	6102	NZR	BOC15A		OCL1233
1162	0412	LDN	12		OCL1233
1163	4100	BOC15A	STI	0	OCL1233
1164	2732		OUT	10D	OCL1233
1165	2001	LDD	FRSTWD		OCL1233
1166	0114	RS1			OCL1233
1167	0115	RS2			OCL1234
1170	0207	LPN	7		OCL1234
1171	4003	STD	TEMP1		OCL1234
1172	6102	NZR	BOC15B		OCL1234
1173	0412	LDN	12		OCL1234
1174	4100	BOC15B	STI	0	OCL1234
1175	2731		OUT	9D	OCL1234
1176	2003	LDD	TEMP1		OCL1234
1177	0203	LPN	3		OCL1234
1200	6102	NZR	BOC15D		OCL1234
1201	0412	LDN	12		OCL1235
1202	4100	BOC15D	STI	0	OCL1235
1203	2743		OUT	19D	OCL1235
1204	2001	LDD	FRSTWD		OCL1235
1205	0204	LPN	4		OCL1235
1206	3200	ADC	15LST		OCL1235
1207	2362				
1210	6564	NZR	BOC02F		OCL1235
1211	2000	BOC24	LDD	BOPCD	OCL1235
1212	0735	SBN	35		OCL1235
1213	6265	PJR	BOC35		OCL1235
1214	0601	ADN	1		OCL1236
1215	6134	NZR	BOC24A		OCL1236
1216	2001	LDD	FRSTWD		OCL1236
1217	0260	LPN	60		OCL1236
1220	0114	RS1			OCL1236
1221	3200	ADC	34LST		OCL1236
1222	2372				
1223	4003	STD	TEMP1		OCL1236
1224	2200	LDC	OUT	30D	OCL1236
1225	2756				
1226	4004	STD	TEMP2		OCL1236
1227	0510	LCN	8D		OCL1236
1230	4005	STD	TEMP3		OCL1237
1231	2103	BOC24B	LDI	TEMP1	OCL1237
1232	0111	LS6			OCL1237
1233	0277	LPN	77		OCL1237
1234	4104	STI	TEMP2		OCL1237
1235	5404	AOD	TEMP2		OCL1237
1236	2103	LDI	TEMP1		OCL1237
1237	0277	LPN	77		OCL1237
1240	4104	STI	TEMP2		OCL1237
1241	5403	AOD	TEMP1		OCL1237
1242	5404	AOD	TEMP2		OCL1238
1243	5405	AOD	TEMP3		OCL1238
1244	6513	NZR	BOC24B		OCL1238



1245	2001	LDD	FRSTWD			OCL1238:
1246	0217	LPN	17			OCL1238:
1247	4001	STD	FRSTWD			OCL1238:
1250	6210	PJR	BOC24C			OCL1238:
1251	2001	BOC24A	LDD	FRSTWD		OCL1238:
1252	0240	LPN	40			OCL1238:
1253	6002	ZJR	BOC24D			OCL1238:
1254	0403	LDN	3			OCL1239:
1255	0666	BOC24D	ADN	66		OCL1239:
1256	4100	STI	0			OCL1239:
1257	2727		OUT	7		OCL1239:
1260	2001	BOC24C	LDD	FRSTWD		OCL1239:
1261	0207	LPN	7			OCL1239:
1262	6102	NZR	BOC24E			OCL1239:
1263	0412	LDN	12			OCL1239:
1264	4100	BOC24E	STI	0		OCL1239:
1265	2736		OUT	14D		OCL1239:
1266	2001	LDD	FRSTWD			OCL1240:
1267	0114	RS1				OCL1240:
1270	0115	RS2				OCL1240:
1271	0203	LPN	3			OCL1240:
1272	6102	NZR	BOC24F			OCL1240:
1273	0412	LDN	12			OCL1240:
1274	4100	BOC24F	STI	0		OCL1240:
1275	2735		OUT	13D		OCL1240:
1276	7101	JFI	1			OCL1240:
1277	0664		PUTOUT		OUT	OCL1240:
1300	2000	BOC35	LDD	BOPCD		OCL1241:
1301	0744	SBN	44			OCL1241:
1302	6731	NJR	BOC24A			OCL1241:
1303	6111	BOC44	NZR	BOC45		OCL1241:
1304	2001	LDD	FRSTWD			OCL1241:
1305	0240	LPN	40			OCL1241:
1306	6002	ZJR	BOC44A			OCL1241:
1307	0547	LCN	47			OCL1241:
1310	0671	BOC44A	ADN	71		OCL1241:
1311	4100	BOC44B	STI	0		OCL1241:
1312	2727		OUT	7		OCL1242:
1313	6533	NZR	BOC24C		F.E.	OCL1242:
1314	0701	BOC45	SBN	1		OCL1242:
1315	6107	NZR	BOC46			OCL1242:
1316	2001	LDD	FRSTWD			OCL1242:
1317	0240	LPN	40			OCL1242:
1320	6002	ZJR	BOC45A			OCL1242:
1321	0421	LDN	21			OCL1242:
1322	0622	BOC45A	ADN	22		OCL1242:
1323	6512	NZR	BOC44B			OCL1242:
1324	0701	BOC46	SBN	1		OCL1243:
1325	6155	NZR	BOC47			OCL1243:
1326	2001	LDD	FRSTWD			OCL1243:
1327	0240	LPN	40			OCL1243:
1330	6002	ZJR	BOC46A			OCL1243:
1331	0407	LDN	7			OCL1243:
1332	4003	BOC46A	STD	TEMP1		OCL1243:
1333	2001	LDD	FRSTWD			OCL1243:
1334	0207	LPN	7			OCL1243:
1335	5003	RAD	TEMP1			OCL1243:
1336	4004	STD	TEMP2			OCL1244:
1337	0102	LS1				OCL1244:
1340	5003	RAD	TEMP1			OCL1244:

00286

1341	3200	ADC	46LST			OCL1244
1342	2432					
1343	4003	STD	TEMP1			OCL1244
1344	2103	LDI	TEMP1			OCL124
1345	4100	STI	0			OCL1244
1346	2727		OUT	7		OCL1244
1347	5403	AOD	TEMP1			OCL1244
1350	2103	LDI	TEMP1			OCL1244
1351	4100	STI	0			OCL1245
1352	2730		OUT	8D		OCL1245
1353	5403	AOD	TEMP1			OCL1245
1354	2103	LDI	TEMP1			OCL1245
1355	4100	STI	0			OCL1245
1356	2731		OUT	9D		OCL1245
1357	2004	LDD	TEMP2			OCL1245
1360	0702	SBN	2			OCL1245
1361	6305	NJR	BOC46C			OCL1245
1362	6304	NJR	BOC46C			OCL1245
1363	0702	SBN	2			OCL1246
1364	0705	SBN	5			OCL1246
1365	6313	NJR	BOC46B			OCL1246
1366	2001	BOC46C	LDD	FRSTWD		OCL1246
1367	0230	LPN	30			OCL1246
1370	0114	RS1				OCL1246
1371	0115	RS2				OCL1246
1372	6102	NZR	BOC45B			OCL1246
1373	0412	LDN	12			OCL1246
1374	4100	BOC45B	STI	0		OCL1246
1375	2743		OUT	19D		OCL124
1376	4100	STI	0			OCL124
1377	2732		OUT	18D		OCL1247
1400	7101	BOC46B	JFI	1		OCL1247
1401	0664		PUTOUT		OUT	OCL1247
1402	0701	BOC47	SBN	1		OCL1247
1403	6120	NZR	BOC50			OCL1247
1404	2001	BOC47A	LDD	FRSTWD		OCL1247
1405	0207	LPN	7			OCL1247
1406	6102	NZR	BOC47B			OCL1247
1407	0412	LDN	12			OCL1248
1410	4100	BOC47B	STI	0		OCL1248
1411	2736		OUT	14D		OCL1248
1412	2001	LDD	FRSTWD			OCL1248
1413	0270	LPN	70			OCL1248
1414	0114	RS1				OCL1248
1415	0115	RS2				OCL1248
1416	6102	NZR	BOC47C			OCL1248
1417	0412	LDN	12			OCL1248
1420	4100	BOC47C	STI	0		OCL1248
1421	2735		OUT	13D		OCL1249
1422	6522	NZR	BOC46B			OCL1249
1423	2001	BOC50	LDD	FRSTWD		OCL1249
1424	0114	RS1				OCL1249
1425	0115	RS2				OCL1249
1426	0203	LPN	3			OCL1249
1427	6102	NZR	BOC50A			OCL124
1430	0412	LDN	12			OCL12495
1431	4100	BOC50A	STI	0		OCL1249
1432	2743		OUT	19D		OCL1249
1433	2001	LDD	FRSTWD			OCL1250
1434	0203	LPN	3			OCL1250

435	0110		LS3						OCL12502
1436	3200		ADC	50LST					OCL12501
437	2501								
40	4003		STD	TEMP1					OCL1250:
1441	2200		LDC	OUT	300				OCL1250:
442	2756								
443	4004		STD	TEMP2					OCL1250:
1444	0510		LCN	80					OCL1250:
445	4005		STD	TEMP3					OCL1250:
446	2103	BOC50B	LDI	TEMP1					OCL1250:
1447	0111		LS6						OCL1251:
450	0277		LPN	77					OCL1251:
451	4104		STI	TEMP2					OCL1251:
1452	5404		AOD	TEMP2					OCL1251:
453	2103		LDI	TEMP1					OCL12514
454	0277		LPN	77					OCL12515
1455	4104		STI	TEMP2					OCL1251:
456	5403		AOD	TEMP1					OCL12515
457	5404		AOD	TEMP2					OCL1251:
1460	5405		AOD	TEMP3					OCL12519
461	6513		NZR	BOC50B					OCL12528
462	2001		LDD	FRSTWD					OCL1252:
1463	0203		LPN	3					OCL1252:
464	6102		NZR	BOC50C					OCL1252:
465	0412		LDN	12					OCL1252:
1466	4100	BOC50C	STI	0					OCL1252:
467	2735			OUT	130				OCL1252:
470	6570		NZR	BOC46B					OCL12525
71	0001	STOP	NOP1						OCL1252:
72	0577		LCN	77					OCL1252:
473	4302		STR	STOP					OCL1253:
1474	2031		LDD	FINISH					OCL1253:
475	1425		LSD	LAST					OCL1253:
476	0207		LPN	7					OCL1253:
1477	6104		NZR	STOPA					OCL1253:
500	5432		AOD	FINISH	1				OCL1253:
501	1426		LSD	LAST	1				OCL1253:
1502	6411		ZJR	STOP					OCL1253:
503	2031	STOPA	LDD	FINISH					OCL1253:
504	0207		LPN	7					OCL1253:
1505	0620		ADN	20					OCL1254:
506	4025		STD	LAST					OCL1254:
507	2032		LDD	FINISH	1				OCL1254:
1510	4026		STD	LAST	1				OCL1254:
511	6102		NZR	ENDC					OCL1254:
1512	5425		AOD	LAST					OCL1254
1513	7100	ENDC	JPR	ILC					OCL12544
514	1526								
1515	7100		JPR	20S					OCL1254:
1516	1605								
517	7100		JPR	OCTAL					OCL1254:
1520	1624								
1521	7100		JPR	OUTPUT					OCL1254:
522	1546								
523	7101		JFI	1					OCL1255:
1524	1513			ENDC					OCL1255:
			REM						OCL1255:
1525	7101	ILCZ	JFI	1					OCL1255:
1526	7700	ILC	HLT						OCL1255
527	5416		AOD	LOCC					OCL12551

INCREASE LOCATION COUNTER

00290

1530	6102		NZR	ILCA					OCL1255
1531	5415		AGD	BANK					OCL1255
1532	2015	ILCA	LDD	BANK					OCL1255
1533	4202		STR	ILCB					OCL1255
1534	4247		STR	20SD					OCL1256
1535	0000	ILCB	SICO						OCL1256
1536	2016		LDD	LOCC					OCL1256
1537	1426		LSD	LAST					OCL1256
1540	6513		NZR	ILCZ					OCL1256
1541	2015		LDD	BANK					OCL1256
1542	1425		LSD	LAST					OCL1256
1543	6516		NZR	ILCZ					OCL1256
1544	6453		ZJR	STOP					OCL1256
1545	7101	OUTPUTZ	JFI	1					OCL1256
1546	7700	OUTPUT	HLT						OCL1256
1547	7500		EXC	600					OCL1257
1550	0600								OCL1257
1551	7600		INA						OCL1257
1552	6403		ZJR	3					OCL1257
1553	7306		OUT	OTPUTY					OCL1257
1554	3102			OUTT	171				OCL1257
1555	7500		EXC	605					OCL1257
1556	0605								OCL1257
1557	7101		JFI	1					OCL1257
1560	1545			OTPUTZ					OCL1257
1561	2711	OTPUTY		OUTT					OCL1257
1562	0504	20SZ	LCN	4					OCL1258
1563	4003		STD	TEMP1					OCL1258
1564	2016		LDD	LOCC					OCL1258
1565	4004		STD	TEMP2					OCL1258
1566	2200		LDC	OUTT	7				OCL1258
1567	2720								OCL1258
1570	4005		STD	TEMP3					OCL1258
1571	2004	20SB	LDD	TEMP2					OCL1258
1572	0110		LS3						OCL1258
1573	4004		STD	TEMP2					OCL1258
1574	0207		LPN	7					OCL1258
1575	6102		NZR	20SC					OCL1259
1576	0412		LDN	12					OCL1259
1577	4105	20SC	STI	TEMP3					OCL1259
1600	5405		AOD	TEMP3					OCL1259
1601	5403		AOD	TEMP1					OCL1259
1602	6511		NZR	20SB					OCL1259
1603	0020	20SD	SICO						OCL1259
1604	7101		JFI	1					OCL1259
1605	7700	20S	HLT						OCL1259
1606	2600		LCC	120D					OCL1259
1607	0170								OCL1259
1610	4003		STD	TEMP1					OCL1260
1611	2200		LDC	OUTT					OCL1260
1612	2711								OCL1260
1613	4004		STD	TEMP2					OCL1260
1614	0020		SICO						OCL1260
1615	0420	20SA	LDN	20					OCL1260
1616	4104		STI	TEMP2					OCL1260
1617	5404		AOD	TEMP2					OCL1260
1620	5403		AOD	TEMP1					OCL1260
1621	6504		NZR	20SA					OCL1260
1622	6440		ZJR	20SZ					OCL1260
1623	7101	OCTALZ	JFI	1					OCL1261

1624	7700	OCTAL	HLT						OCL12611
1625	0504		LCN	4					OCL12611
1626	4003		STD	TEMP1					OCL12611
1627	2116		LDI	LOCC					OCL12611
1630	4004		STD	TEMP2					OCL12611
1631	2200		LDC	OUT	13D				OCL12611
1632	2735								
1633	4005		STD	TEMP3					OCL12615
1634	0020		SICO						OCL12611
1635	2004	OCTALB	LDD	TEMP2					OCL12611
1636	0110		LS3						OCL12628
1637	4004		STD	TEMP2					OCL12621
1640	0207		LPN	7					OCL12621
1641	6102		NZR	OCTALA					OCL12621
1642	0412		LDN	12					OCL12621
1643	4105	OCTALA	STI	TEMP3					OCL12625
1644	5405		AOD	TEMP3					OCL12624
1645	5403		AOD	TEMP1					OCL12621
1646	6511		NZR	OCTALB					OCL12621
1647	6424		ZJR	OCTALZ					OCL12621
1650	0070	BOPCDS		70		HPR			OCL12631
1651	0047			47					OCL12631
1652	0051			51					OCL12631
1653	0020			20					OCL12631
1654	0023			23		TRM			OCL12631
1655	0051			51					OCL12635
1656	0044			44					OCL12634
1657	0020			20					OCL12631
1660	0023			23		TRA			OCL12631
1661	0051			51					OCL12631
1662	0061			61					OCL12641
1663	0020			20					OCL12641
1664	0023			23		TRF			OCL12641
1665	0051			51					OCL12641
1666	0066			66					OCL12644
1667	0020			20					OCL12641
1670	0023			23		TRB			OCL12641
1671	0051			51					OCL12645
1672	0062			62					OCL12641
1673	0020			20					OCL12640
1674	0023			23		TPF			OCL12651
1675	0047			47					OCL12651
1676	0066			66					OCL12651
1677	0020			20					OCL12651
1700	0023			23		TPB			OCL12651
1701	0047			47					OCL12651
1702	0062			62					OCL12651
1703	0020			20					OCL12655
1704	0023			23		TNF			OCL12651
1705	0045			45					OCL12651
1706	0066			66					OCL12660
1707	0020			20					OCL12661
1710	0023			23		TNB			OCL12661
1711	0045			45					OCL12661
1712	0062			62					OCL12661
1713	0020			20					OCL12661
1714	0023			23		TZF			OCL12661
1715	0031			31					OCL12665
1716	0066			66					OCL12661
1717	0020			20					OCL12661

00292  
00292

1720	0023	23	TZB	OCL1267
1721	0031	31		OCL1267
1722	0062	62		OCL1267
1723	0020	20		OCL1267
1724	0031	31	ZNF	OCL1267
1725	0045	45		OCL1267
1726	0066	66		OCL1267
1727	0020	20		OCL1267
1730	0031	31	ZNB	OCL1267
1731	0045	45		OCL1267
1732	0062	62		OCL1267
1733	0020	20		OCL1268
1734	0022	22	ST	OCL1268
1735	0023	23		OCL1268
1736	0000	0		OCL1268
1737	0000	0		OCL1268
1740	0061	61	AD	OCL1268
1741	0064	64		OCL1268
1742	0000	0		OCL1268
1743	0000	0		OCL1268
1744	0022	22	SB	OCL1268
1745	0062	62		OCL1268
1746	0000	0		OCL1268
1747	0000	0		OCL1268
1750	0044	44	MP	OCL1268
1751	0047	47		OCL1268
1752	0000	0		OCL1268
1753	0000	0		OCL1268
1754	0064	64	DV	OCL1268
1755	0025	25		OCL1268
1756	0000	0		OCL1268
1757	0000	0		OCL1268
1760	0064	64	DI	OCL1268
1761	0071	71		OCL1268
1762	0000	0		OCL1268
1763	0000	0		OCL1268
1764	0043	43	LD	OCL1268
1765	0064	64		OCL1268
1766	0000	0		OCL1268
1767	0000	0		OCL1268
1770	0066	66	FST	OCL1268
1771	0022	22		OCL1271
1772	0023	23		OCL1271
1773	0020	20		OCL1271
1774	0000	0	AD	OCL1271
1775	0061	61		OCL1271
1776	0064	64		OCL1271
1777	0020	20		OCL1271
2000	0000	0	SB	OCL1271
2001	0022	22		OCL1271
2002	0062	62		OCL1271
2003	0020	20		OCL1271
2004	0000	0	MP	OCL1271
2005	0044	44		OCL1271
2006	0047	47		OCL1271
2007	0020	20		OCL1271
2010	0000	0	DV	OCL1271
2011	0064	64		OCL1271
2012	0025	25		OCL1271
2013	0020	20		OCL1271

00293  
00293

2014	0000	0	ID	OCL12739
2015	0071	71		OCL12739
2016	0064	64		OCL12739
2017	0020	20		OCL12739
2020	0066	66	FLD	OCL12739
2021	0043	43		OCL12739
2022	0064	64		OCL12739
2023	0020	20		OCL12739
2024	0000	0	LN	OCL12739
2025	0043	43		OCL12739
2026	0045	45		OCL12740
2027	0020	20		OCL12740
2030	0071	71	ILG	OCL12740
2031	0043	43		OCL12740
2032	0063	63		OCL12744
2033	0020	20		OCL12745
2034	0000	0	ES	OCL12745
2035	0065	65		OCL12745
2036	0022	22		OCL12745
2037	0020	20		OCL12745
2040	0000	0	AE	OCL12750
2041	0061	61		OCL12750
2042	0065	65		OCL12750
2043	0020	20		OCL12750
2044	0000	0	SE	OCL12750
2045	0022	22		OCL12750
2046	0065	65		OCL12754
2047	0020	20		OCL12754
2050	0000	0	ME	OCL12754
2051	0044	44		OCL12754
2052	0065	65		OCL12754
2053	0020	20		OCL12760
2054	0000	0	DE	OCL12760
2055	0064	64		OCL12760
2056	0065	65		OCL12760
2057	0020	20		OCL12760
2060	0000	0	IE	OCL12760
2061	0071	71		OCL12760
2062	0065	65		OCL12760
2063	0020	20		OCL12760
2064	0000	0	LE	OCL12760
2065	0043	43		OCL12770
2066	0065	65		OCL12770
2067	0020	20		OCL12770
2070	0000	0	EC	OCL12770
2071	0065	65		OCL12770
2072	0063	63		OCL12770
2073	0020	20		OCL12770
2074	0000	0	AC	OCL12770
2075	0061	61		OCL12770
2076	0063	63		OCL12780
2077	0020	20		OCL12780
2100	0000	0	OWR	OCL12780
2101	0000	0		OCL12780
2102	0000	0		OCL12780
2103	0020	20		OCL12780
2104	0023	23		OCL12780
2105	0071	71	TIX	OCL12780
2106	0027	27		OCL12780
2107	0020	20		OCL12780

00234

2110	0023	23	TRP	OCL1279
2111	0051	51		OCL1279
2112	0047	47		OCL1279
2113	0020	20		OCL127
2114	0023	23	TS	OCL1279
2115	0022	22		OCL1279
2116	0000	0		OCL1279
2117	0000	0		OCL1279
2120	0066	66	FA	OCL1279
2121	0061	61		OCL1279
2122	0000	0		OCL1280
2123	0000	0		OCL1280
2124	0066	66	FS	OCL1280
2125	0022	22		OCL12801
2126	0000	0		OCL1280
2127	0000	0		OCL1280
2130	0066	66	FM	OCL12804
2131	0044	44		OCL1280
2132	0000	0		OCL1280
2133	0000	0		OCL1280
2134	0066	66	FD	OCL1281
2135	0064	64		OCL1281
2136	0000	0		OCL1281
2137	0000	0		OCL1281
2140	0066	66	FV	OCL1281
2141	0025	25		OCL1281
2142	0000	0		OCL1281
2143	0000	0		OCL1281
2144	0071	71	IA	OCL1281
2145	0061	61		OCL1281
2146	0000	0		OCL1282
2147	0000	0		OCL1282
2150	0071	71	IS	OCL1282
2151	0022	22		OCL1282
2152	0000	0		OCL1282
2153	0000	0		OCL1282
2154	0071	71	IM	OCL1282
2155	0044	44		OCL1282
2156	0000	0		OCL1282
2157	0000	0		OCL1282
2160	0071	71	ID	OCL1283
2161	0064	64		OCL1283
2162	0000	0		OCL1283
2163	0000	0		OCL1283
2164	0071	71	IV	OCL1283
2165	0025	25		OCL1283
2166	0000	0		OCL12834
2167	0000	0		OCL1283
2170	0063	63	CA	OCL1283
2171	0061	61		OCL1283
2172	0000	0		OCL1284
2173	0000	0		OCL1284
2174	0045	45	NLI	OCL1284
2175	0043	43		OCL1284
2176	0000	0		OCL128
2177	0000	0		OCL1284
2200	0045	45	NI	OCL1284
2201	0071	71		OCL1284
2202	0000	0		OCL1284
2203	0000	0		OCL1284

00295  
00295



2204	0066		66	FC	OCL1285:
2205	0063		63		OCL1285:
2206	0000		0		OCL1285:
2207	0000		0		OCL1285:
2210	0045		45	NC	OCL1285:
2211	0063		63		OCL1285:
2212	0000		0		OCL1285:
2213	0000		0		OCL1285:
2214	0062		62	BN	OCL1285:
2215	0045		45		OCL1285:
2216	0000		0		OCL1286:
2217	0000		0		OCL1286:
2220	0062		62	BF	OCL1286:
2221	0066		66		OCL1286:
2222	0000		0		OCL1286:
2223	0000		0		OCL1286:
2224	0062		62	BS	OCL1286:
2225	0022		22		OCL1286:
2226	0000		0		OCL1286:
2227	0000		0		OCL1286:
2230	0043		43	LX	OCL1287:
2231	0027		27		OCL1287:
2232	0000		0		OCL1287:
2233	0000		0		OCL1287:
2234	0023		23	TW	OCL1287:
2235	0026		26		OCL1287:
2236	0000		0		OCL1287:
2237	0000		0		OCL1287:
2240	0067		67	GO	OCL1287:
2241	0046		46		OCL1287:
2242	0000		0		OCL1288:
2243	0000		0		OCL1288:
2244	7145	MACLST BCD	8D	INQR	OCL1288:
2245	6351				OCL1288:
2246	2020				OCL1288:
2247	2020				OCL1288:
2250	5165	BCD	8D	RETURN	OCL1288:
2251	2324				OCL1288:
2252	5145				OCL1288:
2253	2020				OCL1288:
2254	7166	BCD	8D	IF	OCL1288:
2255	2020				OCL1288:
2256	2020				OCL1288:
2257	2020				OCL1288:
2260	7166	BCD	8D	IFRV	OCL1288:
2261	4625				OCL1288:
2262	2020				OCL1288:
2263	2020				OCL1288:
2264	7166	BCD	8D	IFDVCK	OCL1288:
2265	6425				OCL1288:
2266	6342				OCL1288:
2267	2020				OCL1288:
2270	7166	BCD	8D	IFSNSE	OCL1288:
2271	2245				OCL1288:
2272	2265				OCL1288:
2273	2020				OCL1288:
2274	6344	BCD	8D	CMRUTD	OCL1288:
2275	4724				OCL1288:
2276	2364				OCL1288:
2277	2020				OCL1288:

2300	7146	BCD	8D	IOI	OCL1288
2301	7120				
2302	2020				
2303	2020				
2304	7146	BCD	8D	IOB	OCL1289
2305	4620				
2306	2020				
2307	2020				
2310	7146	BCD	8D	IOI	OCL1289
2311	2320				
2312	2020				
2313	2020				
2314	7767	MACNT	7767		OCL1289
2315	7776		7776		OCL1289
2316	7772		7772		OCL1289
2317	7773		7773		OCL1289
2320	7773		7773		OCL1289
2321	7773		7773		OCL1289
2322	7774		7774		OCL1289
2323	7774		7774		OCL1289
2324	7774		7774		OCL1290
2325	7776		7776		OCL1290
2326	2271	02LST BCD	8D	SINF	OCL1290
2327	4566				
2330	2020				
2331	2020				
2332	6346	BCD	8D	COSF	OCL1290
2333	2266				
2334	2020				
2335	2020				
2336	6527	BCD	8D	EXPF	OCL1290
2337	4766				
2340	2020				
2341	2020				
2342	4346	BCD	8D	LOGF	OCL1290
2343	6766				
2344	2020				
2345	2020				
2346	6123	BCD	8D	ATANF	OCL1290
2347	6145				
2350	6620				
2351	2020				
2352	2250	BCD	8D	SQRTF	OCL1290
2353	5123				
2354	6620				
2355	2020				
2356	2271	BCD	8D	SIGNF	OCL1290
2357	6745				
2360	6620				
2361	2020				
2362	6643	15LST BCD	8D	FLOATING	OCL1290
2363	4661				
2364	2371				
2365	4567				
2366	7145	BCD	8D	INTEGER	OCL1290
2367	2365				
2370	6765				
2371	5120				
2372	4746	34LST BCD	16D	POSITIVE TO ACC	OCL1291
2373	2271				

2374	2371				
2375	2565				
2376	2023				
2377	4620				
2400	6163				
2401	6320				
2402	4746	BCD	16D	POSITIVE TO O.R.	OCL1291
2403	2271				
2404	2371				
2405	2565				
2406	2023				
2407	4620				
2410	4673				
2411	5173				
2412	4565	BCD	16D	NEGATIVE TO ACC	OCL1291
2413	6761				
2414	2371				
2415	2565				
2416	2023				
2417	4620				
2420	6163				
2421	6320				
2422	4565	BCD	16D	NEGATIVE TO O.R.	OCL1291
2423	6761				
2424	2371				
2425	2565				
2426	2023				
2427	4620				
2430	4673				
2431	5173				
2432	0066	46LST	BCDR 3	FAC	OCL1291
2433	0061				
2434	0063				
2435	0071	BCDR	3	IAG	OCL1291
2436	0061				
2437	0063				
2440	0061	BCDR	3	ASK	OCL1291
2441	0022				
2442	0042				
2443	0054	BCDR	3	***	OCL1291
2444	0054				
2445	0054				
2446	0043	BCDR	3	LLD	OCL1291
2447	0043				
2450	0063				
2451	0054	BCDR	3	***	OCL1292
2452	0054				
2453	0054				
2454	0054	BCDR	3	***	OCL1292
2455	0054				
2456	0054				
2457	0066	BCDR	3	FPS	OCL1292
2460	0047				
2461	0022				
2462	0071	BCDR	3	IPS	OCL1292
2463	0047				
2464	0022				
2465	0066	BCDR	3	FCS	OCL1292
2466	0063				
2467	0022				

00298

2470	0071		BCDR	3	ICS:		OCL1292
2471	0063						
2472	0022						
2473	0066		BCDR	3	FNS:		OCL129
2474	0045						
2475	0022						
2476	0071		BCDR	3	INS:		OCL1292
2477	0045						
2500	0022						
2501	6643	50LST	BCD	16D	FLOAT, FLOAT		OCL1292
2502	4661						
2503	2333						
2504	2066						
2505	4346						
2506	6123						
2507	2020						
2510	2020						
2511	6643		BCD	16D	FLOAT, INT.		OCL1292
2512	4661						
2513	2333						
2514	2071						
2515	4523						
2516	7320						
2517	2020						
2520	2020						
2521	7145		BCD	16D	INT., INT.		OCL1293
2522	2373						
2523	3320						
2524	7145						
2525	2373						
2526	2020						
2527	2020						
2530	2020						
2531	6643	51LST	BCD	16D	FLOATING STORE		OCL1293
2532	4661						
2533	2371						
2534	4567						
2535	2022						
2536	2346						
2537	5165						
2540	2020						
2541	7145		BCD	16D	INTEGER STORE		OCL1293
2542	2365						
2543	6765						
2544	5120						
2545	2223						
2546	4651						
2547	6520						
2550	2020						
2551	6643		BCD	16D	FLOAT AND STORE		OCL1293
2552	4661						
2553	2320						
2554	6145						
2555	6420						
2556	2223						
2557	4651						
2560	6520						
2561	6671		BCD	16D	FIX AND STORE		OCL12934
2562	2720						
2563	6145						

2564	6420					
2565	2223					
2566	4651					
2567	6520					
2570	2020					
2571	4346	67LST	BCD	16D	LOAD ACCUMULATOR	OCL1293
2572	6164					
2573	2061					
2574	6363					
2575	2444					
2576	2443					
2577	6123					
2600	4651					
2601	4346		BCD	16D	LOAD ACC1	OCL1293
2602	6164					
2603	2061					
2604	6363					
2605	0120					
2606	2020					
2607	2020					
2610	2020					
2611	4346		BCD	16D	LOAD ACC2	OCL1293
2612	6164					
2613	2061					
2614	6363					
2615	0220					
2616	2020					
2617	2020					
2620	2020					
2621	4346		BCD	16D	LOAD OPERAND	OCL1293
2622	6164					
2623	2046					
2624	4765					
2625	5161					
2626	4564					
2627	2020					
2630	2020					
2631	7145	71LST	BCD	16D	INCLUSIVE OR	OCL1293
2632	6343					
2633	2422					
2634	7125					
2635	6520					
2636	4651					
2637	2020					
2640	2020					
2641	4346		BCD	16D	LOAD COMPLEMENT	OCL1294
2642	6164					
2643	2063					
2644	4644					
2645	4743					
2646	6544					
2647	6545					
2650	2320					
2651	6145		BCD	16D	AND	OCL1294
2652	6420					
2653	2020					
2654	2020					
2655	2020					
2656	2020					
2657	2020					

2660	2020								
2661	6527								
2662	6343								
2663	2422								
2664	7125								
2665	6520								
2666	4651								
2667	2020								
2670	2020								
2671	4546	76LST	BCD	16D					OCL1294
2672	5144								
2673	6143								
2674	2067								
2675	4620								
2676	2346								
2677	2020								
2700	2020								
2701	2447		BCD	16D					OCL1294
2702	2062								
2703	4062								
2704	4627								
2705	2020								
2706	2020								
2707	2020								
2710	2020								
2711	0000	OUTT	BSS	120D					OCL1294
	2720	OUT	EQU	OUTT	7				OCL1294
	0000	BOPCD	EQU	0					OCL1294
	0001	FRSTWD	EQU	1					OCL129
	0002	SECWD	EQU	2					OCL1294
	0003	TEMP1	EQU	3					OCL1295
	0004	TEMP2	EQU	4					OCL1295
	0005	TEMP3	EQU	5					OCL1295
	0025	LAST	EQU	25					OCL1295
	0031	FINISH	EQU	31					OCL1295
	0015	BANK	EQU	15					OCL1295
	0016	LOCC	EQU	16					OCL1295
			SUPB						
	0000		END						OCL1295



0477	7100		JPR	OCTALI			OCL6605
0500	1644						OCL660
0501	2000		LDD	BOPCD			OCL6605
0502	0751		SBN	51			OCL6605
0503	6131		NZR	BOC64			OCL6605
0504	2001		LDD	FRSTWD			OCL6605
0505	0230		LPN	30			OCL6605
0506	3200	BOC51	ADC	51LST			OCL6605
0507	2551						
0510	4003	PRNTJ	STD	TEMP1			OCL6605
0511	2200		LDC	OUT	300		OCL6606
0512	2776						
0513	4004		STD	TEMP2			OCL6606
0514	0510		LCN	80			OCL6606
0515	4005		STD	TEMP3			OCL6606
0516	2103	PRNTI	LDI	TEMP1			OCL6606
0517	0111		LS6				OCL6606
0520	0277		LPN	77			OCL6606
0521	4104		STI	TEMP2			OCL6606
0522	5404		AGD	TEMP2			OCL6606
0523	2103		LDI	TEMP1			OCL6606
0524	0277		LPN	77			OCL6607
0525	4104		STI	TEMP2			OCL6607
0526	5403		AGD	TEMP1			OCL6607
0527	5404		AGD	TEMP2			OCL6607
0530	5405		AGD	TEMP3			OCL6607
0531	6513		NZR	PRNTI			OCL6607
0532	7101		JFI	1			OCL6607
0533	0650			LDCHRS			OCL660
0534	0701	BOC64	SBN	1			OCL6607
0535	6117		NZR	BOC65			OCL6607
0536	2001		LDD	FRSTWD			OCL6608
0537	0210		LPN	10			OCL6608
0540	6035		ZJR	BOC67			OCL6608
0541	0442		LDN	42			OCL6608
0542	4100		STI	0			OCL6608
0543	2747			OUT	7		OCL6608
0544	0464		LDN	64			OCL6608
0545	4100		STI	0			OCL6608
0546	2750			OUT	80		OCL6608
0547	0463		LDN	63			OCL6608
0550	4100		STI	0			OCL6608
0551	2751			OUT	90		OCL6609
0552	7101		JFI	1			OCL6609
0553	0664			PUTOUT			OCL6609
0554	0713	BOC65	SBN	13			OCL6609
0555	6003		ZJR	BOC65A			OCL6609
0556	0701		SBN	1			OCL6609
0557	6116		NZR	BOC67			OCL6609
0560	2001	BOC65A	LDD	FRSTWD			OCL6609
0561	0210		LPN	10			OCL660
0562	6013		ZJR	BOC67			OCL6610
0563	0443		LDN	43			OCL6610
0564	4100		STI	0			OCL661
0565	2747			OUT	7		OCL6610
0566	0463		LDN	63			OCL6610
0567	4100		STI	0			OCL661
0570	2750			OUT	80		OCL6610
0571	0445		LDN	45			OCL6610
0572	4100		STI	0			OCL661

00303



0573	2751			OUT	9D	
0574	6170		NZR	PUTOUT		
0575	2000	BOC67	LDD	BOPCD		
0576	0767		SBN	67		
0577	6003		ZJR	BOC67A		
0600	0701		SBN	1		
0601	6106		NZR	BOC71		
0602	2001	BOC67A	LDD	FRSTWD		
0603	0230		LPN	30		
0604	3200		ADC	67LST		
0605	2611					
0606	6130		NZR	PRNTJJ		
0607	2000	BOC71	LDD	BOPCD		
0610	0771		SBN	71		
0611	6003		ZJR	BOC71A		
0612	0701		SBN	1		
0613	6106		NZR	BOC76		
0614	2001	BOC71A	LDD	FRSTWD		
0615	0230		LPN	30		
0616	3200		ADC	71LST		
0617	2651					
0620	6116		NZR	PRNTJJ		
0621	2000	BOC76	LDD	BOPCD		
0622	0776		SBN	76		
0623	6115		NZR	BOC52		
0624	2001		LDD	FRSTWD		
0625	0210		LPN	10		
0626	6003		ZJR	BOC76A		
0627	7101		JFI	1		
0630	0506			BOC51		
0631	2001	BOC76A	LDD	FRSTWD		
0632	0240		LPN	40		
0633	0115		RS2			
0634	3200		ADC	76LST		
0635	2711					
0636	7101	PRNTJJ	JFI	1		
0637	0510			PRNTJ		
0640	2001	BOC52	LDD	FRSTWD		
0641	0114		RS1			
0642	0115		RS2			
0643	0203		LPN	3		
0644	6102		NZR	BOC52A		
0645	0412		LDN	12		
0646	4100	BOC52A	STI	0		
0647	2763			OUT	19D	
0650	2000	LDCHRS	LDD	BOPCD		
0651	0103		LS2			
0652	3200		ADC	BOPCDs		
0653	1670					
0654	4003		STD	TEMP1		
0655	2103		LDI	TEMP1		
0656	4100		STI	0		
0657	2747			OUT	7	
0660	5403		AOD	TEMP1		
0661	2103		LDI	TEMP1		
0662	4100		STI	0		
0663	2750			OUT	8D	
0664	7100	PUTOUT	JPR	OUTPUT		
0665	1543					
0666	7101		JFI	1		

00304

OCL66161

0667	0441			NXTWD			OCL66164
0670	2000	OWDOP	LDD	BOPCD			OCL66165
0671	0103		LS2				OCL66166
0672	3200		ADC	BOPCDS			OCL66167
0673	1670						OCL66168
0674	4003		STD	TEMP1			OCL66169
0675	0504		LCN	4			OCL66170
0676	4004		STD	TEMP2			OCL66171
0677	2200		LDC	OUT	7		OCL66172
0700	2747						OCL66173
0701	4005		STD	TEMP3			OCL66174
0702	2103	OWDOPA	LDI	TEMP1			OCL66175
0703	4105		STI	TEMP3			OCL66176
0704	5403		ADD	TEMP1			OCL66177
0705	5405		ADD	TEMP3			OCL66178
0706	5404		ADD	TEMP2			OCL66179
0707	6505		NZR	OWDOPA			OCL66180
0710	2000		LDD	BOPCD			OCL66181
0711	6103		NZR	BOC01			OCL66182
0712	7101		JFI	1			OCL66183
0713	1401			BOC47A			OCL66184
0714	0701	BOC01	SBN	1			OCL66185
0715	6003		ZJR	BOC01B			OCL66186
0716	7101		JFI	1			OCL66187
0717	1063			BOC02			OCL66188
0720	2001	BOC01B	LDD	FRSTWD			OCL66189
0721	0277		LPN	77			OCL66190
0722	6113		NZR	BOC01A			OCL66191
0723	0464		LDN	64			OCL66192
0724	4100		STI	0			OCL66193
0725	2747			OUT	7		OCL66194
0726	0451		LDN	51			OCL66195
0727	4100		STI	0			OCL66196
0730	2750			OUT	8D		OCL66197
0731	0446		LDN	46			OCL66198
0732	4100		STI	0			OCL66199
0733	2751			OUT	9D		OCL66200
0734	6550		NZR	PUTOUT			OCL66201
0735	2001	BOC01A	LDD	FRSTWD			OCL66202
0736	0207		LPN	7			OCL66203
0737	6102		NZR	BOC01C			OCL66204
0740	0412		LDN	12			OCL66205
0741	4100	BOC01C	STI	0			OCL66206
0742	2756			OUT	14D		OCL66207
0743	2001		LDD	FRSTWD			OCL66208
0744	0114		RS1				OCL66209
0745	0115		RS2				OCL66210
0746	0207		LPN	7			OCL66211
0747	6102		NZR	BOC01D			OCL66212
0750	0412		LDN	12			OCL66213
0751	4100	BOC01D	STI	0			OCL66214
0752	2755			OUT	13D		OCL66215
0753	2001		LDD	FRSTWD			OCL66216
0754	0277		LPN	77			OCL66217
0755	0701		SBN	1			OCL66218
0756	0103		LS2				OCL66219
0757	3200		ADC	MACLST			OCL66220
0760	2264						OCL66221
0761	4003		STD	TEMP1			OCL66222
0762	2200		LDC	OUT	30D		OCL66223

00305

0763	2776						
0764	4004		STD	TEMP2			OCL66221
0765	0504		LCN	4			OCL66222
0766	4005		STD	TEMP3			OCL66223
0767	2103	BOC01E	LDI	TEMP1			OCL66224
0770	0111		LS6				OCL66225
0771	0277		LPN	77			OCL66226
0772	4104		STI	TEMP2			OCL66227
0773	5404		ADD	TEMP2			OCL66228
0774	2103		LDI	TEMP1			OCL66229
0775	0277		LPN	77			OCL66230
0776	4104		STI	TEMP2			OCL66231
0777	5403		ADD	TEMP1			OCL66232
1000	5404		ADD	TEMP2			OCL66233
1001	5405		ADD	TEMP3			OCL66234
1002	6513		NZR	BOC01E			OCL66235
1003	2001		LDD	FRSTWD			OCL66236
1004	0277		LPN	77			OCL66237
1005	0701		SBN	1			OCL66238
1006	3200		ADC	MACNT			OCL66239
1007	2334						
1010	4003		STD	TEMP1			OCL66240
1011	2103		LDI	TEMP1			OCL66241
1012	4202		STR	COUNT			OCL66242
1013	5600		ADF	0			OCL66243
1014	0000	COUNT					OCL66244
1015	6027		ZJR	CNTB			OCL66245
1016	7100	CNTA	JPR	OUTPUT			OCL66246
1017	1543						
1020	7100		JPR	ILC			OCL66247
1021	1523						
1022	2116		LDI	LOCC			OCL66248
1023	4002		STD	SECWD			OCL66249
1024	7100		JPR	20S			OCL66250
1025	1625						
1026	7100		JPR	OCTAL			OCL66251
1027	1644						
1030	5714		AOR	COUNT			OCL66252
1031	6013		ZJR	CNTB			OCL66253
1032	7100	CNTC	JPR	OUTPUT			OCL66254
1033	1543						
1034	7100		JPR	ILC			OCL66255
1035	1523						
1036	7100		JPR	20S			OCL66256
1037	1625						
1040	7100		JPR	OCTAL			OCL66257
1041	1644						
1042	5726		AOR	COUNT			OCL66258
1043	6511		NZR	CNTC			OCL66259
1044	2001	CNTB	LDD	FRSTWD			OCL66260
1045	0277		LPN	77			OCL66261
1046	0707		SBN	7			OCL66262
1047	6003		ZJR	CNTD			OCL66263
1050	7101	CNTE	JFI	1			OCL66264
1051	0664			PUTOUT		OUT	OCL66265
1052	4001	CNTD	STD	FRSTWD			OCL66266
1053	2002		LDD	SECWD			OCL66267
1054	0115		RS2				OCL66268
1055	0114		RS1				OCL66269
1056	0102		LS1				OCL66270

1057	1600		LSC	7777			OCL6627
1060	7777						
1061	4345		STR	COUNT			OCL6627
1062	6730		NJR	CNTC			OCL6627
1063	0701	BOC02	SBN	1			OCL6627
1064	6164		NZR	BOC03			OCL6627
1065	2001		LDD	FRSTWD			OCL6627
1066	0277		LPN	77			OCL6627
1067	6112		NZR	BOC02E			OCL6627
1070	0451		LDN	51			OCL6627
1071	4100		STI	0			OCL6628
1072	2747			OUT	7		OCL6628
1073	4100		STI	0			OCL6628
1074	2751			OUT	9D		OCL6628
1075	0423		LDN	23			OCL6628
1076	4100		STI	0			OCL6628
1077	2750			OUT	8D		OCL6628
1100	6530		NZR	CNTE			OCL6628
1101	0207	BOC02E	LPN	7			OCL6628
1102	6102		NZR	BOC02A			OCL6628
1103	0412		LDN	12			OCL6629
1104	4100	BOC02A	STI	0			OCL6629
1105	2756			OUT	14D		OCL6629
1106	2001		LDD	FRSTWD			OCL6629
1107	0114		RS1				OCL6629
1110	0115		RS2				OCL6629
1111	0207		LPN	7			OCL6629
1112	6102		NZR	BOC02B			OCL6629
1113	0412		LDN	12			OCL6629
1114	4100	BOC02B	STI	0			OCL6629
1115	2755			OUT	13D		OCL6630
1116	2001		LDD	FRSTWD			OCL6630
1117	0277		LPN	77			OCL6630
1120	0751		SBN	41D			OCL6630
1121	0103		LS2				OCL6630
1122	3200		ADC	02LST			OCL6630
1123	2346						
1124	4003	BOC02F	STD	TEMP1			OCL6630
1125	0504		LCN	4			OCL6630
1126	4004		STD	TEMP2			OCL6630
1127	2200		LDC	OUT	30D		OCL6630
1130	2776						
1131	4005		STD	TEMP3			OCL6631
1132	2103	BOC02C	LDI	TEMP1			OCL6631
1133	0111		LS6				OCL6631
1134	0277		LPN	77			OCL6631
1135	4105		STI	TEMP3			OCL6631
1136	5405		ADD	TEMP3			OCL6631
1137	2103		LDI	TEMP1			OCL6631
1140	0277		LPN	77			OCL6631
1141	4105		STI	TEMP3			OCL6631
1142	5403		ADD	TEMP1			OCL6631
1143	5405		ADD	TEMP3			OCL6632
1144	5404		ADD	TEMP2			OCL6632
1145	6513		NZR	BOC02G			OCL6632
1146	7101	BOC02D	JFI	1			OCL6632
1147	0664			PUTOUT	OUT		OCL6632
1150	2000	BOC03	LDD	BOPCD			OCL6632
1151	0715		SBN	15			OCL6632
1152	6203		PJR	BOC15			OCL6632

00307

1153	7101		JFI	1			OCL66328
1154	1401			BOC47A			OCL66329
1155	0707	BOC15	SBN	7			OCL66330
1156	6233		PJR	BOC24			OCL66331
1157	2001		LDD	FRSTWD			OCL66332
1160	0207		LPN	7			OCL66333
1161	6102		NZR	BOC15A			OCL66334
1162	0412		LDN	12			OCL66335
1163	4100	BOC15A	STI	0			OCL66336
1164	2752			OUT	100		OCL66337
1165	2001		LDD	FRSTWD			OCL66338
1166	0114		RS1				OCL66339
1167	0115		RS2				OCL66340
1170	0207		LPN	7			OCL66341
1171	4003		STD	TEMP1			OCL66342
1172	6102		NZR	BOC15B			OCL66343
1173	0412		LDN	12			OCL66344
1174	4100	BOC15B	STI	0			OCL66345
1175	2751			OUT	90		OCL66346
1176	2003		LDD	TEMP1			OCL66347
1177	0203		LPN	3			OCL66348
1200	6102		NZR	BOC15D			OCL66349
1201	0412		LDN	12			OCL66350
1202	4100	BOC15D	STI	0			OCL66351
1203	2763			OUT	190		OCL66352
1204	2001		LDD	FRSTWD			OCL66353
1205	0204		LPN	4			OCL66354
1206	3200		ADC	15LST			OCL66355
1207	2402						
1210	6564		NZR	BOC02F			OCL66356
1211	2000	BOC24	LDD	BOPCD			OCL66357
1212	0735		SBN	35			OCL66358
1213	6265		PJR	BOC35			OCL66359
1214	0601		ADN	1			OCL66360
1215	6134		NZR	BOC24A			OCL66361
1216	2001		LDD	FRSTWD			OCL66362
1217	0260		LPN	60			OCL66363
1220	0114		RS1				OCL66364
1221	3200		ADC	34LST			OCL66365
1222	2412						
1223	4003		STD	TEMP1			OCL66366
1224	2200		LDC	OUT	300		OCL66367
1225	2776						
1226	4004		STD	TEMP2			OCL66368
1227	0510		LCN	80			OCL66369
1230	4005		STD	TEMP3			OCL66370
1231	2103	BOC24B	LDI	TEMP1			OCL66371
1232	0111		LS6				OCL66372
1233	0277		LPN	77			OCL66373
1234	4104		STI	TEMP2			OCL66374
1235	5404		AOD	TEMP2			OCL66375
1236	2103		LDI	TEMP1			OCL66376
1237	0277		LPN	77			OCL66377
1240	4104		STI	TEMP2			OCL66378
1241	5403		AOD	TEMP1			OCL66379
1242	5404		AOD	TEMP2			OCL66380
1243	5405		AOD	TEMP3			OCL66381
1244	6513		NZR	BOC24B			OCL66382
1245	2001		LDD	FRSTWD			OCL66383
1246	0217		LPN	17			OCL66384

1247	4001		STD	FRSTWD			OCL6638
1250	6210		PJR	BOC24C			OCL6638
1251	2001	BOC24A	LDD	FRSTWD			OCL6637
1252	0240		LPN	40			OCL6636
1253	6002		ZJR	BOC24D			OCL6636
1254	0403		LDN	3			OCL6639
1255	0666	BOC24D	ADN	66			OCL6639
1256	4100		STI	0			OCL6639
1257	2747			OUT	7		OCL6639
1260	2001	BOC24C	LDD	FRSTWD			OCL6639
1261	0207		LPN	7			OCL6639
1262	6102		NZR	BOC24E			OCL6639
1263	0412		LDN	12			OCL6639
1264	4100	BOC24E	STI	0			OCL6639
1265	2756			OUT	140		OCL6639
1266	2001		LDD	FRSTWD			OCL6640
1267	0114		RS1				OCL6640
1270	0115		RS2				OCL6640
1271	0203		LPN	3			OCL6640
1272	6102		NZR	BOC24F			OCL6640
1273	0412		LDN	12			OCL6640
1274	4100	BOC24F	STI	0			OCL6640
1275	2755			OUT	130		OCL6640
1276	7101		JFI	1			OCL6640
1277	0664			PUTOUT		OUT	OCL6640
1300	2000	BOC35	LDD	BOPCD			OCL6641
1301	0744		SBN	44			OCL6641
1302	6731		NJR	BOC24A			OCL6641
1303	6110	BOC44	NZR	BOC45			OCL6641
1304	2001		LDD	FRSTWD			OCL6641
1305	0240		LPN	40			OCL6641
1306	6002		ZJR	BOC44A			OCL6641
1307	0547		LCN	47			OCL6641
1310	0671	BOC44A	ADN	71			OCL6641
1311	4100	BOC44B	STI	0			OCL6641
1312	6532		NZR	BOC24C		F.E.	OCL6642
1313	0701	BOC45	SBN	1			OCL6642
1314	6107		NZR	BOC46			OCL6642
1315	2001		LDD	FRSTWD			OCL6642
1316	0240		LPN	40			OCL6642
1317	6002		ZJR	BOC45A			OCL6642
1320	0421		LDN	21			OCL6642
1321	0622	BOC45A	ADN	22			OCL6642
1322	6511		NZR	BOC44B			OCL6642
1323	0701	BOC46	SBN	1			OCL6642
1324	6153		NZR	BOC47			OCL6643
1325	2001		LDD	FRSTWD			OCL6643
1326	0240		LPN	40			OCL6643
1327	6002		ZJR	BOC46A			OCL6643
1330	0407		LDN	7			OCL6643
1331	4003	BOC46A	STD	TEMP1			OCL6643
1332	2001		LDD	FRSTWD			OCL6643
1333	0207		LPN	7			OCL6643
1334	5003		RAD	TEMP1			OCL6643
1335	4004		STD	TEMP2			OCL6643
1336	0102		LS1				OCL6644
1337	5003		RAD	TEMP1			OCL6644
1340	3200		ADC	46LST			OCL6644
1341	2452						OCL6644
1342	4003		STD	TEMP1			OCL6644

1343	2103		LDI	TEMP1					OCL6644:
1344	4100		STI	0					OCL6644:
1345	2747			OUT	7				OCL6644:
1346	5403		AOD	TEMP1					OCL6644:
1347	2103		LDI	TEMP1					OCL6644:
1350	4100		STI	0					OCL6644:
1351	2750			OUT	8D				OCL6645:
1352	5403		AOD	TEMP1					OCL6645:
1353	2103		LDI	TEMP1					OCL6645:
1354	4100		STI	0					OCL6645:
1355	2751			OUT	9D				OCL6645:
1356	2004		LDD	TEMP2					OCL6645:
1357	0702		SBN	2					OCL6645:
1360	6303		NJR	BOC46C					OCL6645:
1361	0705		SBN	5					OCL6645:
1362	6313		NJR	BOC46B					OCL6645:
1363	2001	BOC46C	LDD	FRSTWD					OCL6646:
1364	0230		LPN	30					OCL6646:
1365	0114		RS1						OCL6646:
1366	0115		RS2						OCL6646:
1367	6102		NZR	BOC45B					OCL6646:
1370	0412		LDN	12					OCL6646:
1371	4100	BOC45B	STI	0					OCL6646:
1372	2763			OUT	19D				OCL6646:
1373	4100		STI	0					OCL6646:
1374	2752			OUT	18D				OCL6646:
1375	7101	BOC46B	JFI	1					OCL6647:
1376	6664			PUTOUT			OUT		OCL6647:
1377	0701	BOC47	SBN	1					OCL6647:
1400	6120		NZR	BOC50					OCL6647:
1401	2001	BOC47A	LDD	FRSTWD					OCL6647:
1402	0207		LPN	7					OCL6647:
1403	6102		NZR	BOC47B					OCL6647:
1404	0412		LDN	12					OCL6647:
1405	4100	BOC47B	STI	0					OCL6647:
1406	2756			OUT	14D				OCL6647:
1407	2001		LDD	FRSTWD					OCL6648:
1410	0270		LPN	70					OCL6648:
1411	0114		RS1						OCL6648:
1412	0115		RS2						OCL6648:
1413	6102		NZR	BOC47C					OCL6648:
1414	0412		LDN	12					OCL6648:
1415	4100	BOC47C	STI	0					OCL6648:
1416	2755			OUT	13D				OCL6648:
1417	6522		NZR	BOC46B					OCL6648:
1420	2001	BOC50	LDD	FRSTWD					OCL6648:
1421	0114		RS1						OCL6649:
1422	0115		RS2						OCL6649:
1423	0203		LPN	3					OCL6649:
1424	6102		NZR	BOC50A					OCL6649:
1425	0412		LDN	12					OCL6649:
1426	4100	BOC50A	STI	0					OCL6649:
1427	2763			OUT	19D				OCL6649:
1430	2001		LDD	FRSTWD					OCL6649:
1431	0203		LPN	3					OCL6649:
1432	0110		LS3						OCL6649:
1433	3200		ADC	5QLST					OCL6650:
1434	2521								OCL6650:
1435	4003		STD	TEMP1					OCL6650:
1436	2200		LDC	OUT	30D				OCL6650:

00310

1437	2776		STD	TEMP2		OCL6650
1440	4004		LCN	8D		OCL6650
1441	0510		STD	TEMP3		OCL6650
1442	4005		STD	TEMP3		OCL6650
1443	2103	BOC50B	LDI	TEMP1		OCL6650
1444	0111		LS6			OCL6650
1445	0277		LPN	77		OCL6650
1446	4104		STI	TEMP2		OCL6650
1447	5404		ADD	TEMP2		OCL6651
1450	2103		LDI	TEMP1		OCL6651
1451	0277		LPN	77		OCL6651
1452	4104		STI	TEMP2		OCL6651
1453	5403		ADD	TEMP1		OCL6651
1454	5404		ADD	TEMP2		OCL6651
1455	5405		ADD	TEMP3		OCL6651
1456	6513		NZR	BOC50B		OCL6651
1457	2001		LDD	FRSTWD		OCL6651
1460	0203		LPN	3		OCL6651
1461	6102		NZR	BOC50C		OCL6652
1462	0412		LDN	12		OCL6652
1463	4100	BOC50C	STI	0		OCL6652
1464	2755			OUT	13D	OCL6652
1465	6570		NZR	BOC46B		OCL6652
1466	0001	STOP	NOPI			OCL6652
1467	0577		LCN	77		OCL6652
1470	4302		STR	STOP		OCL6652
1471	2031		LDD	FINISH		OCL6652
1472	1425		LSD	LAST		OCL6652
1473	0207		LPN	7		OCL6652
1474	6104		NZR	STOPA		OCL6653
1475	5432		ADD	FINISH	1	OCL6653
1476	1426		LSD	LAST	1	OCL6653
1477	6411		ZJR	STOP		OCL6653
1500	2031	STOPA	LDD	FINISH		OCL6653
1501	0207		LPN	7		OCL6653
1502	0620		ADN	20		OCL6653
1503	4025		STD	LAST		OCL6653
1504	2032		LDD	FINISH	1	OCL6653
1505	4026		STD	LAST	1	OCL6654
1506	6102		NZR	ENDC		OCL6654
1507	5425		ADD	LAST		OCL6654
1510	7100	ENDC	JPR	ILC		OCL6654
1511	1523					OCL6654
1512	7100		JPR	20S		OCL6654
1513	1625					OCL6654
1514	7100		JPR	OCTALI		OCL6654
1515	1644					OCL6654
1516	7100		JPR	OUTPUT		OCL6654
1517	1543					OCL6654
1520	7101		JFI	1		OCL6654
1521	1510			ENDC		OCL6654
			REM		INCREASE LOCATION COUNTER	OCL6654
1522	7101	ILCZ	JFI	1		OCL6655
1523	7700	ILC	HLT			OCL6655
1524	5416		ADD	LOCC		OCL6655
1525	6102		NZR	ILCA		OCL6655
1526	5415		ADD	BANK		OCL6655
1527	2015	ILCA	LDD	BANK		OCL6655
1530	4202		STR	ILCB		OCL6655
1531	4272		STR	20SD		OCL6655



1532	0020	ILCB	SIC0			OCL6655
1533	2016		LDD	LOCC		OCL6655
1534	1426		LSD	LAST	1	OCL6656
1535	6513		NZR	ILCZ		OCL6656
1536	2015		LDD	BANK		OCL6656
1537	1425		LSD	LAST		OCL6656
1540	6516		NZR	ILCZ		OCL6656
1541	6453		ZJR	STOP		OCL6656
1542	7101	OTPUTZ	JFI	1		OCL6656
1543	7700	OUTPUT	HLT			OCL6656
1544	0574		LCN	74		OCL6656
1545	4003		STD	TEMP1		OCL6656
1546	2200		LDC	OUTT		OCL6657
1547	2731					
1550	4004		STD	TEMP2		OCL6657
1551	4005		STD	TEMP3		OCL6657
1552	2105	OTPUTX	LDI	TEMP3		OCL6657
1553	0111		LS6			OCL6657
1554	4104		STI	TEMP2		OCL6657
1555	5405		ADD	TEMP3		OCL6657
1556	2105		LDI	TEMP3		OCL6657
1557	1504		LSI	TEMP2		OCL6657
1560	4104		STI	TEMP2		OCL6657
1561	5404		ADD	TEMP2		OCL6658
1562	5405		ADD	TEMP3		OCL6658
1563	5403		ADD	TEMP1		OCL6658
1564	6512		NZR	OTPUTX		OCL6658
1565	7500		EXC	740		OCL6658
1566	0740					
1567	7600		INA			OCL6658
1570	6503		NZB	3		OCL6658
1571	7500		EXC	700		OCL6658
1572	0700					
1573	7306		OUT	OTPUTY		OCL6658
1574	3026			OUTT	75	OCL6658
1575	7500		EXC	720		OCL6659
1576	0720					
1577	7101		JFI	1		OCL6659
1600	1542			OTPUTZ		OCL6659
1601	2731	OTPUTY		OUTT		OCL6659
1602	0504	20SZ	LCN	4		OCL6659
1603	4003		STD	TEMP1		OCL6659
1604	2016		LDD	LOCC		OCL6659
1605	4004		STD	TEMP2		OCL6659
1606	2200		LDC	OUTT	7	OCL6659
1607	2740					
1610	4005		STD	TEMP3		OCL6659
1611	2004	20SB	LDD	TEMP2		OCL6660
1612	0110		LS3			OCL6660
1613	4004		STD	TEMP2		OCL6660
1614	0207		LPN	7		OCL6660
1615	6102		NZR	20SC		OCL6660
1616	0412		LPN	12		OCL6660
1617	4105	20SC	STI	TEMP3		OCL6660
1620	5405		ADD	TEMP3		OCL6660
1621	5403		ADD	TEMP1		OCL6660
1622	6511		NZR	20SB		OCL6660
1623	0020	20SD	SIC0			OCL6661
1624	7101		JFI	1		OCL6661
1625	7700	20S	HLT			OCL6661

00312

1626	2600		LCC	120D		OCL6661
1627	0170					
1630	4003		STD	TEMP1		OCL666
1631	2200		LDC	OUTT		OCL666
1632	2731					
1633	4004		STD	TEMP2		OCL6661
1634	0020		SICO			OCL6661
1635	0420	20SA	LDN	20		OCL6661
1636	4104		STI	TEMP2		OCL6661
1637	5404		AOD	TEMP2		OCL6662
1640	5403		AOD	TEMP1		OCL6662
1641	6504		NZR	20SA		OCL6662
1642	6440		ZJR	20SZ		OCL6662
1643	7101	OCTALZ	JFI	1		OCL6662
1644	7700	OCTAL	HLT			OCL6662
1645	0504		LGN	4		OCL6662
1646	4003		STD	TEMP1		OCL6662
1647	2116		LDI	LOCC		OCL6662
1650	4004		STD	TEMP2		OCL6662
1651	2200		LDC	OUT	13D	OCL6663
1652	2755					
1653	4005		STD	TEMP3		OCL6663
1654	0020		SICO			OCL6663
1655	2004	OCTALB	LDD	TEMP2		OCL6663
1656	0110		LS3			OCL6663
1657	4004		STD	TEMP2		OCL6663
1660	0207		LPN	7		OCL6663
1661	6102		NZR	OCTALA		OCL6663
1662	0412		LDN	12		OCL666
1663	4105	OCTALA	STI	TEMP3		OCL6663
1664	5405		AOD	TEMP3		OCL6664
1665	5403		AOD	TEMP1		OCL6664
1666	6511		NZR	OCTALB		OCL6664
1667	6424		ZJR	OCTALZ		OCL6664
1670	0070	BOPCDS		70	HPRI	OCL6664
1671	0047			47		OCL6664
1672	0051			51		OCL6664
1673	0020			20		OCL6664
1674	0023			23	TRM	OCL6664
1675	0051			51		OCL6664
1676	0044			44		OCL6665
1677	0020			20		OCL6665
1700	0023			23	TRA	OCL6665
1701	0051			51		OCL6665
1702	0061			61		OCL6665
1703	0020			20		OCL6665
1704	0023			23	TRE	OCL6665
1705	0051			51		OCL6665
1706	0066			66		OCL6665
1707	0020			20		OCL6665
1710	0023			23	TRB	OCL6666
1711	0051			51		OCL6666
1712	0062			62		OCL6666
1713	0020			20		OCL666
1714	0023			23	TPF	OCL6666
1715	0047			47		OCL6666
1716	0066			66		OCL6666
1717	0020			20		OCL6666
1720	0023			23	TPB	OCL6666
1721	0047			47		OCL6666





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2115	0061	61
2116	0063	63
2117	0020	20
2120	0000	0
2121	0000	0
2122	0000	0
2123	0020	20
2124	0023	23
2125	0071	71
2126	0027	27
2127	0020	20
2130	0023	23
2131	0051	51
2132	0047	47
2133	0020	20
2134	0023	23
2135	0022	22
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2141	0061	61
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2145	0022	22
2146	0000	0
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2160	0066	66
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2163	0000	0
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2173	0000	0
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2175	0044	44
2176	0000	0
2177	0000	0
2200	0071	71
2201	0064	64
2202	0000	0
2203	0000	0
2204	0071	71
2205	0025	25

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00316

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2215	0043	43			OCL6685
2216	0000	0			OCL6685
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2220	0045	45	NI		OCL6686
2221	0071	71			OCL6686
2222	0000	0			OCL6686
2223	0000	0			OCL6686
2224	0066	66	FC		OCL6686
2225	0063	63			OCL6686
2226	0000	0			OCL6686
2227	0000	0			OCL6686
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2233	0000	0			OCL6687
2234	0062	62	BN		OCL6687
2235	0045	45			OCL6687
2236	0000	0			OCL6687
2237	0000	0			OCL6687
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2244	0062	62	BS		OCL6688
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2247	0000	0			OCL6688
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2254	0023	23	TW		OCL6688
2255	0026	26			OCL6688
2256	0000	0			OCL6689
2257	0000	0			OCL6689
2260	0067	67	GO		OCL6689
2261	0046	46			OCL6689
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2266	2020				
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2270	5165	8D	BCD	RETURN	OCL6689
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2273	2020				
2274	7166	8D	BCD	IF	OCL6689
2275	2020				
2276	2020				
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2300	7166	8D	BCD	IFOV	OCL6689
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304	7166	BCD	8D	IFDVCK		OCL6690
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307	2020					
2310	7166	BCD	8D	IFSNSE		OCL6690
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2314	6344	BCD	8D	CMRUTD		OCL6690
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320	7146	BCD	8D	IOI		OCL6690
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2333	2020					
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336	7772		7772			OCL6690
337	7773		7773			OCL6690
2340	7773		7773			OCL6691
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342	7774		7774			OCL6691
2343	7774		7774			OCL6691
2344	7774		7774			OCL6691
345	7776		7776			OCL6691
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2352	6346	BCD	8D	COBF		OCL6691
353	2266					
2354	2020					
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356	6527	BCD	8D	EXPF		OCL6691
2357	4766					
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361	2020					
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2363	6766					
364	2020					
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2366	6123	BCD	8D	ATANF		OCL6692
367	6145					
370	6620					
2371	2020					
372	2250	BCD	8D	SQRTF		OCL6692
2373	5123					
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2376	2271		BCD	8D	SIGNF		OCL6692
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2406	7145		BCD	8D	INTEGER		OCL6692
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2511	0063				
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513	0066	BCDR	3	FNS	OCL6694
2514	0045				
2515	0022				
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2517	0045				
2520	0022				
521	6643	50LST BCD	16D	FLRAT, FLOAT	OCL6694
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2523	2333				
524	2066				
2525	4346				
26	6123				
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2530	2020				
2531	6643	BCD	16D	FLRAT, INT.	OCL6694
532	4661				
2533	2333				
2534	2071				
535	4523				
2536	7320				
2537	2020				
540	2020				
2541	7145	BCD	16D	INT, INT.	OCL6694
2542	2373				
543	3320				
2544	7145				
2545	2373				
546	2020				
2547	2020				
2550	2020				
551	6643	51LST BCD	16D	FLOATING STORE	OCL6694
2552	4661				
2553	2371				
554	4567				
2555	2022				
2556	2346				
557	5155				
560	2020				
2561	7145	BCD	16D	INTEGER STORE	OCL6694
562	2365				
2563	6765				
2564	5120				
565	2223				

2566	4651				
2567	6520				
2570	2020				
2571	6643	BCD	16D	FLRAT AND STORE	OCL6694
2572	4661				
2573	2320				
2574	6145				
2575	6420				
2576	2223				
2577	4651				
2600	6520				
2601	6671	BCD	16D	FIX AND STORE	OCL6694
2602	2720				
2603	6145				
2604	6420				
2605	2223				
2606	4651				
2607	6520				
2610	2020				
2611	4346	67LST BCD	16D	LOAD ACCUMULATOR	OCL6694
2612	6164				
2613	2061				
2614	6363				
2615	2444				
2616	2443				
2617	6123				
2620	4651				
2621	4346	BCD	16D	LOAD ACC1	OCL6695
2622	6164				
2623	2061				
2624	6363				
2625	0120				
2626	2020				
2627	2020				
2630	2020				
2631	4346	BCD	16D	LOAD ACC2	OCL6695
2632	6164				
2633	2061				
2634	6363				
2635	0220				
2636	2020				
2637	2020				
2640	2020				
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2642	6164				
2643	2046				
2644	4765				
2645	5161				
2646	4564				
2647	2020				
2650	2020				
2651	7145	71LST BCD	16D	INCLUSIVE OR	OCL6695
2652	6343				
2653	2422				
2654	7125				
2655	6520				
2656	4651				
2657	2020				
2660	2020				
2661	4346	BCD	16D	LOAD COMPLEMENT	OCL6695

662	6164								
663	2063								
664	4644								
665	4743								
666	6544								
667	6545								
670	2320								
671	6145	BCD	16D	AND					OCL6695:
672	6420								
673	2020								
674	2020								
675	2020								
676	2020								
677	2020								
700	2020								
701	6527	BCD	16D	EXCLUSIVE OR					OCL6695:
702	6343								
703	2422								
704	7125								
705	6520								
706	4651								
707	2020								
710	2020								
711	4546	76LST BCD	16D	NORMAL GO TO					OCL6695:
712	5144								
713	6143								
714	2067								
715	4620								
16	2346								
717	2020								
720	2020								
721	2447	BCD	16D	UP B-BQX					OCL6695:
722	2062								
723	4062								
724	4627								
725	2020								
726	2020								
727	2020								
730	2020								
731	0000	CUTT	BSS	120D					OCL6695:
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	0000	BOPCD	EQU	0					OCL6696:
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	0002	SECWD	EQU	2					OCL6696:
	0003	TEMP1	EQU	3					OCL6696:
	0004	TEMP2	EQU	4					OCL6696:
	0005	TEMP3	EQU	5					OCL6696:
	0025	LAST	EQU	25					OCL6696:
	0031	FINISH	EQU	31					OCL6696:
	0015	BANK	EQU	15					OCL6696:
	0016	LOCC	EQU	16					OCL6697:
			SUPB						
	0000		END						OCL6697:

Address	Label	Attributes	Description	Index
0400	0000	REM ORG 400	FIXED INTERPRETER 24 SEPT 1963	JFS0000
0001	0000	0		JFS0001
0001	0000	BANK		JFS0002
0001	0001	REM	LOW CORE IN INTERPETER 13 SEP 62	JFS0003
0001	0000	CON 1		JFS0004
0004	0004	WACC		JFS0005
0004	0000	REM	SEMI-PERMANENT STORAGE DURING I/O	JFS0006
0005	0000	CON 4		JFS0007
0005	0000	SEOF	END OF FORMAT SIGNAL	JFS0008
0006	0000	SHFLAG	HOLLERITH FLAG	JFS0009
0006	0000	SRRECT		JFS0010
0001	0001	CON 1		JFS0011
0001	0000	WHI		JFS0012
0002	0000	WLO		JFS0013
0001	0001	CON 1		JFS0014
0001	0000	ACC BSS 3		JFS0015
0001	0001	ACCJ EQU ACC		JFS0016
0001	0001	TACC EQU ACC		JFS0017
0004	0000	ACC1 BSS 3		JFS0018
0007	0000	ACC2 BSS 3		JFS0019
0012	0000	ACC3 BSS 3		JFS0020
0015	0000	INDXRG BSS 2	MUST FOLLOW ACC3	JFS0021
0017	0000	OP BSS 4		JFS0022
0017	0017	UPER EQU OP		JFS0023
0017	0017	OPJ EQU OP		JFS0024
0023	0000	BNK	OBJECT CODE LOCATOR	JFS0025
0024	0000	LOCC		JFS0026
0025	0000	EOFFLG	END OF FILE FLAG	JFS0028
0026	0000	FRSTWD		JFS0028
0027	0000	BOPCD	CURRENT OP CODE	JFS002
0027	0027	SBOPC EQU BOPCD		JFS0030
0030	0000	BOPSW		JFS0031
0031	0000	ERSLOC BSS 2	BNK + ADDRESS START OF FUNCTION ERASIBLE	JFS0032
0033	0000	BRTLOC		JFS0033
0033	0033	BWDSAV EQU BRTLOC		JFS0034
0034	0000	ZBNK	DATA BANK COUNTER	JFS0035
0034	0034	BTEMPA EQU ZBNK		JFS0036
0035	0000	ZLOCC	DATA LOCC	JFS0037
0035	0035	BTEMPB EQU ZLOCC		JFS0038
0036	0000	ZIR	DATA INDEX REGISTER	JFS0039
0036	0036	BTEMPC EQU ZIR		JFS0040
0037	0000	SBUF	COUNTS CHARS IN BUFFERQ	JFS0041
0040	0000	SWAY	EQUIPMENT USED	JFS0042
0041	0000	STIP	FORMAT CONTROL CHARACTER	JFS0043
0042	0000	SWID	WIDTH OF FORMAT FIELD	JFS0044
0043	0000	SDEC	DECIMAL PT SPEC	JFS0045
0044	0000	SREP1	REPEAT SPEC FOR ONE FIELD	JFS0046
0045	0000	SIF	FORMAT COUNTER	JFS0047
0046	0000	SFORMF	=/ 0 FLAGS DATA CALL	JFS0048
0047	0000	SPARCT	PARENS COUNTERS ZERO= EOF	JFS0049
0050	0000	SQUIK		JFS0050
0051	0000	SLOCLP	INITE REPEAT LEFT PARENS	JFS0051
0052	0000	SBINSW		JFS0052
0053	0000	SWTCON	SWITCHBOARD INTERRUPT	JFS0053
0054	0000	FBNK	START OF FORMAT	JFS005
0055	0000	FLOCC	START OF FOMAT	JFS0055
0056	0000	WSIGN		JFS0056
0057	0057	CON 57		JFS0057

0057	0000	TEMP1		
0060	0000	TEMP2		
0061	0000	TEMP3		
0062	0000	TEMP4		
58	0000	TEMP5		
	0057		REM	
			CON	57
0057	0000	SCHAR		
0060	0000	TSAV		
0061	0000	TIN		
0062	0000	SHCNT		
	0057		CON	57
0057	0000	WEXP		
0060	0000	EXPF		
0061	0000	DECCT		
0062	0000	PLACCT		
0063	0000	NUM		
0064	0000	KEEP1		
0065	0000	KEEP2		
0066	0000	KEEP3		
0067	0000	CANSAT		
0070	0000	SGNEXP		
0071	0000	BCNT		
0072	0000	SDECLC		
0073	0000	WLET		
0074	0000	WID		
0075	0000	SAC		
	0057		CON	57
			REM	
0057	0000	BWORD		
0060	0000	BWD11		
0061	0000	BWD12		
0062	0000	BWD21		
0063	0000	BWD22		
0064	0000	BTEMP1		
0065	0000	BTEMP2		
0066	0000	BTEMP3		
0067	0000	BTEMP4		
0070	0000	BITFLP		
0071	0000	COUNT		
	0070		CON	70
0070	0000	NUMBEG		
0071	0000	L(CHI)		
0072	0000	WDIGCT		
0073	0000	STORD		
0074	0000	SWBOOL		
	0072		CON	72
0072	0000	LOC(,)		
0073	0000	LOC(E)		
0074	0000	VEX		
0075	0000	VINSIG		
0076	0000	STEM		
	0076		CON	76
0076	0000	VQUO		
	0076		CON	76
0076	0000	VLATEM		
	0076		CON	76
0076	0000	VTEM		
	0200	SRUFAD	EQU	200
	0023	BANK	EQU	BNK

TEMPORARY DURING FORMAT CONTROL

CHARACTER IN FORMAT  
TEMP COUNTER IN INTEGER OUT

TEMP HOLLERITH COUNTER

USED IN A CONVERSION IN AND OUT

TEMPORARY LOCATIONS

JFS00581  
JFS00590  
JFS00600  
JFS00610  
JFS00620  
JFS00630  
JFS00640  
JFS00650  
JFS00660  
JFS00670  
JFS00680  
JFS00690  
JFS00700  
JFS00710  
JFS00720  
JFS00730  
JFS00740  
JFS00750  
JFS00760  
JFS00770  
JFS00780  
JFS00790  
JFS00800  
JFS00810  
JFS00820  
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JFS00900  
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JFS00980  
JFS00990  
JFS01000  
JFS01010  
JFS01020  
JFS01030  
JFS01040  
JFS01050  
JFS01060  
JFS01070  
JFS01080  
JFS01090  
JFS01100  
JFS01110  
JFS01120  
JFS01130  
JFS01140  
JFS01150  
JFS01160  
JFS01170

0200	ERASE	EQU	SBUFAD	
0073	KTDATA	EQU	WLET	
0072	DIGCT	EQU	WDIGCT	
		REM		
0370	TBUF	EQU	SBUFAD	170
0037	WFET	EQU	SBUF	
0041	FUNCD	EQU	STIP	
0042	WIDF	EQU	SWID	
0043	DECF	EQU	SDEC	
0037	WBUF	EQU	SBUF	
0061	WDECCT	EQU	DECCT	
0060	WEXPF	EQU	EXPF	
0073	WSTORD	EQU	STORD	
0066		CON	BTEMP3	
0066	0000	CMN1		
0067	0000	CMN2		
0070	0000	MLTSWO		
0071	0000	ENDFLG		
0072	0000	UPLOCC		
0073	0000	BOXADD		
007	0000	DELSAV	BSS	2
0073	BOXLOC	EQU	BOXADD	
0060	BWRD11	EQU	BWD11	
0061	BWRD12	EQU	BWD12	
0062	BWRD21	EQU	BWD21	
0063	BWRD22	EQU	BWD22	
0100	VECTOR	EQU	100	
0020	XVAD	EQU	20	
0021	XVISUB	EQU	21	
0022	XVINT	EQU	22	
0022	SVINT	EQU	22	
0023	XVDIV	EQU	23	
0102	XSFORM	EQU	102	
0144	XWIN	EQU	144	
0100	BOULJ	EQU	100	
0200		ORG	200	
		REM		
0200	0555		BMACSW	
		REM		
0201	0770		BINTAD	
0202	4050		STRANS	
0203	4054		SDATRY	
0204	4105		STLDW	
0205	4114		TSTLDD	
		REM		
		REM		
0206	0554		BMCRET	
0207	0652		DVFLT	
0210	0644		OVFLW	
		REM		
		REM		
		REM		
		REM		
		REM		
		REM		
		REM		
		REM		
		REM		
	0000	CON	0	
0000	6346	BOD	6	

EQU TABLE  
TEMP BUY STORAGE FOR CONV

TEMPORARY STORAGE=UP B=BOX

MULTIPLY OR ADD SWITCH UP B=BOX  
END SWITCH UP B=BOX  
LOCATION OF UP-SUBROUTINE  
LOCATION OF B=BOX UP B=BOX

INTEGER ADD IN MACRO SWITCHBOARD  
INTEGER SUBTRACT IN MACRO SWITCHBOARD  
INTEGER MULTIPLY

EXTERNAL SYMBOL TABLE FOR MODULES  
ASSUMED TO BE 560  
FORMAT 5

WIN 5  
SE# PT 5  
ASSUMED 554

LOCATION OF I/O FUNCTIONS ARE AT 100 \*  
7, FLEX=TYPE, 470 LENGTH  
10, READ 163, LENGTH 162  
11, WRITE 163, LENGTH 157  
12, READ 088, LENGTH 216  
13, WRITE 523, LENGTH 210  
14, WRITE 1612, LENGTH 40  
READ 1607, LENGTH 164  
WRITE 1607, LENGTH 164

CONTRL

JFS0118  
JFS0119  
JFS0120A  
JFS0121A  
JFS0122  
JFS0123  
JFS0124  
JFS0125  
JFS0126  
JFS0127  
JFS0128  
JFS0129  
JFS0130  
JFS0131A  
JFS0132  
JFS0133  
JFS0134  
JFS0135  
JFS0136  
JFS0137  
JFS0138  
JFS0139  
JFS0140  
JFS0141  
JFS0142A  
JFS0143  
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JFS0151A  
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JFS0166  
JFS0167  
JFS0168  
JFS0169A  
JFS0170  
JFS0171  
JFS0172A  
JFS0173  
JFS0174  
JFS0175  
JFS0176  
JFS0177

0001	4523				
0002	5143				
0003	4303				
0004	0001			SBIOX	2
0005	7777			1	
	0400		ORG	400	
0400	2024	ARITH	LDD	LUCC	
0401	7701		SLS1		
0402	2023		LDD	BANK	
0403	4201		STR	ARITHB	
0404	0020	ARITHB	SIC0		RESET INDIRECT BANK
0405	5424		AOD	LOCC	INCR LOCATION COUNTER
0406	6103		NZR	ARITHA	BANK CHANGE
0407	7100		JPR	ARITHB	YES
0410	0526				
0411	2124	ARITHA	LDI	LOCC	
0412	0111		LS6		OPER TO LOW ORDER BITS
0413	0277		LPN	77	
0414	4027	SWTB	STD	BUPCD	
0415	3200		ADC	7101	
0416	7101				
0417	4201		STF	ARITHC	
0420	7101	ARITHC	JFI	1	
0421	0533			B0C00	HALT AND PROCEED
0422	0540			B0C01	DROP OUT/TRANSFER TO MACRO
0423	1032			B0C02	TRANSFER/RETURN TRANSFER
0424	1107			B0C03	RELATIVE TRANSFER FORWARD
0425	1107			B0C04	RELATIVE TRANSFER BACKWARD
0426	1123			B0C05	POS, JUMP FORWARD
0427	1123			B0C06	POS, JUMP BACKWARD
0430	1126			B0C07	NEG, JUMP FORWARD
0431	1126			B0C10	NEG, JUMP BACKWARD
0432	1131			B0C11	ZERO JUMP FORWARD
0433	1131			B0C12	ZERO JUMP BACKWARD
0434	1136			B0C13	NON-ZERO FORWARD
0435	1136			B0C14	NON-ZERO BACKWARD
0436	1740			B0C15	STORE ACCN
0437	1745			B0C16	ADD ACCN
0440	1745			B0C17	SUB ACCN
0441	1745			B0C20	MPY ACCN
0442	1745			B0C21	DIV ACCN
0443	2024			B0C22	INV, DIV ACCN
0444	2055			B0C23	LOAD ACCN
0445	2170			B0C24	STO FUNC, ERASE
0446	2170			B0C25	ADD FUNC, ERASE
0447	2170			B0C26	SUB FUNC, ERASE
0450	2170			B0C27	MPY FUNC, ERASE
0451	2170			B0C30	DIV FUNC, ERASE
0452	2170			B0C31	IDV FUNC, ERASE
0453	2170			B0C32	LOAD/LOAD * CONVERT FUNC, ERASE
0454	2170			B0C33	LOAD NEG, FUNC, ERASE
0455	2170			B0C34	LOAD NEG, AND CONV, FUNC, ERASE
0456	2136			B0C35	STORE ERASE
0457	2136			B0C36	ADD ERASE
0460	2136			B0C37	SUB ERASE
0461	2136			B0C40	MPY ERASE
0462	2136			B0C41	DIV ERASE
0463	2136			B0C42	IDV ERASE
0464	2136			B0C43	LOAD ERASE
0465	1143			B0C44	MODIFY ERASE COUNTER

JFS0178:  
JFS0179:  
JFS0180:  
JFS0181:  
JFS0182:  
JFS0183:  
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JFS0198:  
JFS0199:  
JFS0200:  
JFS0201:  
JFS0202:  
JFS0203:  
JFS0204:  
JFS0205:  
JFS0206:  
JFS0207:  
JFS0208:  
JFS0209:  
JFS0210:  
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JFS0218:  
JFS0219:  
JFS0220:  
JFS0221:  
JFS0222:  
JFS0223:  
JFS0224:  
JFS0225:  
JFS0226:  
JFS0227:  
JFS0228:  
JFS0229:  
JFS0230:  
JFS0231:  
JFS0232:  
JFS0233:

1466	1176		BOC45	STORE/RESTORE PSEUDO ACCS	JFS0234
1467	1236		BOC46	ONE WORD OPTION	JFS0235
1470	1171		BOC47	TRANSFER ON INDEX	JFS0236
1471	1103		BOC50	TRANSFER TO POWER	JFS0237
1472	2435		BOC51	STORE	JFS0238
1473	2323		BOC52	FL, ADD	JFS0239
1474	2323		BOC53	FL, SUB	JFS0240
1475	2323		BOC54	FL, MPY	JFS0241
1476	2323		BOC55	FL, DIV	JFS0242
1477	2337		BOC56	FL, INV, DIV	JFS0243
1500	2323		BOC57	INT, ADD	JFS0244
1501	2323		BOC60	INT, SUB	JFS0245
1502	2323		BOC61	INT, MPY	JFS0246
1503	2323		BOC62	INT, DIV	JFS0247
1504	2337		BOC63	INT, INV, DIV	JFS0248
1505	2343		BOC64	LOAD	JFS0249
1506	2343		BOC65	LOAD NEGATIVE	JFS0250
1507	2343		BOC66	REPLACE ADD	JFS0251
1510	2403		BOC67	LOAD AND FL, CONV.	JFS0252
1511	2433		BOC70	LOAD NEG, AND FL, CONV.	JFS0253
1512	2467		BOC71	NORMAL BOOLEAN	JFS0254
1513	2502		BOC72	FUNC. ERASE BOOLEAN	JFS0255
1514	2516		BOC73	BOOLEAN SHIFT	JFS0256
1515	1350		BOC74	LOAD INDEX REGISTER	JFS0257
1516	2666		BOC75	3-WORD COMMAND	JFS0258
1517	1377		BOC76	UP B-BOX/GO TO	JFS0259
				AOD LOCC SUBR,	JFS0260
				RETURN ADDRESS	JFS0261
0520	7700	ARTSBA	REM		JFS0262
0521	2301		HLT		JFS0263
0522	4204		LDR	ARTSBA	JFS0264
0523	5424		STR	ARTHSB	JFS0265
0524	6003		AOD	LOCC	JFS0266
0525	7101	ARTSBZ	ZJR	ARTSBC	JFS0267
0526	7700		JFI	1	JFS0268
0527	5423	ARTHSB	HLT		JFS0269
0530	4201	ARTSBC	AOD	BANK	JFS0270
0531	0020	ARTSBB	STF	ARTSBB	JFS0271
0532	6505		SIC0		JFS0272
			NZB	ARTSBZ	JFS0273
			REM		JFS0274
0533	2124	BOC00	LDI	LOCC	JFS0275
0534	0277		LPN	77	JFS0276
0535	7700		HLT		JFS0277
0536	7101	BOC00A	JFI	1	JFS0278
0537	0400			ARITH	JFS0279
			REM		JFS0280
0540	2124	BOC01	LDI	LOCC	JFS0281
0541	0277		LPN	77	JFS0282
0542	6114		NZR	BMC5WB	JFS0283
0543	2023		LDD	BANK	JFS0284
0544	0710		SBN	10	JFS0285
0545	4202		STF	BOC01C	JFS0286
0546	5424		AOD	LOCC	JFS0287
0547	0010	BOC01C	SRJ0		JFS0288
0550	0404	RETRDP	LDN	4	JFS0289
0551	3033		ADD	BRTLOC	JFS0290
0552	4024		STD	LOCC	JFS0291
0553	6515		NZR	BOC00A	JFS0292
			REM		JFS0293
0554	7101	BMCRET	JFI	1	JFS0294
0555	7700	BMACSW	HLT		JFS0295



0556	3200	BMCSWB	ADC	7100		JFS0294:
0557	7100					:
0560	4201		STF	BMCSWA	SET SWITCHBOARD	JFS0295:
0561	7101	BMCSWA	JFI	1		JFS0296:
0562	3033		INCR		1.	JFS0297:
0563	3213		RETURN		2	JFS0298:
0564	0653		IF		3	JFS0299:
0565	0626		IFOV		4	JFS0300:
0566	0645		IFDVCK		5	JFS0301:
0567	0610		IFSNSE		6	JFS0302:
0570	0710		CMPTD		7	JFS0303:
0571	3715		IOI		10	JFS0304:
0572	3717		IOO		11	JFS0305:
0573	4153		IOT		12	JFS0306:
0574	4310		SFADD		13	JFS0307:
0575	4364		SFSUB		14	JFS0308:
0576	4314		SFMLT		15	JFS0309:
0577	4321		SFDIV		16	JFS0310:
0600	4321		SFDIV		17	JFS0311:
0601	3223		VADD		20	JFS0312:
0602	3217		VISUB		21	JFS0313:
0603	3323		VINTML		22	JFS0314:
0604	3442		VINTDV		23	JFS0315:
0605	3442		VINTDV		24	JFS0316:
0606	5514		FLCONV		25	JFS0317:
0607	5627		XCONV		26	JFS0318:
0610	7100	IFSNSE	JPR	ARTSBA	IF SENSE SWITCH INCREMENT LOC, COUNTER	JFS0319:
0611	0520					JFS0320:
0612	2124		LDI	LOCC		JFS0321:
0613	0110		LS3			JFS0322:
0614	0270		LPN	70	SENSE SWITCH NO,	JFS0323:
0615	3200		ADC	7700		JFS0324:
0616	7700					
0617	4202		STR	IFSNSA	SEL. JUMP COMMAND	JFS0325:
0620	0477		LDN	77		JFS0326:
0621	7700	IFSNSA	SLJ0	IFSNSB	SENSE SWITCH SET	JFS0327:
0622	0624					:
0623	0400		LDN	0	NO	JFS0328:
0624	4211	IFSNSB	STR	IFOVC		JFS0329:
0625	6207		PJR	IFOVB		JFS0330:
0626	2216	IFOV	LDR	OVFLW	IF OVERFLOW TEST OVERFLOW SWITCH	JFS0331:
0627	4206		STR	IFOVC		JFS0332:
0630	0400		LDN	0		JFS0333:
0631	4213		STR	OVFLW	ZERO SWITCH	JFS0334:
0632	7100	IFOVD	JPR	ARTSBA		JFS0335:
0633	0520					JFS0336:
0634	2200	IFOVB	LDF	0		JFS0337:
0635	0000	IFOVC				JFS0338:
0636	0277		LPN	77		JFS0339:
0637	6002		ZJR	IFOVA	SWITCH SET	JFS0340:
0640	0500		LCN	0	YES	JFS0341:
0641	4057	IFOVA	STD	BWORD	SET TEST CELL	JFS0342:
0642	0600		ADN	0		JFS0343:
0643	6021		ZJR	IFA		JFS0344:
0644	0000	OVFLW				JFS0345:
0645	2205	IFDVCK	LDR	DVFLT	IF DIVIDE CHECK TEST DIVIDE CHECK SWITCH	JFS0346:
0646	4311		STR	IFOVC		JFS0347:
						JFS0348:

0647	0400		LDN	0		JFS03498
0650	4202		STR	DVFLT	ZERO SWITCH	JFS03501
0651	6417		ZJR	IFOVD		JFS03511
0652	0000	DVFLT				JFS03528
			REM		IF ALGEBRAIC TEST	JFS03531
0653	2001	IF	LDD	ACC	ACCUMULATOR	JFS0354
0654	6302		NJR	IFF	JUMP FOR NEGATIVE	JFS0355
0655	6104		NZR	IFF	JUMP FOR POSITIVE	JFS0356
0656	2002		LDD	ACC		JFS0357
0657	6002		ZJR	IFF	JUMP FOR ZERO	JFS0358
0660	0401		LDN	1	SET FOR POSITIVE	JFS0359
0661	4057	IFF	STD	BWORD	TO TEST CELL	JFS0360
0662	7100	IFD	JPR	ARTSBA	INCREMENT LOC, COUNTER	JFS03618
0663	0520					
0664	2124	IFA	LDI	LOCC		JFS0362
0665	4060		STD	BWD11	SAVE BANK SETTINGS	JFS03638
0666	0503		LCN	3		JFS0364
0667	4064		STD	BTEMP1	PRESET COUNTER	JFS0365
0670	2057		LDD	BWORD	TEST WORD	JFS03668
0671	6003		ZJR	IFC		JFS0367
0672	6206		PJR	IFE		JFS0368
0673	5464		AOD	BTEMP1	DECREASE COUNTER	JFS0369
0674	5464	IFC	AOD	BTEMP1	DECREASE COUNTER	JFS0370
0675	6103		NZR	IFE		JFS0371
0676	7100	IFB	JPR	ARTSBA	INCREMENT LOC, COUNTER	JFS03728
0677	0520					
0700	2060	IFE	LDD	BWD11		JFS0373
0701	0110		LS3		SHIFT BANK SETTINGS	JFS03748
0702	4060		STD	BWD11		JFS03758
0703	5464		AOD	BTEMP1		JFS0376
0704	6506		NZR	IFB	COUNTER DEPLETED	JFS0377
0705	2060		LDD	BWD11	YES -> GET BANK SETTING	JFS0378
0706	7101		JFI	1		JFS0379
0707	1403			B0076D		JFS0380
			REM		COMPUTED GO TO	JFS03818
0710	7100	CMPTD	JPR	ARTSBA	INCREMENT LOC, COUNTER	JFS0382
0711	0520					
0712	2124	CMPTDA	LDI	LOCC	B(I)	JFS03838
0713	0207		LPN	7		JFS0384
0714	4060		STD	BWD11		JFS0385
0715	7100		JPR	ARTSBA	INCREMENT LOC, COUNTER	JFS0386
0716	0520					
0717	2124		LDI	LOCC	A(I)	JFS03878
0720	4061		STD	BWD12		JFS03888
0721	0720		SBN	20		JFS0389
0722	6207		PJR	CMPTDF	FUNCTION ERASE LOCATION	JFS0390
0723	2060		LDD	BWD11	MAYBE	JFS0391
0724	6105		NZR	CMPTDF	BANK ZERO	JFS0392
0725	0101		PTA		YES -> FUNC. ERASE	JFS03938
0726	0604		ADN	4	CALCULATE RETURN ADDRESS	JFS0394
0727	7100		JPR	B SUBCY	GET ABS, ERASE LOC,	JFS0395
0730	2163					
0731	0400	CMPTDF	LDN	0	INCREMENT ERASE	JFS0396
0732	4062		STD	BWD21	LOC, BY 1 FOR	JFS0397
0733	0401		LDN	1	THE INTEGER	JFS0398
0734	4063		STD	BWD22	PORTION	JFS0399
0735	7100		JPR	BINTAD		JFS040
0736	0770					
0737	2461		LCD	BWD12		JFS0400
0740	6103		NZR	CMPTDG		JFS0400

0741	4061		STD	BWD12		JFS04001
0742	5460		ADD	BWD11		JFS04002
0743	2060	CMPTDG	LDD	BWD11		JFS04003
0744	0620		ADN	20		JFS04004
0745	4201		STR	CMPTDB	SET F.E. BANK SETTING	JFS04005
0746	0020	CMPTDB	SIC0		SET INDIRECT BANK	JFS04006
0747	2161		LDI	BWD12	VALUE OF I	JFS04007
0750	0102		LS1		TIMES 2	JFS04008
0751	0701		SBN	1	MINUS 1	JFS04009
0752	4061		STD	BWD12		JFS04010
0753	5024		RAD	LUCC	INCREMENT LOCATION COUNTER	JFS04011
0754	3461		SBD	BWD12		JFS04012
0755	1424		LSD	LUCC		JFS04013
0756	1461		LSD	BWD12		JFS04014
0757	0201		LPN	1	OVERFLOW BIT CHECK	JFS04015
0760	1600		LSC	7776	-1 = NO OVERFLOW, -0 = OVERFLOW	JFS04016
0761	7776					JFS04017
0762	5023		RAD	BANK	DECREASE BANK SETTING	JFS04018
0763	7100		JPR	ARTHSB	SET BANK SETTING	JFS04019
0764	0526					JFS04020
0765	7101	CMPTDE	JFI	1		JFS04021
0766	1402			80C76C		JFS04022
0767	7101	BNTADZ	JFI	1	15-BIT ADDER	JFS04023
0770	7700	BINTAD	HLT		RETURN ADDRESS	JFS04024
0771	2062		LDD	BWD21		JFS04025
0772	5060		RAD	BWD11	ADD 3-BIT QUANTITIES	JFS04026
0773	2063		LDD	BWD22		JFS04027
0774	3061		ADD	BWD12	ADD 12-BIT QUANTITIES	JFS04028
0775	4057		STD	BWORD		JFS04029
0776	1463		LSD	BWD22		JFS04030
0777	1461		LSD	BWD12		JFS04031
1000	0201		LPN	1	OVERFLOW TEST BIT	JFS04032
1001	6011		ZJR	BNTADA	DID OVERFLOW OCCUR	JFS04033
1002	2057		LDD	BWORD	YES	JFS04034
1003	6104		NZR	BNTADB	WAS ZERO GENERATED	JFS04035
1004	0500		LCN	0	YES	JFS04036
1005	4057		STD	BWORD	REPLACE WITH 7777	JFS04037
1006	6304		NJR	BNTADA		JFS04038
1007	0501	BNTADB	LCN	1		JFS04039
1010	5057		RAD	BWORD	DECREMENT 12-BIT QUANTITY	JFS04040
1011	5460		ADD	BWD11	INCREMENT 3-BIT QUANTITY	JFS04041
1012	2060	BNTADA	LDD	BWD11		JFS04042
1013	0207		LPN	7		JFS04043
1014	4060		STD	BWD11	MASK OFF 3-BITS	JFS04044
1015	2057		LDD	BWORD		JFS04045
1016	4061		STD	BWD12	12-BIT QUANTITY TO STORAGE	JFS04046
1017	7101		JFI	1		JFS04047
1020	0767		BNTADZ			JFS04048
1021	1021	BRETLC		B2RTBF =1	TRANSFER/RETURN TRANSFER	JFS04049
1022	0000	B2RTBF	BSS	80		JFS04050
1032	2124	B0C02	LDI	LUCC		JFS04051
1033	0020	B0C02B	SIC0			JFS04052
1034	0277		LPN	77	SUBROUTINE TRANSFER ADDRESS	JFS04053
1035	6123		BZF	B0C02A	RETURN TRANSFER	JFS04054
1036	2315		LDR	BRETLC	LIST ADDRESS	JFS04055
1037	4065		STD	BTEMP2		JFS04056
1040	2165		LDI	BTEMP2	LO 12 BITS OF RETURN LOCC	JFS04057
1041	4024		STD	LUCC	RESTORE LOCATION COUNTER	JFS04058

1042	0501	LCN	1		JFS04578
1043	5322	RAR	BRETLC		JFS04581
1044	4065	STD	BTEMP2		JFS0459
1045	2165	LDI	BTEMP2	HI 3 BITS OF RETURN LOCC	JFS04601
1046	0701	SBN	1	DECREMENT BANK SETTING	JFS04611
1047	4023	STD	BANK		JFS0461
1050	7100	JPR	ARTHSB	SET INDIRECT BANK	JFS0463
1051	0526				
1052	0501	LCN	1		JFS0464
1053	5332	RAR	BRETLC		JFS04658
1054	2124	LDI	LOCC		JFS04661
1055	6244	PJR	BOC03B	TRANSFER POWER COMMAND	JFS0467
1056	7101	JFI	1	YES	JFS04688
1057	2333		BOC52E		JFS04690
1060	4064	BOC02A	STD		JFS0470
1061	5740	AOR	BRETLC		JFS04718
1062	4065	STD	BTEMP2		JFS04721
1063	2023	LDD	BANK	SAVE RETURN LOCATION	JFS0473
1064	4165	STI	BTEMP2	HI 3 BITS OF RETURN LOCC	JFS04741
1065	5744	AOR	BRETLC		JFS04751
1066	4065	STD	BTEMP2		JFS0476
1067	2024	LDD	LOCC		JFS04771
1070	4165	STI	BTEMP2	LO 12 BITS OF RETURN LOCC	JFS04781
1071	2064	LDD	BTEMP1		JFS0479
1072	0677	ADN	77	LIB. FUNC. SWITCHBOARD	JFS04808
1073	4024	STD	LOCC		JFS04818
1074	2124	LDI	LOCC	LIB. FUNC. LOC.	JFS0482
1075	0201	LPN	1	LIB. FUNC. BANK SETTING	JFS04831
1076	0620	ADN	20		JFS04841
1077	4100	STM	BOC76A	BANK SETTING COMMAND	JFS0485
1100	1414				
1101	7101	JFI	1		JFS0481
1102	1410		BOC76B	GO TO ROUTINE	JFS0487
		REM		TRANSFER TO POWER	JFS04881
1103	2124	BOC50	LDI	LOCC	JFS04891
1104	0203	LPN	3	RELATIVE POWER LOCATION	JFS0490
1105	0646	ADN	38D		JFS04911
1106	6653	PJR	BOC02B	RELATIVE TRANSFERS	JFS04921
		REM			JFS0493
1107	2124	BOC03	LDI	LOCC	JFS04948
1110	0277	LPN	77	RELATIVE TRANSFER ADDRESS	JFSC495
1111	4064	STD	BTEMP1		JFS0496
1112	2427	LCD	BOPCD		JFS04970
1113	0201	LPN	1		JFS04981
1114	6002	ZJF	BOC03A	EVEN NUMBERED COMMANDS	JFS0499
1115	0500	LCN	0	YES	JFS05001
1116	1464	BOC03A	LSD	BTEMP1	JFS05011
1117	0701	SBN	1	MINUS 1	JFS0502
1120	5024	RAD	LOCC	TRANSFER LOC	JFS05031
1121	7101	BOC03B	JFI	1	JFS05041
1122	0400		ARITH		JFS0505
	1107	BOC04	EQU	BOC03	JFS05061
1123	2001	BOC05	LDD	ACC	JFS05071
1124	6703	NJB	BOC03B	JUMP REQUIRED	JFS0508
1125	6616	PJB	BOC03	YES	JFS05098
	1123	BOC06	EQU	BOC05	JFS0510
1126	2001	BOC07	LDD	ACC	JFS0511
1127	6606	PJR	BOC03B	JUMP REQUIRED	JFS05121
1130	6721	NJR	BOC03	YES	JFS05131
	1126	BOC10	EQU	BOC07	JFS0514

1131	2001	BOC11	LDD	ACC			JFS0515:
1132	6511		NZR	BOC03B	JUMP REQUIRED		JFS0516:
1133	2002		LDD	ACC	1	MAYBE	JFS0517:
1134	6513		NZR	BOC03B	JUMP REQUIRED		JFS0518:
1135	6426		ZJR	BOC03	YES		JFS0519:
	1131	BOC12	ERU	BOC11			JFS0520:
1136	2001	BOC13	LDD	ACC			JFS0521:
1137	6536		NZR	BOC03	JUMP REQUIRED		JFS0522:
1140	2002		LDD	ACC	1	MAYBE	JFS0523:
1141	6532		NZR	BOC03	JUMP REQUIRED		JFS0524:
1142	6421		ZJR	BOC03B	NO		JFS0525:
	1136	BOC14	ERU	BOC13			JFS0526:
			REM		MODIFY ERASE COUNTER SUBR		JFS0527:
1143	2124	BOC44	LDI	LCCC			JFS0528:
1144	0240		LPN	40	INCREMENT INDICATOR		JFS0529:
1145	6122		NZF	BOC44A	INCREMENT		JFS0530:
1148	4065	BOC440	STD	BTEMP2	YES		JFS0531:
1147	2124		LDI	LCCC			JFS0532:
1150	0237		LPN	37			JFS0533:
1151	1465		LSD	BTEMP2			JFS0534:
1152	4064		STD	BTEMP1	REL. ERS. LOC.		JFS0535:
1153	0102		LS1				JFS0536:
1154	5064		RAD	BTEMP1	TIMES THREE		JFS0537:
1155	5032		RAD	ERSLOC	1	ABSOLUTE ERASABLE ADDRESS	JFS0538:
1156	3464		SRD	BTEMP1			JFS0539:
1157	1464		LSD	BTEMP1			JFS0540:
1160	1432		LSD	ERSLOC	1		JFS0541:
1161	1465		LSD	BTEMP2			JFS0542:
1162	0201		LPN	1	1. FOR CARRY -- 0 FOR NO CARRY		JFS0543:
1163	1465		LSD	BTEMP2			JFS0544:
1164	5031		RAD	ERSLOC	NEW BANK SETTING		JFS0545:
1165	7101	BOC440	JFI	1			JFS0546:
1166	0400			ARITH			JFS0547:
1167	0500	BOC44A	LCN	0	DECREMENT		JFS0548:
1170	6722		NJB	BOC44C			JFS0549:
			REM		TRANSFER ON INDEX		JFS0550:
1171	5416	BOC47	ADD	INDXRG	1		JFS0551:
1172	6605		PJR	BOC44D	RETURN OR CONTINUE		JFS0552:
1173	5427		ADD	BOPCD	RETURN		JFS0553:
1174	7101		JFI	1			JFS0554:
1175	1107			BOC03			JFS0555:
			REM		STORE/RESTORE PSEUDO ACCS		JFS0556:
1176	7100	BOC45	JPR	BSUBCY	DETERMINE ERASE LOC.		JFS0557:
1177	2163						JFS0558:
1200	2060	BOC45H	LDD	BWD11			JFS0559:
1201	0620		ADN	20			JFS0560:
1202	4214		STR	BOC45F	SET SIC COMMAND		JFS0561:
1203	2200		LDF	0			JFS0562:
1204	2007		LDD	ACC2			JFS0563:
1205	4214		STR	BOC45C	PRESET LOAD COMMAND		JFS0564:
1206	2200		LDF	0			JFS0565:
1207	4007		STD	ACC2			JFS0566:
1210	4223		STR	BOC45G	PRESET STORE COMMAND		JFS0567:
1211	0510		LCN	80			JFS0568:
1212	4065		STD	BTEMP2	LOOP COUNTER		JFS0569:
1213	2124		LDI	LCCC			JFS0570:
1214	0240		LPN	40			JFS0571:
1215	4066		STD	BTEMP3			JFS0572:
1216	0020	BOC45F	SIC0				JFS0573:
1217	2066		LDD	BTEMP3			JFS0574:

1220	6112	NZF	BUC45A	STORE OPTION	JFS0574
1221	2007	BUC45C	LDD ACC2	YES == ACCN	JFS0575
1222	4161	STI	BWD12	TO ERASABLE	JFS0576
1223	5702	AOB	BUC45C		JFS0577
1224	5461	BUC45D	AOD BWD12		JFS0578
1225	6102	NZF	BUC45E	ZERO LOCATION	JFS0579
1226	5710	AOR	BUC45F	YES == INCR. BANK SETTING	JFS0580
1227	5465	BUC45E	AOD BTEMP2		JFS0581
1230	6512	NZR	BUC45F	MORE WORDS TO SHIFT	JFS0582
1231	6043	ZJR	BOOLB	NO == EXIT	JFS0583
1232	2161	BUC45A	LDI BWD12	ERASABLE	JFS0584
1233	4007	BUC45G	STD ACC2	TO ACCN	JFS0585
1234	5701	AOB	BUC45G		JFS0586
1235	6511	NZB	BUC45D		JFS0587
		REM		ONE WORD OPTION	JFS0588
1236	2124	BUC46	LDI LOCC		JFS0589
1237	0240	LPN	40		JFS0590
1240	6151	NZR	CHGSN	CHANGE SIGN	JFS0591
1241	2524	LCI	LOCC		JFS0592
1242	0204	LPN	4		JFS0594
1243	6133	NZR	CNVAC		JFS0595
		REM		LOAD LOCATION	JFS0600
1244	4060	BLDLCC	STD BWD11	SET 15 BIT	JFS0601
1245	0403	LDN	3	ADDRESS REGISTERS	JFS0602
1246	4061	STD	BWD12		JFS0603
1247	2023	LDD	BANK		JFS0604
1250	4062	STD	BWD21		JFS0605
1251	2024	LDD	LOCC		JFS0606
1252	4063	STD	BWD22		JFS0607
1253	7100	JPR	BINTAD	15-BIT ADD	JFS0608
1254	0770				
1255	2461	LCD	BWD12		JFS0609
1256	6103	NZR	BLDLCA		JFS0610
1257	4061	STD	BWD12		JFS0611
1260	5460	AOD	BWD11		JFS0612
1261	7100	BLDLCA	JPR FEZRO		JFS0613
1262	3007				JFS0614
1263	2060	LDD	BWD11	LOCATION + 4	JFS0615
1264	4124	STI	LOCC	TO FEZ	JFS0616
1265	5424	AOD	LOCC		JFS0617
1266	2061	LDD	BWD12		JFS0618
1267	4124	STI	LOCC		JFS0619
1270	2063	LDD	BWD22		JFS0620
1271	4024	STD	LOCC	RESTORE LOCC	JFS0621
1272	2062	LDD	BWD21		JFS0622
1273	4023	STD	BANK	RESTORE BANK	JFS0623
1274	7101	BOOLB	JFI 1		JFS0624
1275	0400		ARITH		JFS0625
		REM		CONVERT ACCUMULATOR SUBR,	JFS0626
1276	7100	CNVAC	JPR ACCOPR	ACC TO OPER	JFS0627
1277	2755				JFS0628
1300	2124	LDI	LOCC		JFS0629
1301	0201	LPN	1		JFS0630
1302	0625	ADN	25		JFS0631
1303	7100	JPR	BMCDRV	GO TO MACRO SWITCHBOARD	JFS0632
1304	3013				JFS0633
1305	7100	JPR	BOPACC	OPER TO ACC	JFS0634
1306	2767				JFS0635
1307	2124	LDI	LOCC		JFS0636
1310	6120	NZR	CHGSNE		JFS0637

Address	Op	Op	Op	Op	Op	Op	Op
311	2001	CHGSN	REM	LDD	ACC		CHANGE/SET SIGN SUBR.
312	6103			NZF	3		
313	2002			LDD	ACC	1	
314	6013			ZJF	CHGSNG		
315	2124			LDI	LUCC		
316	0202			LPN	2		
317	6013			ZJR	CHGSNA		CHANGE SIGN
320	2124			LDI	LUCC		YES
321	0201			LPN	1		
322	6121			NZR	CHGSNH		FLOATING MODE
323	2200	CHGSNF		LDC	4000		YES
324	4000						
325	1401			LSD	ACC		
326	4001	CHGSND		STD	ACC		COMPLEMENT SIGN BIT
327	2124	CHGSNG		LDI	LUCC		
330	7101	CHGSNE		JFI	1		
331	2333				BOC52E		
332	2124	CHGSNA		LDI	LUCC		
333	0204			LPN	4		NEW SIGN
334	0110			LS3			TO SIGN BIT
335	0111			LS6			
336	1401			LSD	ACC		
337	6610			PJR	CHGSNG		PROPER SIGN EXISTS
340	2124			LDI	LUCC		NO
341	0201			LPN	1		
342	6417			ZJR	CHGSNF		INTEGER MODE
343	2402	CHGSNH		LCD	ACC	1	YES
344	4002			STD	ACC	1	COMPLEMENT ACCUMULATOR
345	2401			LCD	ACC		
346	7101			JFI	1		
347	1326				CHGSND		
350	2124	BOC74	REM	LDI	LUCC		LOAD INDEX REGISTER SUBR.
351	4026			STD	FRSTWD		
352	0207			LPN	7		BANK SETTING
353	4060			STD	BWD11		
354	7100			JPR	ARTSBA		INCREMENT LOC, COUNTER
355	0520						
356	2026	BOC74A		LDD	FRSTWD		
357	0210			LPN	10		OPTION BIT
360	6003			ZJR	BOC74B		TRUE ADDRESS
361	2524			LCI	LUCC		MAYBE
362	6312			NJF	BOC74C		TRUE ADDRESS
363	2124	BOC74B		LDI	LUCC		YES
364	4061			STD	BWD12		
365	4057			STD	BWORD		ABSOLUTE LOCATION
366	0400			LDN	0		
367	7100			JPR	75SUB		LOAD OPERAND
370	2717						
371	2017			LDD	OPER		
372	4015			STD	INDXRG		SET INDEX REGISTER
373	2020			LDD	OPER	1	
374	4016	BOC74C		STD	INDXRG	1	
375	7101			JFI	1		
376	0400				ARITH		
377	2124	BOC76	REM	LDI	LUCC		GO TO SUBROUTINE
400	0250			LPN	50		NO
1401	6116			NZR	UP		UP B-BOX

1402	2124	BOC76C	LDI	LOCC		JFS0687:
1403	0207	BOC76D	LPN	7	BANK SETTING	JFS0688:
1404	0620		ADN	20		JFS0689:
1405	4207		STR	BOC76A		JFS0690:
1406	7100		JPR	ARTSBA	INCREMENT LOC. COUNTER	JFS0691:
1407	0520					
1410	2124	BOC76B	LDI	LOCC		JFS0692:
1411	4024		STD	LOCC	RESET NEW LOCATION	JFS0693:
1412	2202		LDR	BOC76A		JFS0694:
1413	4023		STD	BANK	NEW BANK SETTING	JFS0695:
1414	0020	BOC76A	SIC0		RESET INDIRECT BANK	JFS0696:
1415	7101		JFI	1		JFS0697:
1416	0411			ARITHA		JFS0698:
			REM		UP(I) COMMAND	JFS0699:
			REM		UPDATE ALL B-BOXES INVOLVING	JFS0700:
			REM		THE INTEGER VARIABLE (I)	JFS0701:
1417	0240	UP	LPN	40		JFS0702:
1420	6103		NZR	UPA	STORE COMMAND	JFS0703:
1421	7101		JFI	1		JFS0704:
1422	2440			BOC51A		JFS0705:
1423	2124	UPA	LDI	LOCC	ASSUME INDIRECT BANK=B(LOCC)	JFS0706:
1424	0207		LPN	7	CREATE AN INSTRUCTION	JFS0707:
1425	0620		ADN	20		JFS0708:
1426	4215		STF	UPLODI	SIG(BANK OF UP-SUBROUTINE)	JFS0709:
1427	4270		STF	UPILOD	AND INITIALIZE BANK SETTINGS	JFS0710:
1430	5424		ADD	LOCC		JFS0711:
1431	6104		NZF	4		JFS0712:
1432	5423		ADD	BANK		JFS0713:
1433	4201		STF	1		JFS0714:
1434	0027		SIC7			JFS0715:
1435	2524		LCI	LOCC		JFS0716:
1436	6103		NZF	3		JFS0717:
1437	7101	UPZ	JFI	1	-DENO UP-SUBROUTINE	JFS0718:
1440	0400			ARITH		JFS0719:
1441	2124		LDI	LOCC	GET ADDRESS OF UP-SUBROUTINE	JFS0720:
1442	4072		STD	UPLOCC	KEEP CURRENT IN UPLOCC	JFS0721:
1443	0027	UPLODI	SIC7			JFS0722:
1444	2172		LDI	UPLOCC	GET ADDRESS OF CURRENT VALUE	JFS0723:
1445	4227		STF	REALI	OF INTEGER	JFS0724:
1446	5472		ADD	UPLOCC		JFS0725:
1447	6104		NZF	4		JFS0726:
1450	5647		ADF	UPILOD		JFS0727:
1451	4201		STF	1		JFS0728:
1452	0027		SIC7			JFS0729:
1453	2172		LDI	UPLOCC		JFS0730:
1454	4066		STD	CMN1	TEMPORARY STORAGE	JFS0731:
1455	2217		LDF	REALI		JFS0732:
1456	6216		PJF	REALI		JFS0733:
1457	2066		LDD	CMN1		JFS0734:
1460	0102		LS1			JFS0735:
1461	5066		RAD	CMN1	MULT BY 3 TO GET ERASABLE	JFS0736:
1462	3032		ADD	ERSLOC +1		JFS0737:
1463	1432		SCD	ERSLOC +1		JFS0738:
1464	1466		SCD	CMN1		JFS0739:
1465	0201		LPN	1		JFS0740:
1466	3031		ADD	ERSLOC		JFS0741:
1467	3205		ADF	REALI		JFS0742:
1470	0227		LPN	27		JFS0743:
1471	4203		STF	REALI	COMPUTE BANK SETTING	JFS0744:
1472	2032		LDD	ERSLOC +1		JFS0745:



1473	5066		RAD	CMN1		JFS0746
474	0027	REALI	SIC7			JFS0747
1475	2166		LDI	CMN1	MOVE CURRENT VALUE OF I	JFS0748
1476	4001		STD	ACCJ	TO INTEGER ACCUMULATOR	JFS0749
477	2466		LCD	CMN1	IF FIRST WORD OF I IS IN=0	JFS0750
500	6106		NZF	TSTONE	CHANGE-BANK	JFS0751
1501	4066		STD	CMN1		JFS0752
502	5766		AOB	REALI		JFS0753
1503	4201		STF	1		JFS0754
1504	0027		SIC7			JFS0755
505	6106		NZF	LOAIN		JFS0756
1506	5466	TSTONE	ADD	CMN1	IF FIRST WORD OF I IS IN -1	JFS0757
1507	6106		NZF	LOAIN	SET CMN1=-0	JFS0758
510	0500		LCN	0		JFS0759
1511	4066		STD	CMN1		JFS0760
1512	2166	LOAIN	LDI	CMN1		JFS0761
513	4002		STD	ACCJ	+1	JFS0762
1514	5472		ADD	UPLOCC		JFS0763
1515	6102		NZF	UPILOD		JFS0764
516	5601		ACF	1		JFS0765
1517	0027	UPILOD	SIC7			JFS0766
1520	2172		LDI	UPLOCC	BRING OLD VALUE OF I TO	JFS0767
521	4017		STD	OP	INTEGER OPERAND REGISTER	JFS0768
1522	2001		LDD	ACCJ	REPLACE OLD VALUE OF I BY NEW	JFS0769
1523	4172		STI	UPLOCC		JFS0770
524	5472		ADD	UPLOCC		JFS0771
1525	6104		NZF	4		JFS0772
1526	5707		AOB	UPILOD		JFS0773
527	4201		STF	1		JFS0774
1530	0027		SIC7			JFS0775
31	2172		LDI	UPLOCC		JFS0776
532	4020		STD	OP	+1	JFS0777
1533	2002		LDD	ACCJ	+1	JFS0778
1534	4172		STI	UPLOCC		JFS0779
535	0421		LCN	21	INTEGER SUBTRACT=21	JFS0780
1536	7100		JFR	BMC DRV	GO TO MACRO SWITCHBOARD	JFS0781
1537	3013					JFS0782
540	2001		LDD	ACCJ		JFS0783
1541	4070		STD	MLTSWC		JFS0784
1542	4074		STD	DELSAV	SAVE INCREMENT	JFS0785
543	2002		LDD	ACCJ	+1	JFS0786
1544	4075		STD	DELSAV	+1	JFS0787
1545	0701		SEN	1		JFS0788
546	6002		ZJF	BBOXER	-2	JFS0789
1547	4070	SETMPY	STD	MLTSWC	0=ADD, OTHERWISE MULTIPLY	JFS0790
550	2331		LDB	UPILOD		JFS0791
551	4204		STF	UPILD1		JFS0792
1552	5472	BBOXER	ADD	UPLOCC		JFS0793
553	6102		NZF	2		JFS0794
554	5601		ACF	1		JFS0795
1555	0027	UPILD1	SIC7			JFS0796
556	2172		LDI	UPLOCC		JFS0797
557	4071		STD	ENDFLG		JFS0798
560	0207		LPN	7		JFS0799
561	0620		ADN	20	SET BANK SETTINGS FOR	JFS0800
562	4211		STF	LUDBOX	B-BOX MANIPULATIONS	JFS0801
563	4067		STD	CMN2		JFS0802
564	5472		ADD	UPLOCC		JFS0803
565	6104		NZF	4		JFS0804
566	5711		AOB	UPILD1		JFS0804A

1567	4201	STF	1		JFS08050
1570	0027	SIC7			JFS08061
1571	2172	LDI	UPLOCC		JFS0807
1572	4073	STD	BOXADD		JFS08081
1573	0027	LODBOX SIC7		MOVE 6 WORDS TO LOW CORE	JFS08090
1574	2173	LDI	BOXADD		JFS0811
1575	4060	STD	BWRD11		JFS0811
1576	5473	ADD	BOXADD		JFS08120
1577	6104	NZF	4		JFS0813
1600	5705	AOB	LODBOX		JFS08141
1601	4201	STF	1		JFS08151
1602	0027	SIC7			JFS0816
1603	2173	LDI	BOXADD	MOVE CURRENT B=BOX TO	JFS08171
1604	4061	STD	BWRD12	BWRD11, BWRD12	JFS08180
1605	2071	LDD	ENDFLG		JFS0819
1606	0110	LS3			JFS08201
1607	0207	LPN	7	GET POSITION OF I IN	JFS08211
1610	4066	STD	CMN1	B-BOX	JFS0822
1611	5473	ADD	BOXADD		JFS08231
1612	6104	NZF	4		JFS08241
1613	5720	AOB	LODBOX		JFS0825
1614	4201	STF	1		JFS08261
1615	0027	SIC7			JFS08270
1616	2173	LDI	BOXADD		JFS0828
1617	4062	STD	BWRD21		JFS08290
1620	2466	LCD	CMN1		JFS08301
1621	4064	STD	BTEMP1	SHIFT	JFS0831
1622	2062	LDD	BWRD21	BIF(I)	JFS08321
1623	0110	LS3		TO	JFS08331
1624	4062	STD	BWRD21	LOW=ORDER	JFS0834
1625	5464	ADD	BTEMP1	3 BITS	JFS08351
1626	6504	NZB	4	AND	JFS083
1627	2062	LDD	BWRD21	STORE	JFS0837
1630	0207	LPN	7	IN	JFS08381
1631	4062	STD	BWRD21	BWRD21	JFS08391
1632	2066	LDD	CMN1		JFS0840
1633	5073	RAD	BOXADD		JFS08411
1634	3466	SBD	CMN1		JFS08421
1635	1460	SCD	CMN1		JFS0843
1636	1473	SCD	BOXADD		JFS08440
1637	0201	LPN	1		JFS08450
1640	6004	ZJF	4		JFS0846
1641	5746	AOB	LODBOX		JFS08471
1642	4201	STF	1		JFS08481
1643	0027	SIC7			JFS0849
1644	2173	LDI	BOXADD		JFS08501
1645	4063	STD	BWRD22		JFS08510
1646	2070	LDD	MLTSWC		JFS0852
1647	6041	ZJF	ADDUM		JFS08531
1650	2062	LDD	BWRD21		JFS08541
1651	0102	LS1			JFS0855
1652	4001	STD	ACCOJ		JFS08561
1653	2063	LDD	BWRD22		JFS08571
1654	6205	PJF	5		JFS0858
1655	5401	ADD	ACCOJ		JFS08591
1656	2063	LDD	BWRD22		JFS08601
1657	1200	UPMASK LPC	3777		JFS0861
1660	3777				
1661	4002	STD	ACCOJ +1		JFS08621
1662	2074	LDD	DELSAV	MOVE INCREMENT TO OPERAND	JFS0863

663	4017	STD	OP	REGISTER FOR INTEGER MULTIPLY	JFS0864:
664	2075	LDD	DELSAV +1		JFS0865:
665	4020	STD	OP +1		JFS0866:
666	0422	LDN	22	INTEGER MULTIPLY=22	JFS0867:
667	7100	JPR	BMC DRV	GO TO MACRO SWITCHBOARD	JFS0868:
70	3013				:
671	2002	LDD	ACCJ +1		JFS0869:
672	6203	PJF	3		JFS0870:
673	1313	LPB	UPMASK +1		JFS0871:
674	0601	ADN	1	ADJUST FOR 2S COMPLEMENT	JFS0872:
675	4063	STD	BWRD22		JFS0873:
676	2001	LDD	ACCJ		JFS0874:
677	0114	RS1			JFS0875:
700	0207	LPN	7		JFS0876:
701	4062	STD	BWRD21		JFS0877:
702	2001	LDD	ACCJ		JFS0878:
703	0201	LPN	1		JFS0879:
704	6004	ZJF	ADDUM		JFS0880:
705	2725	LCB	UPMASK +1		JFS0881:
706	1463	LSD	BWRD22		JFS0882:
707	4063	STD	BWRD22		JFS0883:
710	7100	ADDUM	JPR	ADD INCREMENT TO OLD VALUE	JFS0884:
711	0770				:
712	2067	LDD	CMN2		JFS0885:
713	4201	STF	1		JFS0886:
714	0027	RSTRBX	SIC7	OF B-BOX	JFS0887:
715	0502	LCN	2		JFS0888:
716	3466	SBD	CMN1		JFS0889:
717	5073	RAD	BOXLOC	RESTORE B-BOX	JFS0890:
720	2060	LDD	BWRD11		JFS0891:
721	4173	STI	BOXLOC		JFS0892:
722	5473	AOB	BOXLOC		JFS0893:
723	6104	NZF	4		JFS0894:
724	5710	AOB	RSTRBX		JFS0895:
725	4201	STF	1		JFS0896:
726	0027	SIC7			JFS0897:
727	2061	LDD	BWRD12		JFS0898:
730	4173	STI	BOXLOC		JFS0899:
731	2071	LDD	ENDFLG		JFS0900:
732	0270	LPN	70		JFS0901:
733	6003	ZJF	3		JFS0902:
734	7101	JFI	1		JFS0903:
735	0400		ARITH		JFS0904:
736	7101	JFI	1		JFS0905:
737	1552		BBOXER		JFS0906:
		REM		ACCN ARITHMETIC	JFS0907:
		REM			JFS0908:
		REM		STORE COMMAND	JFS0909:
740	2124	BOC15	LDC		JFS0910:
741	0203	LPN	3		JFS0911:
742	0110	LS3		SHIFT ACCN BITS	JFS0912:
743	7101	JFI	1	STORE ACCN SUBROUTINE	JFS0913:
744	2105		B SUBA		JFS0914:
		REM		ARITHMETIC COMMANDS	JFS0915:
745	2124	BOC16	LDC		JFS0916:
746	0203	LPN	3	ACCN INDICATOR	JFS0917:
47	6046	ZJR	BOC16H		JFS0918:
750	0702	SBN	2	NQ	JFS0919:
751	6021	ZJR	BOC16C	JUMP FOR ACC2	JFS0920:
752	6210	PJR	BOC16E	JUMP FOR ACC3	JFS0921:

753	2004	LDD	ACC1		ACC1 TO OPERAND REGISTER	JFS0922:
754	4017	STD	OPER			JFS0923:
755	2005	LDD	ACC1	1		JFS0924:
756	4020	STD	OPER	1		JFS0925:
757	2006	LDD	ACC1	2		JFS0926:
758	4021	STD	OPER	2		JFS0927:
759	7110	JFI	BOC16G			JFS0928:
762	2012	BOC16E LDD	ACC3		ACC3 TO OPERAND REGISTER	JFS0929:
763	4017	STD	OPER			JFS0930:
764	2013	LDD	ACC3	1		JFS0931:
765	4020	STD	OPER	1		JFS0932:
766	2014	LDD	ACC3	2		JFS0933:
767	4021	STD	OPER	2		JFS0934:
770	7101	JFI	1			JFS0935:
771	2000	BOC16G	BOC16F			JFS0936:
772	2007	BOC16C LDD	ACC2		ACC2 TO OPERAND REGISTER	JFS0937:
773	4017	STD	OPER			JFS0938:
774	2010	LDD	ACC2	1		JFS0939:
775	4020	STD	OPER	1		JFS0940:
776	2011	LDD	ACC2	2		JFS0941:
777	4021	STD	OPER	2		JFS0942:
2000	2124	BOC16F LDI	LOCC			JFS0943:
2001	0204	LPN	4			JFS0944:
2002	6002	ZJF	BOC16D		INTEGER MODE	JFS0945:
2003	0405	LDN	5		YES	JFS0946:
2004	3027	BOC16D ADD	BOPCD		OP, CODE	JFS0947:
2005	0703	SEN	3			JFS0948:
2006	7100	JPR	BMCDRV		GO TO MACRO SWITCHBOARD	JFS0949:
2007	3013					
2010	2124	BOC16B LDI	LOCC			JFS0950:
2011	0230	LPN	30		ACCN STORE BITS	JFS0951:
2012	6173	MZR	BSUBA		STORE NECESSARY	JFS0952:
2013	7101	BOC16I JFI	1			JFS0953:
2014	0400		ARITH			JFS0954:
2015	2124	BOC16H LDI	LOCC			JFS0955:
2016	0240	LPN	40		OPTION BIT	JFS0956:
2017	6417	ZJR	BOC16F		OPER, REG. ALREADY SET	JFS0957:
2020	7100	JPR	ACCOPR		NO -- ACC TO OPER	JFS0958:
2021	2755					
2022	7101	JFI	1			JFS0959:
2023	2000		BOC16F			JFS0960:
	1745	BOC17 EQU	BOC16			JFS0961:
	1745	BOC20 EQU	BOC16			JFS0962:
	1745	BOC21 EQU	BOC16			JFS0963:
2024	2017	BOC22 LDD	OPER		SAVE OPERAND	JFS0964:
2025	4064	STD	BTEMP1		REGISTER	JFS0965:
2026	2020	LDD	OPER	1		JFS0966:
2027	4065	STD	BTEMP2			JFS0967:
2030	2021	LDD	OPER	2		JFS0968:
2031	4066	STD	BTEMP3			JFS0969:
2032	7100	JPR	ACCOPR		ACC. TO OPER.	JFS0970:
2033	2755					
2034	2124	LDI	LOCC			JFS0971:
2035	0203	LPN	3		ACCN INDICATOR	JFS0972:
2036	6015	ZJR	BOC22A		BOTH REGISTERS SET	JFS0973:
2037	4064	STD	BTEMP1		NO -- LOAD ACCUMULATOR	JFS0974:
2040	0102	LS1				JFS0975:
2041	3064	ADD	BTEMP1			JFS0976:
2042	0601	ADN	ACC1	-3	ABSOLUTE ACCN LOC.	JFS0977:
2043	4061	BOC22B STD	BWD12			JFS0978:

044	0020		SIC0						JFS0979:
045	2200		LDC	BOC16F			RETURN ADDRESS		JFS0980:
046	2000								:
047	4100		STM	52SBA					JFS0981:
050	2545								:
051	7101		JFI	1					JFS0982:
052	2624			52SB8A					JFS0983:
053	0464	BOC22A	LDN	BTEMP1			LOC. OF OPER. CONTENTS		JFS0984:
054	6511		NZR	BOC22B					JFS0985:
			REM				LOAD COMMAND		JFS0986:
055	2124	BOC23	LDI	LCC0					JFS0987:
056	0203		LPN	3			ACCN INDICATOR		JFS0988:
057	6023		ZJR	BOC23D					JFS0989:
060	4064		STD	BTEMP1					JFS0990:
061	0102		LS1						JFS0991:
062	3064		ADD	BTEMP1			TIMES THREE		JFS0992:
063	3200		ADF	0					JFS0993:
064	2001		LDD	ACC1	-3				JFS0994:
065	4205		STF	BOC23A			PRESET LOAD ADDRESSES		JFS0995:
066	0601		ADN	1					JFS0996:
067	4205		STF	BOC23B					JFS0997:
070	0601		ADN	1					JFS0998:
071	4205		STF	BOC23C					JFS0999:
072	2004	BOC23A	LDD	ACC1			LOAD		JFS1000:
073	4001		STD	ACC			ACCUMULATOR		JFS1001:
074	2005	BOC23B	LDD	ACC1	1				JFS1002:
075	4002		STD	ACC	1				JFS1003:
076	2006	BOC23C	LDD	ACC1	2				JFS1004:
077	4003	BOC23E	STD	ACC	2				JFS1005:
100	7101		JFI	1					JFS1006:
01	0400			ARITH					JFS1007:
102	4001	BOC23D	STD	ACC			ZERO ACC		JFS1008:
103	4002		STD	ACC	1				JFS1009:
104	6405		ZJR	BOC23E					JFS1010:
			REM				STORE INTO ACCN SUBR.		JFS1011:
105	0720	BSUBA	SNB	20					JFS1012:
106	6020		ZJR	BSUBAD			JUMP FOR ACC2		JFS1013:
107	6210		PJR	BSUBAC			JUMP FOR ACC 3		JFS1014:
110	2001		LDD	ACC			ACC TO ACC 1		JFS1015:
111	4004		STD	ACC1					JFS1016:
112	2002		LDD	ACC	1				JFS1017:
113	4005		STD	ACC1	1				JFS1018:
114	2003		LDD	ACC	2				JFS1019:
115	4006		STD	ACC1	2				JFS1020:
116	7117		JFI	BSUBAB					JFS1021:
117	2001	BSUBAC	LDD	ACC			ACC TO ACC3		JFS1022:
120	4012		STD	ACC3					JFS1023:
121	2002		LDD	ACC	1				JFS1024:
122	4013		STD	ACC3	1				JFS1025:
123	2003		LDD	ACC	2				JFS1026:
124	4014		STD	ACC3	2				JFS1027:
125	7110		JFI	BSUBAB					JFS1028:
126	2001	BSUBAD	LDD	ACC			ACC TO ACC2		JFS1029:
127	4007		STD	ACC2					JFS1030:
130	2002		LDD	ACC	1				JFS1031:
131	4010		STD	ACC2	1				JFS1032:
132	2003		LDD	ACC	2				JFS1033:
133	4011		STD	ACC2	2				JFS1034:
134	7101		JFI	1					JFS1035:
135	0400	BSUBAB		ARITH			RETURN ADDRESS		JFS1036:

136	0735	B0C35	REM		ERASABLE ARITHMETIC	JFS10378
137	4214		SBN	35		JFS10388
140	2124		STR	B0C35A	SET SWITCHBOARD	JFS10398
141	0217		LDI	LOCC		JFS10408
142	4061		LPM	17		JFS10418
143	0102		STD	BWD12	REL. ERASE LOC.	JFS10428
144	3200		LS1			JFS10438
145	0175		ADC	ERASE -3		JFS10448
146	5061		RAD	BWD12	ABSOLUTE ERASE LOC.	JFS10458
147	0400		LDN	0		JFS10468
150	4060		STD	BWD11	0 TO UPPER 3 BITS	JFS10478
151	0511		LCN	11		JFS10488
152	5027		RAD	BOPCD	REDUCE OPERATION	JFS10498
153	7101	B0C35A	JFI	1		JFS10508
154	2223			B0C24A	STORE	JFS10518
155	2235			B0C25A	ADD	JFS10528
156	2235			B0C25A	SUB	JFS10538
157	2235			B0C25A	MPY	JFS10548
160	2235			B0C25A	DIV	JFS10558
161	2252			B0C31A	IDV	JFS10568
162	2256			B0C32A	LOAD	JFS10578
2136		B0C36	EQU	B0C35		JFS10588
2136		B0C37	EQU	B0C35		JFS10598
2136		B0C40	EQU	B0C35		JFS10608
2136		B0C41	EQU	B0C35		JFS10618
2136		B0C42	EQU	B0C35		JFS10628
2136		B0C43	EQU	B0C35		JFS10638
			REM		FUNCTION ERASE ARITHMETIC	JFS10648
			REM			JFS10658
			REM		ERASE LOC. SUBR.	JFS10668
2163	7700	B0SUBCY	HLT		RETURN ADDRESS	JFS10678
2164	2301		LDR	B0SUBCY		JFS10688
2165	4224		STR	B0SUBCX	STORE RETURN ADDRESS	JFS10698
2166	2245		LDR	B0C24B		JFS10708
2167	6102		NZR	B0SUBCW	SET SWITCHBOARD	JFS10718
2170	0723	B0C24	SBN	23		JFS10728
2171	4217	B0SUBCW	STR	B0SUBCA	SET SWITCHBOARD	JFS10738
2172	2124		LDI	LOCC		JFS10748
2173	0237	B0SUBCZ	LPM	37	RELATIVE ERASABLE LOC.	JFS10758
2174	4067		STD	BTEMP4		JFS10768
2175	0102		LS1			JFS10778
2176	5067		RAD	BTEMP4	TIMES THREE	JFS10788
2177	3032		ADD	ERSLOC 1	ABSOLUTE ERASABLE ADDRESS	JFS10798
2200	4061		STD	BWD12	LO 12-BIT ERASE ADDRESS	JFS10808
2201	4057		STD	BWORD		JFS10818
2202	4033		STD	BWD5AV		JFS10828
2203	1467		LSD	BTEMP4		JFS10838
2204	1432		LSD	ERSLOC 1		JFS10848
2205	0201		LPM	1	1 FOR CARRY -- 0 FOR NO CARRY	JFS10858
2206	3031		ADD	ERSLOC	ERASABLE BANK SETTING	JFS10868
2207	4060		STD	BWD11	HI 3-BIT ERASE ADDRESS	JFS10878
2210	7101	B0SUBCA	JFI	1		JFS10888
2211	0000	B0SUBCX		0		JFS10898
2212	2223			B0C24A	STORE	JFS10908
2213	2235			B0C25A	ADD	JFS10918
2214	2235			B0C25A	SUB	JFS10928
2215	2235			B0C25A	MPY	JFS10938
2216	2235			B0C25A	DIV	JFS10948
2217	2252			B0C31A	IDV	JFS10958

220	2256		BOC32A	LOAD	JFS1096:
221	2256		BOC32A	LOAD NEG.	JFS1097:
222	2305		BOC34A	LOAD AND CONVERT	JFS1098:
		REM		STORE FUNCTION ERASABLE	JFS1099:
223	2124	BOC24A	LDI	LUCC	:
224	0240		LPN	40	:
225	0111		LS6	MODE BIT	:
226	0102		LS1	ZERO FOR FLOATING, ONE FOR FIXED	:
227	0703		SBN	3	:
228	4071		STD	SET LOOP COUNTER	:
229	7100		JPR	75SUB	:
230	2717			STORE FUNCTION ERASABLE	JFS1102:
231	7101	BOC24B	JFI	1	JFS1103:
232	0400		ARITH		JFS1104:
		REM		ARITHMETIC FUNC, ERASE	JFS1105:
233	0400	BOC25A	LDN	0	JFS1106:
234	7100	BOC25C	JPR	75SUB	JFS1107:
235	2717			LOAD OPER	:
236	2124	BOC25B	LDI	LUCC	JFS1108:
237	0240		LPN	40	JFS1109:
238	6002		ZJF	80C25D	JFS1110:
239	0405		LDN	5	JFS1111:
240	0712	BOC25D	SBN	12	JFS1112:
241	3027		ADD	80PCD	JFS1113:
242	7100		JPR	80CDRV	JFS1114:
243	3013			OPERATOR	:
244	7101	BOC25G	JFI	1	JFS1115:
245	0400	BOC25F	ARITH		JFS1116:
246	7100	BOC31A	JPR	ACCPDR	JFS1117:
247	2755			ACC TO OPER	:
248	0416		LDN	OPER -ACC	JFS1118:
249	6517		NZR	BOC25C	JFS1119:
		REM		LOAD FUNCTION ERASE	JFS1120:
250	0416	BOC32A	LDN	OPER -ACC	JFS1121:
251	7100		JPR	75SUB	JFS1122:
252	2717			LOAD ACC	:
253	2027	BOC32C	LDD	80PCD	JFS1123:
254	0732		SBN	32	JFS1124:
255	6020		ZJR	BOC32B	JFS1125:
256	2001		LDD	ACC	JFS1126:
257	6103		NZF	3	JFS1127:
258	2002		LDD	ACC	JFS1128:
259	6014		ZJR	BOC32B	JFS1129:
260	2124		LDI	LUCC	JFS1130:
261	0240		LPN	40	JFS1131:
262	6005		ZJR	BOC32D	JFS1132:
263	2402		LDD	ACC	JFS1133:
264	4002		STD	ACC	JFS1134:
265	0500		LDN	0	JFS1135:
266	6303		NJR	BOC32E	JFS1136:
267	2200	BOC32D	LDC	4000	JFS1137:
268	4000			BIT FLIP	:
269	1401	BOC32E	LSD	ACC	JFS1138:
270	4001		STD	ACC	JFS1139:
271	7101	BOC32B	JFI	1	JFS1140:
272	0400		ARITH		JFS1141:
		REM		LOAD AND CONVERT FUNC, ERASE	JFS1142:
273	0400	BOC34A	LDN	0	JFS1143:
274	7100		JPR	75SUB	JFS1144:
275	2717			LOAD	:

310	2124		LDI	LOCC		JFS1145:
311	0440		LDN	40	MODE BIT	JFS1146:
312	6002		ZJR	B0C34B	NEGATIVE LOAD	JFS1147:
313	0500		LCN	0	YES	JFS1148:
314	4070	B0C34B	STD	HITFLP	SET MODE SWITCH	JFS1149:
315	2124		LDI	LOCC		JFS1150:
316	0220		LPN	20	DESTINATION BIT	JFS1151:
317	6002		ZJR	B0C34C	ACC DESTINATION	JFS1152:
320	0430		LDN	30	NO -- OPER DESTINATION	JFS1153:
321	4026	B0C34C	STD	FRSTWD		JFS1154:
322	6266		PJR	B0C67D		JFS1155:
	2170	B0C25	EQU	B0C24		JFS1156:
	2170	B0C26	EQU	B0C24		JFS1157:
	2170	B0C27	EQU	B0C24		JFS1158:
	2170	B0C30	EQU	B0C24		JFS1159:
	2170	B0C31	EQU	B0C24		JFS1160:
	2170	B0C32	EQU	B0C24		JFS1161:
	2170	B0C33	EQU	B0C24		JFS1162:
	2170	B0C34	EQU	B0C24		JFS1163:
			REM		2 WORD ARITH	JFS1164:
323	0400	B0C52	LDN	0	LOAD OPERAND INDICATOR	JFS1165:
324	7100	B0C52A	JPR	52SBA		JFS1166:
325	2545					
326	2027	B0C52B	LDD	BOPCD	OPERATOR CODE	JFS1167:
327	0737		SBN	37		JFS1168:
330	7100	B0C52D	JPR	B0CDRV	GO TO MACRO SWITCHBOARD	JFS1169:
331	3013					
332	2026	B0C52C	LDD	FRSTWD	1ST WORD	JFS1170:
333	0230	B0C52E	LPN	30		JFS1171:
334	6075		ZJR	B0C67C	ACCN STORAGE	JFS1172:
335	7101		JFI	1	YES	JFS1173:
336	2105			BSUBA	STORE ACC IN ACCN	JFS1174:
	2323	B0C53	EQU	B0C52		JFS1175:
	2323	B0C54	EQU	B0C52		JFS1176:
	2323	B0C55	EQU	B0C52		JFS1177:
337	7100	B0C56	JPR	ACCOPR	ACC. TO OPER.	JFS1178:
340	2755					
341	0416		LDN	OPER	-ACC	JFS1179:
342	6516		NZR	B0C52A	LOAD ACCUMULATOR INDICATOR	JFS1180:
	2323	B0C57	EQU	B0C52		JFS1181:
	2323	B0C60	EQU	B0C52		JFS1182:
	2323	B0C61	EQU	B0C52		JFS1183:
	2323	B0C62	EQU	B0C52		JFS1184:
	2337	B0C63	EQU	B0C56		JFS1185:
343	0416	B0C64	LDN	OPER	-ACC	JFS1186:
344	7100		JPR	52SBA	LOAD ACCUMULATOR INDICATOR	JFS1187:
345	2545					
346	2027		LDD	BOPCD		JFS1188:
347	0764		SBN	64		JFS1189:
350	0416		ZJR	B0C52C	LOAD NEGATIVE COMMAND	JFS1190:
351	2026		LDD	FRSTWD	YES	JFS1191:
352	0210		LPN	10		JFS1192:
353	6007		ZJR	B0C64D	LOAD CONSTANT COMMAND	JFS1193:
354	2124		LDI	LOCC	YES -- 15 BITS TO ACC	JFS1194:
355	4002		STD	ACC	LO 12 BITS	JFS1195:
356	2026		LDD	FRSTWD		JFS1196:
357	0207		LPN	7		JFS1197:
360	4001		STD	ACC	HI 3 BITS	JFS1198:
361	6220		PJR	B0C64B		JFS1199:
362	2001	B0C64D	LDD	ACC		JFS1200:



363	6103	NZF	3			JFS1201:
364	2002	LDD	ACC	1		JFS1202:
365	6014	ZJR	BOC64B		ZERO ACCUMULATOR	JFS1203:
366	2027	LDD	BOPCD		NO	JFS1204:
367	0765	SEN	65			JFS1205:
370	6005	ZJR	BOC64A		INTEGER LOAD	JFS1206:
371	2402	LCD	ACC	1	YES	JFS1207:
372	4002	STD	ACC	1		JFS1208:
373	0500	LCN	0			JFS1209:
374	6103	NZR	BOC64C			JFS1210:
375	2200	BOC64A	LDC	4000		JFS1211:
376	4000					JFS1212:
377	1401	BOC64C	LSD	ACC	CHANGE ACC SIGN	JFS1213:
400	4001	STD	ACC			JFS1214:
401	7101	BOC64B	JFI	1		JFS1215:
402	0400				ARITH	JFS1216:
	2343	BOC65	EQU	BOC64		JFS1217:
	2343	BOC66	EQU	BOC64		JFS1218:
403	0400	BOC67	LDM	0		JFS1219:
404	4070	BOC67A	STD	BITFLP		JFS1220:
405	0600				ADN	JFS1221:
406	7100	JPR	52SBA		LOAD ACC INDICATOR	JFS1222:
407	2545					JFS1223:
410	2017	BOC67D	LDD	OPER	COMPLEMENT OPER. IF NEC,	JFS1224:
411	1470		LSD	BITFLP	CHANGE SIGN IF NECESSARY	JFS1225:
412	4017		STD	OPER		JFS1226:
413	2020		LDD	OPER	1	JFS1227:
414	1470		LSD	BITFLP		JFS1228:
415	4020		STD	OPER	1	JFS1229:
416	0425		LDM	25		JFS1230:
417	7100	JPR	BMCDRV		GO TO MACRO SWITCHBOARD	JFS1231:
420	3013					JFS1232:
421	2026		LDD	FRSTWD		JFS1233:
422	0230		LPN	30		JFS1234:
423	6004	ZJF	BOC67E		JUMP FOR LOAD WORKING ACC	JFS1235:
424	0730	SEN	30			JFS1236:
425	6573	NZR	BOC52C		PSEUDO ACC STORAGE	JFS1237:
426	6003	ZJR	BOC67C		LEAVE IN OPER, REGISTER	JFS1238:
427	7100	BOC67B	JPR	BOPACC	OPER TO ACC	JFS1239:
430	2767					JFS1240:
431	7101	BOC67C	JFI	1		JFS1241:
432	0400				ARITH	JFS1242:
433	0500	BOC70	LCN	0	SET TO COMPL. OPERAND	JFS1243:
434	6530		NZB	BOC67A		JFS1244:
435	2124	BOC51	LDI	LOCC		JFS1245:
436	0220		LPN	20		JFS1246:
437	6113		NZR	CONVST	CONVERT COMMAND	JFS1247:
440	2124	BOC51A	LDI	LOCC	NO	JFS1248:
441	0114		RS1			JFS1249:
442	0115		RS2			JFS1250:
443	0201		LPN	1	0 FOR FLOAT -- 1 FOR INTEGER	JFS1251:
444	0703		SEN	3		JFS1252:
445	4071	STD	COUNT		SET NO. OF WORDS COUNT	JFS1253:
446	7100	JPR	52SBA		STORE OPERAND	JFS1254:
447	2545					JFS1255:
450	7101		JFI	1		JFS1256:
451	0400				ARITH	JFS1257:
452	7100	CONVST	JPR	ACCPOR	ACC. TO OPER	JFS1258:
453	2755					JFS1259:
454	2124		LDI	LOCC		JFS1260:

2455	0114		RS1			JFS1255:
2456	0115		RS2			JFS1256:
2457	0201		LPN	1	0 FOR FLOAT -- 1 FOR INTEGER	JFS1257:
2460	0625		ADN	25		JFS1258:
2461	7100		JPR	BMC DRV	GO TO MACRO SWITCHBOARD	JFS1259:
2462	3013					
2463	7100		JPR	BOPACC		JFS1260:
2464	2767					
2465	7101		JFI	1		JFS1261:
2466	2440			BOC51A		JFS1262:
2467	0400	BOC71	REM		BOOLEAN OPERATIONS	JFS1263:
2470	7100		LDN	0	LOAD OPER OPTION	JFS1264:
2471	2545		JPR	52SBA		JFS1265:
2472	2026	BOC71A	LDD	FRSTWD		JFS1266:
2473	0114		RS1			JFS1267:
2474	0115		RS2			JFS1268:
2475	0203		LPN	3	OPTION BITS	JFS1269:
2476	0770		SBN	70		JFS1270:
2477	5027		RAD	BOPCD	CALCULATE REL. MACRO LOC.	JFS1271:
2500	7101		JFI	1		JFS1272:
2501	0100			BOOLJ	TRANSFER TO BOOLEAN SWITCH	JFS1273:
2502	2124	BOC72	LDI	LOCC		JFS1274:
2503	4026		STD	FRSTWD	SAVE OPTION BITS	JFS1275:
2504	7100		JPR	ARTSBA	INCREMENT LOC. COUNTER	JFS1276:
2505	0520					
2506	7100	BOC72A	JPR	BSUBCY	LOCATION CALCULATION	JFS1277:
2507	2163					
2510	0400		LDN	0		JFS1278:
2511	7100		JPR	75SUB	LOAD OPER OPTION	JFS1279:
2512	2717					
2513	0501		LCN	1		JFS1280:
2514	5027		RAD	BOPCD	REDUCE OP CODE	JFS1281:
2515	6523		NZR	BOC71A		JFS1282:
2516	0402	BOC73	LDN	2		JFS1283:
2517	5027		RAD	BOPCD	INCREASE OP CODE	JFS1284:
2520	2124		LDI	LOCC		JFS1285:
2521	0210		LPN	10	OPERAND BIT	JFS1286:
2522	6433		ZJR	BOC71	JUMP FOR 2-WORD	JFS1287:
2523	6521		NZR	BOC72	JUMP FOR FUNC. ERASE	JFS1288:
2524	2161	52SBBB	REM		2-WORD COMMAND DECODING	JFS1289:
2525	4017	52SBBM	LDI	BWD12	LOAD OPERAND	JFS1290:
2526	5461		STD	OPER		JFS1291:
2527	2161		AGD	BWD12		JFS1292:
2530	4020		LDI	BWD12		JFS1293:
2531	5461		STD	OPER	1	JFS1294:
2532	2161		AGD	BWD12		JFS1295:
2533	4021		LDI	BWD12		JFS1296:
2534	2061	52SBBN	STD	OPER	2	JFS1297:
2535	0115		LDD	BWD12	TERMINAL LOCATION	JFS1298:
2536	6103		RS2			JFS1299:
2537	7101		NZR	52SBAZ	LOCATION CHANGED BANKS	JFS1300:
2540	2636		JFI	1	YES	JFS1301:
2541	2026	52SBAZ	JFI	52SBBQ		JFS1302:
2542	4201		LDD	BANK		JFS1303:
2543	0020		STF	1		JFS1304:
2544	7101		SICD		RESET BANK SETTING	JFS1305:
2545	7700	52SBA	JFI	1		JFS1306:
2546	4030		HLT		RETURN ADDRESS	JFS1307:
			STD	BOPSW		JFS1308:

2547	2124		LDI	LOCC	1ST WORD LOCC.	JFS13098
2550	4026		STD	FRSTWD		JFS1310:
2551	0207		LPM	7		JFS1311:
2552	4060		STD	BWD11	BANK SETTING	JFS1312:
2553	5474		ADD	LOCC	INCREASE LOCATION COUNTER.	JFS1313:
2554	6103		NZR	52SBAK	END OF BANK	JFS1314:
2555	7100		JPR	ARTHSB	YES -- INCR, BANK SETTING	JFS1315:
2556	0526					
2557	2124	52SBAK	LDI	LOCC	2ND WORD LOCC.	JFS1316:
2558	4061		STD	BWD12	ABSOLUTE OPERAND LOCATION	JFS1317:
2559	4057		STD	BWORD		JFS1318:
2560	2026		LDD	FRSTWD		JFS1319:
2561	0240		LPM	40		JFS1320:
2562	6007		ZJR	52SBB		JFS1321:
2563	2015		LDD	INDXRG	YES	JFS1322:
2564	4062		STD	BWD21	I.R. HI 3 BITS	JFS1323:
2565	2016		LDD	INDXRG	1	JFS1324:
2566	4063		STD	BWD22	I.R. LO 12 BITS	JFS1325:
2567	7100		JPR	BINTAL	15-BIT ADD ROUTINE	JFS1326:
2568	0770					
2569	2060	52SBB	LDD	BWD11	BANK SETTING	JFS1327:
2570	0620		ADN	20		JFS1328:
2571	4201		STR	52SBB1		JFS1329:
2572	0020	52SBBD	SIC0		SET INDIRECT BANK	JFS1330:
2573	2030		LDD	BUPSW	OPTION SWITCH	JFS1331:
2574	6454		ZJR	52SBBE	JUMP FOR LOAD OPER OPTION	JFS1332:
2575	6223		PJR	52SBBA	JUMP FOR LOAD ACC OPTION	JFS1333:
2576	2200		LDF	0		JFS1334:
2577	2001		LDD	ACC		JFS1335:
2578	4201		STR	52SBB0	PRESET LOAD COMMAND	JFS1336:
2579	2001	52SBB0	LDD	ACC	STORE	JFS1337:
2580	4161		STI	BWD12		JFS1338:
2581	5471		ADD	COUNT		JFS1339:
2582	6447	52SBBY	ZJR	52SBAZ	MORE WORDS TO STORE	JFS1340:
2583	5704		ACR	52SBB0	YES -- INCR, LOAD LOC.	JFS1341:
2584	2461		LDD	BWD12		JFS1342:
2585	6006		ZJR	52SBBE	LOC, 7777	JFS1343:
2586	5461		ADD	BWD12	NO -- INCR, LOCATION	JFS1344:
2587	6510		NZR	52SBB0	ZERO LOC.	JFS1345:
2588	0500		LCN	0	YES	JFS1346:
2589	4061		STD	BWD12	REPLACE WITH LOC, 7777	JFS1347:
2590	6513		NZR	52SBB0		JFS1348:
2591	4061	52SBBE	STD	BWD12	CHANGE 7777 TO 0000	JFS1349:
2592	5724		ACR	52SBB0	INCREASE BANK SETTING	JFS1350:
2593	6525		NZR	52SBB0		JFS1351:
2594	2161	52SBBA	LDI	BWD12	LOAD ACCUMULATOR	JFS1352:
2595	4001		STD	ACC		JFS1353:
2596	5461		ADD	BWD12		JFS1354:
2597	2161		LDI	BWD12		JFS1355:
2598	4002		STD	ACC	1	JFS1356:
2599	5461		ADD	BWD12		JFS1357:
2600	2161		LDI	BWD12		JFS1358:
2601	4003		STD	ACC	2	JFS1359:
2602	7101		JFI	1		JFS1360:
2603	2534			52SBBF		JFS1361:
2604	2340	52SBB0	LDR	52SBB0		JFS1362:
2605	4207		STR	52SBBH	PRESET BANK SETTING	JFS1363:
2606	2430		LDD	BUPSW	0 FOR OPER, OPER=ACC FOR ACC	JFS1364:
2607	3200	52SBB1	ADF	0		JFS1365:
2608	4017		STD	OPER		JFS1366:

2643	4205		STR	52SBBJ	SET STORE COMMAND	JFS1367:
2644	0503		LCN	3		JFS1368:
2645	4071		STD	COUNT		JFS1369:
2646	0020	52SBBH	SICQ		SET INDIRECT BANK	JFS1370:
2647	2157	52SBBK	LDI	BWORD	OPERAND	JFS1371:
2650	4017	52SBBJ	STD	OPER	TO REGISTER	JFS1372:
2651	5471		ADD	COUNT		JFS1373:
2652	6442		ZJR	52SBBY	MORE WORDS TO STORE	JFS1374:
2653	5703		ADR	52SBBJ	INCREMENT STORE ADDRESS	JFS1375:
2654	2457		LCD	BWORD		JFS1376:
2655	6006		ZJR	52SBBL	LOC. 7777	JFS1377:
2656	5457		ADD	BWORD	NO	JFS1378:
2657	6510		NZR	52SBBK	LOC. 0000	JFS1379:
2660	0500		LCN	0	YES	JFS1380:
2661	4057		STD	BWORD	CHANGE TO 7777	JFS1381:
2662	6513		NZR	52SBBK		JFS1382:
2663	4057	52SBBL	STD	BWORD	ZERO LOCATION	JFS1383:
2664	5716		ADR	52SBBH	INCREMENT BANK SWITCH	JFS1384:
2665	6517		NZR	52SBBH		JFS1385:
			REM		3-WORD FUNCTION ERASABLE	JFS1386:
2666	2124	B0C75	LDI	LOCC		JFS1387:
2667	4026		STD	FRSTWD	FIRST WORD OF COMMAND	JFS1388:
2670	0207		LPN	7		JFS1389:
2671	4060		STD	BWD11	UPPER 3 BITS	JFS1390:
2672	7100		JPR	ARTSBA	INCREMENT LOC. COUNTER	JFS1391:
2673	0520					JFS1392:
2674	2124	B0C75B	LDI	LOCC		JFS1393:
2675	4061		STD	BWD12	LOWER 12 BITS	JFS1394:
2676	2026		LDD	FRSTWD		JFS1395:
2677	0220		LPN	20		JFS1396:
2700	6007		ZJR	B0C75C	INDEX REGISTER NEEDED	JFS1397:
2701	2015		LDD	INDXRG	YES	JFS1398:
2702	4062		STD	BWD21	LOAD INDEX REG.	JFS1399:
2703	2016		LDD	INDXRG	1:	JFS1400:
2704	4063		STD	BWD22		JFS1401:
2705	7100		JPR	BINTAD	15-BIT ADD	JFS1402:
2706	0770					JFS1403:
2707	2060	B0C75C	LDD	BWD11	SHIFT REGISTERS	JFS1404:
2710	4220		STR	75SUBC		JFS1405:
2711	2061		LDD	BWD12		JFS1406:
2712	4221		STR	75SUBD		JFS1407:
2713	5600		AOP	0	SET THREE WORD SWITCH	JFS1408:
2714	0000	75SWT		0		JFS1409:
2715	7101		JFI	1		JFS1410:
2716	0400			ARITH		JFS1411:
2717	7700	75SUB	HLT		SAVE LOAD/STORE INDICATOR	JFS1412:
2720	4030		STD	B0PSW		JFS1413:
2721	2305		LDR	75SWT	3-WORD COMMAND	JFS1414:
2722	6024		ZJR	75SUBA		JFS1415:
2723	0420		LDN	20		JFS1416:
2724	5060		RAD	BWD11	FUNC. ERASE N BANK SETTING	JFS1417:
2725	4201		STF	75SUBB		JFS1418:
2726	0020	75SUBB	SICQ			JFS1419:
2727	2200		LDF	0		JFS1420:
2730	0000	75SUBC				JFS1421:
2731	4062		STD	BWD21		JFS1422:
2732	2200		LDF	0		JFS1423:
2733	0000	75SUBD				JFS1424:
2734	4063		STD	BWD22		JFS1425:
2735	2161		LDI	BWD12	LOAD CONTENTS	JFS1426:

736	4060		STD	BWD11		OF FUNCTION	JFS1419:
737	5461		ADD	BWD12		ERASABLE IN	JFS1420:
740	2161		LDI	BWD12			JFS1421:
741	4061		STD	BWD12			JFS1422:
742	7100		JPR	BINTAD		YES -- 15-BIT ADD	JFS1423:
743	0770						
744	0400		LDN	0			JFS1424:
745	4331		STR	75SWT		RESET 3-WORD SWITCH	JFS1425:
746	0020	75SUBA	SICO				JFS1426:
747	2330		LDR	75SUB			JFS1427:
750	4100		STM	52SBA		SET RETURN ADDRESS	JFS1428:
751	2545						
752	7101		JFI	1			JFS1429:
753	2573			52SBB			JFS1430:
			REM			ACC TO OPERAND	JFS1431:
754	7101	ACCCPA	JFI	1			JFS1432:
755	7700	ACCCPR	HLT			RETURN ADDRESS	JFS1433:
756	2001		LDD	ACC		STORE ACCUMULATOR	JFS1434:
757	4017		STD	OPER		IN OPERAND	JFS1435:
760	2002		LDD	ACC	1		JFS1436:
761	4020		STD	OPER	1		JFS1437:
762	2003		LDD	ACC	2		JFS1438:
763	4021		STD	OPER	2		JFS1439:
764	7101		JFI	1			JFS1440:
765	2754			ACCCPA			JFS1441:
			REM			OPER TO ACC	JFS1442:
766	7101	BOPACZ	JFI	1			JFS1443:
767	7700	BOPACC	HLT			RETURN ADDRESS	JFS1444:
770	2017		LDD	OPER		OPER TO ACC	JFS1445:
771	4001		STD	ACC			JFS1446:
772	2020		LDD	OPER	1		JFS1447:
773	4002		STD	ACC	1		JFS1448:
774	2021		LDD	OPER	2		JFS1449:
775	4003		STD	ACC	2		JFS1450:
776	7101		JFI	1			JFS1451:
777	2766			BOPACZ		EXIT	JFS1452:
			REM			F.E.0 CALCULATION	JFS1453:
000	0620	FEZROA	ADN	20		BANK OF F.E. 0	JFS1454:
001	4023		STD	BANK			JFS1455:
002	4201		STF	1			JFS1456:
003	0020		SICO			SET INDIRECT BANK	JFS1457:
004	2032		LDD	ERSLOC	1	ABS. ADDRESS OF F.E.0	JFS1458:
005	4024		STD	LUCC			JFS1459:
006	7101		JFI	1			JFS1460:
007	7700	FEZRO	HLT			RETURN ADDRESS	JFS1461:
010	2031		LDD	ERSLOC			JFS1462:
011	6611		PJR	FEZROA			JFS1463:
012	7101	BMCDVZ	JFI	1			JFS1464:
013	7700	BMCDRV	HLT			RETURN ADDRESS	JFS1465:
014	7100		JPR	BMACSW		GO TO MACRO SWITCHBOARD	JFS1466:
015	0555						
016	2025		LDD	BANK			JFS1467:
017	4201		STF	1			JFS1468:
020	0020		SICO			RESET INDIRECT BANK	JFS1469:
021	6507		NZR	BMCDVZ			JFS1470:
			REM			INCR MACRO-FORMAT IS	JFS1471:
			REM			TRM INCR	JFS1472:
			REM			1.M4=(M1-M2)/M3	JFS1473:
			REM			2.	JFS1474:
			REM			1.M3	JFS1475:

		REM		2, SICB(Z),SICB(I)		JFS1476:
		REM		A(I)		JFS1477:
		REM		A(Z)		JFS1478:
		REM				JFS1479:
5022	0406	ENDINC	LDN	6		JFS1480:
5023	5024		RAD	LOCC		JFS1481:
5024	0706		SBN	6		JFS1482:
5025	1424		SCD	LOCC		JFS1483:
5026	0201		LPN	1		JFS1484:
5027	6002		ZJF	2		JFS1485:
5030	5423		ADD	BANK	LENGTH IS 163 OCTAL	JFS1486:
5031	7101		JFI	1	TIMING IS (EXCLUDING SWITCHBOARD)	JFS1487:
5032	0400			ARITH	812.8 MICROSECONDS	JFS1488:
5033	5424	INCR	ADD	LOCC		JFS1489:
5034	6104		NZF	4	GET THE FIRST WORD OF M4	JFS1490:
5035	5423		ADD	BANK		JFS1491:
5036	4201		STF	1		JFS1492:
5037	0027		SIC7			JFS1493:
5040	2023		LDD	BANK		JFS1494:
5041	4225		STF	1STBANK		JFS1495:
5042	2124		LDI	LOCC	POSITIVE TEST ON FIRST WORD	JFS1496:
5043	6621		PJB	ENDINC		JFS1497:
5044	5424		ADD	LOCC		JFS1498:
5045	6105		NZF	5		JFS1499:
5046	0500		LCN	0	RPLACE	JFS1298:
5047	4024		STD	LOCC	REPLACE	JFS1299:
5050	5616		AOF	1STBANK	REPLACE	JFS1300:
5051	5423		ADD	BANK		JFS1301:
5052	5524		AOI	LOCC	INCREASE 2ND WORD BY 1	JFS1503:
5053	6113		NZF	1STBANK	REPLACE	JFS1302:
5054	2200		LDC	4000		JFS1505:
5055	4000					JFS1506:
5056	4124		STI	LOCC		JFS1507:
5057	2024		LDD	LOCC		JFS1508:
5060	0701		SBN	1		JFS1509:
5061	4057		STD	TEMP1		JFS1511:
5062	5557		AOI	TEMP1	INCREASE 1ST WORD BY 1	JFS1512:
5063	6103		NZF	1STBANK		JFS1513:
5064	0500		LCN	0	IF FIRST WORD WAS 7776-SET	JFS1514:
5065	4157		STI	TEMP1	IT TO 7777	JFS13101:
5066	0027	1STBANK	SIC7		INSERT	JFS1515:
5067	5424	M3LOAD	ADD	LOCC		JFS1516:
5070	6104		NZF	4	MOVE M3 TO LOCATIONS	JFS1517:
5071	5423		ADD	BANK	TEMP1,TEMP2	JFS1518:
5072	4201		STF	1		JFS1519:
5073	0027		SIC7			JFS1520:
5074	2124		LDI	LOCC		JFS1521:
5075	4057		STD	TEMP1		JFS1522:
5076	5424		ADD	LOCC		JFS1320:
5077	6103		NZF	3		JFS1321:
100	0500		LCN	0	REPLACE	JFS1527:
101	4024		STD	LOCC	REPLACE	JFS1528:
102	2124		LDI	LOCC		JFS1529:
103	4060		STD	TEMP2		JFS1530:
104	5424		ADD	LOCC		JFS1531:
105	6003		ZJF	3		JFS1532:
106	0701		SBN	1		JFS1533:
107	6104		NZF	4		JFS1533:
110	5423		ADD	BANK		JFS1533:
111	4201		STF	1		JFS1533:

5112	0027	SIC7			JFS1533:
5113	2124	LDI	LOCC		JFS1534:
5114	4061	STD	TEMP3		JFS1535:
5115	0227	LPN	27		JFS1536:
5116	4253	STF	1BANK	SET BANK OF FIRST WORD	JFS1537:
5117	5424	AOD	LOCC		JFS1538:
5120	6104	NZF	4		JFS1539:
5121	5423	ACD	BANK		JFS1540:
5122	4201	STF	1		JFS1541:
5123	0027	SIC7			JFS1542:
5124	2124	LDI	LOCC		JFS1543:
5125	4062	STD	TEMP4	GET ADDRESS OF 1	JFS1544:
5126	2061	LDD	TEMP3		JFS1545:
5127	6214	PJF	10K		JFS1546:
5130	2062	LDD	TEMP4		JFS1547:
5131	0102	LS1			JFS1548:
5132	5062	RAD	TEMP4	MULT BY 3 TO GET ERASABLE	JFS1549:
5133	3032	ADD	ERSLOC +1		JFS1550:
5134	1432	SCD	ERSLOC +1		JFS1551:
5135	1462	SCD	TEMP4		JFS1552:
5136	0201	LPN	1		JFS1553:
5137	3031	ADD	ERSLOC		JFS1554:
5140	5231	RAF	1BANK		JFS1555:
5141	2032	LDD	ERSLOC +1		JFS1556:
5142	5062	RAD	TEMP4		JFS1557:
5143	2226	LDF	1BANK		JFS1558:
5144	4214	STF	2BANK		JFS1559:
5145	2462	LCD	TEMP4		JFS1560:
5146	6104	NZF	4		JFS1561:
5147	4063	STD	TEMP5	ADDRESS OF 2ND WORD	JFS1562:
5150	5610	AOD	2BANK		JFS1563:
5151	6106	NZF	INCRI		JFS1564:
5152	2062	LDD	TEMP4		JFS1565:
5153	0601	ADN	1		JFS1566:
5154	6102	NZF	2		JFS1567:
5155	0500	LCN	0		JFS1568:
5156	4063	STD	TEMP5		JFS1569:
5157	2060	INCRI	LDD		JFS1570:
5160	0027	2BANK	SIC7		JFS1571:
5161	5163	RAI	TEMP5		JFS1572:
5162	6205	PJF	2WORD		JFS1573:
5163	1200	LPC	3777		JFS1574:
5164	3777				JFS1575:
5165	4163	STI	TEMP5		JFS1576:
5166	5457	AOD	TEMP1		JFS1577:
5167	2057	2WORD	LDD		JFS1578:
5170	6005	ZJF	GOTOZ		JFS1579:
5171	0027	1BANK	SIC7		JFS1580:
5172	5162	RAI	TEMP4		JFS1581:
5173	5424	GOTOZ	AOD		JFS1582:
5174	6102	NZF	2		JFS1583:
5175	5423	AOD	BANK		JFS1584:
5176	2023	LDD	BANK		JFS1585:
5177	4201	STF	1		JFS1586:
5200	0027	SIC7			JFS1587:
5201	2124	LDI	LOCC		JFS1588:
5202	4024	STD	LOCC		JFS1589:
5203	2061	LDD	TEMP3		JFS1590:
5204	0111	LS6			JFS1591:
5205	0227	LPN	27		JFS15918

3206	4023	STD	BANK			JFS1592:
3207	4201	STF	1			JFS1593:
3210	0027	SIC7				JFS1594:
3211	7101	JFI	1			JFS1595:
3212	0411		ARITHA			JFS1596:
3213	7100	RETURN	REM	RETURN MACRO		JFS1597:
3214	3007	JPR	FEZRO	CALCULATE ERASE LOG.		JFS1598:
3215	7101	JFI	1			JFS1599:
3216	1402		BUC76C	GO TO ROUTINE		JFS1600:
3217	2417	VISUB	REM	INTEGER ADD	21 AUGUST	JFS1601:
3220	4017	LCD	OP			JFS1602:
3221	2420	STD	OPJ			JFS1603:
3222	4020	LCD	OP			JFS1604:
3223	2017	VADD	STD	INTEGER ADD		JFS1605:
3224	5001	LDD	OP			JFS1606:
3225	2002	RAD	ACCJ			JFS1607:
3226	1420	LDD	ACCJ			JFS1608:
3227	6320	LSD	OP			JFS1609:
3230	2020	VADDRT	NJF	DO SUBTRACTION		JFS1610:
3231	5002	LDD	VSUBT	ADD ROUTINE		JFS1611:
3232	1420	RAD	OP			JFS1612:
3233	6213	LSD	ACCJ			JFS1613:
3234	2002	PJF	OP			JFS1614:
3235	1600	LDD	VTSTOV	NO CARRY		JFS1615:
3236	4000	LDD	ACCJ	CORRECT SIGN OF LOW ORDER		JFS1616:
3237	4002	LSF	0			JFS1617:
3240	2001	V4TH	4000			JFS1618:
3241	6303	STD	ACCJ			JFS1619:
3242	5401	LDD	ACCJ			JFS1620:
3243	6103	NJF	3			JFS1621:
3244	0701	AOD	ACCJ			JFS1622:
3245	4001	NZF	VTSTOV			JFS1623:
3246	7154	SBN	1			JFS1624:
3247	2020	VTSTOV	STD			JFS1625:
3250	5002	VSUBT	JFI	SUBTRACT		JFS1626:
3251	1401	LDD	VADXT1			JFS1627:
3252	6604	RAD	OP			JFS1628:
3253	2002	LSD	ACCJ	EXIT		JFS1629:
3254	6104	PJB	VTSTOV			JFS1630:
3255	0500	LDD	ACCJ			JFS1631:
3256	4002	NZF	4			JFS1632:
3257	6711	LCN	0	PUT IN NEGATIVE ZERO		JFS1633:
3260	2001	STD	ACCJ			JFS1634:
3261	6104	NJB	VTSTOV	EXIT		JFS1635:
3262	0500	LDD	ACCJ			JFS1636:
3263	4001	NZF	VNZHI			JFS1637:
3264	6716	LCN	0			JFS1638:
3265	6310	STD	ACCJ	EXIT		JFS1639:
3266	0701	NJB	VTSTOV			JFS1640:
3267	4001	VNZHI	NJF	POSITIVE RESULT		JFS1641:
3270	2002	SBN	1			JFS1642:
3271	1733	STD	ACCJ			JFS1643:
3272	0601	LDD	ACCJ	LOW ORDER NEVER 7777		JFS1644:
3273	4002	LSB	V4TH			JFS1645:
3274	7126	ADN	1			JFS1646:
3275	0601	VNEGRE	STD			JFS1647:
3276	4001	JFI	VADXT1	NEG RESULT		JFS1648:
3277	6103	ADN	1			JFS1649:
		STD	ACCJ			JFS1650:
		NZF	3			JFS1650:



300	0500		LCN	0			JFS1651:
301	4001		STD	ACCJ			JFS1652:
302	2002		LDD	ACCJ	1		JFS1653:
303	0701		SBN	1			JFS1654:
304	1746		LSB	V4TH			JFS1655:
305	4002		STD	ACCJ	1		JFS1656:
306	7114		JFI	VADXT1			JFS1657:
			REM				JFS1658:
307	2262	VXT	LDR	VISIGN			JFS1659:
310	6211		PJF	VADXT1	-1		JFS1660:
311	2001		LDD	ACC			JFS1660:
312	6103		NZF	3			JFS1660:
313	2002		LDD	ACC	1		JFS1660:
314	6005		ZJF	VADXT1	-1		JFS1660:
315	2401		LCD	ACCJ			JFS1660:
316	4001		STD	ACCJ			JFS1661:
317	2402		LCD	ACCJ	1		JFS1662:
320	4002		STD	ACCJ	1		JFS1663:
321	7101		JFI	1			JFS1664:
322	0554	VADXT1		BMCRET			JFS1665:
323	2001	VINTML	LDD	ACCJ			JFS1666:
324	1417		LSD	OP			JFS1667:
325	4244		STR	VISIGN			JFS1668:
326	6210		PJF	VSAME			JFS1669:
327	2001		LDD	ACCJ			JFS1670:
330	6214		PJF	VXOP			JFS1671:
331	2402		LCD	ACCJ	1		JFS1672:
332	4002		STD	ACCJ	1		JFS1673:
333	2401		LCD	ACCJ			JFS1674:
334	4001		STD	ACCJ			JFS1675:
335	6213		PJR	VFINMR			JFS1676:
336	2001	VSAME	LDD	ACCJ			JFS1677:
337	6211		PJR	VFINMR			JFS1678:
340	2402		LCD	ACCJ	1		JFS1679:
341	4002		STD	ACCJ	1		JFS1680:
342	2401		LCD	ACCJ			JFS1681:
343	4001		STD	ACCJ			JFS1682:
344	2417	VXOP	LCD	OP			JFS1683:
345	4017		STD	OP			JFS1684:
346	2420		LCD	OP	1		JFS1685:
347	4020		STD	OP	1		JFS1686:
350	2001	VFINMR	LDD	ACCJ			JFS1687:
351	6024		ZJF	VSAVR			JFS1688:
352	4221		STR	VM1			JFS1689:
353	2017		LDD	OP			JFS1690:
354	6005		ZJF	VLDC			JFS1691:
355	0020	VXTQ	SICQ				JFS1692:
356	4100		STM	OVFLW			JFS1693:
357	0644						JFS1694:
360	6551		NZR	VXT			JFS1695:
361	2002	VLDC	LDD	ACCJ	1		JFS1696:
362	4210		STR	VM2			JFS1697:
363	2020		LDD	OP	1		JFS1698:
364	6117		NZF	VSMD			JFS1699:
365	0400	VZERO	LDN	0			JFS1700:
366	4001		STD	ACCJ			JFS1701:
367	4002		STD	ACCJ	1		JFS1702:
370	6447		ZJR	VADXT1	-1		JFS1703:
371	0000	VISIGN					JFS1704:
372	0000	VM2					JFS1705:

INTEGER MULTIPLY 21 AUGUST

CHECK FOR ZERO TO PREVENT  
MINUS ZERO

SIGNS DIFFER

NEGATIVE ACC

FLIP ACC

FLIP OP

FIND MULTIPLIER

FLAG OVERFLOW

3373	0000	VM1					JFS1706:
3374	0000	VMLTR					JFS1707:
3375	2017	VSAVR	LDD	OP			JFS1708:
3376	4303		STR	VM1			JFS1709:
3377	2020		LDD	OP	1		JFS1710:
3400	4306		STR	VM2			JFS1711:
3401	2002		LDD	ACCJ	1		JFS1712:
3402	6415		ZJB	VZERO			JFS1713:
3403	4307	VSND	STR	VMLTR			JFS1714:
3404	0400		LDM	0			JFS1715:
3405	4001		STD	ACCJ			JFS1716:
3406	4002		STD	ACCJ	1		JFS1717:
3407	2313		LDR	VMLTR			JFS1718:
3410	6107		NZF	VFIN			JFS1719:
3411	2315	VSTAR	LDR	VMLTR		SHIFT MULTIPLIER	JFS1720:
3412	0114		RS1				JFS1721:
3413	6103		NZF	3			JFS1722:
3414	7101		JFI	1		END OF MULTIPLY	JFS1723:
3415	3307		VXT				JFS1724:
3416	4322		STR	VMLTR			JFS1725:
3417	0201	VFIN	LPN	1			JFS1726:
3420	6011		ZJF	VDOM			JFS1727:
3421	2327		LDR	VM2			JFS1728:
3422	5002		RAD	ACCJ	1		JFS1729:
3423	6204		PJF	VNOC			JFS1730:
3424	1211		LPF	V3777			JFS1731:
3425	4002		STD	ACCJ	1		JFS1732:
3426	5401		AOD	ACCJ			JFS1733:
3427	2334	VNOC	LDR	VM1			JFS1734:
3430	5001		RAD	ACCJ			JFS1735:
3431	4736	VDOM	SRR	VM1		DOUBLE MULTIPLICAND	JFS1736:
3432	4740		SRR	VM2			JFS1737:
3433	6622		PJB	VSTAR			JFS1738:
3434	1200		LPF	0			JFS1739:
3435	3777	V3777		3777			JFS1740:
3436	4344		STR	VM2			JFS1741:
3437	5744		AOR	VM1			JFS1742:
3440	6627		PJB	VSTAR			JFS1743:
3441	6764		NJR	VXTQ			JFS1744:
			REM			INTEGER DIVIDE	JFS1745:
3442	0020	VINTDV	SICQ				JFS1746:
3443	2100		LDM	BMACSW			JFS1747:
3444	0555						JFS1748:
3445	4267		STR	VDIVEX			JFS1749:
3446	2001		LDD	ACC		DETERMINE SIGN OF ANSWER	JFS1750:
3447	1417		LSD	OP			JFS1751:
3450	4244		STR	SDIGN			JFS1752:
3451	2001		LDD	ACC			JFS1753:
3452	6202		PJF	2			JFS1754:
3453	2401		LCD	ACC		FLIP ACC TO OBTAIN MAGNITUDE	JFS1755:
3454	4234		STR	VJ3			JFS1756:
3455	2002		LDD	ACC	1		JFS1757:
3456	6202		PJF	2			JFS1758:
3457	2402		LCD	ACC	1		JFS1759:
3460	4231		STR	VJ4			JFS1760:
3461	2017		LDD	OP			JFS1761:
3462	6107		NZF	VTSNEG			JFS1762:
3463	2020		LDD	OP	1		JFS1763:
3464	6105		NZF	VTSNEG			JFS1764:
3465	0401		LDM	1			JFS1765:

466	4100		STM	DVFLT		FLAG DIVIDE CHECK	JFS1765:
467	6652						
470	6127		NZR	VENDIV			JFS1766:
471	6305	VTSNEG	NJF	5			JFS1767:
472	2417		LCD	OP		MAKE OPERAND NEGATIVE	JFS1768:
73	4017		STD	OP			JFS1769:
74	2420		LCD	OP	1		JFS1770:
475	4020		STD	OP	1		JFS1771:
476	0400		LDN	0		INITIALIZE	JFS1772:
477	4001		STD	ACC			JFS1773:
500	4002		STD	ACC	1		JFS1774:
501	4214		STR	XSACCCJ			JFS1775:
502	4214		STR	XSACCCJ	1		JFS1776:
503	2200		LDC	XSACCCJ			JFS1777:
504	3515						
505	4076		STD	VQ00		FLAP HIGH OR LOW PART OF QUOTIENT	JFS1778:
506	6170		NZR	VFIRS			JFS1779:
507	0000	VQ00B				KEEPER OF CURRENT QUOTIENT BIT	JFS1780:
510	0000	VJ3					JFS1781:
511	0000	VJ4					JFS1782:
512	4000	4TH		4000			JFS1783:
513	2000	2TH		2000			JFS1784:
514	0000	SDIGN					JFS1785:
515	0000	XSACCCJ	BSS	2			JFS1786:
517	2002	VENDIV	LDD	ACC	1	SAVE LOWER PART OF REMAINDER	JFS1787:
520	4022		STD	CP	3		JFS1788:
521	2305		LDR	SDIGN			JFS1789:
522	6205		PJF	5			JFS1790:
523	2706		LCR	XSACCCJ			JFS1791:
524	4001		STD	ACC			JFS1792:
525	2707		LCR	XSACCCJ	1		JFS1793:
26	6104		NZF	4			JFS1794:
527	2312		LDR	XSACCCJ			JFS1795:
530	4001		STD	ACC			JFS1796:
531	2313		LDR	XSACCCJ	1		JFS1797:
532	4002		STD	ACC	1		JFS1798:
533	7101		JFI	1			JFS1799:
534	7777	VDIVEX		7777			JFS1800:
535	4401	SHIFTY	SRD	ACCJ		FOUR WORD LEFT SHIFT OF DIVIDEND	JFS1801:
536	4402		SRD	ACCJ	1		JFS1802:
537	1725		LSR	4TH			JFS1803:
540	6303		NJF	3			JFS1804:
541	4002		STD	ACCJ	1		JFS1805:
542	5401		AOD	ACCJ			JFS1806:
543	4733		SRR	VJ3			JFS1807:
544	1732		LSR	4TH			JFS1808:
545	6303		NJF	3			JFS1809:
546	4336		STR	VJ3			JFS1810:
547	5402		AOD	ACCJ	1		JFS1811:
550	4737		SRR	VJ4			JFS1812:
551	1737		LSR	4TH			JFS1813:
552	6303		NJF	3			JFS1814:
553	4342		STR	VJ4			JFS1815:
554	5744		AOR	VJ3			JFS1816:
555	2001	VCOMP	LDD	ACCJ		COMPARE NEW DIVIDEND AND DIVISOR	JFS1817:
556	3017		ADD	OP			JFS1818:
57	6307		NJR	VMOVG		DIVIDEND LESS THAN DIVISOR	JFS1819:
560	6020		ZJF	VEQHI			JFS1820:
561	0420	VDIFER	LDN	XVAD			JFS1821:
562	7100		JPR	BMACSW			JFS1822:

3563	0555								JFS1823
3564	2355	VUPQUO	LDR	VQUOB			ENTER A 1 BIT IN QUOTIENT		JFS1824
3565	5176		PAI	VQUO					JFS1825
3566	2357	VMOVQ	LDR	VQUOB			RIGHT SHIFT QUOTIENT BIT KEEPER		JFS1826
3567	0114		RS1						JFS1827
3570	4361	VSTQB	STR	VQUOB					JFS1828
3571	6534		NZR	SHIFTY					JFS1829
3572	5476	VNXBIT	ADD	VQUO			OP STORAGE OF QUOTIENT		JFS1830
3573	3600		SBC	XSACCD	2				JFS1831
3574	3517								JFS1832
3575	6456		ZJR	VENDIV			END OF DIVIDE		JFS1833
3576	2363	VFIRS	LDR	2TH					JFS1834
3577	6507		NZB	VSTQB					JFS1835
3600	2002	VEQHI	LDD	ACCD	1				JFS1836
3601	3020		ADD	OP	1				JFS1837
3602	6714		NJR	VMOVQ					JFS1838
3603	6622		PJR	VDIFER					JFS1839
3604	0200	SBUFP		SBUFAD			I/O PARAMETER LIST		JFS1840
3605	0000	UNIT					TARE UNIT NUMBER		JFS1841
3606	0000	SLENG					LENGTH OF RECORD		JFS1842
3607	7101	SEL	JFI	1					JFS1843
3610	0000	SELOCC					UP LOCC AND SET BNK CORRECTLY		JFS1844
3611	5424		ADD	LOCC					JFS1845
3612	6102		NZF	2					JFS1846
3613	5423		ADD	BNK					JFS1847
3614	2023		LDD	BNK					JFS1848
3615	4201		STF	1					JFS1849
3616	0000			0					JFS1850
3617	6510		NZB	SEL					JFS1851
3620	0000		ERR				PARITY ERROR ON BINARY READ, RERUN		JFS1852
3621	6134	SMVTAP	NZF	RWDEOF					JFS1853
3622	0501		LCN	1			BACKSPACE		JFS1854
3623	7100		JPR	STRANS			BACKSPACE ONE RECORD		JFS1855
3624	4050								JFS1856
3625	5437		ADD	SBUF			SIGNAL READ		JFS1857
3626	7100		JPR	STRANS			READ ONE RECORD TO FIND MODE		JFS1858
3627	4050								JFS1859
3630	6312		NZF	SBCDBK			BCD RECORD ENCOUNTERED		JFS1860
3631	6003		ZJF	3					JFS1861
3632	7101		JFI	1					JFS1862
3633	4210			SBERR					JFS1863
3634	2137		LDI	SBUF			BINARY RECORD, FIND NUMBER OF RECORDS		JFS1864
3635	0115		RS2						JFS1865
3636	0115		RS2						JFS1866
3637	1600		LSF	0					JFS1867
3640	7777			7777					JFS1868
3641	7123		JFI	SBTXR					JFS1869
3642	2100	SBCDBK	LDM	SBUFAD	1				JFS1870
3643	0201								JFS1871
3644	0317		LSN	17					JFS1872
3645	0217		LPN	17					JFS1873
3646	6426		ZJB	SMVTAP	1		PARITY ERROR ON BINARY READ NOT BCD REC		JFS1874
3647	2500		LCM	UNIT			FLAG BCD MODE		JFS1875
3650	3605								JFS1876
3651	4100		STM	UNIT					JFS1877
3652	3605								JFS1878
3653	0501		LCN	1					JFS1879
3654	7110		JFI	SBTXR					JFS1880
3655	2200	RWDEOF	LDC	SBTX	2		REWIND		JFS1881
3656	4300								JFS1882

3657	4100		STM	STRANS		JFS1875:
3660	4050					JFS1876:
3661	0400		LDN	0		JFS1877:
3662	7101		JFI	1		JFS1878:
3663	4023			STLNG		JFS1879:
3664	4276	SBTXR		SBTX		JFS1880:
3665	0020	SBINAR	SICO		SIGNAL BINARY TO TAPE ROUTINE	JFS1881:
3666	2500		LCI	0		JFS1882:
3667	3605			UNIT		JFS1883:
3670	4100		STI	0		JFS1884:
3671	3605			UNIT		JFS1885:
3672	4046		STD	SFORMF	FLAG TO ALWAYS INTERROGATE COMM AFTER LD	JFS1886:
3673	0400		LDN	0		JFS1887:
3674	4004		STD	SEOF		JFS1888:
3675	4006		STD	SBRECT		JFS1889:
3676	2055		LDD	FLOCC		JFS1890:
3677	0702		SEN	2		JFS1891:
3700	6657		PJR	SMVTAP	MOVE TAPE	JFS1892:
3701	2040		LDD	SWAY		JFS1893:
3702	6306		NJF	SBREAD		JFS1894:
3703	0400		LDN	0	SET INITIAL WORD OF PHYSICAL RECORD	JFS1895:
3704	4137		STI	SBUF		JFS1896:
3705	5437		AGD	SBUF		JFS1897:
3706	7101		JFI	1		JFS1898:
3707	0400			ARITH		JFS1899:
3710	2200	SBREAD	LDF	0		JFS1900:
3711	0370			SBUFAD	170	JFS1901:
3712	4037		STD	SBUF		JFS1902:
3713	6174		NZR	SIOX		JFS1903:
3714	6527	SBINRR	NZB	SBINAR	RELAY	JFS1904:
3715	0501	IOI	LDN	1		JFS1905:
3716	6302		NJF	STSWAY		JFS1906:
3717	0401	IOO	LDN	1		JFS1907:
3720	4040	STSWAY	STD	SWAY	FLAG INPUT OR OUTPUT	JFS1908:
3721	7100		JPR	SELOCC	UP LOCC	JFS1909:
3722	3610					JFS1910:
3723	2124		LDI	LOCC		JFS1911:
3724	0111		LS6			JFS1912:
3725	0100		LS2			JFS1913:
3726	4052		STD	SBINSW		JFS1914:
3727	0237		LPN	37		JFS1915:
3730	4261		STR	TROUTE	FLAG I/O SUBROUTINE	JFS1916:
3731	2124		LDI	LOCC		JFS1917:
3732	0207		LPN	7		JFS1918:
3733	4054		STD	FBNK		JFS1919:
3734	4034		STD	ZBNK	FORMAT BANK	JFS1920:
3735	2124		LDI	LOCC		JFS1921:
3736	0020		SICO			JFS1922:
3737	0110		LS3			JFS1923:
3740	0207		LPN	7		JFS1924:
3741	4100		STI	0	FLAG TAPE UNIT	JFS1925:
3742	3605			UNIT	MUST BE IN FIXED CORE	JFS1926:
3743	2200	SPLUG	LDF	0		JFS1927:
3744	7053		JPI	SWTCON	PLUG ARITH SWITCHBOARD	JFS1928:
3745	4100		STI	0		JFS1929:
3746	0414			SWTB		JFS1930:
3747	2200		LDF	0		JFS1931:
3750	4057			SWINT		JFS1932:
3751	4053		STD	SWTCON		JFS1933:
3752	0400		LDN	0	INITIALIZATION	JFS1934:

3753	4046	STD	SFORMF	JFS19328
3754	4100	STM	SLATRY	JFS19329
3755	4054			
3756	4044	STD	SREP1	JFS19331
3757	4005	STD	SHFLAG	JFS19341
3760	4047	STD	SPARCT	JFS19351
3761	4045	STD	SIF	JFS19361
3762	4273	STR	STSWT	JFS19378
3763	4273	STR	SLDSWT	JFS19381
3764	2200	LDF	0	JFS19398
3765	0200		SBUFAD	JFS19408
3766	4037	STD	SBUF	JFS19411
3767	4004	STD	SEOF	JFS19421
3770	2200	LDF	0	JFS19431
3771	2525		2525	JFS19441
3772	4050	STD	SQUIK	JFS19458
3773	7100	JPR	SELOCC	JFS19461
3774	3610			
3775	2124	LDI	LOCC	JFS19478
3776	4055	STD	FLOCC	JFS19481
3777	4035	STD	ZLOCC	JFS19491
4000	2052	LDD	SBINSH	JFS19508
4001	6765	NJR	SBINRR	JFS19518
4002	2040	LDD	SWAY	JFS19521
4003	6204	PJF	SIOX	JFS19531
4004	0400	LDN	0	JFS19548
4005	7100	JPR	STRANS	JFS19551
4006	4050			
4007	7101	SIOX	JFI 1	JFS19561
4010	0400		ARITH	JFS19571
4011	0000	TROUTE		JFS19581
4012	2037	REB		JFS19591
4013	3604	SBUFF	LDD SBUF	JFS19601
4014	6107		SBR SBUF10	JFS19611
4015	0420		NZF STLNG	JFS19621
4016	4100		LDN 20	JFS19631
4017	0200	SBUFF10	STI 0	JFS19648
4020	4100		SBUFAD	JFS19658
4021	0201	STM	SBUFAD 1	JFS19661
4022	0402			
4023	4100	LDN	2	JFS19670
4024	3606	STLNG	STM SLENG	JFS19681
4025	2306			
4026	4037	LDB	SBUF10	JFS19691
4027	2316	STD	SBUF	JFS19701
4030	0677	LDR	TROUTE	JFS19711
4031	4076	SBASER	ADN 77	JFS19721
4032	2200	SETJMP	STD STEM	
4033	3604		LDF 0	JFS19731
4034	4077		SBUFF	JFS19741
4035	0101	STD	77	JFS19751
4036	0611	PTA		JFS19761
4037	4075	ADN	11	JFS19771
4040	2176	STD	75	JFS19781
4041	0201	LDI	STEM	JFS19798
4042	0610	LPN	1	JFS19791
4043	4202	ADN	10	JFS1971
4044	2176	STF	SJUMP	JFS19791
4045	0010	LDI	STEM	JFS19791
		SJUMP	SRJ0	JFS19791

NUMBER OF SUBROUTINE  
CONNECTOR TO I/O SUBROUTINES

BEGINNING OF BUFFER.

FLAG BUFFER LENGTH (MAYBE PSEUDO)

RESET BUFFER TO START

LOCATION OF PARAMETER  
LIST TO 77

RETURN ADDRESS  
TO 75

BANK 0 IF EVEN  
BANK 1 IF ODD  
CONSTRUCT BANK JUMP

LOCATION OF I/O ROUTINE

046	2077		LDD	77
			REM	
			REM	
			JFI	1
047	7101			
050	0000	STRANS		
051	0020		SIC0	
052	6727		NJB	STLNG
053	6641		PJB	SBUFF
054	0000	SDATRY		
055	0000	STSWT		
056	0000	SLDSWT		
			REM	
057	4027	SWINT	STD	SBOPC
060	0775		SBN	75
061	6064		ZJF	SLDEXT
062	2027		LDD	SBOPC
063	0724		SBN	24
064	6003		ZJR	STINT
065	0725		SBN	25
066	6117		NZR	STLDW
067	4311	STINT	STR	SLDSWT
070	2040		LDD	SWAY
071	6233		PJR	SWTBR
072	5715		ACR	STSWT
073	6031		ZJR	SWTBR
074	2004		LDD	SEOF
075	6005		ZJF	5
076	2045		LDD	SIF
077	6003		ZJF	3
100	7100		JPR	STRANS
101	4050			
02	0501	SDATC	LCN	1
103	4327		STR	SDATRY
104	6324		NJR	SGOFOR
105	5730	STLDW	ACR	STSWT
106	2330		LDR	SLDSWT
107	6005		ZJF	TSTLDD
110	2004	SLOAD	LDD	SEOF
111	6117		NZF	SGOFOR
112	4334		STR	SLDSWT
113	6411		ZJR	SDATC
114	2027	TSTLDD	LDD	SBOPC
115	0732		SBN	32
116	6003		ZJF	SLDSET
117	0732		SBN	32
120	6104		NZF	SWTBR
121	0501	SLDSET	LCN	1
122	4344		STR	SLDSWT
123	4346		STR	STSWT
124	2046	SWTBR	LDD	SFORMF
125	6320		NJF	SLDEXT
126	2044		LDD	SREP1
127	6316		NJF	SLDEXT
130	2052	SGOFOR	LDD	SBINSW
131	6343		NJR	SBIN
132	2200		LDF	0
33	7103		JFI	3
134	4077		STD	77
135	7101		JFI	1
136	0077			77

RETURN HERE. PUT ANYTHING  
WHICH SHOULD BE IN A  
IN LOC. 77  
ENTRY FOR TRANSMITTING RECORD, \* SETS  
PSEUDO LENGTH, \* ORDINARY READ OR WRITE

ARITH SWITCHBOARD INTERRUPT  
OP CODE  
3 WORD IDENTIFIER  
GO TO NEXT SWITCHBOARD INTERRUPT

STORE ERASE, 24  
NORMAL STORE, 51

NO DATA CALLED FOR  
TEST + CLEAR ST DISABLE  
NO DATA, STORE CANCELLED  
NO DATA, STORE CANCELLED

FIRST ENTRY TO 23, NO FORMAT YET

FLAG DATA COMMAND ENCOUNTERED

LOAD ERASE, 32

LD, 64  
NO DATA

SET LD SWITCH

JFS19796  
JFS19791  
JFS19791  
JFS19801  
JFS19811  
JFS19821  
JFS19831  
JFS19848  
JFS19858  
JFS19861  
JFS19871  
JFS19881  
JFS19898  
JFS19901  
JFS19911  
JFS19921  
JFS19930  
JFS19948  
JFS19951  
JFS19961  
JFS19971  
JFS19988  
JFS19991  
JFS20008  
JFS20011  
JFS20021  
JFS20038  
JFS20041  
JFS20058  
JFS20068  
:  
JFS20070  
JFS20081  
JFS20091  
JFS20101  
JFS20111  
JFS20128  
JFS20131  
JFS20148  
JFS20158  
JFS20168  
JFS20171  
JFS20181  
JFS20191  
JFS20208  
JFS20210  
JFS20221  
JFS20231  
JFS20248  
JFS20251  
JFS20261  
JFS20270  
JFS20288  
JFS20291  
JFS20308  
JFS20311  
JFS20320  
JFS20338  
JFS20348  
JFS20350

137	5763	SWTRTN	AGR	SDATRY			JFS2036:
140	6104		NZF	4			JFS2037:
141	7100		JPR	STRANS			JFS2038:
142	4050						JFS2039:
143	4201		STF	1			JFS2040:
144	5446		AOD	SFORMF			JFS2041:
145	2023	SLDEXT	LDD	BNK			JFS2042:
146	4201		STF	1			JFS2043:
147	0000			0			JFS2044:
150	2027		LDD	SBOPC			JFS2045:
151	7101		JFI	1			JFS2046:
152	0415			SWTB	1		JFS2047:
153	0020	IOT	SICO				JFS2048:
154	2052		LDD	SBINSH		SECOND ENTRY TO I O CONTROL	JFS2049:
155	6376		NJR	SBINTR			JFS2050:
156	2040		LDD	SWAY			JFS2051:
157	6307		NJF	SCOMEX			JFS2052:
160	2037		LDD	SBUF			JFS2053:
161	3600		SBF	0			JFS2054:
162	0200			SBUFAD			JFS2055:
163	6003		ZJF	SCOMEX			JFS2056:
164	7100		JPR	STRANS			JFS2057:
165	4050						JFS2058:
166	2200	SCOMEX	LDF	0			JFS2059:
167	4027		STD	SBOPC			JFS2060:
170	4100		STI	0			JFS2061:
171	0414			SWTB			JFS2062:
172	7101		JFI	1			JFS2063:
173	0400			ARITH			JFS2064:
174	0020	SBIN	SICO			BINARY READ AND WRITE	JFS2065:
175	2037		LDD	SBUF			JFS2066:
176	3600		SBF	0			JFS2067:
177	0370			SBUFAD	170		JFS2068:
200	6332		NJF	STWY			JFS2069:
201	2040		LDD	SWAY			JFS2070:
202	6203		PJF	3			JFS2071:
203	2006		LDD	SBRECT			JFS2072:
204	6145		NZF	SLDREL	-1		JFS2073:
205	7100		JPR	STRANS			JFS2074:
206	4050						JFS2075:
207	6002		ZJF	2			JFS2076:
210	0000	SBERR	ERR			END OF FILE OR PARIY ERROR (+ OR -)	JFS2077:
211	2040		LDD	SWAY			JFS2078:
212	6323		NJR	SBRED			JFS2079:
213	0400		LDN	0		SIGNAL NOT FINAL RECORD	JFS2080:
214	4137		STI	SBUF			JFS2081:
215	5437		AOD	SBUF			JFS2082:
216	5406		AOD	SBRECT			JFS2083:
217	2001	SBWRT	LDD	ACC		WRITE BINARY	JFS2084:
220	4137		STI	SBUF			JFS2085:
221	5437		AOD	SBUF			JFS2086:
222	2002		LDD	ACC	1		JFS2087:
223	4137		STI	SBUF			JFS2088:
224	5437		AOD	SBUF			JFS2089:
225	2003		LDD	ACC	2		JFS2090:
226	4137		STI	SBUF			JFS2091:
227	5437		AOD	SBUF			JFS2092:
230	7101		JFI	1			JFS2093:
231	4114			TSTLDD		LOOK FOR LD INSTRUCTION BEFORE EXIT	JFS2094:
232	2040	STWY	LDD	SWAY			JFS2095:



233	6614		PJR	SBWRT			JFS2089A
234	6604		NJR	SBREED			JFS2090A
235	2137	SBRED	LDI	SBUF	READ FIRST WORD OF RECORD		JFS2091A
236	4006		STD	SRECT			JFS2092A
237	5437		ADD	SBUF			JFS2093A
240	2137	SBREED	LDI	SBUF	READ BINARY		JFS2094A
241	4001		STD	ACC			JFS2095A
242	5437		ADD	SBUF			JFS2096A
243	2137		LDI	SBUF			JFS2097A
244	4002		STD	ACC	1		JFS2098A
245	5437		ADD	SBUF			JFS2099A
246	2137		LDI	SBUF			JFS2100A
247	4003		STD	ACC	2		JFS2101A
250	5437		ADD	SBUF			JFS2102A
251	7101		JFI	1			JFS2103A
252	4145	SLDREL		SLDEXT			JFS2104A
253	2055	SBINTR	LDD	FLOCC			JFS2105A
254	0702		SBN	2			JFS2106A
255	6224		PJF	SBIOX			JFS2107A
256	2040		LDD	SNAY			JFS2108A
257	6211		PJF	SBWRIT			JFS2109A
260	2006		LDD	SRECT			JFS2110A
261	6320		NZR	SBIOX	LAST RECORD ALREADY READ		JFS2111A
262	5437	SBRRR	ADD	SBUF	SIGNAL READ		JFS2112A
263	7100		JPR	STRANS	READ TO LAST RECORD		JFS2113A
264	4050						JFS2114A
265	2137		LDI	SBUF			JFS2115A
266	6404		ZJB	SBRRR			JFS2116A
267	6112		NZR	SBIOX			JFS2117A
270	5406	SBWRIT	ADD	SRECT			JFS2118A
271	0110		LS3				JFS2119A
272	0102		LS1				JFS2120A
273	0317		LSN	17			JFS2121A
274	4100		STM	SBUFAD			JFS2122A
275	0200						JFS2123A
276	7100	SBTX	JPR	STRANS			JFS2124A
277	4050						JFS2125A
300	6570		NZR	SBERR			JFS2126A
4301	7101	SBIOX	JFI	1			JFS2127A
4302	4166			SCOMEX			JFS2128A
4304		SFSUB	EQU	SBIOX	3		JFS2129A
4310		SFADD	EQU	SFSUB	4		JFS2130A
4314		SFMLT	EQU	SFSUB	10		JFS2131A
4321		SFDIV	EQU	SFSUB	15		JFS2132A
5514		FLCONV	EQU	SFSUB	1210		JFS2133A
5627		XCONV	EQU	SFSUB	1323		JFS2134A
0000			END				JFS2135A

Pages 361 to 394 are not missing

00360

		REM		
		REM		
		REM		
		CON	1	
0001	0000	KACC		
		REM		
		CON	4	
0004	0000	SEOF		
0005	0000	SHFLAG		
0006	0000	SBRECT		
		CON	1	
0001	0000	WHI		
0002	0000	WLU		
		CON	1	
0001	0000	ACC	BSS	3
		ACCJ	EQU	ACC
		TACC	EQU	ACC
0004	0000	ACC1	BSS	3
0007	0000	ACC2	BSS	3
0012	0000	ACC3	BSS	3
0015	0000	INDXRG	BSS	2
0017	0000	OP	BSS	4
		OPER	EQU	OP
		OPJ	EQU	OP
0023	0000	BNK		
0024	0000	LOCC		
0025	0001	NOP1		
		BMCRET	EQU	554
		BMACSW	EQU	555
		DVFLT	EQU	652
		DVFLW	EQU	644
		CON		35
0035	0000	C3		
0036	0000	C2		
0037	0000	C1		
0040	0000	EXP		
0041	0000	LOCC2		
0042	0000	LOCC8		
0043	0000	PARLOC		
0044	0000	SIGN		
0045	0000	A7		
0046	0000	A6		
0047	0000	A5		
0050	0000	A4		
0051	0000	A3		
0052	0000	A2		
0053	0000	A1		
0054	0000	TEMP6		
0055	0000	VARLOC		
0056	0000	S3		
0057	0000	S4		
0060	0000	S5		
0061	0000	S6		
0062	0000	S7		
0063	0000	S8		
0064	0000	S9		
0065	0000	S10		
0066	0000	FAC		
0067	0000	MLTX		
0070	0000	SR3		

FLY PT 11 JUNE 1963  
 FLY PT 10 NOV  
 LOW CORE IN INTERPETER 13 SEP 62

SEMI-PERMANENT STORAGE DURING I/O

END OF FORMAT SIGNAL  
 HOLLERITH FLAG

MUST FOLLOW ACC3

OBJECT CODE LOCATOR

FOR FLOATING POINT PACKAGES

COMMON TO FLT AND IO

COMMON TO FLT AND IO

COMMON TO FLT AND IO

COMMON TO FLT AND IO

COMMON TO FLT AND IO

FLT0002:  
 FLT0003:  
 FLT0004:  
 FLT0005:  
 FLT0006:  
 FLT0007:  
 FLT0008:  
 FLT0009:  
 FLT0010:  
 FLT0011:  
 FLT0012:  
 FLT0013:  
 FLT0014:  
 FLT0015:  
 FLT0016:  
 FLT0017:  
 FLT0018:  
 FLT0019:  
 FLT0020:  
 FLT0021:  
 FLT0022:  
 FLT0023:  
 FLT0024:  
 FLT0025:  
 FLT0027:  
 FLT0028:  
 FLT0031:  
 FLT0032:  
 FLT0033:  
 FLT0034:  
 FLT0035:  
 FLT0036:  
 FLT0037:  
 FLT0038:  
 FLT0039:  
 FLT0040:  
 FLT0041:  
 FLT0042:  
 FLT0043:  
 FLT0044:  
 FLT0045:  
 FLT0046:  
 FLT0047:  
 FLT0048:  
 FLT0049:  
 FLT0050:  
 FLT0051:  
 FLT0052:  
 FLT0053:  
 FLT0054:  
 FLT0055:  
 FLT0056:  
 FLT0057:  
 FLT0058:  
 FLT0059:

071	0000	SR2			
072	0000	SR1			
073	0000	XSACC	BSS	3	
	0000		CON	0	
00	6643		BOD	6	FLF PT
001	2320				
002	4723				
003	1451			XEXT	1
004	0002			2	
005	7777			7777	
0057	ACT	EQU	S4		
0070	SEXTX	EQU	SR3		
0017	SOP	EQU	OPER		
0054	SFLAG	EQU	TEMP6		
0001	SACC	EQU	ACC		
0057	SACT	EQU	S4		
0055	SDIS	EQU	VARLOC		
0040	SEXP	EQU	EXP		
0062	STEMP	EQU	S7		
0017	STHOU	EQU	OPER		
0020	SHUND	EQU	OPER	+1	
0021	STEN	EQU	OPER	+2	
0017	THOU	EQU	OPER		
0022	SONE	EQU	OPER	+3	
0054	HIGH	EQU	TEMP6		
0055	TMOVE	EQU	VARLOC		
0001	B3	EQU	ACC		
0002	B2	EQU	ACC	1	
0003	B1	EQU	ACC	2	
0060	HGHER	EQU	S5		
0060	HIGHER	EQU	S5		
0061	LOWER	EQU	S6		
0060	LET	EQU	S5		
0020	(100)	EQU	OPER	1	
0061	GET	EQU	LET	+1	
0051	SA3	EQU	A3		
0050	SA4	EQU	A4		
0040	NEXPA	EQU	EXP		
0054	NQUOT	EQU	TEMP6		
0055	NQ	EQU	VARLOC		
0050	N-1)	EQU	S3		
0052	NA2	EQU	A2		
0037	NC1	EQU	C1		
0051	NA3	EQU	A3		
0036	NC2	EQU	C2		
0050	NA4	EQU	A4		
0035	NC3	EQU	C3		
0022	NONE	EQU	SONE		
0017	NTHOU	EQU	STHOU		
0020	NHUND	EQU	SHUND		
0061	NQ1	EQU	S6		
0060	NQ2	EQU	S5		
0057	NQ3	EQU	S4		
0057	NACT	EQU	ACT		
0057	BACT	EQU	ACT		
0060	MP3	EQU	S5		
0061	MP2	EQU	S6		
0062	MP1	EQU	S7		
0063	MPO	EQU	S8		
0017	MTHOU	EQU	STHOU		

FLTO0608  
FLTO0610  
FLTO0621  
FLTO0631  
FLTO0641

FLTO0658  
FLTO0661  
FLTO0675  
FLTO0681  
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FLTO1108  
FLTO1111  
FLTO1128  
FLTO1131  
FLTO1148  
FLTO1151  
FLTO1168  
FLTO1171

0054	MLIER	EQU	TEMP6
0035	MC3	EQU	C3
0036	MC2	EQU	C2
0037	MC1	EQU	C1
0055	MCDUNT	EQU	VARLOC
0045	MA7	EQU	A7
0046	MA6	EQU	A6
0047	MA5	EQU	A5
0050	MA4	EQU	A4
0051	MA3	EQU	A3
0056	MAC(J)	EQU	S3
0057	MOUND	EQU	S4
0052	MA2	EQU	A2
0052	SA2	EQU	A2
0041	EXPB	EQU	LUCC2
0041	NEXP	EQU	EXPB
0042	SIGMA	EQU	LUCC8
0043	SIGNB	EQU	PARLOC
0044	SSIGN	EQU	SIGN
0020	XVAD	EQU	20
0021	XVISUB	EQU	21
0022	XVINT	EQU	22
0023	XVDIV	EQU	23
0000		ORG	0
0000	2017	SFSUB	LDD SOP
0001	6003	ZJF	SFADD
0002	1644	LSF	S4TH
0003	4017	STD	SOP
0004	2243	SFADD	LDF SJ1
0005	4070	STD	SEXTX
0006	0401	LDN	1
0007	6211	PJF	SASK
0010	2240	SFMLT	LDF SJ2
0011	4070	STD	SEXTX
0012	0400	LDN	0
0013	4066	STD	FAC
0014	6004	ZJF	SASK
0015	2234	SFDIV	LDF SJ3
0016	4070	STD	SEXTX
0017	0501	LCN	1
0020	4054	SASK	STD SFLAG
0021	0020	SIC0	
0022	2001	LDD	SACC
0023	6130	NZF	STSTOV
0024	2054	LDD	SFLAG
0025	6105	NZF	SKAT
0026	2017	LDD	SOP
0027	0237	LPN	37
0030	6006	ZJF	SMVOP
0031	6113	NZF	SLVE
0032	6204	SKAT	PJF SMVOP
0033	2017	LDD	SOP
0034	6033	ZJF	SDVY
0035	6107	NZF	SLVE
0036	2017	SMVOP	LDD SOP
0037	4001	STD	SACC
0040	2020	LDD	SOP
0041	4002	STD	SACC
0042	2021	LDD	SOP
0043	4003	STD	SACC

SUBTRACT

IS ACCUMULATOR ZERO

YES

IF MULTIPLY, IS THERE OVERFLOW

YES, SIGNAL OVERFLOW

IF DIVIDE NOT BY ZERO, LEAVE  
OTHERWISE, OVERFLOW

PUT OPERAND IN ACCUMULATOR

1  
1  
2  
2

FLTO118:  
FLTO119:  
FLTO120:  
FLTO121:  
FLTO122:  
FLTO123:  
FLTO124:  
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FLTO176:  
FLTO177:  
FLTO178:

0044	7101	SLVE	JFI	1			FLTC01798
0045	0554			BMCRET			FLTC01801
0046	4000	S4TH		4000			FLTC01811
0047	0177	SJ1		SADDR			FLTC01821
0050	1132	SJ2		MPY			FLTC01830
0051	0735	SJ3		ENTRYD			FLTC01841
0052	3740	SJOV		3740			FLTC01851
0053	0237	STSTOV	LPN	37		TEST FOR OVERFLOW	FLTC01861
0054	6410		ZJB	SLVE			FLTC01878
0055	2017	SLOKOP	LDD	SOP		TEST OPERAND FOR ZERO	FLTC01888
0056	6117		NZF	STSTD			FLTC01898
0057	2054		LDD	SFLAG			FLTC01908
0060	6307		NJF	SDVY			FLTC01911
0061	6515		NZB	SLVE			FLTC01931
0062	0400	SCLA	LDN	0			FLTC01941
0063	4001		STD	SACC			FLTC01958
0064	4002		STD	SACC	1		FLTC01968
0065	4003		STD	SACC	2		FLTC01970
0066	6422		ZJB	SLVE			FLTC01981
0067	0401	SDVY	LDN	1		SIGNAL DIVIDE FAULT	FLTC01991
0070	4100		STM	DVFLT			FLTC02008
0071	0652						FLTC02011
0072	2320	SMOVB	LDB	SJOV			FLTC02028
0073	4001		STD	SACC			FLTC02031
0074	6530		NZB	SLVE			FLTC02041
0075	0237	STSTD	LPN	37			FLTC02051
0076	6104		NZF	SDISAS			FLTC02061
0077	2054		LDD	SFLAG			FLTC02071
0100	6716		NJB	SCLA			FLTC02081
0101	6643		PJB	SMVOP			FLTC02091
0102	0452	SDISAS	LDN	SA2		DISASSEMBLE ACCUMULATOR	FLTC02101
0103	4057		STD	SACT			FLTC02110
0104	0401		LDN	SACC			FLTC02128
0105	4055		STD	SDIS			FLTC02131
0106	0440		LDN	SEXP			FLTC02148
0107	4062		STD	STEMP			FLTC02151
0110	2155	SPLIT	LDI	SDIS			FLTC02160
0111	0237		LPN	37		SPLIT OFF LEADING DIGIT(S) AND	FLTC02178
0112	0103		LS2				FLTC02188
0113	4157		STI	SACT			FLTC02198
0114	2155		LDI	SDIS		STORE EXPONENT	FLTC02201
0115	0111		LS6				FLTC02211
0116	0102		LS1				FLTC02221
0117	0277		LPN	77			FLTC02238
0120	4162		STI	STEMP			FLTC02241
0121	5462		AOD	STEMP			FLTC02258
0122	5455		AOD	SDIS			FLTC02261
0123	2155		LDI	SDIS		SPLIT MIDDLE WORD	FLTC02271
0124	1225		LPI	SMSK2			FLTC02288
0125	0103		LS2				FLTC02298
0126	5157		RAI	SACT			FLTC02301
0127	0501		LDN	1			FLTC02318
0130	5057		RAD	SACT			FLTC02321
0131	2620		LUF	SMSK2			FLTC02331
0132	1155		LPI	SDIS			FLTC02341
0133	4157		STI	SACT			FLTC02351
0134	0501		LDN	1			FLTC02361
0135	5057		RAD	SACT			FLTC02371
0136	5455		AOD	SDIS			FLTC02381
0137	2155		LDI	SDIS		TRANSFER LAST WORD	FLTC02381

140	4157		STI	SACT		FLTO239:
141	4611		SRF	SWTP		FLTO240:
142	6313		NJF	SFORN		FLTO241:
143	0417		LDN	SUP		FLTO242:
144	4055		STD	SDIS	DISASSEMBLE OPERAND	FLTO243:
145	0437		LDN	C1		FLTO244:
146	4057		STD	SACT		FLTO245:
147	6637		PJB	SPLIT		FLTO246:
150	4000	S4THO		4000		FLTO247:
151	6000	SMSK2		6000		FLTO248:
152	5252	SWTP		5252		FLTO249:
153	1750	STHD		10000		FLTO250:
154	0144	SHNDD		1000		FLTO251:
155	2001	SFURN	LDD	SACC	SIGNAL WHETHER SIGNS AGREE	FLTO252:
156	4042		STD	SIGNA		FLTO253:
157	0400		LDN	0		FLTO254:
160	4050		STD	A1		FLTO255:
161	0412		LDN	100		FLTO256:
162	4021		STD	STEN		FLTO258:
163	0401		LDN	1		FLTO259:
164	4022		STD	SOME		FLTO260:
165	2017		LDD	SOP		FLTO261:
166	4043		STD	SIGNR		FLTO262:
167	1401		LSD	SACC		FLTO263:
170	1320	SJFLX	LPB	S4THO		FLTO264:
171	4044		STD	SSIGN		FLTO265:
172	2317		LDB	STHD		FLTO266:
173	4017		STD	STHOU		FLTO267:
174	2320		LDB	SHNDD		FLTO268:
175	4020		STD	SHUND		FLTO269:
176	7070		JPI	SEXTX	GO TO SUBROUTINE	FLTO270:
			REM		3 WORD FLT ADD 1=4=62	FLTO271:
177	0400	SADDR	LDN	0	INITIALIZE	FLTO272:
200	4066		STD	FAC		FLTO273:
201	4054		STD	HIGH		FLTO274:
202	4055		STD	TMOVE		FLTO275:
203	2252		LDF	XARTH		FLTO276:
204	4100		STM	MLTX10		FLTO277:
205	0331					
206	2440		LCD	EXP	FIND HIGHER	FLTO278:
207	5041		RAD	EXPB		FLTO279:
210	6015		ZJF	EQX		FLTO280:
211	6305		NJF	REST		FLTO281:
212	5040		RAD	EXP		FLTO282:
213	2041		LDD	EXPB		FLTO283:
214	4054		STD	HIGH		FLTO284:
215	6202		PJF	SC		FLTO285:
216	1642	REST	LSF	SFLIP		FLTO286:
217	0710	SC	SBN	10	EXPONENT RANGE LIMIT	FLTO287:
220	6314		NJF	ADJUST		FLTO288:
221	6013		ZJF	ADJUST		
222	2234		LDF	XSASS		FLTO290:
223	4273	CHOOS	STF	PLACX		FLTO292:
224	6135		NZF	PLCE		FLTO293:
225	2037	EQX	LDD	C1	EXRONENTS EQUAL	FLTO294:
226	3452		SBD	A2		FLTO295:
227	6303		NJF	3		FLTO296:
230	0401		LDN	1		FLTO297:
231	4054		STD	HIGH		FLTO298:
232	2223	LODE	LDF	XARTH		FLTO299:

233	6510		NZB	CHOOS
234	0610	ADJUST	ADN	10
235	0703		SBN	3
236	6305		NJF	5
37	4062		STD	STEMP
240	5455		AOD	TMOVE
241	2062		LDD	STEMP
242	6605		PJB	5
243	0603		ADN	3
244	4066		STD	FAC
245	6413		ZJR	LODE
246	2466		LCD	FAC
247	5040		RAD	EXP
250	2066		LDD	FAC
251	0701		SBN	1
252	4066		STD	FAC
253	2204		LDF	XMLT
254	6531		NZB	CHOOS
255	0457	XARTH		SARITH
256	0665	XSASS		SASSEM
257	0332	XMLT		MLT10
260	7777	SFLIP		7777
261	2054	PLCE	LDD	HIGH
262	6021		ZJF	COO
263	2050		LDD	A4
264	4001		STD	B3
265	2051		LDD	A3
266	4002		STD	B2
267	2052		LDD	A2
270	4003		STD	B1
71	0435		LDN	C3
272	4060	REPLC	STD	HGHER
273	2160		LDI	HGHER
274	4050		STD	A4
275	5460		AOD	HGHER
276	2160		LDI	HGHER
277	4051		STD	A3
300	5460		AOD	HGHER
301	2160		LDI	HGHER
302	4052		STD	A2
303	0400	COO	LDN	0
304	4053		STD	A1
305	4047		STD	A5
306	2054	SGNF	LDD	HIGH
307	6003		ZJF	3
310	2043		LDD	SIGNB
311	6102		NZF	2
312	2042		LDD	SIGNA
313	1205		LPF	SJ4TH
314	4044		STD	SSIGN
315	7101		JFI	1
316	0000	PLACX		
317	5252	SSKCH		5252
320	4000	SJ4TH		4000
321	0401	PLACE	LDN	B3
22	6530		NZB	REPLC
323	2066	SR10	LDD	FAC
324	6004		ZJF	LEV
325	0701		SBN	1
326	4066		STD	FAC

SHIFT HIGHER (FAC) TIMES

FIND SIGN OF ANSWER.

FLT0300:  
 FLT0303:  
 FLT0304:  
 FLT0305:  
 FLT0306:  
 FLT0307:  
 FLT0308:  
 FLT0309:  
 FLT0310:  
 FLT0311:  
 FLT0312:  
 FLT0313:  
 FLT0314:  
 FLT0315:  
 FLT0316:  
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 FLT0318:  
 FLT0319:  
 FLT0320:  
 FLT0321:  
 FLT0322:  
 FLT0323:  
 FLT0324:  
 FLT0325:  
 FLT0326:  
 FLT0327:  
 FLT0328:  
 FLT0329:  
 FLT0330:  
 FLT0331:  
 FLT0332:  
 FLT0333:  
 FLT0334:  
 FLT0335:  
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 FLT0337:  
 FLT0338:  
 FLT0339:  
 FLT0340:  
 FLT0341:  
 FLT0342:  
 FLT0343:  
 FLT0344:  
 FLT0345:  
 FLT0346:  
 FLT0347:  
 FLT0348:  
 FLT0349:  
 FLT0350:  
 FLT0351:  
 FLT0352:  
 FLT0353:  
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 FLT0355:  
 FLT0356:  
 FLT0357:  
 FLT0358:  
 FLT0359:  
 FLT0360:  
 FLT0361:

0327	6203		PJF	MLT10
0330	7101	LEV	JFI	1
0331	7777	MLTX10		7777
0332	2053	MLT10	LDD	A1
0333	0112		NUT	
0334	4053		STD	A1
0335	4450		SRD	A4
0336	4070		STD	SR3
0337	4451		SRD	A3
0340	4071		STD	SR2
0341	4452		SRD	A2
0342	4072		STD	SR1
0343	4450	SREP	SRD	A4
0344	3642		SBF	2THOU
0345	6303		NJF	3
0346	4050		STD	A4
0347	5451		AUD	A3
0350	4451		SRD	A3
0351	3635		SBF	2THOU
0352	6303		NJF	3
0353	4051		STD	A3
0354	5452		ADD	A2
0355	4452		SRD	A2
0356	3630		SBF	2THOU
0357	6310		NJF	SUCH
0360	4052		STD	A2
0361	2342		LDB	SSWCH
0362	6203		PJF	3
0363	0404		LDN	4
0364	6202		PJF	2
0365	0402		LDN	2
0366	5053		RAD	A1
0367	4750	SUCH	SRB	SSWCH
0370	6625		PJB	SREP
0371	2070		LDD	SR3
0372	5050		RAD	A4
0373	3613		SBF	2THOU
0374	6310		NJF	LESS2
0375	4050		STD	A4
0376	3417		SBD	THOU
0377	6304		NJF	4
0400	4050		STD	A4
0401	0403		LDN	3
0402	6102		NZF	AD
0403	0402		LDN	2
0404	5051	AD	RAD	A3
0405	6106		NZF	NXT
0406	3720	2THOU		2000D
0407	3017	LESS2	ADD	THOU
0410	6303		NJF	3
0411	4050		STD	A4
0412	5451		ADD	A3
0413	2071	NXT	LDD	SR2
0414	5051		RAD	A3
0415	3707		SBB	2THOU
0416	6312		NJF	LES2
0417	4051		STD	A3
0420	3417		SBD	THOU
0421	6304		NJF	4
0422	4051		STD	A3

ENTRY TO SPECIAL MULTIPLY BY 10

FLTO362:  
 FLTO363:  
 FLTO364:  
 FLTO365:  
 FLTO366:  
 FLTO367:  
 FLTO368:  
 FLTO369:  
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 FLTO419:  
 FLTO420:  
 FLTO421:



0423	0403		LDN	3
0424	6102		NZF	2
0425	0402		LDN	2
0426	5052		RAD	A2
0427	6105		NZF	NX
0430	3017	LES2	ADD	THOU
0431	6303		NJF	3
0432	4051		STD	A3
0433	5452		ADD	A2
0434	2072	NX	LDD	SR1
0435	5052		RAD	A2
0436	3730		SBR	2THOU
0437	6312		NJF	LS2
0440	4052		STD	A2
0441	3417		SBD	THOU
0442	6304		NJF	4
0443	4052		STD	A2
0444	0403		LDN	3
0445	6102		NZF	2
0446	0402		LDN	2
0447	5053		RAD	A1
0450	6105		NZF	5
0451	3017	LS2	ADD	THOU
0452	6303		NJF	3
0453	4052		STD	A2
0454	5453		ADD	A1
0455	7101		JFI	1
0456	0323	X2MLT		SR10
0457	2055	SARITH	LDD	TMOVE
0460	6002		ZJF	2
0461	0501		LCN	1
0462	0650		ADN	A4
0463	4057		STD	ACT
0464	2054		LDD	HIGH
0465	6003		ZJF	3
0466	0401		LDN	B3
0467	6102		NZF	2
0470	0435		LDN	C3
0471	4061		STD	LOWER
0472	0603		ADN	3
0473	4225		STF	PUSH
0474	2055		LDD	TMOVE
0475	0702		SBN	2
0476	6302		NJF	2
0477	5461		ADD	LOWER
0500	2042		LDD	SIGNA
0501	1443		LSD	SIGNB
0502	6317		NJF	SUB
0503	2161	ADDER	LDI	LOWER
0504	5157		RAI	ACT
0505	3417		SBD	THOU
0506	6305		NJF	AODAC
0507	4157		STI	ACT
0510	5457		ADD	ACT
0511	5557		AOI	ACT
0512	6102		NZF	2
0513	5457	AODAC	ADD	ACT
0514	5461		ADD	LOWER
0515	3603		SBF	PUSH
0516	6513		NZF	ADDER

ADD ROUTINE

FLTO4221  
 FLTO4231  
 FLTO4245  
 FLTO4251  
 FLTO4261  
 FLTO4271  
 FLTO4281  
 FLTO4298  
 FLTO4301  
 FLTO4311  
 FLTO4321  
 FLTO4331  
 FLTO4340  
 FLTO4351  
 FLTO436  
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 FLTO4561  
 FLTO4571  
 FLTO4581  
 FLTO4591  
 FLTO4601  
 FLTO4611  
 FLTO4621  
 FLTO463  
 FLTO4640  
 FLTO4651  
 FLTO4661  
 FLTO4671  
 FLTO4681  
 FLTO4690  
 FLTO4708  
 FLTO4718  
 FLTO4720  
 FLTO4731  
 FLTO4741  
 FLTO4751  
 FLTO4761  
 FLTO4771  
 FLTO4781  
 FLTO4790  
 FLTO4801  
 FLTO4811

0517	6031		ZJF	WHAT					FLTO4828
0520	0000	PUSH							FLTO4831
0521	2561	SUB	LCI	LOWER	SUBTRACT ROUTINE				FLTO4841
0522	5157		RAI	ACT					FLTO4858
0523	6210		PJF	INC					FLTO4861
0524	3017	STRAT	ADD	THOU					FLTO4871
0525	4157		STI	ACT					FLTO4881
0526	5457		AOD	ACT					FLTO4891
0527	0501		LCN	1					FLTO4901
0530	5157		RAI	ACT					FLTO4918
0531	6103		NZF	3					FLTO4921
0532	6002		ZJF	2					FLTO4931
0533	5457	INC	AOD	ACT					FLTO4948
0534	5461		AOD	LOWER					FLTO4951
0535	3715		SBB	PUSH					FLTO4961
0536	6715		NJB	SUB					FLTO4971
0537	2057		LDD	ACT					FLTO4981
0540	0753		SBN	A1					FLTO4991
0541	6107		NZF	WHAT					FLTO5001
0542	2157		LDI	ACT					FLTO5011
0543	6217		PJF	RON					FLTO5028
0544	0400		LDN	0	SUBTRACTED WRONG WAY				FLTO5031
0545	4054		STD	HIGH					FLTO5041
0546	7101		JFI	1					FLTO5051
0547	0321	XPLACE		PLACE					FLTO5061
0550	2157	WHAT	LDI	ACT					FLTO5078
0551	6725		NJB	STRAT					FLTO5081
0552	3417		SBD	THOU					FLTO5091
0553	6307		NJF	RON					FLTO5101
0554	4157		STI	ACT					FLTO5111
0555	5457		AOD	ACT					FLTO5121
0556	5557		AOI	ACT					FLTO5131
0557	6507		NZB	WHAT					FLTO5141
0560	0132	MINTY		90D					FLTO5158
0561	0764	FIVE		500D					FLTO5161
0562	0453	RON	LDN	A1	FIND FIRST SIGNIFICANT WORD				FLTO5171
0563	4057		STD	ACT					FLTO5181
0564	2157	FIND	LDI	ACT					FLTO5191
0565	6107		NZF	SHOW					FLTO5201
0566	0501		LCN	1					FLTO5218
0567	5057		RAD	ACT					FLTO5221
0570	0747		SBN	A5					FLTO5231
0571	6605		PJH	FIND					FLTO5241
0572	7101		JFI	1					FLTO5251
0573	0665	SXASS		SASSEM					FLTO5261
0574	0452	SHOW	LDN	A2					FLTO5271
0575	4060		STD	LET					FLTO5281
0576	2157		LDI	ACT					FLTO5291
0577	0712		SBN	12					FLTO5301
0600	6202		PJF	2	MUST HAVE AT LEAST 8 SIG DIGS				FLTO5311
0601	5460		AOD	LET	IF NOT) MOVE TO A1				FLTO5321
0602	2057		LDD	ACT					FLTO5330
0603	4061		STD	GET					FLTO5341
0604	3460		SBD	LET					FLTO5351
0605	6335		NJF	DIFER					FLTO5361
0606	2157	SHOW2	LDI	ACT	IS LEADING WORD NORMALIZED				FLTO5378
0607	3420		SBD	(100)	NORM LEADING WORD				FLTO5381
0610	6204		PJF	FAC2					FLTO5391
0611	3331		ADB	NINTY					FLTO5408
0612	6307		NJF	FAC1					FLTO5411

613	6212		PJF	MOVTS			
614	0401	FAC2	LDN	1		SHIFT ACC TWICE	
615	4066		STD	FAC			
616	5457		AOD	ACT			
617	0502		LCN	2			
620	6102		NZF	2			
621	0501	FAC1	LCN	1		MULTIPLY BY TEN	
622	5040		RAD	EXP			
623	7100		JPR	MLTX10			
624	0331						
625	2053	MOVTS	LDD	A1			
626	6037		ZJF	SASSEM			
627	0403		LDN	3			
630	5040		RAD	EXP			
631	2051		LDD	A3		MOVE	
632	4050		STD	A4			
633	2052		LDD	A2			
634	4051		STD	A3			
635	2053		LDD	A1			
636	4052		STD	A2			
637	6126		NZF	SASSEM			
640	7777	SJFLP		7777			
641	6733	SHOW2R	NJB	SHOW2			
642	4062	DIFER	STD	STEMP		NUMBER OF WORDS SHIFTS	
643	1703		LSB	SJFLP			
644	5057		RAD	ACT		SIGNAL SIGNIFICANT WORD	
645	2462		LCD	STEMP			
646	0102		SHA	2			
647	1707		LSB	SJFLP			
650	3062		ADD	STEMP			
651	5040		RAD	EXP		CHANGE EXP	
652	2161	SUP	LDI	GET		MOVE ACC	
653	4160		STI	LET			
654	0400		LDN	0		DESTRUCTIVE TRANSFER	
655	4161		STI	GET			
656	0501		LCN	1			
657	5060		RAD	LET			
660	0501		LCN	1			
661	5061		RAD	GET			
662	0747		SBN	A5			
663	6611		PJB	SUP			
664	6723		NJB	SHOW2R			
665	2051	SASSEM	LDD	A3			
666	4002		STD	ACC	1		
667	2050		LDD	A4			
670	4003		STD	ACC	2		
671	2052		LDD	A2			
672	6031		ZJF	SZERO			
673	0203		LPN	3			
674	0111		LS6				
675	0110		LS3				
676	0102		LS1				
677	5002		RAD	ACC	1		
6700	2052		LDD	SA2			
6701	0115		RS2				
6702	3044		ADD	SIGN			
6703	4001		STD	ACC			
6704	0577		LCN	77			
6705	1040		LPD	SEXP			
6706	6315		NJF	SZERO			

FLT05428  
 FLT05430  
 FLT05441  
 FLT05451  
 FLT05468  
 FLT05471  
 FLT05481  
 FLT05491  
 FLT05501  
 FLT05518  
 FLT05528  
 FLT05538  
 FLT05548  
 FLT05551  
 FLT05561  
 FLT05571  
 FLT05580  
 FLT05591  
 FLT05601  
 FLT05611  
 FLT05621  
 FLT05631  
 FLT05641  
 FLT05651  
 FLT05661  
 FLT05671  
 FLT05681  
 FLT05691  
 FLT05701  
 FLT05711  
 FLT05721  
 FLT05731  
 FLT05741  
 FLT05751  
 FLT05761  
 FLT05771  
 FLT05781  
 FLT05791  
 FLT05801  
 FLT05810  
 FLT0582  
 FLT05831  
 FLT0584  
 FLT05858  
 FLT05861  
 FLT05878  
 FLT05881  
 FLT05898  
 FLT05908  
 FLT05911  
 FLT05921  
 FLT05931  
 FLT05941  
 FLT05951  
 FLT05968  
 FLT05978  
 FLT05988  
 FLT05998  
 FLT06001

0707	6007	ZJF	SJOT1				FLTO601:
0710	2221	LDF	SOVFNO				FLTO602:
0711	3044	ADD	SIGN				FLTO603:
0712	4001	STD	ACC				FLTO604:
0713	4100	STM	OVFLW				FLTO605:
0714	0644						
0715	7113	JFI	CNFINI				FLTO606:
0716	2040	SJOT1	LDD	EXP			FLTO607:
0717	0110		LS3				FLTO608:
0720	0103		LS2				FLTO609:
0721	5001		RAD	ACC			FLTO610:
0722	6105		NZF	SBYE			FLTO611:
0723	0400	SZERO	LDD	0			FLTO612:
0724	4001		STD	ACC			FLTO613:
0725	4002		STD	ACC	1		FLTO614:
0726	4003		STD	ACC	2		FLTO615:
0727	7101	SBYE	JFI	1			FLTO616:
0730	0554	CNFINI		BMCRET			FLTO617:
0731	3740	SOVFNO		3740			FLTO618:
			REM				FLTO619:
0732	5440	NFIXEX	ADD	NEXPA			FLTO620:
0733	6245		PJF	NSUBTR			FLTO621:
0734	6344		NJF	NSUBTR			FLTO622:
0735	0457	ENTRYD	LDD	NG3			FLTO623:
0736	4054		STD	NGUOT			FLTO624:
0737	2441		LDD	NEXP			FLTO625:
0740	0640		ADN	32D			FLTO626:
0741	5040		RAD	NEXPA			FLTO627:
0742	0400		LDD	0			FLTO628:
0743	4055		STD	NG			FLTO629:
0744	4066		STD	FAC			FLTO630:
0745	0503		LDD	3			FLTO631:
0746	4056		STD	N=1)			FLTO632:
0747	5651		AOF	NCHNG			FLTO633:
0750	2052		LDD	NA2			FLTO634:
0751	3437		SBD	NC1			FLTO635:
0752	6311		NJF	NSHIFT			FLTO636:
0753	6521		NZR	NFIXEX			FLTO637:
0754	2051		LDD	NA3			FLTO638:
0755	3436		SBD	NC2			FLTO639:
0756	6305		NJF	NSHIFT			FLTO640:
0757	6525		NZR	NFIXEX			FLTO641:
0760	2050		LDD	NA4			FLTO642:
0761	3435		SBD	NC3			FLTO643:
0762	6630		PJF	NFIXEX			FLTO644:
0763	7100	NSHIFT	JPR	MLTX10			FLTO645:
0764	0331						
0765	2052	NTEST	LDD	NA2			FLTO646:
0766	3437		SBD	NC1			FLTO647:
0767	6334		NJF	NSTEP			FLTO648:
0770	6110		NZF	NSUBTR			FLTO649:
0771	2051		LDD	NA3			FLTO650:
0772	3436		SBD	NC2			FLTO651:
0773	6330		NJF	NSTEP			FLTO652:
0774	6104		NZF	NSUBTR			FLTO653:
0775	2050		LDD	NA4			FLTO654:
0776	3435		SBD	NC3			FLTO655:
0777	6324		NJF	NSTEP			FLTO656:
1000	2435	NSUBTR	LDD	NC3			FLTO657:
1001	5050		RAD	NA4			FLTO658:

-3 WORD FLOATING DIVIDE  
INCREASE EXPONENT

ADDRESS OF QUOTIENT  
FOR INDIRECT ADDRESSING  
CREATE CORRECT  
EXPONENT FOR  
QUOTIENT

Q=0

1=3 WORDS  
OF QUOTIENT  
ONLY 2 DIGITS IN 1ST WD.  
IF REMAINDER IS  
LESS THAN DIVISOR  
MODIFY EXPONENT  
OTHERWISE MULTIPLY  
REMAINDER BY 10

LEFT SHIFT

IF REMAINDER IS  
LESS THAN DIVISOR  
INCREASE COUNTER  
OTHERWISE SUBTRACT  
DIVISOR FROM  
REMAINDER

SUBTRACT DIVISOR  
FROM REMAINDER

002	6205		PJF	5
003	3017		ADD	NTHOU
004	4050		STD	NA4
005	0501		LCN	1
006	5051		RAD	NA3
007	2436		LCD	NC2
010	5051		RAD	NA3
011	6205		PJF	5
012	3017		ADD	NTHOU
013	4051		STD	NA3
014	0501		LCN	1
015	5052		RAD	NA2
016	2437		LCD	NC1
017	5052		RAD	NA2
020	2020	NCHNG	LDD	NHUND
021	5055		RAD	NQ
022	6635		PJB	NTEST
023	5703	NSTEP	AOB	NCHNG
024	1600		LSF	0
025	2023	NENDER	LDD	NONE
026	6543		NZB	NSHIFT
027	0503		LCN	3
030	5310		RAB	NCHNG
031	2055		LDD	NQ
032	4154		STI	NQUOT
033	0400		LDN	0
034	4055		STD	NQ
035	5454		AOB	NQUOT
036	5456		AOB	N-I)
037	6554		NZB	NSHIFT
040	2060		LDD	NQ2
041	4051		STD	NA3
042	2057		LDD	NQ3
043	4052		STD	NA2
044	2061		LDD	NQ1
045	4050		STD	NA4
046	7101		JFI	1
047	0665	NDIVEX		SASSEN
050	4060	MCNG1	REM	MP3
051	5461		AOB	MP2
052	6213		PJF	MRET1
053	4061	MCNG2	STD	MP2
054	5462		AOB	MP1
055	6213		PJF	MRET2
056	4463	MSHIFT	SRD	MP0
057	4462		SRD	MP1
060	4461		SRD	MP2
061	4460		SRD	MP3
062	3417		SBD	MTHOU
063	6613		PJB	MCNG1
064	2061		LDD	MP2
065	3417	MRET1	SBD	MTHOU
066	6613		PJB	MCNG2
067	2062		LDD	MP1
070	3417	MRET2	SBD	MTHOU
071	6303		NJF	MWORK
072	4062		STD	MP1
073	5463		AOB	MP0
074	4454	MWORK	SRD	MLIER

KEEPING MOD 1000

INCREASE QUOTIENT  
BY 100, 10, OR 1

NEXT POWER OF 10  
THROUGH 1  
TEST CONSTANT  
UNFINISHED, BACK TO SHIFT  
RESTORE INCREMENT  
TO 100  
STORE WORD I  
OF QUOTIENT  
Q=0

I=I+1

I LEQ 3, BACK TO SHIFT

Q TO A

#3# WORD FLOATING MULTIPLY

FLT0659:  
FLT0660:  
FLT0661:  
FLT0662:  
FLT0663:  
FLT0664:  
FLT0665:  
FLT0666:  
FLT0667:  
FLT0668:  
FLT0669:  
FLT0670:  
FLT0671:  
FLT0672:  
FLT0673:  
FLT0674:  
FLT0675:  
FLT0676:  
FLT0677:  
FLT0678:  
FLT0679:  
FLT0680:  
FLT0681:  
FLT0682:  
FLT0683:  
FLT0684:  
FLT0685:  
FLT0686:  
FLT0687:  
FLT0688:  
FLT0689:  
FLT0690:  
FLT0691:  
FLT0692:  
FLT0693:  
FLT0694:  
FLT0695:  
FLT0696:  
FLT0697:  
FLT0698:  
FLT0699:  
FLT0700:  
FLT0701:  
FLT0702:  
FLT0703:  
FLT0704:  
FLT0705:  
FLT0706:  
FLT0707:  
FLT0708:  
FLT0709:  
FLT0710:  
FLT0711:  
FLT0712:  
FLT0713:  
FLT0714:  
FLT0715:  
FLT0716:  
FLT0717:  
FLT0718:

1075	6223	PJF	MSTEP	FLT0719:	
1076	2035	LDD	MC3	FLT0720:	
1077	5060	RAD	MP3	FLT0721:	
1100	3417	SBD	MTHOU	FLT0722:	
1101	6303	NJF	MINC1	FLT0723:	
1102	4060	STD	MP3	FLT0724:	
1103	5461	AOD	MP2	FLT0725:	
1104	2036	MINC1	LDD	MC2	FLT0726:
1105	5061	RAD	MP2	FLT0727:	
1106	3417	SBD	MTHOU	FLT0728:	
1107	6303	NJF	MINC	FLT0729:	
1110	4061	STD	MP2	FLT0730:	
1111	5462	AOD	MP1	FLT0731:	
1112	2037	MINC	LDD	MC1	FLT0732:
1113	5062	RAD	MP1	FLT0733:	
1114	3417	SBD	MTHOU	FLT0734:	
1115	6303	NJF	MSTEP	FLT0735:	
1116	4062	STD	MP1	FLT0736:	
1117	5463	AOD	MP0	FLT0737:	
1120	5455	MSTEP	AOD	MCOUNT	FLT0738:
1121	6543	NZB	MSHIFT	FLT0739:	
1122	6034	ZJF	MZERO	FLT0740:	
1123	4055	MENTRY	STD	MCOUNT	FLT0741:
1124	0400	LDN	0	FLT0742:	
1125	4063	STD	MP0	FLT0743:	
1126	4062	STD	MP1	FLT0744:	
1127	4061	STD	MP2	FLT0745:	
1130	4060	STD	MP3	FLT0746:	
1131	6435	ZJB	MWORK	FLT0747:	
1132	2041	MPY	LDD	EXPB	FLT0748:
1133	0740	SBN	320	FLT0749:	
1134	5040	RAD	EXP	FLT0750:	
1135	7100	JPR	MLTX10	FLT0751:	
1136	0331			:	
1137	4045	MBACK	STD	MA7	FLT0752:
1140	4046	STD	MA6	FLT0753:	
1141	4047	STD	MA5	FLT0754:	
1142	0502	LCN	2	FLT0755:	
1143	4057	STD	MBOUND	FLT0756:	
1144	0450	LDN	MA4	FLT0757:	
1145	4056	STD	MAC(J)	FLT0758:	
1146	4450	SRD	MA4	FLT0759:	
1147	6202	PJF	MBOTH	FLT0760:	
1150	4451	SRD	MA3	FLT0761:	
1151	4054	MBOTH	STD	MLIER	FLT0762:
1152	2225	LLF	MSTRTR	FLT0763:	
1153	4206	STF	MLOOP	FLT0764:	
1154	0512	MCNT	LCN	100	FLT0765:
1155	6532	NZB	MENTRY	FLT0766:	
1156	4156	MZERO	STI	MAC(J)	FLT0767:
1157	0503	LCN	3	FLT0768:	
1160	5056	RAD	MAC(J)	FLT0769:	
1161	2000	MLOOP	LDD	FLT0770:	
1162	5156	RAI	MAC(J)	FLT0771:	
1163	3417	SBD	MTHOU	FLT0772:	
1164	6214	PJF	MCARRY	FLT0773:	
1165	5456	AOD	MAC(J)	FLT0774:	
1166	5705	MCOMUN	AOD	MLOOP	FLT0775:
1167	1607	LSF	MTERMN	FLT0776:	
1170	6507	NZB	MLOOP	FLT0777:	

171	5457		ADD	MCOUND					FLTO778:
172	6722		NJB	MBOTH	-1				FLTO779:
173	6111		NZF	MDONE					FLTO780:
174	4452		SRD	MA2					FLTO781:
75	6624		PJB	MBOTH					FLTO782:
176	2064	MTERMN	LDD	MPO	1				FLTO783:
177	2060	MSTRTR	LDD	MP3					FLTO784:
180	4156	MCARRY	STI	MAC(J)					FLTO785:
1201	5456		ADD	MAC(J)					FLTO786:
1202	5556		AOI	MAC(J)					FLTO787:
1203	6615		PJB	MCOMUN					FLTO788:
1204	0452	MDONE	LDN	MA2					FLTO789:
1205	4057		STD	MACT					FLTO790:
1206	7101		JFI	1					FLTO794:
1207	0574	MSHOW		SHOW					FLTO795:
1210	0020	FLCONV	SIC0						FLTO796:
1211	2100		LDM	BMACSW					FLTO797:
1212	0555								:
1213	4100		STM	XEXT					FLTO798:
1214	1450								:
1215	2001		LDD	ACC					FLTO799:
1216	4073		STD	XSACC					FLTO800:
1217	2002		LDD	ACC	1				FLTO801:
1220	4074		STD	XSACC	1				FLTO802:
1221	2003		LDD	ACC	2				FLTO803:
1222	4075		STD	XSACC	2				FLTO804:
1223	0450		LDN	50					FLTO805:
1224	4040		STD	EXP					FLTO806:
1225	0452		LDN	A2					FLTO807:
1226	4057		STD	ACT					FLTO808:
27	2273		LDF	XFIND					FLTO809:
1230	4070		STD	SEXTX					FLTO810:
1231	0400		LDN	0					FLTO811:
1232	4053		STD	A1					FLTO812:
1233	4052		STD	A2					FLTO813:
1234	4047		STD	A5					FLTO814:
1235	4066		STD	FAC					FLTO815:
1236	2017		LDD	OP					FLTO816:
1237	4044		STD	SIGN					FLTO817:
1240	6203		PJFI	3					FLTO818:
1241	2417		LCD	OP					FLTO819:
1242	4017		STD	OP					FLTO820:
1243	2020		LDD	OP	1				FLTO821:
1244	6202		PJFI	2					FLTO822:
1245	2420		LCD	OP	1				FLTO823:
1246	4002		STD	ACC	1				FLTO824:
1247	2017		LDD	OP					FLTO825:
1250	4001		STD	ACC					FLTO826:
1251	6021		ZJR	SECPAR					FLTO827:
1252	2200		LDF	0					FLTO828:
1253	7027			7027					FLTO829:
1254	4017		STD	OP					FLTO830:
1255	2200		LDF	0					FLTO831:
1256	6677			6677					FLTO832:
1257	4020		STD	OP	1				FLTO833:
1260	0420	SGOSUB	LDN	XVAD					FLTO834:
1261	7100		JPR	BMACSW					FLTO835:
1262	0555								:
1263	2001		LDD	ACC					FLTO836:
1264	6303		NJFI	3					FLTO837:

FIX TO FLOAT CONVERSION

SET UP EXPONENT

MAKE OPERND POSITIVE

HIGHER WORD ZERO, SKIP TO SECOND PART  
SUBTRACT 1,000,000  
MINUS 1,000,000

1265	5452	ACD	A2			FLT0838
1266	6606	PJB	SGOSUB			FLT0839
1267	0421	LDN	XVISUB			FLT0840
1270	7100	JPR	BMACSW			FLT0841
1271	0555					
1272	2200	SECPAR	LLF	0		FLT0842
1273	1750			1750	DIVIDE BY 1,000	FLT0843
1274	4020	STD	OP	1		FLT0844
1275	0400	LDN	0			FLT0845
1276	4017	STD	OP			FLT0846
1277	0423	LDN	XVDIV			FLT0847
1300	7100	JPR	BMACSW			FLT0848
1301	0555					
1302	2002	LDD	ACC	1		FLT0849
1303	4051	STD	A3			FLT0850
1304	2022	LDD	OP	3		FLT0851
1305	4050	STD	A4			FLT0852
1306	0020	SICO				FLT0853
1307	2200	LDI	0			FLT0854
1310	1316		SBACK			FLT0855
1311	4100	STM	BMACSW			FLT0856
1312	0555					
1313	2044	LDD	SIGN			FLT0857
1314	7101	JFI	1			FLT0858
1315	0170		SJFLX			FLT0859
1316	2003	SBACK	LDD	ACC	2	FLT0860
1317	4021		STD	OP	2	FLT0861
1320	7101		JFI	1		FLT0862
1321	1435			XLODA		FLT0863
1322	0564	XFIND		FIND		FLT0864
			REM		FLOATING TO FIX CONVERSION	FLT0865
1323	0020	XCONV	SICO			FLT0866
1324	2100		LDM	BMACSW	EXTERNAL SYMBOL	FLT0867
1325	0555					
1326	4100	STM	XEXT			FLT0868
1327	1450					
1330	2001	LDD	ACC		SAVE ACCUMULATOR	
1331	4073	STD	XSACC			FLT0879
1332	2002	LDD	ACC	1		FLT0880
1333	4074	STD	XSACC	1		FLT0881
1334	2003	LDD	ACC	2		FLT0882
1335	4075	STD	XSACC	2		FLT0883
1336	2017	LDD	OP			FLT0869
1337	4216	STF	XSIGN			FLT0870
1340	6204	PJF	4			FLT0871
1341	1600	LSF	0		MAKE OPERAND POSITIVE	FLT0872
1342	4000	X4000	4000			FLT0873
1343	4017	STD	OP			FLT0874
1344	3600	SBFI	0			FLT0875
1345	2400	X2400	2400		.0X10#*8 (ILLEGAL FLT NUMBER)	FLT0876
1346	6263	PJR	XBIG		NUMBER TOO BIG	FLT0877
1347	3200	ADC	340			
1350	0340					
1351	6205	PJF	XAD16			
1352	0400	LDN	0		NO ADDITION, ANSWER ZERO	FLT0894
1353	4017	STD	OP			FLT0895
1354	6064	ZJR	XSTOP1			FLT0896
1355	0000	XSIGN				FLT0897
1356	2200	XAD16	LDI	0		
1357	2420			2420	.64X10#*8	FLT0885



360	4001		STD	ACC					FLTC886:
361	0400		LDN	0					FLTC887:
362	4002		STD	ACC	1				FLTC888:
363	4003		STD	ACC	2				FLTC889:
364	0413		LDN	13			SFADD		FLTC890:
365	7100		JPR	BMACSW					FLTC891:
366	0555								
367	0400		LDN	0					
1370	4001	XM1000	STD	ACC					FLTC8980:
1371	2052		LDD	A2					FLTC899:
372	0277		LPN	77					FLTC900:
1373	4002		STD	ACC	1		MULTIPLY 7TH DIGIT BY 1000		FLTC9010:
1374	0400		LDN	0					FLTC902:
375	4017		STD	OP			ZERO OUT HIGH OPERAND		FLTC903:
1376	2200		LDF	0					FLTC9048:
1377	1750	X1000		1000D					FLTC9058:
400	4020		STD	OP	1				FLTC9068:
1401	0422		LDN	XVINT					FLTC9078:
402	7100		JPR	BMACSW					FLTC908:
403	0555								
1404	2051		LDD	A3					FLTC9098:
405	4020		STD	OP	1				FLTC910:
406	0420		LDN	XVAD					FLTC9110:
1407	7100		JPR	BMACSW					FLTC9128:
410	0555								
411	2312		LDB	X1000					FLTC9138:
1412	4020		STD	OP	1		MULTIPLY BY 1000		FLTC914:
413	0422		LDN	XVINT					FLTC9150:
414	7100		JPR	BMACSW					FLTC916:
415	0555								
416	2050		LDD	A4					FLTC917:
417	4020		STD	OP	1		ADR IN LOWER 3 DIGITS		FLTC918:
1420	0420		LDN	XVAD					FLTC919:
421	7100		JPR	BMACSW					FLTC920:
422	0555								
1423	2346		LDB	XSIGN					FLTC921:
424	6211		PJF	XLODA					FLTC922:
425	2401		LCD	ACCJ					FLTC923:
1426	4017		STD	OP					FLTC924:
427	2402		LCD	ACCJ	1				FLTC925:
430	6310		NJF	XSTOP1					FLTC9268:
1431	4100	XBIG	STM	OVFLW			SEE OVERFLOW SWITCH		FLTC9270:
432	0644								
433	4017		STD	OP					FLTC928:
1434	6204		PJR	XSTOP1					FLTC929:
435	2001	XLODA	LDD	ACCJ					FLTC9308:
436	4017		STD	OP					FLTC931:
1437	2002		LDD	ACCJ	1				FLTC9328:
440	4020	XSTOP1	STD	OP	1				FLTC933:
441	2073		LDD	XSACC					FLTC934:
442	4001		STD	ACC					FLTC935:
443	2074		LDD	XSACC	1				FLTC937:
444	4002		STD	ACC	1				FLTC938:
445	2075		LDD	XSACC	2				FLTC9398:
446	4003		STD	ACC	2				FLTC940:
47	7101		JFI	1					FLTC941:
450	7777	XEXT		7777					FLTC942:
	0000		END						FLTC9438:

00410

FORMAT 1963 SEPT 24 CHANGED EQUIVALENCES ONLY:

0770	BINTAD	EQU	770
0555	BMAOSW	EQU	555
4050	STRANS	EQU	4050
4054	SDATRY	EQU	4054
4105	STLDW	EQU	4105
4114	TSTLDD	EQU	4114
		REM	
0001		CON	1
0001	0000	WACC	
		REM	
0004		CON	4
0004	0000	SEOF	
0005	0000	SHFLAG	
0006	0000	SHRECT	
	0001	CON	1
0001	0000	WHI	
0002	0000	WLO	
	0001	CON	1
0001	0000	ACC	BSS 3
	0001	ACCJ	EQU ACC
	0001	TACC	EQU ACC
0004	0000	ACC1	BSS 3
0007	0000	ACC2	BSS 3
0012	0000	ACC3	BSS 3
0015	0000	INDXRG	BSS 2
0017	0000	OP	BSS 4
	0017	OPER	EQU OP
	0017	OPJ	EQU OP
0023	0000	BNK	
0024	0000	LOCC	
0025	0000	EOFFLG	
0026	0000	FRSTWD	
0027	0000	BOPCD	
	0027	SBOPC	EQU BOPCD
0030	0000	BOPSW	
0031	0000	ERSLOC	BSS 2
0033	0000	BRTLOC	
	0033	BWDSAV	EQU BRTLOC
0034	0000	ZBNK	
	0034	BTEMPA	EQU ZBNK
0035	0000	ZLOCC	
	0035	BTEMPB	EQU ZLOCC
0036	0000	ZIR	
	0036	BTEMPC	EQU ZIR
0037	0000	SRUF	
0040	0000	SWAY	
0041	0000	STIP	
0042	0000	SWID	
0043	0000	SDEC	
0044	0000	SREP1	
0045	0000	SIF	
0046	0000	SFORMF	
0047	0000	SPARCT	
0050	0000	SQUIK	
0051	0000	SLOCLP	
0052	0000	SBINSW	

LOW CORE IN INTERPETER 13 SEP 62

SEMI-PERMANENT STORAGE DURING I/O

END OF FORMAT SIGNAL  
HOLLERITH FLAG

MUST FOLLOW ACC3

OBJECT CODE LOCATOR

END OF FILE FLAG

CURRENT OP CODE

BNK \* ADDRESS START OF FUNCTION ERASIBLE

DATA BANK COUNTER

DATA LOCC

DATA INDEX REGISTER

COUNTS CHARS IN BUFFERQ

EQUIPMENT USED

FORMAT CONTROL CHARACTER

WIDTH OF FORMAT FIELD

DECIMAL PT SPEC

REPEAT SPEC FOR ONE FIELD

FORMAT COUNTER

=/ 0 FLAGS DATA CALL

PARENS COUNTERS ZERO= EOF

INFITE REPEAT LEFT PARENS

FOR0001:  
FOR0003:  
FOR0004:  
FOR0005:  
FOR0006:  
FOR0007:  
FOR0008:  
FOR0009:  
FOR0010:  
FOR0011:  
FOR0012:  
FOR0013:  
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FOR0020:  
FOR0021:  
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FOR0024:  
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FOR0032:  
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FOR0038:  
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FOR0044:  
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FOR0050:  
FOR0051:  
FOR0052:  
FOR0053:  
FOR0054:  
FOR0055:  
FOR0056:

053	0000	SWTCOM			SWITCHBOARD INTERRUPT	FOR0057:
054	0000	FRNK			START OF FORMAT	FOR0058:
055	0000	FLOCC			START OF FOMAT	FOR0059
056	0000	WSIGN				FOR0060
	0057		CON	57		FOR0061:
057	0000	TEMP1				FOR0062
060	0000	TEMP2				FOR0063:
061	0000	TEMP3				FOR0064:
062	0000	TEMP4				FOR0065:
063	0000	TEMPS				FOR0066:
	0057		REM		TEMPORARY DURING FORMAT CONTROL	FOR0067:
	0057		CON	57		FOR0068:
057	0000	SCHAR			CHARACTER IN FORMAT	FOR0069:
060	0000	TSAY			TEMP COUNTER IN INTEGER OUT	FOR0070:
061	0000	TIN				FOR0071:
062	0000	SHCNT			TEMP HOLLERITH COUNTER	FOR0072
	0057		CON	57		FOR0073:
057	0000	WEXP				FOR0074
060	0000	EXPF				FOR0075:
061	0000	DECCT				FOR0076:
062	0000	PLACCT				FOR0077:
063	0000	NUM				FOR0078:
064	0000	KEEP1				FOR0079:
065	0000	KEEP2				FOR0080:
066	0000	KEEP3				FOR0081:
067	0000	CANSWT				FOR0082
070	0000	SGNEXP				FOR0083
071	0000	BCNT				FOR0084:
072	0000	SDECLC				FOR0085:
073	0000	WLET				FOR0086:
074	0000	WID				FOR0087:
075	0000	SAC			USED IN A CONVERSION IN AND OUT	FOR0088
	0057		CON	57		FOR0089:
			REM		TEMPORARY LOCATIONS:	FOR0090:
0000		BWORD				FOR0091:
0000		BWD11				FOR0092:
0000		BWD12				FOR0093:
0000		BWD21				FOR0094:
0000		BWD22				FOR0095:
0000		BTEMP1				FOR0096
0000		BTEMP2				FOR0097:
0000		BTEMP3				FOR0098:
0000		BTEMP4				FOR0099:
0000		BITFLP				FOR100:
0000		COUNT				FOR101:
	0070		CON	70		FOR102
0070	0000	NUMBEG				FOR103
0071	0000	L(CH1)				FOR104:
0072	0000	WDIGCT				FOR105:
0073	0000	STORD				FOR106:
0074	0000	SWBOUL				FOR107:
	0072		CON	72		FOR109:
0072	0000	LOC(.)				FOR110:
0073	0000	LOC(E)				FOR111:
0074	0000	VEX				
0075	0000	VINSIG				
0076	0000	STEM				
	0076		CON	76		FOR115:
0076	0000	VLATEM				FOR116
	0076		CON	76		FOR117:

0076	0000	VTEM		
	0200	SBUFAD	EQU	200
	0023	BANK	EQU	BNK
	0200	ERASE	EQU	SBUFAD
	0073	KTDATA	EQU	WLET
	0072	DIGCT	EQU	WDIGCT
			REM	
	0370	TBUF	EQU	SBUFAD 170
	0037	WFET	EQU	SBUF
	0041	FUNCD	EQU	STIP
	0042	WIDF	EQU	SWID
	0043	DECF	EQU	SDEC
	0037	WBUF	EQU	SBUF
	0061	WDECCT	EQU	DECCT
	0060	WEXPF	EQU	EXPF
	0073	WSTORD	EQU	STORD
	0066		CON	BTEMP3
0066	0000	CMN1		
0067	0000	CMN2		
0070	0000	MLTSWC		
0071	0000	ENDFLG		
0072	0000	UPLOCC		
0073	0000	BOXADD		
0074	0000	DELSAV	BSS	2
	0073	BOXLOC	EQU	BOXADD
	0060	BWRD11	EQU	BWD11
	0061	BWRD12	EQU	BWD12
	0062	BWRD21	EQU	BWD21
	0063	BWRD22	EQU	BWD22
	0100	VECTOR	EQU	100
	0020	XVAD	EQU	20
	0021	XVISUB	EQU	21
	0022	XVINT	EQU	22
	0022	SVINT	EQU	22
	0023	XVDIV	EQU	23
	0102	XSFORM	EQU	102
	0144	XWIN	EQU	144
	0100	BOOLJ	EQU	100
	0000		CON	0
0000	6646		BCD	6
0001	5144			
0002	6123			
0003	1212		SOTEND	1
0004	0003			3
0005	0001			1
0006	0245			245
0007	7777			7777
	0000		ORG	0
0000	5446	SFORMT	AGD	SFORMF
0001	0020		SICO	
0002	6007		ZJR	TGOSEN
0003	5444		AOD	SKEP1
0004	6305		NJR	TGOSEN
0005	2004		LDD	SEOF
0006	6033		ZJR	SELREL
0007	7101		JFI	1
0010	0144			SETFOR
0011	5500	TGOSEN	AOI	0
0012	4054			SDATRY
0013	6005		ZJFI	5

EQU TABLE:  
TEMP BUY STORAGE FOR CONV

TEMPORARY STORAGE-UP B=BOX

MULTIPLY OR ADD SWITCH UP B=BOX  
END SWITCH UP B=BOX  
LOCATION OF UP=SUBROUTINE  
LOCATION OF B=BOX UP B=BOX

INTEGER ADD IN MACRO SWITCHBOARD  
INTEGER SUBTRACT IN MACRO SWITCHBOARD  
INTEGER MULTIPLY

FORMAT:

FOR0118A  
FOR0119:  
FOR0120:  
FOR0121:  
FOR0122:  
FOR0123:  
FOR0124:  
FOR0125  
FOR0126:  
FOR0127:  
FOR0128:  
FOR0129:  
FOR0130:  
FOR0131:  
FOR0132:  
FOR0133:  
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FOR0171:  
FOR0172:  
FOR0173:  
FOR0174:  
FOR0175:  
FOR0176:

0014	0501	LCN	1			FOR01778
0015	4046	STD	SFORMF			FOR01781
0016	7101	JFI	1			
0017	0121		SFOUT			
0020	2040	LDD	SWAY			FOR01801
0021	6213	PJF	SHOUT			FOR01811
0022	2100	LDM	XWIN			FOR01821
0023	0144					
0024	4207	STF	WAX			FOR01831
0025	0201	LPN	1			FOR01841
0026	6004	ZJF	4			FOR01851
0027	2100	LDM	XWIN			FOR01861
0030	0144					
0031	0011	SRJ1				FOR01871
0032	7101	JFI	1			FOR01881
0033	0000	WAX				FOR01891
0034	7101	SWOUT	JFI	1		FOR01901
0035	0441		WOUT			FOR01911
0036	2044	SAFT	LDD	SHEP1		FOR01921
0037	0601		ADN	1		FOR01931
0040	6361		NJF	SFOUT		FOR01951
0041	7101	SELREL	JFI	1		
0042	0142			SEFOR		
0043	6746	SFORRL	NJR	SFORMT		FOR01961
0044	2137	SHIN	LDI	SBUF	HOLLERITH IN	FOR01971
0045	4057		STD	SCHAR		FOR01981
0046	2034		LDD	ZBANK		FOR01991
0047	0620		ADN	20		FOR02001
0050	4201		STF	1		FOR02011
0051	0000			0	CHANGE INDIRECT BANK	FOR02021
0052	2050		LDD	SQUIK		FOR02031
0053	6204		PJF	4		FOR02041
0054	2057		LDD	SCHAR		FOR02051
0055	7635		HFI	ZLOCC	LOWER HALF OF STORAGE	FOR02061
0056	6207		PJF	SSIC		
0057	2135		LDI	ZLOCC		
0060	0277		LPN	77		
0061	0111		LS6			
0062	1457		LSD	SCHAR		
0063	0111		LS6			
0064	4135		STI	ZLOCC		
0065	0020	SSIC	SICO			
0066	6105		NZR	SHUPBF		FOR02121
0067	2040	SHCON	LDD	SWAY		FOR02131
0070	6724		NJR	SHIN		FOR02141
0071	2057		LDD	SCHAR		FOR02151
0072	4137		STI	SBUF		FOR02161
0073	5437	SHUPBF	ACD	SBUF		FOR02171
0074	3600		SBC	372		FOR02181
0075	0372					
0076	6302		NJF	2		FOR02191
0077	0000		ERR			FOR02201
0100	5462		ACD	SHCNT		FOR02211
0101	4005		STD	SHFLAG		FOR02221
0102	0400		LDN	0		FOR02231
0103	6076		ZJR	SFETUR		FOR02241
0104	0401	SENF	LDN	1		FOR02251
0105	4047		STD	SPARCT	RESET PARENS COUNTER	FOR02261
0106	2051		LDD	SLOCLP		FOR02271
0107	6102		NZF	2		FOR02281

110	0401		LDN	1	RETURN TO START OF FORMAT	FOR0229:
111	4045		STD	SIF	RETURN FORMAT COUNTER	FOR0230:
112	0500		LCN	0	FORCES EXIT TO SWITCHBOARD W/O ACTUALLY	FOR0231:
113	4046		STD	SFORMF	FLAGGING DATA FUNCTION	FOR0232:
114	4004		STD	SEOF	SIGNAL END OF JORMAT	FOR0233:
115	2040		LDD	SWAY		FOR0234:
116	6303		NJR	SFOUT		FOR0235:
117	7100		JPR	STRANS		FOR0236:
120	4050					
121	7101	SFOUT	JFI	1		FOR0237:
122	4114			TSTLDD		FOR0238:
123	2004	SFEXT	LDD	SEOF		FOR0239:
124	6403		ZJB	SFOUT		FOR0240:
125	0600		ADN	0		FOR0241:
126	6107		NZF	SFIRFR		FOR0242:
127	4004		STD	SEOF		FOR0243:
130	2040		LDD	SWAY		FOR0244:
131	6766	SF	NJB	SFORRL		FOR0245:
132	7101		JFI	1		FOR0246:
133	4106			STLDW	1	FOR0247:
134	6430	SENR	ZJR	SENF	RELAY	FOR0248:
135	0400	SFIRFR	LDN	0	FIRST FORMAT PROCESSING	FOR0249:
136	4004		STD	SEOF		FOR0250:
137	2040		LDD	SWAY		FOR0251:
140	6707		NJB	SF		FOR0252:
141	6620		PJB	SFOUT		FOR0253:
142	6335	SELFOR	NJR	SELR		FOR0254:
143	6234		PJR	SELR		FOR0255:
144	2045	SETFOR	LDD	SIF		FOR0256:
145	6026		ZJF	ZERSPO		FOR0257:
146	0114		RS1			FOR0258:
147	4063		STD	BWD22		FOR0259:
150	0400		LDN	0		FOR0260:
151	4062		STD	BWD21		FOR0261:
152	2200		LDF	0		FOR0262:
153	5252			5252		FOR0263:
154	4050		STD	SQUIK		FOR0264:
155	2045		LDD	SIF		FOR0265:
156	0201		LPN	1		FOR0266:
157	6102		NZF	2		FOR0267:
160	4450		SRD	SQUIK		FOR0268:
161	2054		LDD	FBNK		FOR0269:
162	4060		STD	BWD11		FOR0270:
163	2055		LDD	FLOCC		FOR0271:
164	4061		STD	BWD12		FOR0272:
165	7100		JPR	BINTAD		FOR0273:
166	0770					
167	2060		LDD	BWD11		FOR0274:
170	4034		STD	ZBNK		FOR0275:
171	2061		LDD	BWD12		FOR0276:
172	4035		STD	ZLOCC		FOR0277:
173	0400	ZERSPO	LDN	0		FOR0278:
174	4100		STM	SPECT		FOR0279:
175	0275					
176	5445		AOD	SIF		FOR0280:
177	6151	SELR	NZR	SELBNK		FOR0281:
200	6050		ZJR	SELBNK		FOR0282:
201	6030	SFETUR	ZJR	SFETUP	RELAY	FOR0283:
202	2005	SFORA	LDD	SHFLAG		FOR0284:
203	6003		ZJF	3		FOR0285:

0204	7101		JFI	1
0205	0067			SHCON
0206	2057	SDELIM	LDD	SCHAR
0207	0720		SBN	20
0210	6021		ZJR	SFETUP
0211	0754		SBN	54
0212	6166		NZR	TSLFT
0213	5662		AOR	SPECT
0214	6076		ZJR	SENSPR
0215	5674		AOR	SREPAR
0216	6210		PJF	SDONPR
0217	2271		LDF	SLLP
0220	4045		STD	SIF
0221	6655		PJR	SETFOR
0222	0501	SPROC	LCN	1
0223	4046		STD	SFORMF
0224	7101		JFI	1
0225	0123			SFEXT
0226	0501	SDONPR	LCN	1
0227	5047		RAD	SPARCT
0230	6474		ZJR	SEFR
0231	5445	SFETUP	AOD	SIF
0232	4450		SRD	SQUIK
0233	6334		NJR	SLDLW
0234	2035	ZUPPER	LDD	ZLOCC
0235	6205		PJF	ZZUP
0236	0600		ADN	0
0237	6103		NZF	3
0240	4035		STD	ZLOCC
0241	6006		ZJF	ZUPBNK
0242	5435	ZZUP	AOD	ZLOCC
0243	6105		NZR	SELBNK
0244	0500		LCN	0
0245	4035		STD	ZLOCC
0246	6302		NJF	2
0247	5434	ZUPBNK	AOD	ZBNK
0250	2034	SELBNK	LDD	ZBNK
0251	0620		ADN	20
0252	4201		STF	1
0253	0000			0
0254	2135		LDI	ZLOCC
0255	0277		LPN	77
0256	4200		STF	0
0257	0000	SLOWER		
0260	1535		LSI	ZLOCC
0261	0111		LS6	
0262	4200		STF	0
0263	0000	SUPPER		
0264	0020		SICO	
0265	2050	SFETF	LDD	SQUIK
0266	6203		PJF	SLDUP
0267	2310	SLDLW	LDR	SLOWER
0270	6202		PJF	2
0271	2306	SLDUP	LDR	SUPPER
0272	4057		STD	SCHAR
0273	6571		NZR	SFORA
0274	0000		ERR	
0275	0000	SPECT		
0276	6454	SPROCR	ZJR	SPROC
0277	6471	SDELR	ZJR	SDELIM

IGNORE ALL BLANKS NOT IN HOLLERITH  
74 RIGHT PARENS

END OF FIELD INDICATED  
UP PARENS REPEAT

UP FORMAT LOCATER

ILLEGAL CHARACTER, UNMATCHED PARENS:  
COUNTS CONTIGUOUS DELIMITORS AND WHEN  
SET NEG, FLAGS NON-H FILED TO DELIMIT

FOR0286:  
FOR0287:  
FOR0288:  
FOR0289:  
FOR0290:  
FOR0291:  
FOR0292:  
FOR0293:  
FOR0294:  
FOR0295:  
FOR0296:  
FOR0297:  
FOR0298:  
FOR0299:  
FOR0300:  
FOR0301:  
FOR0302:  
FOR0303:  
FOR0304:  
FOR0305:  
FOR0306:  
FOR0307:  
FOR0308:  
FOR0309:  
FOR0310:  
FOR0310:  
FOR0311:  
FOR0312:  
FOR0313:  
FOR0314:  
FOR0315:  
FOR0316:  
FOR0317:  
FOR0318:  
FOR0319:  
FOR0320:  
FOR0321:  
FOR0322:  
FOR0323:  
FOR0324:  
FOR0325:  
FOR0326:  
FOR0327:  
FOR0328:  
FOR0329:  
FOR0330:  
FOR0331:  
FOR0332:  
FOR0333:  
FOR0334:  
FOR0335:  
FOR0336:  
FOR0337:  
FOR0338:  
FOR0339:  
FOR0340:  
FOR0341:  
FOR0342:  
FOR0343:  
FOR0344:



0300	0640	TSLFT	ADN	40
0301	6112		NZR	SLAS
0302	5447		AOD	SPARCT
0303	2276		LDR	SNUM
0304	6157		NZF	SREGP
0305	2045		LDD	SIF
0306	4051		STD	SLOCLP
0307	6212		PJR	SFET1
0310	0000	SLLP		
0311	0000	SREPAR		
0312	6014	SENSPR	ZJR	SENSP
0313	0613	SLAS	ADN	13
0314	6106		NZR	SCOMA
0315	5720		AOR	SPECT
0316	6010		ZJR	SENSP
0317	7100		JPR	STRANS
0320	4050			
0321	6670	SFET1	PJR	SFETUP
0322	0712	SCOMA	SBN	12
0323	6124		NZR	SFLSPC
0324	5727		AOR	SPECT
0325	6574		NZR	SFETUP
0326	2041	SENSP	LDD	STIP
0327	0727		SBN	27
0330	6431		ZJR	SDEL R
0331	0741		SBN	41
0332	6402		ZJB	2
0333	0606		ADN	3
0334	6106		NZF	TSTF
0335	2244	STDEC	LDR	SNUM
0336	4043		STD	SDEC
0337	0400	SPROCI	LDN	0
0340	4241		STR	SNUM
0341	6443		ZJR	SPROCR
0342	0701	TSTF	SBN	1
0343	6406		ZJB	STDEC
0344	2235		LDR	SNUM
0345	4042		STD	SWID
0346	6607		PJR	SPROCI
0347	0501	SFLSPC	LCN	1
0350	4353		STR	SPECT
0351	2057		LDD	SCHAR
0352	0713		SBN	13
0353	6346		NJR	SCINT
0354	0760		SBN	60
0355	6113		NZR	TSX
0356	2223		LDR	SNUM
0357	4042		STD	SWID
0360	0400		LDN	0
0361	4220		STR	SNUM
0362	6641	SFETQ	PJR	SFET1
0363	2616	SREGP	LCR	SNUM
0364	4353		STR	SREPAR
0365	2045		LDD	SIF
0366	4356		STR	SLLP
0367	6227		PJF	SZERNO
0370	2057	TSX	LDD	SCHAR
0371	4041		STD	STIP
0372	0727		SBN	27
0373	6117		NZR	TSHOL

LOG OF LAST RUE REPEAT PARENS  
 REPEAT PARENS SPEC  
 END OF FIELD INDICATED

TRANSMIT RECORD

-33=COMMA

-27=X

-70=H

-65=E

FLAG NON DELIMITOR

INTEGER CONVERSION

X

FOR03451  
 FOR03460  
 FOR03478  
 FOR03481  
 FOR03498  
 FOR03501  
 FOR03511  
 FOR03521  
 FOR03530  
 FOR03541  
 FOR03558  
 FOR03568  
 FOR03571  
 FOR03581  
 FOR03591  
 FOR03600  
 FOR03611  
 FOR03621  
 FOR03631  
 FOR03648  
 FOR03651  
 FOR03661  
 FOR03671  
 FOR03681  
 FOR03691  
 FOR03701  
 FOR03711  
 FOR03728  
 FOR03731  
 FOR03748  
 FOR03750  
 FOR03768  
 FOR03771  
 FOR03781  
 FOR03791  
 FOR03801  
 FOR03811  
 FOR03821  
 FOR03838  
 FOR03841  
 FOR03851  
 FOR03861  
 FOR03878  
 FOR03881  
 FOR03891  
 FOR03901  
 FOR03918  
 FOR03920  
 FOR03931  
 FOR03941  
 FOR03951  
 FOR03968  
 FOR03978  
 FOR03981  
 FOR03998  
 FOR04001  
 FOR04018  
 FOR04021  
 FOR04031

0374	2040	LDD	SWAY			FOR0404:
0375	6205	PJF	SXOUT			FOR0405:
0376	2203	LDR	SNUM			FOR0406:
0377	5037	RAD	SBUF			FOR0407:
0400	6216	PJF	SZERNO			FOR0408:
0401	0000	SNUM		INTEGER NUMBER IN FORMAT		FOR0409:
0402	2701	SXOUT	LCR	SNUM		FOR0410:
0403	4302		STR	SNUM		FOR0411:
0404	0420	STBLNK	LDN	20	BLANK OUT	FOR0412:
0405	4137		STI	SBUF		FOR0413:
0406	5437		AOD	SBUF		FOR0414:
0407	5706		AOB	SNUM		FOR0415:
0410	6504		NZB	STBLNK		FOR0416:
0411	6427		ZJR	SFETQ		FOR0417:
0412	0741	TSHOL	SBN	41	-70=H	FOR0418:
0413	6016		ZJR	SHCON1	GO TO HOLLERITH	FOR0419:
0414	2713		LCR	SNUM		FOR0420:
0415	4044		STD	SREP1		FOR0421:
0416	0400	SZERNO	LDN	0		FOR0422:
0417	4316		STB	SNUM		FOR0423:
0420	6436	SFET10	ZJR	SFETQ		FOR0424:
0421	0601	SCINT	ADN	1	*12 = ZERO	FOR0425:
0422	6102		NZF	2		FOR0426:
0423	4057		STD	SCHAR		FOR0427:
0424	2323		LDR	SNUM		FOR0428:
0425	0112		MUT			FOR0429:
0426	3057		ADD	SCHAR		FOR0430:
0427	4326		STR	SNUM		FOR0431:
0430	6646		PJR	SFETQ		FOR0432:
0431	2730	SHCON1	LCR	SNUM		FOR0433:
0432	4062		STD	SHCNT		FOR0434:
0433	4005		STD	SHFLAG		FOR0435:
0434	0400		LDN	0		FOR0436:
0435	4334		STR	SNUM		FOR0437:
0436	4100		STM	SPECT	TURN OFF DELIMITER FLAG	FOR0438:
0437	0275					
0440	6420		ZJR	SFET10		FOR0439:
0441	2041	WOUT	LDD	FUNCD		FOR0440:
0442	0761		SBN	61		FOR0441:
0443	6155		NZR	INITQR		FOR0442:
0444	2442	ACON	LCD	SKID	A CONVERSION ONT, LEFT JUSTIFIED UNLIMITED	FOR0443:
0445	4200		STF	0	WIDTH BUT GARBAGE AFTER SIX PLACES	FOR0444:
0446	0000	SACNT				FOR0445:
0447	0401		LDN	ACC		FOR0446:
0450	4075		STD	SAC		FOR0447:
0451	0577	SLC77	LCN	77		FOR0448:
0452	1175		LPI	SAC		FOR0449:
0453	0111		LS6			FOR0450:
0454	4137		STI	SBUF		FOR0451:
0455	5437		AOD	SBUF		FOR0452:
0456	5710		AOB	SACNT		FOR0453:
0457	6237		PJF	TOOUT	EXIT	FOR0454:
0460	2175		LDI	SAC		FOR0455:
0461	0277		LPN	77		FOR0456:
0462	4137		STI	SBUF		FOR0457:
0463	5437		AOD	SBUF		FOR0458:
0464	5475		AOD	SAC		FOR0459:
0465	5717		AOB	SACNT		FOR0460:
0466	6715		NJB	SLC77		FOR0461:
0467	6227		PJF	TOOUT	EXIT	FOR0462:

470	2056	FINISH	LDD	WSIGN		FOR0463:
471	6214		PJF	TOOUT2		FOR0464:
472	2137	SPUT	LDI	SBUF		FOR0465:
473	0320		LSN	20		FOR0466:
474	6105		NZF	5		FOR0467:
75	5437		ADD	SBUF		FOR0468:
476	3471		SBD	BCNT		FOR0469:
477	6505		NZH	SPUT		FOR0470:
500	6016		ZJF	TOOUT	NO ROOM FOR SIGN OF ANSWER	FOR0471:
501	0501		LCN	1		FOR0472:
502	5037		RAD	SBUF		FOR0473:
503	0440		LDN	40	40 = --	FOR0474:
504	4137		STI	SBUF		FOR0475:
505	0107	TOOUT2	ETA			FOR0476:
506	4037		STD	SBUF		FOR0477:
507	0701		SBN	1		FOR0478:
510	4060		STD	TSAV		FOR0479:
511	2160		LDI	TSAV		FOR0480:
512	0320		LSN	20	IF RESULT IS BLANK, PUT IN A ZERO	FOR0481:
513	6103		NZF	TOOUT		FOR0482:
514	0412		LDN	12		FOR0483:
515	4160		STI	TSAV		FOR0484:
516	7101	TOOUT	JFI	1		FOR0485:
517	0036			SAFT		FOR0486:
520	7101	INITOR	JFI	1		FOR0487:
521	0621			INITO		FOR0488:
			REM		FETCH 32	FOR0489:
522	1777	C1777		1777		FOR0490:
523	0701	FETCH	SBN	1		FOR0491:
524	4067		STD	CANSWT		FOR0492:
25	2173		LDI	KTDATA		FOR0493:
526	4056		STD	WSIGN		FOR0494:
527	0237		LPN	37		FOR0495:
530	4064		STD	KEEP1		FOR0496:
531	1573		LSI	KTDATA		FOR0497:
532	0111		LS6			FOR0498:
533	0102		LS1			FOR0499:
534	0277		LPN	77		FOR0500:
535	0740		SBN	40		FOR0501:
536	4070		STD	SGNEXP	SIGN OF EXPONENT	FOR0502:
537	6202		PJF	2		FOR0503:
540	2470		LCD	SGNEXP		FOR0504:
541	4057		STD	WEXP		FOR0505:
542	5473		ADD	KTDATA		FOR0506:
543	2173		LDI	KTDATA		FOR0507:
544	1322		LPR	C1777		FOR0508:
545	4065		STD	KEEP2		FOR0509:
546	1573		LSI	KTDATA		FOR0510:
547	5064		RAD	KEEP1		FOR0511:
550	0103		LS2			FOR0512:
551	4064		STD	KEEP1		FOR0513:
552	5473		ADD	KTDATA		FOR0514:
553	2173		LDI	KTDATA		FOR0515:
554	4066		STD	KEEP3		FOR0516:
555	2067		LDD	CANSWT		FOR0517:
556	6103		NZF	(FCON)		FOR0518:
57	7101		JFI	1		FOR0519:
560	0766			ECON		FOR0520:
561	0107	(FCON)	ETA		FLAG END OF FIELD	FOR0521:
562	4071		STD	BCNT		FOR0522:

563	3443	SBD	SDEC		FOR0523:
564	0702	SEN	2		FOR0524:
565	4072	STD	SDECLC	FLAG LOC OF DEC PT	FOR0525:
566	3470	SBD	SGNEXP		FOR0526:
567	4073	STD	WLET		FOR0527:
570	2043	LDD	SDEC		FOR052:
571	6103	NZF	3		FOR0529:
572	0412	LDN	12	SPECIAL CASE, NO ROOM FOR ZERO	FOR0530:
573	4172	STI	SDECLC		FOR0531:
574	5472	ADD	SDECLC		FOR0532:
575	2070	LDD	SGNEXP		FOR0533:
576	6202	PJF	SNOZ		FOR0534:
577	5473	ADD	WLET		FOR0535:
600	5473	SNOZ	ADD	WLET	FOR0536:
601	3471	SBD	BCNT		FOR0537:
602	6361	NJR	CHKFLD		FOR0538:
603	0473	CONZER	LDN	73	FOR0539:
604	4172	STI	SDECLC		FOR0540:
605	5472	ADD	SDECLC		FOR0541:
606	2172	XZER	LDI	SDECLC	FOR0542:
607	0320	LSN	20		FOR0543:
610	6106	NZF	FINIS		FOR0544:
611	0412	LDN	12		FOR0545:
612	4172	STI	SDECLC		FOR0546:
613	5472	ADD	SDECLC		FOR0547:
614	3471	SBD	BCNT		FOR0548:
615	6707	NJB	XZER		FOR0549:
616	7101	FINIS	JFI	1	FOR0550:
617	0470			FINISH	FOR0551:
620	6675	FETCHR	PJR	FETCH	FOR0552:
621	2043	INITO	LDD	SDEC	FOR0553:
622	4253		STR	SDECTP	FOR0554:
623	0464		LDN	KEEP1	FOR0555:
624	4063		STD	NUM	FOR0556:
625	0401		LDN	ACC	FOR0557:
626	4073		STD	KTDATA	FOR0558:
627	2037	SBLOCK	LDD	SBUF	FOR0559:
630	0105		ATE	SBLOCK	FOR0560:
631	0627				
632	3042		ADD	SWID	FOR0561:
633	4071		STD	BCNT	FOR0562:
634	0106		ATX	SBLOCK	FOR0563:
635	0627				
636	3600		SBF	0	FOR0564:
637	0372	SENB		372	FOR0565:
640	6306		NJF	SBLS	FOR0566:
641	0501	SBACB	LCN	1	FOR0567:
642	5037		RAD	SBUF	FOR0568:
643	2304		LDB	SENB	FOR0569:
644	4071		STD	BCNT	FOR0570:
645	6231		PJF	FTSMML	FOR0571:
646	0420	SBLS	LDN	20	FOR0572:
647	0100		BLS	SBLOCK	FOR0573:
650	0627				
651	2441		LCD	STIP	FOR0574:
652	0664		ADN	64	FOR0575:
653	6303		NJF	3	FOR0576:
654	7101		JFI	1	FOR0577:
655	1151			OCON	FOR0578:
656	0602		ADN	2	FOR0579:

0657	6637		PJR	FETCHR
0660	7101		JFI	1
0661	1026			ICON
0662	6657	CONZRR	PJR	CONZER
0663	2037	CHKFLD	LDD	SBUF
0664	3473		SBD	WLET
0665	6325		NJR	FLDOK
0666	5467		AGD	CANSWT
0667	6107		NZF	FTSMML
0670	2042		LDD	SWID
0671	0707		SBN	7
0672	6304		NJF	FTSMML
0673	4202		STR	SDECTP
0674	6272	ECONR	PJR	ECON
0675	7777	SDECTP		7777
0676	0427	FTSMML	LDN	27
0677	4137		STI	SBUF
0700	5437		AGD	SBUF
0701	3471		SBD	BCNT
0702	6704		NJB	FTSMML
0703	7101		JFI	1
0704	0516			TOOUT
0705	3710	SETDEC	SBR	SDECTP
0706	0701		SBN	1
0707	4072		STD	SDECLC
0710	4073		STD	WLET
0711	6526		NZR	CHKFLD
0712	2073	FLDOK	LDD	WLET
0713	3472		SBD	SDECLC
0714	6102		NZF	2
0715	5473		AGD	WLET
			REM	
0716	2242		LDR	INSTE
0717	4204		STR	RED
0720	0400	NUMCON	LDN	0
0721	4236	INTENT	STF	SVALUE
0722	2163	REP	LDI	NUM
0723	3600	RED	SBF	0
0724	6304		NJF	4
0725	4163		STI	NUM
0726	5631		AGF	SVALUE
0727	6505		NZB	REP
0730	2227	PUT	LDR	SVALUE
0731	6102		NZF	2
0732	0412		LDN	12
0733	4173		STI	WLET
0734	5473		AGD	WLET
0735	3472		SBD	SDECLC
0736	6102		NZF	2
0737	5473		AGD	WLET
0740	2073		LDD	WLET
0741	3471		SBD	BCNT
0742	6660	CONRRR	PJR	CONZRR
0743	5720		AGB	RED
0744	1621		LSF	NEND
0745	6525		NZB	NUMCON
0746	2163		LDI	NUM
0747	4210		STF	SVALUE
0750	2211		LDF	INSTF
0751	4326		STB	RED

TRY E CONVERSION INSTEAD

NOT ENOUGH ROOM

PUT OUT XS UP TO E

LOG OF DECTP  
RETURN FOR FETCH

UP LET IF SET TO SPECLO

NUMCON 31

FOR0580:  
FOR0581:  
FOR0582:  
FOR0583:  
FOR0584:  
FOR0585:  
FOR0586:  
FOR0587:  
FOR0588:  
FOR0589:  
FOR0590:  
FOR0591:  
FOR0592:  
FOR0593:  
FOR0594:  
FOR0595:  
FOR0596:  
FOR0597:  
FOR0598:  
FOR0599:  
FOR0600:  
FOR0601:  
FOR0602:  
FOR0603:  
FOR0604:  
FOR0605:  
FOR0606:  
FOR0607:  
FOR0608:  
FOR0609:  
FOR0610:  
FOR0611:  
FOR0612:  
FOR0613:  
FOR0614:  
FOR0615:  
FOR0616:  
FOR0617:  
FOR0618:  
FOR0619:  
FOR0620:  
FOR0621:  
FOR0622:  
FOR0623:  
FOR0624:  
FOR0625:  
FOR0626:  
FOR0627:  
FOR0628:  
FOR0629:  
FOR0630:  
FOR0631:  
FOR0632:  
FOR0633:  
FOR0634:  
FOR0635:  
FOR0636:  
FOR0637:  
FOR0638:  
FOR0639:

752	5463		ADD	NUM			FOR0640:
753	0767		SBN	KEE3	1		FOR0641:
754	6724		NJR	PUT			FOR0642:
755	6425		ZJB	PUT			FOR0643:
756	6614		PJR	CONRRR			FOR0644:
757	0000	SVALUE					FOR0645:
760	3641	-INSTE	SBF	TABE	-RED		FOR0646:
761	3637	-INSTF	SBF	TAB1	-RED		FOR0647:
762	1750	TAB1		1750			FOR0648:
763	0144			144			FOR0649:
764	0012	TABE		12			FOR0650:
765	3642	-NEND	SBF	NEND	-RED		FOR0651:
			REM			EXPONENT CONVERSION TO BUFFER	FOR0652:
766	0107	ECON	ETA				FOR0653:
767	0704		SBN	4			FOR0654:
770	4071		STD	BCNT			FOR0655:
771	0465		LDN	65	E=65		FOR0656:
772	4171		STI	BCNT			FOR0657:
773	5471		ADD	BCNT			FOR0658:
774	2070		LDD	SGNEXP			FOR0659:
775	6203		PJF	3			FOR0660:
776	0440		LDN	40	MINUS=40		FOR0661:
777	4171		STI	BCNT			FOR0662:
1000	5471		ADD	BCNT			FOR0663:
1001	0400		LDN	0			FOR0664:
1002	4171		STI	BCNT			FOR0665:
1003	2057		LDD	WEXP			FOR0666:
1004	0712		SBN	12			FOR0667:
1005	6304		NJF	4			FOR0668:
1006	4057		STD	WEXP			FOR0669:
1007	5571		AOI	BCNT			FOR0670:
1010	6505		NZB	5			FOR0671:
1011	2171		LDI	BCNT			FOR0672:
1012	6103		NZF	3			FOR0673:
1013	0412		LDN	12			FOR0674:
1014	4171		STI	BCNT			FOR0675:
1015	5471		ADD	BCNT			FOR0676:
1016	2057		LDD	WEXP			FOR0677:
1017	6102		NZF	2			FOR0678:
1020	0412		LDN	12			FOR0679:
1021	4171		STI	BCNT			FOR0680:
1022	0503		LCN	3			FOR0681:
1023	5071		RAD	BCNT	SET COUNTER TO LOC OF E		FOR0682:
1024	7101		JFI	1			FOR0683:
1025	0705			SETDEC		INTEGER CONVERSION OUT	FOR0684:
1026	0510	ICON	REM				FOR0685:
1027	4252		LCN	10			FOR0686:
1030	2042		STR	TSIGIN			FOR0687:
1031	0707		LDD	SWID			FOR0688:
1032	6202		SBN	7			FOR0689:
1033	0400		PJF	2			FOR0690:
1034	3037		LDN	0			FOR0691:
1035	4060		ADD	SBUF			FOR0692:
1036	0101	TNOW	STD	TSAV			FOR0693:
1037	3200		PTA				FOR0694:
1040	0101		ADF	0			FOR0695:
1041	4061			TLATE	-TNOW		FOR0696:
1042	0610		STD	TIN			FOR0697:
1043	4255		ADN	10			FOR0698:
			STR	TFIN			FOR0699:

1044	2001	LDD	TACC		FOR07008
1045	4056	STD	WSIGN		FOR07011
1046	6205	PJF	TSTAR		FOR07021
1047	2402	LCD	TACC	1	FOR07031
1050	4002	STD	TACC	1	FOR07041
1051	2401	LCD	TACC		FOR07051
1052	4001	STD	ACCJ		FOR07068
1053	0400	TSTAR	LDN	0	FOR07071
1054	4254	STR	TDCNT		FOR07088
1055	2161	LDI	TIN		FOR07091
1056	4017	STD	OP		FOR07101
1057	5461	AOD	TIN		FOR0711A
1060	2161	LDI	TIN		FOR07121
1061	4020	STD	OP	1	FOR07131
1062	0400	LDN	0		FOR07141
1063	0420	TGOADD	LDN	XVAD	FOR07158
1064	7100	JPR	BMACSW		FOR07161
1065	0555				1
1066	2001	LDD	ACCJ		FOR07171
1067	6303	NJF	TRAD		FOR07181
1070	5640	AOR	TDCNT		FOR07191
1071	6606	PJF	TGOADD		FOR07208
1072	0421	TRAD	LDN	XVISUB	FOR07218
1073	7100	JPR	BMACSW		FOR07221
1074	0555				1
1075	2233	TPUTIN	LDR	TDCNT	FOR07238
1076	0020	SIC0			FOR07241
1077	6110	NZF	TOSAV		FOR07251
1100	5600	ACF	0		FOR07261
1101	0000	TSIGIN			FOR07271
1102	6204	PJF	STOZ		FOR07281
1103	3042	ADD	SWID		FOR07291
1104	6312	NJF	TUPTIN		FOR07301
1105	6204	PJF	TUPSAV		FOR07318
1106	0412	STOZ	LDN	12	FOR07328
1107	4160	TOSAV	STI	TSAV	FOR07338
1110	4307	STB	TSIGIN		FOR07341
1111	5460	TUPSAV	AOD	TSAV	FOR07351
1112	3471	SBD	BCNT		FOR07361
1113	6303	NJF	TUPTIN		FOR07378
1114	7101	JFI	1		FOR07388
1115	0470		FINISH		FOR07391
1116	5461	TUPTIN	AOD	TIN	FOR07401
1117	3600	SBF	0		FOR07411
1120	0000	TFIN			FOR07421
1121	6746	NJB	TSTAR		FOR07431
1122	0702	SBN	2		FOR07441
1123	6103	NZF	TSING		FOR0745
1124	2002	LDD	ACCJ	1	FOR07468
1125	6627	PJF	TPUTIN	1	FOR07471
1126	0400	TSING	LDN	0	FOR07481
1127	4200	STF	0		FOR07491
1130	0000	TDCNT			FOR07501
1131	2002	TSUB	LDD	ACCJ	1
1132	3561	SBI	TIN		FOR07511
1133	6736	NJR	TPUTIN		FOR07531
1134	4002	STD	ACCJ	1	FOR07541
1135	5705	AOR	TDCNT		FOR07551
1136	6605	PJF	TSUB		FOR07561
1137	7027	TLATE	7027		FOR07571

START OF INTEGER CONVERSION

A HAS SIGN OF ANSWER  
BUMP DIG COUNTER

SKIP UPPING TSAV

TURN INSIG COUNT OFF

END OF DOUBLE PRECISION

SINGLE PRECISION

E6 = 3,641,100

140	6677		6677		FOR07580
141	7717		7717	E5 = 303,240	FOR07590
142	4537		4537		FOR07600
143	7773		7773	E4 = 23,420	FOR07610
144	4357		4357		FOR07620
145	7777		7777	-1000	FOR07630
146	6027		6027		FOR07640
147	0144		144	+100	FOR07650
150	0012		12	+10	FOR07660
151	2200	OC ON	0	OCTAL CONVERSION	FOR07670
152	4210		4210		FOR07680
153	4233	STF	SOCOUT		FOR07690
154	0511	LCN	11		FOR07700
155	4213	STF	SOC DIG		FOR07710
156	2042	LDD	SWID		FOR07720
157	0710	SBN	10		FOR07730
160	6302	NJF	2		FOR07740
161	5037	RAD	SBUF	RIGHT JUSTIFY FIELD	FOR07750
162	2173	SOC DMP	LDI	KTDATA	FOR07760
163	0110		LS3		FOR07770
164	4173		STI	KTDATA	FOR07780
165	0207		LPN	7	FOR07790
166	6110		NZF	SOCSTO	FOR07800
167	5600		ACF	0	FOR07810
170	0000	SOC DIG			FOR07820
171	6204	PJF	STOZE		FOR07830
172	3042		ADD	SWID	FOR07840
173	6312		NJF	SOSHT	FOR07850
174	6204		PJF	SUPBUF	FOR07860
175	0412	STOZE	LDN	12	FOR07870
176	4137	SOCSTO	STI	SBUF	FOR07880
177	4307		STB	SOC DIG	FOR07890
200	5437	SUPBUF	AOD	SBUF	FOR07900
201	3471		SBD	BCNT	FOR07910
202	6103		NZF	3	FOR07920
203	7101		JFI	1	FOR07930
204	0505			TOOUT2	FOR07940
205	4600	SOSHT	SRF	0	FOR07950
206	7777	SOCOUT		7777	FOR07960
207	6625		PJB	SOC DMP	FOR07970
210	5473		AOD	KTDATA	FOR07980
211	6527	SOTEND	NZB	SOC DMP	FOR07990
	0000		END		FOR08000



BOL00000  
BOL00011  
BOL00028

BOL00031  
BOL00048  
BOL00058  
BOL00061  
BOL00078

BOL00088  
BOL00098  
BOL00101  
BOL00118  
BOL00121  
BOL00131  
BOL0014

BOL00151  
BOL0016

BOL00171  
BOL00188

BOL00198  
BOL00201

BOL00211  
BOL00221

BOL00231  
BOL00241

BOL00251  
BOL00261

BOL00271  
BOL00288

BOL0029  
BOL00308

BOL00311  
BOL00328

BOL00331  
BOL00341

BOL00351  
BOL00361

BOL00371  
BOL00381

BOL00398  
BOL00401

BOL00411  
BOL00428

BOL00431  
BOL00441

BOL00451  
BOL00460

BOL00471  
BOL00488

BOL00491  
BOL00508

BOL00511

000	6246		CON	0		
001	4643		BCD	6	BOOLEN	
002	6545					
003	0111			BOLSHB +3		
004	0004			4		
005	7777			7777		
000	0000		ORG	0		
000	3200	BOOL	ADC	6100	NZF	
001	6100					
002	4201		STF	BOOLA	SET SWITCHBOARD	
003	6100	BOOLA	NZF	0		
004	6105		NZF	INCLOR		
005	6116		NZF	COMPLT		
006	6122		NZF	LOGPRD		
007	6130		NZF	EXCLOR		
010	6136		NZF	BOOLSH		
			REM		BOOLEAN ARITHMETIC	
0011	2417	INCLOR	LCD	OPER		
012	1001		LPD	ACC		
013	1417		LSD	OPER		
014	4001		STD	ACC	INCLUSIVE OR HI WORDS	
015	2420		LCD	OPER	1	
016	1002		LPD	ACC	1	
017	1420		LSD	OPER	1	
020	4002	INCLRA	STD	ACC	1	INCLUSIVE OR LO WORDS
021	7101	INCLRB	JFI	1		
022	0400			ARITH		EXIT
023	2417	COMPLT	LCD	OPER		
024	4001		STD	ACC		COMPLEMENT HI WORD
025	2420		LCD	OPER	1	COMPLEMENT LO WORD
026	7101		JFI	1		
027	0020			INCLRA		
030	2001	LOGPRD	LDD	ACC		
031	1017		LPD	OPER		
032	4001		STD	ACC		AND HI WORDS
033	2002		LDD	ACC	1	
034	1020		LPD	OPER	1	AND LO WORDS
035	7101		JFI	1		
036	0020			INCLRA		
037	2001	EXCLOR	LDD	ACC		
040	1417		LSD	OPER		
041	4001		STD	ACC		EXCLUSIVE OR HI WORDS
042	2002		LDD	ACC	1	
043	1420		LSD	OPER	1	EXCLUSIVE OR LO WORDS
044	7101		JFI	1		
045	0020			INCLRA		
			REM			BOOLEAN SHIFT
046	2420	BOOLSH	LCD	OPER	1	
047	6202		PJR	BOLSHA		RIGHT SHIFT
050	4020		STD	OPER	1	NO -- MAKE COUNT NEGATIVE
051	2017	BOLSHA	LDD	OPER		
052	6315		NJR	BRS1		LEFT SHIFT
053	4401		SRD	ACC		YES -- SHIFT HI WORD

0054	4402		SRD	ACC	1	SHIFT LO WORD	BOL0052:
0055	1401		LSD	ACC			BOL0053:
0056	0201		LPN	1			BOL0054:
0057	6027		ZJR	BOLSHB		LO ORDER BIT CHANGE NECESSARY	BOL0055:
0060	1401		LSD	ACC		YES	BOL0056:
0061	4001		STD	ACC		HI WORD CORRECTED	BOL0057:
0062	2002		LDD	ACC	1		BOL0058:
0063	0301		LSN	1			BOL0059:
0064	4002		STD	ACC	1	LO WORD CORRECTED	BOL0060:
0065	7101		JFI	1			BOL0061:
0066	0106			BOLSHB			BOL0062:
0067	2002	BRS1	LDD	ACC	1		BOL0063:
0070	0114		RS1				BOL0064:
0071	4002		STD	ACC	1	SHIFT LO WORD	BOL0065:
0072	0102		LS1				BOL0066:
0073	1401		LSD	ACC			BOL0067:
0074	0201		LPN	1			BOL0068:
0075	6003		ZJR	BOLSHC		HI ORDER BIT CHANGE NECESSARY	BOL0069:
0076	2600		LCF	0		YES	BOL0070:
0077	3777	BOLSHD		3777			BOL0071:
0100	1402	BOLSHC	LSD	ACC	1		BOL0072:
0101	4002		STD	ACC	1	LO WORD CORRECTED	BOL0073:
0102	2001		LDD	ACC			BOL0074:
0103	0114		RS1			HI WORD SHIFTED	BOL0075:
0104	1305		LPR	BOLSHD		CLEAR HI ORDER BIT	BOL0076:
0105	4001		STD	ACC			BOL0077:
0106	5420	BOLSHB	AGD	OPER	1	COUNTER	BOL0078:
0107	6536		NZR	BOLSHA		MORE SHIFTS TO MAKE	BOL0079:
0110	6467		ZJR	INCLRB		NO -- EXIT	BOL0080:
	0001	ACC	EQU	1			BOL0081:
	0017	OPER	EQU	17			BOL0082:
	0400	ARITH	EQU	400			BOL0083:
	0411	ARITHA	EQU	411			BOL0084:
	0000		END				BOL0085:



0044	0517		STI	FLEXUL					RRT0055:
0045	4173		LDD	GOBACK					RRT0056:
0046	2072		SBN	3					RRT0057:
0047	0703		ZJF	RDFLX					RRT0058:
0050	6035		ZJF	RDFLX					RRT0059:
0051	2600	-PCHFLX	LCC	FLEXU	-BCDFLX	ENTRY TO FLEX	OUTPUT ROUTINE		
0052	0125								
0053	5076		RAD	TAGFLX		SET FOR ENTERING	BCDFLX		RRT0060:
0054	2477		LDD	TBLADR					RRT0061:
0055	4227		STF	COUNTF		RECORD LENGTH			RRT0062:
0056	0101	A2	PTA						RRT0063:
0057	0610	-	ADN	B2	-A2				RRT0064:
0060	4072		STD	GOBACK		SET RETURN ADDRESS			RRT0065:
0061	7500		EXC	4104		SELECT PUNCH			RRT0066:
0062	4104								
0063	7457		OTN	57		LOWER CASE CODE			RRT0067:
0064	2174	LOOP	LDI	PARAM		PICK UP CHARACTER			RRT0068:
0065	7076		JPI	TAGFLX		CONVERT			RRT0069:
0066	6207	B2	PJR	PNCH		JUMP TO PUNCH EXTRA CODE			RRT0070:
0067	4070	CASE	STD	CHAR		SAVE CODES			RRT0071:
0070	0111		LS6						RRT0072:
0071	0277		LPN	77		MASK OFF CASE CODD			RRT0073:
0072	7677		OTA						RRT0074:
0073	0477		LDN	77		PICK UP SINGLE CODE			RRT0075:
0074	1070		LPD	CHAR					RRT0076:
0075	7677	PNCH	OTA						RRT0077:
0076	5474		AOD	PARAM					RRT0078:
0077	5605		AGF	COUNTF					RRT0079:
0100	6514		NZB	LOOP		CONTINUE UNTIL COUNTF EQUALS ZERO			RRT0080:
0101	7445		OTN	45		OUTPUT A CARRIAGE RETURN			RRT0081:
0102	0400		LDN	0					RRT0082:
0103	6072		ZJR	ZJBEX					RRT0083:
0104	0000	COUNTF				RECORD LENGTH COUNTER			RRT0084:
0105	2642	RDFLX	LCR	SETUP	+1				RRT0085:
0106	4302		STB	COUNTF					RRT0086:
0107	0652		ADN	52					RRT0087:
0110	5076		RAD	TAGFLX		SET FOR ENTERING	FLXBOD		RRT0088:
0111	0101	A3	PTA						RRT0089:
0112	0615	-	ADN	B3	-A3				RRT0090:
0113	4072		STD	GOBACK		SET EXIT ADDRESS			RRT0091:
0114	7500		EXC	4102		SELECT PAPER TAPE READER			RRT0092:
0115	4102								
0116	7600	READF	INA						RRT0093:
	6401		ZJB	1		OMIT LEADER			RRT0094:
	0745		SBN	45		CARRIAGE RETURN			RRT0095:
	6015		ZJF	JMPTO		END OF RECORD			RRT0096:
	0732	CHKDEL	SBN	32		45+32=DELETE CODE			RRT0097:
	405		ZJB	READF		OMIT DELETE CODES			RRT0098:
	0677		ADN	77		RESTORE ORIGINAL CODE			RRT0099:
	7076		JPI	TAGFLX		CONVERT			RRT0100:
	0710	B3	NJB	READF		DO NOT STORE CASE CODES EQUIVALENTS			RRT0101:
	4174		STI	PARAM		STORE CONVERTED CODE			RRT0102:
	5474		AOD	PARAM		UPDATE COUNTERS			RRT0103:
	5725		AGB	COUNTF					RRT0104:
	6514		NZB	READF					RRT0105:
0233	7600	OUT	INA						RRT0106:
0134	0745		SBN	45					RRT0107:
0135	6502		NZB	OUT					RRT0108:
0136	6037	JMPTO	ZJR	ZJBEX					RRT0109:
0137	6054	TI	ZJR	TYPOUT		INTERMEDIATE JUMP			RRT0110:

140	2600	-TYPEIN	LCC	FLEXU	-FLXBCD	TYPEWRITER INPUT ENTRANCE	RRT01118
141	0116						
142	5076		RAD	TAGFLX		SET ENTRY ADDRESS	RRT01112
143	0101	A5	PTA				RRT01138
144	0626	-	ADN	B5	-A5		RRT01141
145	4072		STD	GOBACK		SET EXIT ADDRESS	RRT01115
146	2600	SETUP	LCC	170			RRT01116
147	0170						
150	4242		STR	COUNTT			RRT01117
151	7553	SELOUT	EXF	SLOUT	+1	SELECT TYPEWRITER OUTPUT	RRT01118
152	7445		OTN	45		CARRIAGE RETURN	RRT01191
153	7447		OTN	47		UPPER CASE CODE	RRT01201
154	7444		OTN	44		QUESTION MARK	RRT01218
155	7457		OTN	57		LOWER CASE CODE	RRT01221
156	7500		EXC	4220		SELECT INPUT	RRT01231
157	4220						
160	7600	READT	INA				RRT01241
161	0745		SBN	45		CARRIAGE RETURN	RRT01251
162	6013		ZJF	ZJBEX			RRT01261
163	0704		SBN	4		TAB - DELETE RECORD CODE	RRT01271
164	6023		ZJF	DELETE			RRT01281
165	0703		SBN	3		APPOSTROPHE-PSEUDO CASE CHANGE	RRT01290
166	6012		ZJR	CHCASE			RRT01301
167	0654	RECORD	ADN	54		RESTORE CODE	RRT01318
170	7076		JPI	TAGFLX		CONVERT	RRT01321
171	4174	B5	STI	PARAM			RRT01331
172	5474		AOD	PARAM			RRT0134
173	5617		AOR	COUNTT			RRT01351
174	6514		NZR	READT			RRT01361
175	4077	ZJBEX	STD	TBLADR			RRT01371
176	2075		LDD	RETURN			RRT01381
177	0010		SRJO				RRT01391
200	2073	CHCASE	LDD	FLEXUL		CHANGE CASE	RRT01401
201	6004		ZJF	SETCS	+2		RRT01411
202	0400		LDN	0			RRT01421
203	4073	SETCS	STD	FLEXUL			RRT01438
204	6624		PJB	READT		CONTINUE	RRT01441
205	0477		LDN	77			RRT01451
206	6503		NZR	SETCS			RRT01468
207	2071	DELETE	LDD	DELREC		RESTORE PARAMETERS	RRT01478
210	4074		STD	PARAM			RRT01480
211	6543		NZR	SETUP		GO BACK TO RESET COUNTERS	RRT01491
212	0000	COUNTT				LENGTH OF RECORD COUNTER	RRT01500
213	2600	-TYPOUT	LCC	FLEXU	-BCDFLX	ENTRANCE TO TYPE OUTPUT ROUTINE	RRT01511
214	0125						
215	5076		RAD	TAGFLX		SET ENTRANCE ADDRESS	RRT01521
216	0101	A4	PTA				RRT01538
217	0624	-	ADN	B4	-A4		RRT01541
220	4072		STD	GOBACK			RRT01551
221	2477		LCD	TBLADR		LENGTH OF RECORD	RRT01561
222	4310		STR	COUNTT			RRT01571
223	7500	SLOUT	EXC	4210		SELECT OUTPUT	RRT01588
224	4210						
225	7457		OTN	57		LOWER CASE CODE	RRT01591
226	7445		OTN	45		CARRIAGE RETURN	RRT01601
227	2174	LOOPT	LDI	PARAM		ONE CHARACTER	RRT01618
230	0734		SBN	34		LEFT PAREN	RRT01620
231	6031		ZJF	LP			RRT01631
232	0717		SBN	17		DOLLAR SIGN	RRT01648
233	6025		ZJF	DS			RRT01651

0234	0701	SBN	1	ASTERISK	RRT0156.	
0235	6022	ZJF	AST		RRT0157.	
0236	0720	SBN	20	RIGHT PAREN	RRT0168.	
0237	6022	ZJF	RP		RRT0169.	
0240	0674	ADN	74	RESTORE ORIGINAL CODE	RRT0170.	
0241	7076	JPI	TAGFLX	CONVERT	RRT0171.	
0242	6806	B4 NJF	CASET	CASE SHIFT CODE	RRT017.	
0243	7677	TYP	OTA		RRT0173.	
0244	5474	ACD	PARAM		RRT0174.	
0245	5733	AGR	COUNTT		RRT0175.	
0246	6517	NZB	LOOPT		RRT0176.	
0247	6452	ZJR	ZJBEX		RRT0177.	
0250	4070	CASET	STD	CHAR	RRT0178.	
0251	0111		LS6		RRT0179.	
0252	0277		LPN	77	ONE CODE TO A	RRT0180.
0253	7677	TYPOTA	OTA		RRT0181.	
0254	0477		LDN	77		RRT0182.
0255	1070		LPD	CHAR	PICK UP OTHER CODE	RRT0183.
0256	6513		NZB	TYP	GO TO OUTPUT LOOP	RRT0184.
0257	0612	AST	ADN	12		RRT0185.
0260	0604	DS	ADN	4		RRT0186.
0261	0617	RP	ADN	17		RRT0187.
0262	0637	LP	ADN	37		RRT0188.
0263	4070	STOR	STD	CHAR	SAVE CODE	RRT0189.
0264	2073		LDD	FLEXUL	CHECK CASE	RRT0190.
0265	6103		NZF	FIX	CHANGE CASE	RRT0191.
0266	2070		LDD	CHAR		RRT0192.
0267	6524		NZB	TYP		RRT0193.
0270	0400	FIX	LDN	0		RRT01940.
0271	4073		STD	FLEXUL	SET FOR UPPER CASE	RRT0195.
0272	0447		LDN	47	UPPER CASE CODE	RRT0196.
0273	6520		NZB	TYPOTA		RRT019.
0274	4206	BCDFLX	STF	CHARAC	ENTRY - CONVERT BCD TO FLEX CODES	RRT019.
0275	0401		LDN	1		RRT0199.
0276	4232		STF	SWITCH		RRT0200.
0277	2265		LDF	SHIFTA		RRT0201.
0300	4237		STF	SHIFT		RRT0202.
0301	6121		NZF	ADDADD -1		RRT0203.
0302	0000	CHARAC			CURRENT CODE STORAGE	RRT0204.
0303	4301	FLXBCD	STB	CHARAC	ENTRY - CONVERT FLEX TO BCD CODES	RRT0205.
0304	0747		SBN	47		RRT02068.
0305	6004		ZJF	STOFLA		RRT0207.
0306	0710		SBN	10		RRT0208.
0307	6105		NZF	SETSWC		RRT02093.
0310	0401		LDN	1		RRT0210.
0311	4073	STOFLA	STD	FLEXUL	STORE CASE FLAG	RRT0211.
0312	0501		LCN	1		RRT0212.
0313	7072		JPI	GOBACK		RRT0213.
0314	2250	SETSWC	LDF	SHIFTA	SET SWITCH FOR SHIFTS	RRT0214.
0315	4213		STF	SWITCH		RRT0215.
0316	0401		LDN	1		RRT0216.
0317	4220		STF	SHIFT		RRT0217.
0320	2073		LDD	FLEXUL		RRT02188.
0321	6002		ZJF	ADDADD		RRT0219.
0322	0577		LCN	77	TO BE SUPPLIED	RRT0220.
0323	3200	ADDADD	ADC	7777	TO BE SUPPLIED	RRT0221.
0324	7777					
0325	4077		STD	TBLADR		RRT022.
0326	2177	LIST	LDI	TBLADR		RRT0223.
0327	6041		ZJF	TSTSWC	END OF TABLE	RRT0224.

330	0000	SWITCH				RRT0225:
331	1727		SCB	CHARAC		RRT0226:
332	0277		LPN	77		RRT0227:
333	6003		ZJF	FOUND	EQUALITY	RRT0228:
334	5477		ADD	TELADR		RRT0229:
335	6507		NZB	LIST		RRT0230:
336	2177	FOUND	LDI	TBLADR		RRT0231:
337	0000	SHIFT			LS6 OR NOP	RRT0232:
340	0277		LPN	77		RRT0233:
341	4070		STD	CHAR		RRT0234:
342	2303		LDR	SHIFT		RRT0235:
343	0701		SBN	1		RRT0236:
344	6103		NZF	TSTADD		RRT0237:
345	2070		LDD	CHAR		RRT0238:
346	7072		JPI	GOBACK		RRT0239:
347	2077	TSTADD	LDD	TBLADR		RRT0240:
350	3724		SB8	ADDADD +1	TEST FOR L.C. ENTRIES	RRT0241:
351	6206		PJF	UPFLAG		RRT0242:
352	2073		LDD	FLEXUL		RRT0243:
353	6113		NZF	ENDER		RRT0244:
354	0457		LDN	57		RRT0245:
355	4073		STD	FLEXUL		RRT0246:
356	6106		NZF	SHIFTA		RRT0247:
357	2073	UPFLAG	LDD	FLEXUL		RRT0248:
360	6006		ZJF	ENDER		RRT0249:
361	0400		LDN	0		RRT0250:
362	4073		STD	FLEXUL		RRT0251:
363	0447		LDN	47		RRT0252:
364	0111	SHIFTA	LS6			RRT0253:
365	5070		RAD	CHAR		RRT0254:
366	2070	ENDER	LDD	CHAR		RRT0255:
367	7072		JPI	GOBACK		RRT0256:
370	2331	TSTSWC	LDB	SHIFT	TEST SWITCH	RRT0257:
371	3705		SB8	SHIFTA		RRT0258:
372	6003		ZJF	SETBL		RRT0259:
373	0420		LDN	20		RRT0260:
374	7072		JPI	GOBACK		RRT0261:
375	0404	SETBL	LDN	4	SET BLANK	RRT0262:
376	7072		JPI	GOBACK		RRT0263:
377	0213	TYPL		213	EQUALS	RRT0264:
400	4033			4033	COMMA	RRT0265:
401	4660			4660	PLUS	RRT0266:
402	4273	FLEXL		4273	PERIOD	RRT0267:
403	5240			5240	MINUS	RRT0268:
404	4421			4421	SLASH	RRT0269:
405	4633			4633	COMMA	RRT0270:
406	5474			5474	RIGHT PARENTHESIS	RRT0271:
407	5612			5612	0	RRT0272:
410	7401			7401	1	RRT0273:
411	7002			7002	2	RRT0274:
412	6403			6403	3	RRT0275:
413	6204			6204	4	RRT0276:
414	6605			6605	5	RRT0277:
415	7206			7206	6	RRT0278:
416	6007			6007	7	RRT0279:
417	3310			3310	8	RRT0280:
420	3711			3711	9	RRT0281:
421	4660	FLEXU		4660	PLUS	RRT0282:
422	5053			5053	DOLLAR SIGN	RRT0283:
423	4454			4454	ASTERISK	RRT0284:

424	5434		5434
425	4213		4213
426	3061	TYPU	3061
427	2362		2362
430	1663		1663
431	2264		2264
432	2065		2065
433	2666		2666
434	1367		1367
435	0570		570
436	1471		1471
437	3241		3241
440	3642		3642
441	1143		1143
442	0744		744
443	0645		645
444	0346		346
445	1547		1547
446	3550		3550
447	1251		1251
450	2422		2422
451	0123		123
452	3424		3424
453	1725		1725
454	3126		3126
455	2727		2727
456	2530		2530
457	2131		2131
460	5240		5240
461	4033		4033
462	4273		4273
463	5674		5674
464	6253		6253
465	7454		7454
466	3734		3734
467	0000	ENDTBL	
0072	GOBACK	EQU	72
0076	TAGFLX	EQU	76
0070	CHAR	EQU	70
0077	TBLADR	EQU	77
0073	FLEXUL	EQU	73
0074	PARAM	EQU	74
0071	DELREG	EQU	71
0075	RETURN	EQU	75
		SUPB	
0000		END	

LEFT PARENTHESIS

EQUALS

A

B

C

D

E

F

G

H

I

J

K

L

M

N

O

P

Q

R

S

T

U

V

W

X

Y

Z

MINUS

COMMA

PERIOD

RIGHT PARENTHESIS.

DOLLAR SIGN

ASTERISK

LEFT PARENTHESIS

NO EQUALITY

RETURN FROM CONVERSION

ADDRESS OF CONVERSION ROUTINE

TEMPORARY STORAGE

TABLE ADDRESS

CASE FLAG - ZERO EQUALS UPPER CASE

LOCATION OF BUFFER

DELETE RECORD = BUFFER LOCATION

RRT0285:

RRT0286:

RRT0287:

RRT0288:

RRT0289:

RRT0290:

RRT0291:

RRT0292:

RRT0293:

RRT0294:

RRT0295:

RRT0296:

RRT0297:

RRT0298:

RRT0299:

RRT0300:

RRT0301:

RRT0302:

RRT0303:

RRT0304:

RRT0305:

RRT0306:

RRT0307:

RRT0308:

RRT0309:

RRT0310:

RRT0311:

RRT0312:

RRT0313:

RRT0314:

RRT0315:

RRT0316:

RRT0317:

RRT0318:

RRT0319:

RRT0320:

RRT0321:

RRT0322:

RRT0323:

RRT0324:

RRT0325:

RRT0326:

RRT0327:

RRT0328:

RRT0329:



REM RD1634  
 REM READ 163-164 MAGNETIC TAPE  
 REM READ 163-164 MAGNETIC TAPE  
 REM ASSUMES ALL BANK SETTINGS ARE ZERO  
 REM EXCEPT RELATIVE  
 REM PARAM CONTAINS THE ADDRESS OF THE  
 REM PARAMETER LIST. LIST CONTAINS  
 REM 1. LOCATION OF BUFFER  
 REM 2. LOGICAL TAPE NUMBER  
 REM POS. = BCD MODE  
 REM NEG. = BINARY MODE  
 REM 3. ZERO CALLS FOR REWIND  
 REM POSITIVE CALLS FOR READ  
 REM NEGATIVE CALLS FOR BACKSPACING N  
 REM RECORDS WHERE N = THE COMPLEMENT  
 REM OF THE NUMBER OF RECORDS TO BE  
 REM BACKSPACED.  
 REM SPACE REQUIRED IS 225 OCTAL  
 REM LOW CORE USE 71 = 77  
 CON 0  
 BCD 6

(R1631

LAST +1  
 11 - 90  
 7777

*Length*  
*Unit #*

ORG 0  
 LCN 4  
 STD COUNT1 — ERROR ROUTINE COUNTER  
 STD COUNT2 —  
 LDI PARAM  
 STD STARTD ADDRESS OF BUFFER  
 ADC 171  
 STF TERM LENGTH OF RECORD=121 DEC.  
 AOD PARAM  
 LDI PARAM LOGICAL TAPE NUMBER  
 STD TAPENO  
 PJF POS  
 LCD TAPENO  
 STD TAPENO COMPLEMENT LTN  
 LDC 1000  
 ADF CODE SET CODE FOR 12 BIT OPERATION  
 ADN 1 SET PARITY FOR BINARY  
 STF PARITY PARITY SELECT CODE  
 NZF UNIT =1  
 1170  
 LDN 2  
 ADB CODE  
 STF PARITY PARITY SELECT CODE  
 AOD TAPENO SET CABINET SELECT DIGIT  
 SBN 5  
 NJF CREATE  
 LDC 100

CODE  
 POS

UNIT

0000 0000  
 0001 3451  
 0002 0106  
 0003 0371  
 0004 0225  
 0005 0011  
 0006 7777  
 0007 0000  
 0008 0504  
 0009 4073  
 0010 4072  
 0011 2177  
 0012 4074  
 0013 3200  
 0014 0171  
 0015 4257  
 0016 5477  
 0017 2177  
 0018 4076  
 0019 6212  
 0020 2476  
 0021 4076  
 0022 2200  
 0023 1000  
 0024 3204  
 0025 0601  
 0026 4264  
 0027 6105  
 0028 1170  
 0029 0402  
 0030 3302  
 0031 4257  
 0032 5476  
 0033 0705  
 0034 6307  
 0035 2200

RTF0000:  
 RTF0001:  
 RTF0002:  
 RTF0003:  
 RTF0004:  
 RTF0005:  
 RTF0006:  
 RTF0007:  
 RTF0008:  
 RTF0009:  
 RTF0010:  
 RTF0011:  
 RTF0012:  
 RTF0013:  
 RTF0014:  
 RTF0015:  
 RTF0016:  
 RTF0017:  
 RTF0018:  
 RTF0019:  
 RTF0020:  
 RTF0021:  
 RTF0022:  
 RTF0023:  
 RTF0024:  
 RTF0025:  
 RTF0026:  
 RTF0027:  
 RTF0028:  
 RTF0029:  
 RTF0030:  
 RTF0031:  
 RTF0032:  
 RTF0033:  
 RTF0034:  
 RTF0035:  
 RTF0036:  
 RTF0037:  
 RTF0038:  
 RTF0039:  
 RTF0040:  
 RTF0041:  
 RTF0042:  
 RTF0043:  
 RTF0044:  
 RTF0045:  
 RTF0046:  
 RTF0047:  
 RTF0048:  
 RTF0049:  
 RTF0050:



130	4203		STF	ATE	1		RTF0110:
131	2074		LDD	STARTD			RTF0111:
132	0105	ATE	ATE				RTF0112:
133	0000						:
134	2346		LDB	TERM			RTF0113:
35	0106	START	ATX				RTF0114:
136	0000						:
137	0401		LDN	1			RTF0115:
140	1332		LPR	PARITY			RTF0116:
141	6010		ZJF	BCDTW			RTF0117:
142	0437		LDN	37			RTF0118:
143	4174		STI	STARTD		SET FLAG FOR ONE PHYSICAL RECORD	RTF0119:
144	5474		AOD	STARTD			RTF0120:
145	0105		ATE				RTF0121:
146	0000						:
147	0400		LDN	0			RTF0122:
150	6002		ZJF	2			RTF0123:
151	0420	BCDTW	LDN	20		STORE BLANKS IN BUFFER (BCD)	RTF0124:
152	0100		BLS				RTF0125:
153	0000						:
154	0400	SETAO	LDN	0		CONTINUE=RETURN	RTF0126:
155	4077	EXIT	STD	PARAM			RTF0127:
156	2075		LDD	RETURN			RTF0128:
157	0010		SRJO				RTF0129:
160	0401	CHKPAR	LDN	1			RTF0130:
161	1353		LPB	PARITY			RTF0131:
162	6141		NZF	BIN		JUMP IF BINARY READ	RTF0132:
163	2072		LDD	COUNT2			RTF0133:
164	6103		NZF	BACK3		MOVE THE TAPE BACK, THEN FOWARD	RTF0134:
165	0000		ERR			UNRESOLVED ERROR, RUN TO IGNORE,	RTF0135:
166	6411		ZJR	EXIT			RTF0136:
67	2345	BACK3	LDB	BCKSP			RTF0137:
170	4206		STF	BACK3X	+1		RTF0138:
171	2362		LDB	STATUS			RTF0139:
172	4211		STF	STAT	+1		RTF0140:
173	2363		LDB	READ			RTF0141:
174	4220		STF	R3	+1		RTF0142:
175	7500	BACK3X	EXC	0		TRY BACKSPACING 3 RECORDS PLUS	RTF0143:
176	0000						:
177	7600		INA			CURRENT RECORD,	RTF0144:
200	5472		AOD	COUNT2			RTF0145:
201	6007		ZJF	SUB3		BACK 4 - GO READ 3	RTF0146:
202	7500	STAT	EXC	0		CHECK FOR BEGINNING OF TAPE	RTF0147:
203	0000						:
204	7600		INA				RTF0148:
205	0240		LPN	40			RTF0149:
206	6417		ZJR	BACK3		AGAIN	RTF0150:
207	2472		LCD	COUNT2		ADJUST COUNTER	RTF0151:
210	0703	SUB3	SBN	3			RTF0152:
211	4072		STD	COUNT2			RTF0153:
212	6006		ZJF	RESET		BAD RECORD WAS FIRST	RTF0154:
213	7500	R3	EXC	0		PASS A RECORD	RTF0155:
214	0000						:
215	7600		INA				RTF0156:
216	5472		AOD	COUNT2		MOVE TAPE UNTIL READY TO	RTF0157:
217	6504		NZB	R3		READ CURRENT RECORD	RTF0158:
220	0504	RESET	LCN	4		RESET TO TRY CURRENT	RTF0159:
221	4071		STD	COUNT		RECORD 3 MORE TIMES,	RTF0160:
222	6575		NZR	RELAY			RTF0161:
223	0501	BIN	LCN	1		RETURN IF BINARY	RTF0162:

224 6547 LAST NZR EXIT  
0071 COUNT EQU 71  
0072 COUNT2 EQU 72  
0075 RETURN EQU 75  
0074 STARTD EQU 74  
0077 PARAM EQU 77  
0076 TAPEND EQU 76  
0073 COUNT1 EQU 73  
0025 EOFFLG EQU 25  
0000 SUPB  
END

END OF FILE FLAG

RTF01638  
RTF0164:  
RTF0165 )  
RTF0166:  
RTF0167:  
RTF0168 )  
RTF0169 )  
RTF0170:  
RTF0171 )  
:  
RTF0172:

B. W. W. W. W.

xii/

0

4

REM WR1634  
 REM MAGNETIC TAPE WRITE 163-164  
 REM ENTER WITH PARAM = ADDRESS OF THE  
 REM PARAMETER LIST.  
 REM PARAM LIST AS FOLLOWS -  
 REM 1. ADDRESS OF BUFFER  
 REM 2. LOGICAL TAPE NUMBER  
 REM NEGATIVE REQUESTS BINARY MODE  
 REM POSITIVE REQUESTS BCD MODE  
 REM 3. LENGTH OF RECORD  
 REM ZERO REQUESTS AN END OF FILE RECORD  
 REM ASSUMES ALL BANK SETTINGS ARE ZERO  
 REM EXCEPT RELATIVE  
 REM SPACE REQUIRED IS 133 OCTAL  
 REM LOW CORE USE 73 = 77  
 CON 0  
 BCD 6

(W1630)

0000 0000  
 0001 3426  
 0002 0106  
 0003 0346  
 0004 0133  
 0005 0012  
 0006 7777  
 0007 0000  
 0008 0503  
 0009 4073  
 0010 4074  
 0011 2200  
 0012 1170  
 0013 4244  
 0014 2177  
 0015 4266  
 0016 5477  
 0017 2177  
 0018 4076  
 0019 6210  
 0020 2200  
 0021 1000  
 0022 5233  
 0023 2476  
 0024 4076  
 0025 0401  
 0026 6102  
 0027 0402  
 0028 5225  
 0029 5476  
 0030 0705  
 0031 6307  
 0032 2200  
 0033 0100  
 0034 5217  
 0035 0504

WR163

POS

PAR

UNIT

ORG 0  
 LCN 3  
 STD COUNT1  
 STD COUNT2  
 LDC 1170  
 STF PARITY  
 LDI PARAM  
 STF START  
 AOD PARAM  
 LDI PARAM  
 STD TAPENO  
 PJF POS  
 LDC 1000  
 RAR PARITY  
 LCD TAPENO  
 STD TAPENO  
 LDN 1  
 NZF PAR  
 LDN 2  
 RAR PARITY  
 AOD TAPENO  
 SBN 5  
 NJF CREATE  
 LDC 100  
 RAR PARITY  
 LCN 4

LAST 1  
 12 - 100  
 7777

SET ERROR ROUTINE COUNTERS

LOCATION OF BUFFER

LOGICAL TAPE NUMBER

JUMP IF POS. (WRITE BCD)  
 CHANGE CODES FOR BINARY

CREATE PARITY SELECT CODE

CHECK CABINET SELECTION

CHANGE UNIT SELECTION

RWT0000:  
 RWT0001:  
 RWT0002:  
 RWT0003:  
 RWT0004:  
 RWT0005:  
 RWT0006:  
 RWT0007:  
 RWT0008:  
 RWT0009:  
 RWT0010:  
 RWT0011:  
 RWT0012:  
 RWT0013:  
 RWT0014:  
 RWT0015:  
 RWT0016:

RWT0017:  
 RWT0018:  
 RWT0019:  
 RWT0020:  
 RWT0021:  
 RWT0022:  
 RWT0023:  
 RWT0024:

RWT0025:  
 RWT0026:  
 RWT0027:  
 RWT0028:  
 RWT0029:  
 RWT0030:  
 RWT0031:  
 RWT0032:

RWT0033:  
 RWT0034:  
 RWT0035:  
 RWT0036:  
 RWT0037:  
 RWT0038:  
 RWT0039:  
 RWT0040:  
 RWT0041:  
 RWT0042:  
 RWT0043:

RWT0044:  
 RWT0045:

Address	Hex	Label	Op	Op2	Op3	Description	Hex
0034	5076		RAD		TAPENO		RWT0046:
0035	6507		NZB		UNIT		RWT0047:
0036	0517	CREATE	LCN		17		RWT0048 )
0037	1212		LPR		PARITY		RWT0049:
0040	3076		ADD		TAPENO	CREATE EXP CODES	RWT0050:
0041	4262		STR		REWIND		RWT005 )
0042	0720		SBN		20		RWT0052:
0043	4251		STR		STATUS		RWT0053:
0044	0720		SBN		20		RWT0054 )
0045	4251		STR		BCKSP		RWT0055A
0046	0710		SBN		10		RWT0056:
0047	4260		STR		WRITE		RWT0057 )
0050	7500		EXP		0		RWT0058:
0051	0000	PARITY				SELECT PROPER PARITY	RWT0059A
0052	5477		ADD		PARAM		RWT0060 )
0053	2177		LDI		PARAM		RWT0061A
0054	6052		ZJR		WREOF	ZERO LENGTH RECORD=END OF FILE	RWT0062:
0055	3220		ADR		START	COMPUTE TERM ADDRESS + 1	RWT0063 )
0056	4203		STR		TERM		RWT0064:
0057	7550	GOUT	EXP		WRITE	WRITE RECORD	RWT0065:
0060	7315		OUT		START		RWT0066 )
0061	0000	TERM					RWT0067:
0062	7532	A	EXP		STATUS	REQUEST STATUS	RWT0068A
0063	7600		INA				RWT0069 )
0064	0244		LPN		44		RWT0070
0065	0111		LS6				RWT0071:
0066	6327		NJF		EOT	PARITY ERROR	RWT0072 )
0067	0110		LS3				RWT00730
0070	6306		NJF		PARERR	OK	RWT0074:
0071	0400	EXIT2	LDN		0		RWT0075 )
0072	4077	EXIT	STD		PARAM	RETURN	RWT0076A
0073	2075		LDD		RETURN		RWT007 )
0074	0010		SRJ0				RWT0078 )
0075	0000	START					RWT0079:
0076	5473	PARERR	ADD		COUNT1		RWT0080:
0077	6005		ZJR		ERR	REWRITE THREE TIMES	RWT0081 )
0100	7516	GOBACK	EXP		BCKSP	BACKSPACE	RWT0082:
0101	7600		INA				RWT0083A
0102	6523		NZB		GOUT		RWT0084 )
0103	6424		ZJB		GOUT		RWT0085A
0104	0503	ERR	LCN		3	WRITE EOF THREE TIMES	RWT0086A
0105	4073		STD		COUNT1		RWT0087 )
0106	5474		ADD		COUNT2		RWT0088A
0107	6022		ZJF		STOP	ERROR STOP	RWT0089:
0110	7506	REDO	EXP		BCKSP	BACKSPACE	RWT0090 )
0111	7600		INA				RWT0091:
0112	7515		EXP		WRITE	WRITE END OF FILE	RWT0092:
0113	6513		NZB		GOBACK		RWT0093 )
0114	0000	STATUS					RWT00940
0115	7500	EOT	EXP		0	END OF TAPE	RWT0095A
0116	0000	BCKSP				BACKSPACE	RWT0096 )
0117	7600		INA			AND	RWT0097A
0120	7507		EXP		WRITE	WRITE 2 END OF FILES	RWT0098:
0121	7506		EXP		WRITE		RWT0099 )
0122	7500		EXP		0		RWT0100A
0123	0000	REWIND				REWIND TAPE	RWT0101A
0124	7700		HLT			HALT FOR NEW TAPE	RWT010 )
0125	6546		NZB		GOUT		RWT0102
0126	7500	WREOF	EXP		0	WRITE END OF FILE OPTION	RWT0104:
0127	0000	WRITE					RWT0105

130	6537		NZB	EXIT2
131	0000	STOP	ERR	
132	6441	LAST	ZJR	EXIT2
	0077	PARAM	EQU	77
	0076	TAPEND	EQU	76
	0073	COUNT1	EQU	73
	0074	COUNT2	EQU	74
	0075	RETURN	EQU	75
			SUPB	
	0000		END	

ERROR ON TAPE. RUN TO IGNORE

ADDRESS OF BUFFER  
LOGICAL TAPE NUMBER  
ERROR COUNTER  
ERROR COUNTER

RWT01068  
RWT01071  
RWT01081  
RWT01091  
RWT01101  
RWT01111  
RWT01121  
RWT01131  
RWT01140

	REM		RDC088				RDC0001
	REM		RDC088				RDC0002
	REM		READS ONE 80 COLUMN CARD/ENTRY				RDC0003
	REM		NO ERROR CHECKING DONE				RDC0004
	REM		ASSUMES ALL BANK SETTINGS ARE ZERO				RDC0005
	REM		EXCEPT RELATIVE				RDC0006
	REM		PARAM CONTAINS				RDC0007
	REM		THE LOCATION OF THE PARAMETER				RDC0008
	REM		LIST. THIS LIST CONTAINS ONLY				RDC0009
	REM		ONE ENTRY-THE BUFFER ADDRESS				RDC0010
	REM		USES ONLY PRIMARY READ STATION				RDC0011
	REM		SPACE REQUIRED IS 215 OCTAL				RDC0012
	REM		LOW CORE USE 70 = 77				RDC0013
	CON	0					RDC0014
0000	3451	BCD	6	(RDC88I			
0001	1210						
0002	1071						
0003	0216						
0004	0013						
0005	7777						
	0000	ORG	0				
0000	2075	RDC088	LDD	BUFCHK	ENTRY POINT		
0001	4275		STF	EXITAD	SAVE EXIT ADDRESS		
0002	7517	READ	EXF	ATX +1	REQUEST STATUS		
0003	7600		INA				
0004	0201		LPN	1			
0005	6503		NZB	READ	WAIT READY		
0006	7572		EXF	SELECT	SELECT PRIMARY READ		
0007	0101	PTA	PTA		SET UP ATE		
0010	4206		STF	ATE +1			
0011	2177		LDI	PARAM	LOCATION OF BUFFER AREA		
0012	0654		ADN	54	FIRST ADDRESS OF INPUT AREA		
0013	4076		STD	WORD			
0014	4075		STD	BUFCHK			
0015	0105	ATE	ATE		BUFFER ENTRANCE REG,		
0016	0000						
0017	3204		ADF	IBI +1			
0020	0106	ATX	ATX	340	BUFFER EXIT REG,		
0021	0340						
0022	7200	IBI	IBI	124	INITIATE INPUT		
0023	0124						
0024	2200		LDF	0			
0025	4174		STI	COLUMN			
0026	4225		STF	STORER	PRESET STORER		
0027	2177		LDI	PARAM			
0030	4073		STD	BEGINC	PRESET COLUMN 1 ADDRESS		
0031	0644		ADN	44			
0032	4072		STD	ENDCOL	PRESET COLUMN 36 ADDRESS		
0033	2200		LDF	0			
0034	0405		LDN	5			
0035	4250		STF	ENDROW	PRESET FOR FIRST HALF OF CARD		
0036	0411		LDN	11			
0037	4071		STD	CONSNT	PRESET FOR ROW=1		
0040	0407	SETWRD	LDN	7			
0041	5075		RAD	BUFCHK	WAIT FOR ROW TO BE READ		



042	0107	WAIT	ETA	
043	3475		SED	BUFCHK
044	6702		NJB	WAIT
045	2073	COLADD	LDD	BEGINC
046	4074		STD	COLUMN
047	2176	LDWORD	LDI	WORD
050	4227		STF	WORDR
051	6315	NEG	NJF	BIT
052	0400		LDN	0
053	4174	STORER	STI	COLUMN
054	5474	TSTWRD	AOD	COLUMN
055	3472		SBD	ENDCOL
056	6027		ZJF	ENDROW
057	4622		SRF	12COUN
060	6323		NJF	ENDWRD
061	4616		SRF	WORDR
062	6511		NZB	NEG
063	6412		ZJB	NEG
064	2071	BIT	LDD	CONSNT
065	6512		NZB	STORER
066	2174		LDI	COLUMN
067	6002		ZJF	ZERO
070	0406		LDN	6
071	0612	ZERO	ADN	12
072	6517		NZB	STORER
073	4077	EXITCD	STD	PARAM
074	2202		LDF	EXITAD
075	0010		SRJO	
076	0000	EXITAD		
077	0000	WORDR		
080	0301	SELECT		301
081	4000	12COUN		4000
082	4000	K4000		4000
083	5476	ENDWRD	AOD	WORD
084	6535		NZB	LDWORD
085	0405	ENDROW	LDN	5
086	5076		RAD	WORD
087	2305		LDB	K4000
088	4307		STB	12COUN
089	2071		LDD	CONSNT
090	0740		SBN	40
091	6215		PJF	SUB20
092	2341		LDB	STORER
093	1200		LPF	0
094	1000	K1000		1000
095	6103		NZF	3
096	2302		LDB	K1000
097	5346		RAB	STORER
098	0501		LCN	1
099	5071		RAD	CONSNT
100	6664		PJB	SETWRD
101	0440		LDN	40
102	6105		NZF	SETCON
103	6562	INDJMP	NZB	COLADD
104	0720	SUB20	SBN	20
105	6204		PJF	BLANKS
106	0460		LDN	60
107	4071	SETCON	STD	CONSNT
108	6574		NZB	SETWRD
109	2073	BLANKS	LDD	BEGINC

RESET TO COLUMN 1 ADDRESS

SET TO WORD TO BE CONVERTED

JUMP IF BIT IS SET

SET ZERO FOR ROW VALUE

STORE OR RAI COLUMN

INCREASE ADDRESS

JUMP IF END OF ROW

ADJUST COUNTER

JUMP IF END OF WORD

SHIFT INPUT WORD

GO BACK

INCREASE BY VALUE OF CURRENT ROW

GO BACK IF NOT ZERO

COLUMN VALUE TO A

ADD 20 IF NOT ZERO

ADD 12 IF ZERO

GO BACK

WORD BEING CONVERTED

COUNTER FOR 12 BIT WORD

CONSTANT

INCREASE ADDRESS OF INPUT

LDI 5 OR LDN1 (2ND HALF)

SET ADDRESS OF NEXT INPUT WORD

RESET COUNTER

HAS MINUS ROW BEEN READ

YES, JUMP

CHECK TO RESET STORER

CONSTANT

JUMP IF ALREADY RESET

SET STORER TO RAI

ADJUST ROW VALUE

SET MINUS ROW VALUE

INDIRECT JUMP BACKWARD

LAST ROW CONVERTED

SET ROW VALUE = \*

RESET COLUMN

RCRC050:  
RCRC051:  
RCRC052:  
RCRC053:  
RCRC054:  
RCRC055:  
RCRC056:  
RCRC057:  
RCRC058:  
RCRC059:  
RCRC060:  
RCRC061:  
RCRC062:  
RCRC063:  
RCRC064:  
RCRC065:  
RCRC066:  
RCRC067:  
RCRC068:  
RCRC069:  
RCRC070:  
RCRC071:  
RCRC072:  
RCRC073:  
RCRC074:  
RCRC075:  
RCRC076:  
RCRC077:  
RCRC078:  
RCRC079:  
RCRC080:  
RCRC081:  
RCRC082:  
RCRC083:  
RCRC084:  
RCRC085:  
RCRC086:  
RCRC087:  
RCRC088:  
RCRC089:  
RCRC090:  
RCRC091:  
RCRC092:  
RCRC093:  
RCRC094:  
RCRC095:  
RCRC096:  
RCRC097:  
RCRC098:  
RCRC099:  
RCRC100:  
RCRC101:  
RCRC102:  
RCRC103:  
RCRC104:  
RCRC105:  
RCRC106:  
RCRC107:  
RCRC108:  
RCRC109:

136	4074	STD	COLUMN			RCRC0110:
137	2174	COLOAD	LDI	COLUMN		RCRC0111:
140	6103		NZF	ADWORD	JUMP IF COLUMN VALUE IS NOT ZERO	RCRC0112:
141	0420		LDN	20	SET TO BCD BLANK	RCRC0113:
142	4174		STI	COLUMN		RCRC0114:
143	5474	ADWORD	ADD	COLUMN	SKIP TO NEXT COLUMN	RCRC0115:
144	3472		SBD	ENDCOL		RCRC0116:
145	6506		NZB	COLOAD	JUMP UNTIL COLUMN = ENDCOL	RCRC0117:
146	0404	SWITCH	LDN	4		RCRC0118:
147	1342		LPB	ENDROW		RCRC0119:
150	6455		ZJB	EXITCD	ZERO MEANS END OF 2ND HALF	RCRC0120:
151	2733		LCB	K1000		RCRC0121:
152	5377		RAB	STORER	SET STORER = STI	RCRC0122:
153	0107		ETA		LWA+1	RCRC0123:
154	0705		SBN	5		RCRC0124:
155	4071		STD	CONDNS	SET STORAGE ADDRESS	RCRC0125:
156	0703		SBN	3		RCRC0126:
157	4077		STD	ROW	SET PICK UP ADDRESS	RCRC0127:
160	0750		SEN	40D		RCRC0128:
161	4076		STD	WORD		RCRC0129:
162	2072		LDD	ENDCOL		RCRC0130:
163	4073		STD	BEGINC		RCRC0131:
164	0607		ALN	7		RCRC0132:
165	4224		STF	MOVED		RCRC0133:
166	0645		ADN	37D		RCRC0134:
167	4072		STD	ENDCOL		RCRC0135:
170	0504		LCN	4		RCRC0136:
171	5364		RAB	ENDROW		RCRC0137:
172	2745		LCB	SUB20	-3	RCRC0138:
173	5075		RAD	BUFCHK		RCRC0139:
174	0504	LAST3	LCN	4	PRESET TO MOVE REMAINING	RCRC0140:
175	4070		STD	STS	IMAGE	RCRC0141:
176	2177	LOOP	LDI	ROW		RCRC0142:
177	4171		STI	CONDNS		RCRC0143:
200	0501		LCN	1		RCRC0144:
201	5077		RAD	ROW		RCRC0145:
202	0501		LCN	1		RCRC0146:
203	5071		RAD	CONDNS		RCRC0147:
204	5470		ADD	STS		RCRC0148:
205	6507		NZB	LOOP	MOVE THREE WORDS	RCRC0149:
206	0503		LCN	3	SKIP NEXT FOUR	RCRC0150:
207	5077		RAD	ROW		RCRC0151:
210	1600		SCF	0		RCRC0152:
211	0000	MOVED				RCRC0153:
212	6516		NZB	LAST3	GO BACK IF NOT DONE	RCRC0154:
213	0411		LDN	11	SET ROW VALUE = 9	RCRC0155:
214	4071		STD	CONSNT		RCRC0156:
215	6566	LAST	NZB	INDJMP		RCRC0157:
	0077	PARAM	EQU	77	LOCATION OF BUFFER	RCRC0158:
	0076	WORD	EQU	76	ADDRESS OF CURRENT IMAGE WORD	RCRC0159:
	0075	BUFCHK	EQU	75	BUFFER CHECK ADDRESS	RCRC160:
	0074	COLUMN	EQU	74	CURRENT COLUMN ADDRESS	RCRC0161:
	0073	BEGINC	EQU	73	FIRST (OR 37TH) COLUMN ADDRESS	RCRC0162:
	0072	ENDCOL	EQU	72	LAST (36 OR 72) COLUMN ADDRESS	RCRC0163:
	0071	CONSNT	EQU	71	VALUE OF CURRENT ROW BITS	RCRC0164:
	0070	STS	EQU	70		RCRC0165:
	0071	CONDNS	EQU	CONSNT	STORAGE ADDRESS FOR MOVE	RCRC0166:
	0077	ROW	EQU	PARAM	ADDRESS OF WORD TO BE MOVED	RCRC167:
			SUPB			RCRC168:
	0000	END				RCRC169:

REM CDPNCH=523 CARD PUNCH  
 REM ASSUMES ALL BANK SETTINGS ARE ZERO  
 REM EXCEPT RELATIVE  
 REM PARAM CONTAINS THE LOCATION OF  
 REM THE PARAMETER LIST  
 REM LIST-1. BUFFER ADDRESS  
 REM 2. IGNORED  
 REM 3. LENGTH OF RECORD  
 REM BUFFER AREA IS 124 DECIMAL  
 REM RETURNS WITH PARAM =0  
 REM SPACE REQUIRED IS 204 OCTAL  
 REM LOW CORE USE = 71 - 77  
 CON 0  
 BCD 6 (P5230)

0000 0000  
 0001 3447  
 0002 0502  
 0003 0346  
 0004 0204  
 0005 0014  
 0006 7777  
 0007 0000  
 0008 2177  
 0009 4076  
 0010 0402  
 0011 5077  
 0012 2177  
 0013 4077  
 0014 3076  
 0015 4203  
 0016 0420  
 0017 4100  
 0018 0000  
 0019 2477  
 0020 4072  
 0021 2076  
 0022 4073  
 0023 4074  
 0024 2174  
 0025 0111  
 0026 4173  
 0027 5474  
 0028 2174  
 0029 5173  
 0030 0402  
 0031 5072  
 0032 6206  
 0033 5473  
 0034 5474  
 0035 6513  
 0036 0101  
 0037 4204  
 0038 2076  
 0039 0650  
 0040 0105  
 0041 0000  
 0042 3202

ADDCHK +1 - length  
 14 - 120 Vector #  
 7777  
 CDPNCH ORG 0  
 LDI PARAM PICK UP BUFFER LOCATION  
 STD TOP TOP=1ST ADDRESS OF BUFFER  
 LDN 2  
 RAD PARAM  
 LDI PARAM PICK UP RECORD LENGTH  
 STD PARAM PARAM=RECORD LENGTH  
 ADD TOP  
 STF CDP1 SET NEXT CHARACTER  
 LDN 20 TO BLANK  
 STI 0 (STM)  
 CDP1 LCD PARAM  
 STD COUNT TEMPORARY COUNTER  
 LDD TOP  
 STD ROW8 SET ROW8=1ST ADDRESS  
 STD ROW0 SET ROW0=1ST ADDRESS  
 CDP2 LDI ROW0 PICK UP ONE CHAR,  
 LS6 SHIFT  
 STI ROW8 STORE  
 ADD ROW0 ADJUST ADDRESS  
 LDI ROW0 PICK UP NEXT CHARACTER  
 RAI ROW8 ADD TO FIRST  
 LDN 2 ADJUST COUNTER  
 RAD COUNT  
 PJF CDP3 JUMP IF DONE  
 ADD ROW8 ADJUST ADDRESSES  
 ADD ROW0  
 NZR CDP2 GO BACK  
 PTA1 PTA SET UP ATE  
 STF CDP4 +1  
 CDP3 LDD TOP 1ST ADDRESS OF BUFFER  
 ADN 40D  
 CDP4 ATE  
 ADF CDP5 +1

RCP0000  
 RCP0001  
 RCP0002  
 RCP0003  
 RCP0004  
 RCP0005  
 RCP0006  
 RCP0007  
 RCP0008  
 RCP0009  
 RCP0010  
 RCP0011  
 RCP0012  
 RCP0013  
 RCP0014  
 RCP0015  
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 RCP0030  
 RCP0031  
 RCP0032  
 RCP0033  
 RCP0034  
 RCP0035  
 RCP0036  
 RCP0037  
 RCP0038  
 RCP0039  
 RCP0040  
 RCP0041  
 RCP0042  
 RCP0043  
 RCP0044  
 RCP0045  
 RCP0046  
 RCP0047  
 RCP0048  
 RCP0049  
 RCP0050  
 RCP0051

0043	0106	CDP5	ATX	124	LWA +1	RCP0052:
0044	0124					:
0045	0400		LDN	0	A=0	RCP0053:
0046	0100	CDP6	BLS			RCP0054:
0047	0000					
	0047	CHKCHR	EQU	CDP6 +1	CHECK CHARACTER	RCP0055:
0050	0107		ETA		LWA +1 TO A	RCP0056:
0051	0725		SBN	25		RCP0057:
0052	4074		STD	ROW0	SET ROW0 ADDRESS	RCP0058:
0053	0770		SBN	70		RCP0059:
0054	4073		STD	ROW8	SET ROW8 ADDRESS	RCP0060:
0055	2477		LOD	PARAM		RCP0061:
0056	4072		STD	COUNT	RESET COUNTER	RCP0062:
0057	2200		LDF	0		RCP0063:
0060	4000	K4000		4000		RCP0064:
0061	4071		STD	BIT	SET BIT	RCP0065:
0062	2176	PICKUP	LDI	TOP	PICK UP CHARACTERS	RCP0066:
0063	0111		LS6		SHIFT	RCP0067:
0064	4176		STI	TOP	STORE	RCP0068:
0065	0277		LPN	77	PICK OFF ONE	RCP0069:
0066	0720		SBN	20	SKIP IF = BCD BLANK	RCP0070:
0067	6050		ZJF	NXTCHR	TO NEXT CHARACTER	RCP0071:
0070	0620		ADN	20	RESTORE CHARACTER	RCP0072:
0071	4322		STR	CHKCHR	SAVE IT	RCP0073:
0072	0217		LPN	17	PICK OFF LOWER 4 BITS	RCP0074:
0073	6026		ZJF	ZPNCH	JUMP IF ZERO	RCP0075:
0074	0712	SUB12	SBN	12		RCP0076:
0075	6311		NJF	NPNCH	JUMP IF 1-11	RCP0077:
0076	6103		NZF	8PNCH	JUMP IF NOT 12	RCP0078:
0077	0512		LCN	12		RCP0079:
0100	6306		NJF	NPNCH	SET FOR ROW 0	RCP0080:
0101	2071	8PNCH	LDD	BIT	SET PUNCH IN 8 ROW	RCP0081:
0102	5173		RAI	ROW8		RCP0082:
0103	0407		LDN	7	EFFECTIVELY SUBTRACT 8	RCP0083:
0104	1335		LPR	CHKCHR		RCP0084:
0105	6102		NZR	MPNCH	GO TO DO REST	RCP0085:
0106	0612	NPNCH	ADN	12	RESTORE CHARACTER	RCP0086:
0107	4274	MPNCH	STR	ADDCHK	MULTIPLY X8	RCP0087:
0110	0110		LS3			RCP0088:
0111	3672		SBR	ADDCHK	SUBTRACT 1	RCP0089:
0112	4271		STR	ADDCHK	ANSWER X7	RCP0090:
0113	2074		LDD	ROW0		RCP0091:
0114	3667		SBR	ADDCHK	COMPUTE ROW ADDRESS	RCP0092:
0115	4070		STD	SUPPL	SAVE IT	RCP0093:
0116	2071		LDD	BIT	SET BIT	RCP0094:
0117	1570		SCI	SUPPL		RCP0095:
0120	4170		STI	SUPPL		RCP0096:
0121	0460	ZPNCH	LDN	60	CHECK FOR 0, -, +	RCP0097:
0122	1353		LPR	CHKCHR		RCP0098:
0123	6014		ZJF	NXTCHR	JUMP IF ZERO	RCP0099:
0124	0720		SBN	20		RCP0100:
0125	6005		ZJF	SETBIT	JUMP IF 20	RCP0101:
0126	0720		SBN	20		RCP0102:
0127	6002		ZJF	2	JUMP IF 40	RCP0103:
0130	0407		LDN	7	SET FOR +	RCP0104:
0131	0607		ADN	7	SET FOR -	RCP0105:
0132	3074	SETBIT	ADD	ROW0	SET FOR 0	RCP0106:
0133	4070		STD	SUPPL	SAVE IT	RCP0107:
0134	2071		LDD	BIT	SET BIT	RCP0108:
0135	1570		SCI	SUPPL		RCP0109:

136	4170	STI	SUPPL			RCP01108
137	5472	NXTCHR	ADD	COUNT		RCP01111
140	6022	ZJR	PNCH		JUMP IF DONE	RCP01121
141	0577	LCN	77			RCP01130
142	1176	LPI	TOP		MASK OFF ONE CHARACTER	RCP01141
143	4176	STI	TOP			RCP01151
144	6102	NZF	BITSET		OK IF NON ZERO	RCP01160
145	5476	ADD	TOP		INCREASE ADDRESS IF ZERO	RCP01170
146	2071	BITSET	LDD	BIT		RCP01181
147	0114	RS1			SHIFT BIT	RCP01190
150	6005	ZJR	RESET		ZERO MEANS END OF WORD	RCP01201
151	6202	PJF	2		JUMP IF OK	RCP01210
152	1471	SCD	BIT		SET FOR POSITIVE	RCP01221
153	4071	STD	BIT		STORE SHIFTED MASK	RCP01231
154	6572	CDP88	NZB	PICKUP	NEXT CHARACTER	RCP01241
155	2375	RESET	LDB	K4000		RCP01251
156	4071	STD	BIT		RESET BIT MASK	RCP01260
157	5473	ADD	ROW8		INCREASE ADDRESSES	RCP01271
160	5474	ADD	ROW0			RCP01281
161	6505	NZB	CDP88		NEXT CHARACTER	RCP01291
162	7500	PNCH	EXC	3040	REQUEST STATUS OF OUTPUT	RCP01301
163	3040					RCP01310
164	7600	INA				RCP01321
165	1200	LPC	2200		PUNCH NOT READY=1604 SELECTED	RCP01331
166	2200					RCP01341
167	6505	NZB	PNCH		WAIT READY	RCP01351
170	7506	EXF	PNCHBO +1		SELECT PUNCH	RCP01361
171	0107	ETA			LWA + 1	RCP01371
172	3602	SBF	PNCHBU +1		SUB 84	RCP01381
173	0105	PNCHBU	ATE	124	CANT BE BUSY	RCP01391
174	0124					RCP01401
175	7300	PNCHBO	IBO	3002		RCP01411
176	3002					RCP01421
177	0400	LDB	0		SET A=0 TO EXIT	RCP01431
200	4077	STD	PARAM			RCP01441
201	2075	LDD	CDP98			RCP01451
202	0010	SRJO				RCP01461
203	0000	ADDOHK			ADDER	RCP01471
0070	SUPPL	EQU	70		TO BE SUPPLIED	RCP01481
0077	PARAM	EQU	77		RECORD LENGTH	RCP01491
0076	TOP	EQU	76		ADDRESS OF BUFFER	RCP01501
0072	COUNT	EQU	72		COUNTER	RCP01511
0074	ROW0	EQU	74		ADDRESS IN IMAGE	RCP01521
0073	ROW8	EQU	73		ADDRESS IN IMAGE	RCP01531
0075	CDP98	EQU	75		EXIT ADDRESS	RCP01541
0071	BIT	EQU	71		MASK FOR SETTING BITS IN IMAGE	RCP01551
		SUPB				RCP01561
0000	END	END				RCP01571

	REM		LPRINT (1612)	RLP0006
	REM		LPRINT (1612)	RLP0007
	REM		ASSUMES ALL BANK SETTINGS ARE ZERO	RLP0008
	REM		EXCEPT RELATIVE	RLP0009
	REM		PARAM = LOCATION OF PARAMETER LIST	RLP0010
	REM		PARAMETER LIST	RLP0011
	REM		1 LOCATION OF BUFFER	RLP0012
	REM		2 IGNORED	RLP0013
	REM		LENGTH OF BUFFER	RLP0014
	REM		PAGE CONTROL AS FOLLOWS	RLP0015
	REM		BCD1 = PAGE EJECT	RLP0016
	REM		BCD2 = DOUBLE SPACE	RLP0017
	REM		BCD BLANK = SINGLE SPACE	RLP0018
	REM		FIRST CHARACTER NOT PRINTED	RLP0019
	REM		SPACE REQUIRED IS 51 OCTAL	RLP0020
	REM		LOW CORE USE 74=77	RLP0021
0000	CON	0		RLP0022
0001	BCD	6	(16120)	RLP0023
0002				RLP0024
0003				RLP0025
0004				RLP0026
0005				RLP0027
0006				RLP0028
0007				RLP0029
0008				RLP0030
0009				RLP0031
0010				RLP0032
0011				RLP0033
0012				RLP0034
0013				RLP0035
0014				RLP0036
0015				RLP0037
0016				RLP0038
0017				RLP0039
0018				RLP0040
0019				RLP0041
0020				RLP0042
0021				RLP0043
0022				RLP0044
0023				RLP0045
0024				RLP0046
0025				RLP0047
0026				RLP0048
0027				RLP0049
0028				RLP0050
0029				RLP0051
0030				RLP0052
0031				RLP0053
0032				RLP0054
0033				RLP0055
0034				RLP0056
0035				RLP0057

0000	3401			
0001	0601			
0002	0246			
0003	0051			
0004	0015			
0005	7777			
0006	0000			
0007	7500	ORG	0	
0008	0600	LPRINT	EXC	600
0009	2177			
0010	4076	LDI	PARAM	
0011	0601	STD	TBLADR	
0012	4243	ADN	1	
0013	0402	STF	BEGIN	
0014	5077	LDN	2	
0015	2177	RAD	PARAM	
0016	3076	LDI	PARAM	
0017	4215	ADD	TBLADR	
0018	2176	STF	PRINT1	
0019	0701	LDI	TBLADR	
0020	4074	SEN	1	
0021	6120	STD	SAVE	
0022	7500	NZF	DBLSP	
0023	0604	EXC	604	
0024	7600	PRINT	INA	
0025	6401	ZJR	PRINT	
0026	2204	LDR	PRINT1	
0027	3624	SBR	BEGIN	
0028	6016	ZJR	CHECK	
0029	7322	OUT	BEGIN	
0030	0000	PRINT1		
0031	7500	EXC	605	
0032	0605			
0033	0400	LDN	0	
0034	4077	EXIT	STD	PARAM
0035	2075	LDD	RETURN	
0036	0010	SRJO		

BEGIN +1 - length	15 - 130 - 2	7777	
SELECT PRINTER (NO INTERRUPT)			
LOGN OF BUFFER			
ADDRESS OF FIRST WORD TO BE PRINTED			
LENGTH OF RECORD			
LAST WORD ADDRESS +1			
PICK UP 1ST CHAR OF RECORD			
EJECT PAGE CODE			
SAVE FOR SINGLE CHAR. CHECK			
NO GO TO CHECK FOR DOUBLE SPACE			
EJECT PAGE			
STATUS IS ALWAYS AVAILABLE			
IF ONE WORD RECORD, CHECK ADVANCE			
PRINT			
AND ADVANCE PAPER			
EXIT			

0036	0711	DBLSP	SBN	11
0037	6516		NZB	PRINT
0040	7500	TWO	EXC	601
0041	0601			
0042	6521		NZB	PRINT
0043	2074	CHECK	LDD	SAVE
0044	6411		ZJR	EXIT
0045	0400		LDN	0
0046	4074		STD	SAVE
0047	6407		ZJR	TWO
0050	0000	BEGIN		
	0077	PARAM	EQU	77
	0076	TBLADR	EQU	76
	0075	RETURN	EQU	75
	0074	SAVE	EQU	74
			SUPB	
	0000		END	

DOUBLE SPACE CODE  
 NO GO TO PRINT  
 SPACE ONE LINE  
 THEN GO TO PRINT  
 BLANK LINE IS WANTED  
 UNLESS 1ST CHAR. IS ONE,  
 NEXT TIME EXIT.

1ST WORD ADDRESS OF PRINT BUFFER  
 LOCATION OF PARAMETER LIST  
 LOCATION OF BUFFER  
 EXIT ADDRESS

RLP00498  
 RLP00508  
 RLP00518  
 RLP00528  
 RLP00538  
 RLP00548  
 RLP00558  
 RLP00568  
 RLP00578  
 RLP00588  
 RLP00598  
 RLP00608  
 RLP00618  
 RLP00628  
 RLP00638

0000	0000	CON	0	RD1607	RD0000
0000	3401	BCD	6	RD1607	RD0001
0001	0612			READ 1607 MAGNETIC TAPE	RD0002
0002	0771			ASSUMES ALL BANK SETTINGS ARE ZERO	RD0003
0003	0222			EXCEPT RELATIVE	RD0004
0004	0016			PARAM CONTAINS THE ADDRESS OF	RD0005
0005	7777			THE PARAMETER LIST,	RD0006
0000	0000			THIS LIST CONTAINS	RD0007
0000	2177	ORG	0	1. LOCATION OF BUFFER	RD0008
0001	4271	LDI	PARAM	2. LOGICAL TAPE NUMBER (1-4)	RD0009
0002	4071	STF	START	POS. = BCD MODE	RD0010
0003	3200	STD	START1	NEG. = BINARY MODE	RD0011
0004	0171	ADC	171	3. ZERO CALLS FOR REWIND	RD0012
0005	4237	STR	END	POSITIVE CALLS FOR READ	RD0013
0006	5477	AOD	PARAM	NEGATIVE CALLS FOR BACKSPACING	RD0014
0007	2177	LDI	PARAM	N RECORDS WHERE N = THE	RD0015
0010	4073	STD	TAPENO	COMPLEMENT OF THE NUMBER OF	RD0016
0011	6363	NJF	BINARY	RECORDS TO BE BACKSPACED	RD0017
0012	2261	LPF	K5001	SPACE REQUIRED IS 222 OCTAL	RD0018
0013	0601	ADN	1	LOW CORE USE 70 = 77	RD0019
0014	4226	STF	READ		RD0020
0015	4070	STD	READ1		RD0021
0016	0474	LDN	74		
0017	5253	RAR	START		
0020	4071	STD	START1		
0021	5473	AOD	TAPENO		
0022	0110	CRSEL	LS3		
0023	3217	ADF	READ		
0024	4202	STF	SELECT		
0025	7500	EXF	0		
0026	0000	SELECT			
0027	7572	WAIT	EXF		
0030	7600	INA			
0031	1273	LPF	K200		
0032	6503	NZB	WAIT		

0000	0000	ORG	0		
0000	2177	LDI	PARAM	RD1607	RD0022
0001	4271	STF	START		RD0023
0002	4071	STD	START1		RD0024
0003	3200	ADC	171		RD0025
0004	0171				RD0026
0005	4237	STR	END		RD0027
0006	5477	AOD	PARAM		RD0028
0007	2177	LDI	PARAM		RD0029
0010	4073	STD	TAPENO		RD0030
0011	6363	NJF	BINARY		RD0031
0012	2261	LPF	K5001		RD0032
0013	0601	ADN	1		RD0033
0014	4226	STF	READ		RD0034
0015	4070	STD	READ1		RD0035
0016	0474	LDN	74		RD0036
0017	5253	RAR	START		RD0037
0020	4071	STD	START1		RD0038
0021	5473	AOD	TAPENO		RD0039
0022	0110	CRSEL	LS3		RD0040
0023	3217	ADF	READ		RD0041
0024	4202	STF	SELECT		RD0042
0025	7500	EXF	0		RD0043
0026	0000	SELECT			RD0044
0027	7572	WAIT	EXF		RD0045
0030	7600	INA			RD0046
0031	1273	LPF	K200		RD0047
0032	6503	NZB	WAIT		RD0048

0000	0000	CON	0	RD1607	RD0000
0000	3401	BCD	6	RD1607	RD0001
0001	0612			READ 1607 MAGNETIC TAPE	RD0002
0002	0771			ASSUMES ALL BANK SETTINGS ARE ZERO	RD0003
0003	0222			EXCEPT RELATIVE	RD0004
0004	0016			PARAM CONTAINS THE ADDRESS OF	RD0005
0005	7777			THE PARAMETER LIST,	RD0006
0000	0000			THIS LIST CONTAINS	RD0007
0000	2177	ORG	0	1. LOCATION OF BUFFER	RD0008
0001	4271	LDI	PARAM	2. LOGICAL TAPE NUMBER (1-4)	RD0009
0002	4071	STF	START	POS. = BCD MODE	RD0010
0003	3200	STD	START1	NEG. = BINARY MODE	RD0011
0004	0171	ADC	171	3. ZERO CALLS FOR REWIND	RD0012
0005	4237	STR	END	POSITIVE CALLS FOR READ	RD0013
0006	5477	AOD	PARAM	NEGATIVE CALLS FOR BACKSPACING	RD0014
0007	2177	LDI	PARAM	N RECORDS WHERE N = THE	RD0015
0010	4073	STD	TAPENO	COMPLEMENT OF THE NUMBER OF	RD0016
0011	6363	NJF	BINARY	RECORDS TO BE BACKSPACED	RD0017
0012	2261	LPF	K5001	SPACE REQUIRED IS 222 OCTAL	RD0018
0013	0601	ADN	1	LOW CORE USE 70 = 77	RD0019
0014	4226	STF	READ		RD0020
0015	4070	STD	READ1		RD0021
0016	0474	LDN	74		
0017	5253	RAR	START		
0020	4071	STD	START1		
0021	5473	AOD	TAPENO		
0022	0110	CRSEL	LS3		
0023	3217	ADF	READ		
0024	4202	STF	SELECT		
0025	7500	EXF	0		
0026	0000	SELECT			
0027	7572	WAIT	EXF		
0030	7600	INA			
0031	1273	LPF	K200		
0032	6503	NZB	WAIT		



033	5477	ADD	PARAM			PRD0052:
034	2177	LDI	PARAM		PICK UP 3RD PARAMETER	PRD0053:
035	6045	ZJR	REWIND		JUMP TO REWIND FUNCTION	PRD0054:
036	6346	NJR	BCKSPF		JUMP TO BACKSPACE N RECORDS	PRD0055:
037	0504	LCN	4		SET ERROR COUNTER.	PRD0056:
040	4074	STD	COUNT1			PRD0057:
041	7500	READF	EXF		0	PRD0058:
042	0000	READ			READ	PRD0059:
043	7227		INP		START	PRD0060:
044	0000	END			INFO START TO END	PRD0061:
045	4072		STD		TO BE SUPPLIED	PRD0062:
046	7553	WAIT1	EXF		LWA + 1 OR 2 OF RECORD READ	PRD0063:
047	7600		INA		WAIT READY	PRD0064:
050	4076		STD		RESPON	PRD0065:
051	1253		LPF		K200	PRD0066:
052	6504		NZR		WAIT1	PRD0067:
053	0454		LDN		54	PRD0068:
054	1076		LPD		RESPON	PRD0069:
055	6040		ZJR		CHKPA	PRD0070:
056	0204		LPN		4	PRD0071:
057	6150		NZR		EOT	PRD0072:
060	0410		LDN		10	PRD0073:
061	1076		LPD		RESPON	PRD0074:
062	6155		NZR		EOT	PRD0075:
063	5474		ADD		COUNT1	PRD0076:
064	6132		NZR		BCKSP	PRD0077:
065	2073		LDD		TAPENO	PRD0078:
066	6346		NJR		EXIT	PRD0079:
067	0000		ERR			PRD0080:
070	0400		LDN		0	PRD0081:
071	6043		ZJR		EXIT	PRD0082:
072	0000	START				PRD0083:
073	5001	K5001			5001	PRD0084:
074	2301	BINARY	LDR		K5001	PRD0085:
075	4333		STR		READ	PRD0086:
076	4070		STD		READ1	PRD0087:
077	2473		LCD		TAPENO	PRD0088:
100	0601		ADN		1	PRD0089:
101	6557		NZR		CRSEL	PRD0090:
102	7526	REWIND	EXF		K5005	PRD0091:
103	6130		NZR		SETA0	PRD0092:
104	4074	BCKSPF	STD		COUNT1	PRD0093:
105	7512	BACK	EXF		K5006	PRD0094:
106	7513	WAIT3	EXF		STATUS	PRD0095:
107	7600		INA			PRD0096:
110	1214		LPR		K200	PRD0097:
111	6503		NZR		WAIT3	PRD0098:
112	5474		ADD		COUNT1	PRD0099:
113	6506		NZR		BACK	PRD0100:
114	6020		ZJR		EXIT	PRD0101:
115	6054	CHKPA	ZJF		CHKPAR	PRD0102:
116	7500	BCKSP	EXF		0	PRD0103:
117	5006	K5006			5006	PRD0104:
120	7500	WAIT4	EXF		0	PRD0105:
121	6053	STATUS			6053	PRD0106:
122	7600		INA			PRD0107:
123	1200		LPF		0	PRD0108:
124	0200	K200			200	PRD0109:
125	6505		NZR		WAIT4	PRD0110:
126	6465		ZJR		READF	PRD0111:

0127	7500	EOT	EXF	0	REWIND (END OF TAPE)	RRDC0112:
0130	5005	K5005		5005		RRDC0113:
0131	7700		HLT		STOP	RRDC0114:
0132	6471		ZJR	READF	A=0 READ AGAIN, A NON ZERO IGNORE	RRDC0115:
0133	0400	SETAG	LDR	0	SET A=ZERO	RRDC0116:
0134	4077	EXIT	STD	PARAM	RETURN	RRDC0117:
0135	2075		LDD	EXITAD		RRDC0118:
0136	0010		SRJO			RRDC0119:
0137	2375	EOF	LDR	READ	END FILE	RRDC0120:
0140	4025		STD	EOFFLG	STORE FLAG FOR END OF FILE	RRDC0121:
0141	0101		PTA			RRDC0122:
0142	4203		STF	ATE +1		RRDC0123:
0143	2351		LDR	START		RRDC0124:
0144	0105	ATE	ATE			RRDC0125:
0145	0000					
0146	2072		LDD	LENGTH		RRDC0126:
0147	0106		ATX			RRDC0127:
0150	0000					
0151	2025		LDD	EOFFLG		RRDC0128:
0152	0201		LPN	1	CHECK PARITY	RRDC0129:
0153	6012		ZJR	BCDTW	BCD JUMP	RRDC0130:
0154	2362		LDR	START		RRDC0131:
0155	4074		STD	COUNT1		RRDC0132:
0156	0437		LDR	37	SET FLAG FOR ONE PHYSICAL (BIN) RECORD	RRDC0133:
0157	4174		STI	COUNT1		RRDC0134:
0160	5766		AOR	START		RRDC0135:
0161	0105		ATE			RRDC0136:
0162	0000					
0163	0400		LDR	0	SET BUFFER TO BLANKS	RRDC0137:
0164	6002		ZJR	BCDTW +1		RRDC0138:
0165	0420	BCDTW	LDR	20	SET BUFFER TO BLANKS	RRDC0139:
0166	0100		BLS			RRDC0140:
0167	0000					
0170	6102		NZR	CHKPAR +1		RRDC0141:
0171	4025	CHKPAR	STD	EOFFLG		RRDC0142:
0172	2070		LDD	READ1		RRDC0143:
0173	0202		LPN	2		RRDC0144:
0174	6440		ZJR	EXIT	EXIT IF BINARY READ	RRDC0145:
0175	2071		LDD	START1	SET TO UNPACK CHARACTERS	RRDC0146:
0176	4077		STD	PARAM	PICK UP ADDRESS	RRDC0147:
0177	3472		SBD	LENGTH		RRDC0148:
0200	0601		ADN	1		RRDC0149:
0201	4074		STD	COUNT1	CHARACTER COUNTER	RRDC0150:
0202	0574		LCN	74		RRDC0151:
0203	3071		ADD	START1	FWA OF BUFFER	RRDC0152:
0204	4073		STD	TAPENO	STORE ADDRESS	RRDC0153:
0205	2177	LOOP	LDI	PARAM	UNACK RECORD	RRDC0154:
0206	0111		LS6			RRDC0155:
0207	0277		LPN	77		RRDC0156:
0210	4173		STI	TAPENO		RRDC0157:
0211	5473		AOD	TAPENO		RRDC0158:
0212	2177		LDI	PARAM		RRDC0159:
0213	0277		LPN	77		RRDC0160:
0214	4173		STI	TAPENO		RRDC0161:
0215	5473		AOD	TAPENO		RRDC0162:
0216	5477		AOD	PARAM		RRDC0163:
0217	5474		AOD	COUNT1		RRDC0164:
0220	6513		NZB	LOOP	JUMP UNTIL DONE	RRDC0165:
0221	6465	LAST	ZJR	EXIT		RRDC0166:
	0077	PARAM	EQU	77	PARAMETER LIST ADDRESS	RRDC0167:

0073 TAPENO EQU 73  
0074 COUNT1 EQU 74  
0072 LENGTH EQU 72  
0071 START1 EQU 71  
0070 READ1 EQU 70  
0076 RESPON EQU 76  
0075 EXITAD EQU 75  
0025 EOFFLG EQU 25  
SUPB  
0000 END

TABE NUMBER  
COUNTER  
LWA+1 OR 2 OF READ

STATUS RESPONSE  
EXIT ADDRESS  
END OF FILE FLAG

RRD0168  
RRD0169  
RRD0170  
RRD0171  
RRD0172  
RRD0173  
RRD0174  
RRD0175  
RRD0176

0000	0000	REM	WR1607		RWD0000
0001	3401	REM	WR1607		RWD0001
0002	0612	REM	MAGNETIC TAPE WRITE 1607		RWD0002
0003	0746	REM	ENTER WITH PARAM = ADDRESS OF THE		RWD0003
0004	0174	REM	PARAMETER LIST,		RWD0004
0005	0017	REM	PARAMETER LIST AS FOLLOWS-		RWD0005
0006	7777	REM	1. ADDRESS OF BUFFER		RWD0006
0007	0000	REM	2. LOGICAL TAPE NUMBER		RWD0007
0008	2177	REM	NEGATIVE REQUESTS BINARY MODE		RWD0008
0009	4270	REM	POSITIVE REQUESTS BCD MODE		RWD0009
0010	4072	REM	3. LENGTH OF RECORD		RWD0010
0011	4071	REM	ZERO REQUESTS END OF FILE RECORD		RWD0011
0012	5477	REM	ASSUMES ALL BANK SETTINGS ARE ZERO		RWD0012
0013	2177	REM	EXCEPT RELATIVE		RWD0013
0014	4076	REM	SPACE REQUIRED IS 173 OCTAL		RWD0014
0015	6365	REM	LOW CORE USE 71=77		RWD0015
0016	2262	CON			RWD0016
0017	0601	BCD			RWD0017
0018	4261				RWD0018
0019	5477				RWD0019
0020	2177				RWD0020
0021	6031				RWD0021
0022	4074				RWD0022
0023	4073				RWD0023
0024	0201				RWD0024
0025	6006				RWD0025
0026	2071				RWD0026
0027	5073				RWD0027
0028	0420				RWD0028
0029	4173				RWD0029
0030	0401				RWD0030
0031	3074				RWD0031
0032	0114				RWD0032
0033	4177				RWD0033
0034	1677				RWD0034
0035	4073				RWD0035
0036	2172				RWD0036

0000	0000	ORG	0		RWD0018
0001	WR1607	LDI	PARAM	PICK UP BUFFER LOCATION	RWD0019
0002		STF	START	SET START	RWD0020
0003		STD	PICKUP	SET TO PACK	RWD0021
0004		STD	STORE		RWD0022
0005		AOB	PARAM	INCREASE ADDRESS	RWD0023
0006		LDI	PARAM	PICK UP AND	RWD0024
0007		STD	COUNT	SAVE TAPE NUMBER	RWD0025
0008		NJR	BINARY	JUMP IF BINARY MODE	RWD0026
0009		LDR	K6001	SET SELECT TAPE BCD CODE	RWD0027
0010		ADN	1		RWD0028
0011		STR	WRITE		RWD0029
0012		AOB	PARAM		RWD0030
0013		LDI	PARAM	RECORD LENGTH	RWD0031
0014		ZJR	CRSEL	JUMP IF ZERO	RWD0032
0015		STD	COUNT1	SAVE CHARACTER COUNT	RWD0033
0016		STD	COUNT2		RWD0034
0017		LPM	1	IF EVEN	RWD0035
0018		ZJF	PKSET	JUMP	RWD0036
0019		LDD	STORE		RWD0037
0020		RAD	COUNT2		RWD0038
0021		LDN	20	SET BCD BLANK FOR LAST	RWD0039
0022		STI	COUNT2	CHARACTER	RWD0040
0023		LDN	1	INCREASE COUNT	RWD0041
0024		PKSET	ADD	PICK UP COUNT	RWD0042
0025		RS1	COUNT1	DIVIDE BY 2	RWD0043
0026		STI	PARAM	SAVE	RWD0044
0027		SCF	STOP		RWD0045
0028		STD	COUNT2	SET PACKING COUNTER	RWD0046
0029		PKLP	LDI	PACKING LOOP	RWD0047
0030					RWD0048
0031					RWD0049
0032					RWD0050

035	0111	LS3				RWD0051:
036	4171	STI	STORE			RWD0052:
037	5472	ADD	PICKUP			RWD0053:
040	2172	LDI	PICKUP			RWD0054:
041	5171	RAI	STORE			RWD0055:
042	5471	ADD	STORE			RWD0056:
043	5472	ADD	PICKUP			RWD0057:
044	5473	ADD	COUNT2			RWD0058:
045	6511	NZR	PKLP			RWD0059:
046	5476	CRSEL	ADD	COUNT	TAPE NUMBER TO A	RWD0060:
047	0110	LS3			CREATE SELECT CODE	RWD0061:
050	3223	ADF	WRITE			RWD0062:
051	4202	STF	SELECT		STORE	RWD0063:
052	7500	EXF	0		EXECUTE	RWD0064:
053	0000	SELECT			TO BE SUPPLIED	RWD0065:
054	0101	PTA				RWD0066:
055	6166	NZR	WAIT			RWD0067:
056	2177	LDI	PARAM	RECORD LENGTH		RWD0068:
057	6023	ZJF	WREOFF	JUMP IF ZERO		RWD0069:
060	3211	ADR	START	COMPUTE LWA+1		RWD0070:
061	4206	STR	END	STORE		RWD0071:
062	0504	WRITE1	LCN	4	SET ERROR COUNTERS	RWD0072:
063	4076	STD	COUNT			RWD0073:
064	4074	STD	COUNT1			RWD0074:
065	7506	WRITEF	EXF	WRITE	WRITE FROM START-END	RWD0075:
066	7303	OUT	START			RWD0076:
067	0000	END				RWD0077:
070	6120	NZF	WAIT2		GO TO CHECK FOR ERRORS	RWD0078:
071	0000	START			FIRST WORD ADDRESS	RWD0079:
072	6001	K6001	6001			RWD0080:
073	0000	WRITE			WRITE TAPE CODE	RWD0081:
074	2302	BINARY	LDR	K6001		RWD0082:
075	4302	STR	WRITE		SELECT TAPE BINARY	RWD0083:
076	2577	LCI	PARAM			RWD0084:
077	4076	STD	COUNT		TAPE NUMBER COMPLEMENTED	RWD0085:
100	5477	ADD	PARAM		INCREASE ADDRESS	RWD0086:
101	5533	NZR	CRSEL		JUMP	RWD0087:
102	7570	WREOFF	EXF	K6003	WRITE END OF FILE	RWD0088:
103	0101	PTA				RWD0089:
104	6137	NZR	WAIT			RWD0090:
105	4077	EXIT	STD	PARAM		RWD0091:
106	2075	LDD	EXITAD			RWD0092:
107	0010	SRJ0				RWD0093:
110	0101	WAIT2	PTA			RWD0094:
111	6132	NZR	WAIT			RWD0095:
112	0424	CHKWR	LDN	24		RWD0096:
113	1073	LPD	COUNT2			RWD0097:
114	6407	ZJR	EXIT		EXIT IF NO ERRORS	RWD0098:
115	0204	LPN	4			RWD0099:
116	6017	ZJR	PARERR		JUMP IF PARITY ERROR	RWD0100:
117	7541	EOT	EXF	BACKSP	BACKSPACE	RWD0101:
120	0101	PTA			WRITE 2 EOFS	RWD0102:
121	6122	NZR	WAIT		AND REWIND	RWD0103:
122	7550	EXF	K6003			RWD0104:
123	0101	PTA				RWD0105:
124	6117	NZR	WAIT			RWD0106:
125	7545	EXF	K6003			RWD0107:
126	0101	PTA				RWD0108:
127	6114	NZR	WAIT			RWD0109:
130	7543	EXF	K6005		REWIND FOR END OF TAPE	RWD0110:

0131	7777	STOP	HLT	77	STOP	RWD0111:
0132	0101		PTA			RWD0112:
0133	6110		NZR	WAIT		RWD0113:
0134	6447		ZJB	WRITEF	WRITE AGAIN	RWD0114:
0135	5476	PARERR	ADD	COUNT	TRY 3 TIMES	RWD0115:
0136	6017		ZJF	BUMPC1		RWD0116:
0137	7521	BACK	EXF	BACKSP	BACKSPACE	RWD0117:
0140	0101		PTA		AND READ AGAIN	RWD0118:
0141	6102		NZR	WAIT		RWD0119:
0142	6455		ZJR	WRITEF		RWD0120:
0143	0602	WAIT	ADN	2	RETURN ADDRESS MINUS 2 IS IN A	RWD0121:
0144	4071		STD	STORE		RWD0122:
0145	7500	WAIT1	EXC	6053	STATUS	RWD0123:
0146	6053					:
0147	7600		INA			RWD0124:
0150	4073		STD	COUNT2	SAVE	RWD0125:
0151	1200		LPC	100	MASK	RWD0126:
0152	0100					:
0153	6506		NZR	WAIT1	NOT READY	RWD0127:
0154	7071		JPI	STORE	RETURN	RWD0128:
0155	5474	BUMPC1	ADD	COUNT1	3 EOFs	RWD0129:
0156	6011		ZJF	ERR		RWD0130:
0157	7500		EXF	0	BACKSPACE	RWD0131:
0160	6006	BACKSP		6006		RWD0132:
0161	0101		PTA			RWD0133:
0162	6517		NZR	WAIT		RWD0134:
0163	7507		EXF	K6003	WRITE EOF	RWD0135:
0164	0101		PTA			RWD0136:
0165	6522		NZR	WAIT		RWD0137:
0166	6427		ZJR	BACK	BACKSPACE AND TRY AGAIN	RWD0138:
0167	0000	ERR	ERR		BAD TARE -- RUN TO IGNORE	RWD0139:
0170	0400		LDN	0		RWD0140:
0171	6464		ZJB	EXIT		RWD0141:
0172	6003	K6003		6003	WRITE END OF FILE CODE	RWD0142:
0173	6005	K6005		6005	REWIND CODE	RWD0143:
	0075	EXITAD	EQU	75	EXIT ADDRESS	RWD0144:
	0077	PARAM	EQU	77	PARAMETER LIST ADDRESS	RWD0145:
	0076	COUNT	EQU	76	BACKSPACE COUNTER	RWD0146:
	0074	COUNT1	EQU	74	WRITE END OF FILE COUNTER	RWD0147:
	0073	COUNT2	EQU	73	PAGING COUNTER	RWD0148:
	0072	PICKUP	EQU	72	ADDRESS	RWD0149:
	0071	STORE	EQU	71	ADDRESS	RWD0150:
	0000		SUPB			:
			END			RWD0151:

```

REM LPR166 PRINTER
REM ASSUMES ALL BANK SETTINGS ARE ZERO
REM EXCEPT RELATIVE
REM STORE=LOCATION OF PARAMETER LIST
REM PARAMETER LIST
REM 1. LOCATION OF BUFFER
REM 2. IGNORED
REM 3. LENGTH OF BUFFER
REM PAGE CONTROL AS FOLLOWS
REM BCD1 = PAGE EJECT
REM BCD0 = DOUBLE SPACE
REM BCD BLANK = SINGLE SPACE
REM FIRST CHARACTER IS NOT PRINTED
REM SPACE REQUIRED IS 105 OCTAL
REM LOW CORE USE 73=77
CON 0
BCD 6

```

```

RSP0000:
RSP0001:
RSP0002:
RSP0003:
RSP0004:
RSP0005:
RSP0006:
RSP0007:
RSP0008:
RSP0009:
RSP0010:
RSP0011:
RSP0012:
RSP0013:
RSP0014:
RSP0015:
RSP0016:

```

```

0000 3447
0001 0106
0002 0646
0003 0105
0004 0020
0005 7777

```

K740

+1

20 - 16D

VECTOR NUMBER

7777

```

RSP0017:
RSP0018:
RSP0019:

```

```

0000 2177
0001 4076
0002 4264
0003 4254
0004 0601
0005 4074
0006 7576
0007 7600
0010 6502
0011 2176
0012 0701
0013 4073
0014 6062
0015 0711
0016 6063
0017 0402
0020 3077
0021 4076
0022 2176
0023 0701
0024 6043
0025 0601
0026 3177
0027 4073
0030 0420
0031 4173
0032 2177
0033 4077
0034 2176
0035 0114
0036 5221
0037 2174
0040 0111
0041 4177

```

LPR166

READY

PACK

LOOP

```

ORG 0
LPR166 LDI STORE
STN PARAM
STF START
STF END
ADN 1
STD PICKUP
READY EXF K740
INA
NZR READY
LDI PARAM
SBN 1
STD COUNT
ZJF EJECT
SBN 11
ZJF DBLSP
PACK LDN 2
ADD STORE
STD PARAM
LDI PARAM
SBN 1
ZJR CHECK
ADN 1
ADI STORE
STD COUNT
LDN 20
STI COUNT
LDI STORE
STD STORE
LDI PARAM
RS1
RAF END
LOOP LDI PICKUP
LS6
STI STORE

```

BUFFER ADDRESS:

SAVE IT

SET FWA

SET TO COMPUTE LWA+1

FWA OF ACTUAL PRINTING

WAIT READY

FIRST CHARACTER:

PAGE EJECT

SAVE COL 1 FOR SINGLE CHAR.

JUMP IF ZERO

DOUBLE SPACE

JUMP IF ZERO

PACK CHARACTERS TWO PER WORD

LENGTH OF RECORD

CHECK LINE ADVANCE

SET LAST CHARACTER TO BLANK,

DIVIDE BY 2

COMPUTE AND STORE LWA + 1

PACK LOOP

```

RSP0017:
RSP0018:
RSP0019:
RSP0020:
RSP0021:
RSP0022:
RSP0023:
RSP0024:
RSP0025:
RSP0026:
RSP0027:
RSP0028:
RSP0029:
RSP0030:
RSP0031:
RSP0032:
RSP0033:
RSP0034:
RSP0035:
RSP0036:
RSP0037:
RSP0038:
RSP0039:
RSP0040:
RSP0041:
RSP0042:
RSP0043:
RSP0044:
RSP0045:
RSP0046:
RSP0047:
RSP0048:
RSP0049:
RSP0050:
RSP0051:
RSP0052:
RSP0053:
RSP0054:

```

0042	5474		ADD	PICKUP		RSP0055:
0043	2174		LDI	PICKUP		RSP0056
0044	5177		RAI	STORE		RSP0057
0045	5474		ADD	PICKUP		RSP0058
0046	5477		ADD	STORE		RSP0059:
0047	3610		SBF	END		RSP006
0050	6511		NZB	LOOP		RSP0061
0051	7533	WAIT	EXF	K740	WAIT READY	RSP0062
0052	7600		INA			RSP0053
0053	6502		NZB	WAIT		RSP0064:
0054	7500		EXC	700	PRINT	RSP0065:
0055	0700					
0056	7310		OUT	START	OUTPUT	RSP0066
0057	0000	END			START TO END	RSP0067:
0060	7500		EXC	720	MOVE PAPER	RSP0068
0061	0720					
0062	0400		LDN	0	SET A = 0	RSP0069
0063	4077	EXIT	STD	STORE	RETURN	RSP0070
0064	2075		LDD	RETURN		RSP0071:
0065	0010		SRJO			RSP0072:
0066	0000	START			FWA	RSP0073
0067	2073	CHECK	LDD	COUNT		RSP0074:
0070	6405		ZJR	EXIT	PAGE EJECT	RSP0075:
0071	7513		EXF	K740	WAIT READY	RSP0076
0072	7600		INA			RSP0077:
0073	6502		NZB	2		RSP0078:
0074	7506		EXF	DBLSP +1	SINGLE SPACE	RSP0079
0075	6513		NZR	EXIT -1		RSP0080:
0076	7500	EJECT	EXC	727	EJECT PAGE	RSP0081:
0077	0727					
0100	6561		NZB	PACK		RSP0082
0101	7500	DBLSP	EXC	720	MOVE PAPER	RSP0083
0102	0720					
0103	6564		NZB	PACK		RSP0084:
0104	0740	K740		740	STATUS REQUEST CODE	RSP0085:
0077	STORE	EQU	77			RSP0086
0076	PARAM	EQU	76			RSP0087
0074	PICKUP	EQU	74			RSP0088:
0075	RETURN	EQU	75			RSP0089
0073	COUNT	EQU	73			RSP0090:
0000		SUPB				
		END				RSP0091





0042	6304		NJF	SPECL			RSC0046:
0043	7600		INA			READ SINGLE COL, BEGINNING	RSC0047:
0044	6103		NZF	SPECL	+1	WITH COL. 3	RSC0048
0045	6002		ZJF	SPECL	+1		RSC0049:
0046	2177	SPECL	LDI	PAIR			RSC0050:
0047	0103		LS2			CONVERT TO BCD	RSC0051
0050	4073		STD	LOOK		WILL BE USED WITH SHIFT REPLACE	RSC0052
0051	0102		LS1				RSC0053:
0052	6011		ZJF	ONE		ZERO IS BLANK	RSC0054
0053	0207		LPN	7		LOOK AT ZONE FIRST	RSC0055:
0054	6010		ZJF	ZERO		NO ZONE	RSC00560
0055	0701		SBN	1		ASSUME 1 ZONE BIT, IF NOT, TREAT	RSC0057
0056	6005		ZJF	ONE		AS 12 ZONE.	RSC0058:
0057	0701		SBN	1			RSC0059:
0060	6002		ZJF	TWO			RSC0060
0061	0420	FOUR	LDN	20			RSC0061:
0062	0620	TWO	ADN	20			RSC00620
0063	0620	ONE	ADN	20			RSC0063
0064	4177	ZERO	STI	PAIR		STORE VALUE	RSC0064:
0065	0511	DIGIT	LCN	11		NINE DIGITS	RSC00650
0066	4072		STD	COUNT			RSC0066
0067	4473	LOOP9	SRD	LOOK		TEST FOR EACH BIT IN TURN	RSC0067:
0070	6204		PJF	BUMP		NO BIT	RSC00685
0071	2072		LDD	COUNT		ADD 10=1	RSC0069
0072	0612		ADN	12			RSC0070:
0073	5177		RAI	PAIR			RSC00710
0074	5472	BUMP	ADD	COUNT			RSC0072
0075	6506		NZR	LOOP9			RSC0073:
0076	2177		LDI	PAIR			RSC00748
0077	0277		LPN	77			RSC0075
0100	4177		STI	PAIR			RSC0076:
0101	2073	NEXT	LDD	LOOK			RSC0077
0102	3600		SBC	400		ZERO ALONE IS SPECIAL	RSC0078
0103	0400						:
0104	6103		NZF	GOBACK			RSC0079:
0105	0412		LDN	12			RSC0080
0106	4177		STI	PAIR			RSC0081:
0107	5477	GOBACK	ADD	PAIR			RSC0082:
0110	3476		SBD	LAST			RSC0083
0111	6551		NZR	LOOP			RSC0084:
0112	4077		STD	PAIR		EXIT	RSC0085:
0113	2075		LDD	RETURN			RSC0086
0114	0010	END	SRJD				RSC0087:
	0075	RETURN	EQU	75			RSC0088:
	0077	PAIR	EQU	77			RSC0089
	0076	LAST	EQU	76			RSC0090:
	0073	LOOK	EQU	73			RSC0091:
	0072	COUNT	EQU	72			RSC0092
			SUPB				:
	0000		END				RSC0093

	REM		RDC405 = CARD READER	RC50000:
	REM		READS ONE 80 COL CARD	RC50001:
	REM		NO ERROR CHECKING EXCEPT FOR	RC50002:
	REM		READER FAILURE,	RC50003:
	REM		PAIR CONTAINS	RC50004:
	REM		THE LOCATION OF THE PARAMETER	RC50005:
	REM		LIST-ONLY ENTRY IS BUFFER ADDRESS	RC50006:
	REM		ALL BANKS ASSUMED 0 EXCEPT RELATIVE	RC50007:
	REM		SPACE REQUIRED IS 71 OCTAL	RC50008:
	REM		LOW CORE USED IS 75-77	RC50009:
	CON	0		RC50010:
0000	BOD	6	(R4051	RC50011:
0001				
0002				
0003				
0004				
0005				
0000				
0000	0000			
0001	2177	RDC405	ORG LDI PAIR	ENTRY
0002	0650		ADN 50	
0003	4077		STD PAIR	FIRST WORD OF BUFFER
0004	7547	STATUS	EXF CHECK +1	WAIT READY
0005	7600		INA	
0006	6007		ZJF ATE -1	
0007	0701		SBN 1	HORPER EMPTY
0010	6504		NZB STATUS	
0011	2200		LDC 3535	
0012	3535			
0013	7700		HLT	YES, HALT WITH 3535 IN A- REG,
0014	6510		NZB STATUS	RUN TO CONTINUE
0015	2077		LDD PAIR	
0016	0105	ATE	ATE ATE	B-FFER ENTR, REG,
0017	0015			
0020	0650		ADN 50	
0021	0106	ATX	ATX ATX	BUFFER EXIT REG
0022	0020			
0023	7500		EXC 4502	SINGLE CYCLE AND PACK
0024	4502			
0025	7200	IBI	IBI IBI	INITIATE BUFFER INPUT
0026	0024			
0027	2077		LDD PAIR	
0030	0750		SBN 50	
0031	4076		STD STORE	FIRST WORD OF CARD IMAGE
0032	0107	UNPACK	ETA	SEE IF WORD IS IN
0033	3477		SBD PAIR	
0034	0701		SBN 1	
0035	6703		NJB UNPACK	
0036	0577		LON 77	LEFT HALF
0037	1177		LPI PAIR	
0040	0111		LS6	
0041	4176		STI STORE	BUMP STORE
0042	5476		AOD STORE	RIGHT HALF
0043	0477		LDN 77	
0044	1177		LPI PAIR	
0044	4176		STI STORE	

0045	5476		ADD	STORE		BUMP		RC50048:
0046	5477		ADD	PAIR				RC50049:
0047	3476		SBD	STORE		IF EQUAL, WERE DONE		RC50050:
0050	6517		NZB	UNPACK				RC50051:
0051	7500	CHECK	EXC	4540		CHECK FOR READER FAILURE		RC50052:
0052	4540							
0053	7600		INA					RC50053:
0054	1200		LPC	124				RC50054:
0055	0124							
0056	6010		ZJF	OUT	-2			RC50055:
0057	7500		EXC	4510		GATE CARD TO SECONDARY HOPPER		RC50056:
0060	4510							
0061	2304		LDB	4				RC50057:
0062	0000	ERROR	ERR			READER FAILURE		RC50058:
0063	0550		LCN	50				RC50059:
0064	5077		RAD	PAIR				RC50060:
0065	6562		NZB	STATUS				RC50061:
0066	4077		STD	PAIR				RC50062:
0067	2075		LDD	RETURN				RC50063:
0070	0010	OUT	SRJO			EXIT		RC50064:
	0075	RETURN	EQU	75				RC50065:
	0076	STORE	EQU	76				RC50066:
	0077	PAIR	EQU	77				RC50067:
			SUPB					
	0000		END					RC50068:

WIN 24 SEPT 1963 CHANGED EQUIVALENCES ONLY

		REM		
0555	BMACSW	EQU	555	
0770	BINTAD	EQU	770	
4050	STRANS	EQU	4050	
4054	SDATRY	EQU	4054	
4105	STLDW	EQU	4105	
4114	TSTLDD	EQU	4114	
		REM		
0001		CON	1	
0001	0000	WACC		
		REM		
		CON	4	
0004	0000	SEOF		
0005	0000	SHFLAG		
0006	0000	SBRECT		
		CON	1	
0001	0000	WHI		
0002	0000	WLO		
		CON	1	
0001	0000	ACC	BSS	3
	0001	ACCJ	EQU	ACC
	0001	TACC	EQU	ACC
0004	0000	ACC1	BSS	3
0007	0000	ACC2	BSS	3
0012	0000	ACC3	BSS	3
0015	0000	INDXRG	BSS	2
0017	0000	OP	BSS	4
	0017	OPER	EQU	OP
	0017	OPJ	EQU	OP
0023	0000	BNK		
0024	0000	LQCC		
0025	0000	EOFFLG		
0026	0000	FRSTWD		
0027	0000	BOPCD		
	0027	SBOPC	EQU	BOPCD
0030	0000	BOPSW		
0031	0000	ERSLOC	BSS	2
0033	0000	BRTLOC		
	0033	BWDSAV	EQU	BRTLOC
0034	0000	ZBNK		
	0034	BTEMPA	EQU	ZBNK
0035	0000	ZLOCC		
	0035	BTEMPB	EQU	ZLOCC
0036	0000	ZIR		
	0036	BTEMPC	EQU	ZIR
0037	0000	SBUF		
0040	0000	SWAY		

LOW CORE IN INTERPETER 13 SEP 62

SEMI-PERMANENT STORAGE DURING I/O

END OF FORMAT SIGNAL  
HOLLERITH FLAG

MUST FOLLOW ACC3

OBJECT CODE LOCATOR

END OF FILE FLAG

CURRENT OP CODE

BNK + ADDRESS START OF FUNCTION ERASIBLE

DATA BANK COUNTER

DATA LQCC

DATA INDEX REGISTER

COUNTS CHARS IN BUFFERQ  
EQUIPMENT USED

WIN0000  
WIN0001  
WIN0002  
WIN0003  
WIN0004  
WIN0005  
WIN0006  
WIN0007  
WIN0008  
WIN0009  
WIN0010  
WIN0011  
WIN0012  
WIN0013  
WIN0014  
WIN0015  
WIN0016  
WIN0017  
WIN0018  
WIN0019  
WIN0020  
WIN0021  
WIN0022  
WIN0023  
WIN0024  
WIN0025  
WIN0026  
WIN0027  
WIN0028  
WIN0029  
WIN0030  
WIN0031  
WIN0032  
WIN0033  
WIN0034  
WIN0035  
WIN0036  
WIN0037  
WIN0038  
WIN0039  
WIN0040  
WIN0041  
WIN0042  
WIN0043  
WIN0044  
WIN0045

0041	0000	STIP			FORMAT CONTROL CHARACTER	WIN0041
0042	0000	SWID			WIDTH OF FORMAT FIELD	WIN0042
0043	0000	SDEC			DECIMAL PT SPEC	WIN0043
0044	0000	SREP1			REPEAT SPEC FOR ONE FIELD	WIN0044
0045	0000	SIF			FORMAT COUNTER	WIN0045
0046	0000	SFORMF			=/ 0 FLAGS DATA CALL	WIN0046
0047	0000	SPARCT			PARENS COUNTER8 ZERO= EOF	WIN0047
0050	0000	SQUIK				WIN0050
0051	0000	SLOCLP			INFINITE REPEAT LEFT PARENS	WIN0051
0052	0000	SBINSM				WIN0052
0053	0000	SWTCON			SWITCHBOARD INTERRUPT	WIN0053
0054	0000	FBNK			START OF FORMAT	WIN0054
0055	0000	FLOCC			START OF FOMAT	WIN0055
0056	0000	WSIGN				WIN0056
	0057		CON	57		WIN0057
0057	0000	TEMP1				WIN0058
0060	0000	TEMP2				WIN0059
0061	0000	TEMP3				WIN0060
0062	0000	TEMP4				WIN0061
0063	0000	TEMP5				WIN0062
	0057		REM		TEMPORARY DURING FORMAT CONTROL	WIN0063
	0057		CON	57		WIN0064
0057	0000	SCHAR			CHARACTER IN FORMAT	WIN0065
0060	0000	TSAV			TEMP COUNTER IN INTEGER OUT	WIN0066
0061	0000	TIN				WIN0067
0062	0000	SHCNT			TEMP HOLLERITH COUNTER	WIN0068
	0057		CON	57		WIN0069
0057	0000	WEXP				WIN0070
0060	0000	EXPF				WIN0071
0061	0000	DECCT				WIN0072
0062	0000	PLACCT				WIN0073
0063	0000	NUM				WIN0074
0064	0000	KEEP1				WIN0075
0065	0000	KEEP2				WIN0076
0066	0000	KEEP3				WIN0077
0067	0000	CANSWT				WIN0078
0070	0000	SGNEXP				WIN0079
0071	0000	BCNT				WIN0080
0072	0000	SDECLC				WIN0081
0073	0000	WLET				WIN0082
0074	0000	WID				WIN0083
0075	0000	SAC			USED IN A CONVERSION IN AND OUT	WIN0084
	0057		CON	57		WIN0085
			REM		TEMPORARY LOCATIONS	WIN0086
0057	0000	BWORD				WIN0087
0060	0000	BWD11				WIN0088
0061	0000	BWD12				WIN0089
0062	0000	BWD21				WIN0090
0063	0000	BWD22				WIN0091
0064	0000	BTEMP1				WIN0092
0065	0000	BTEMP2				WIN0093
0066	0000	BTEMP3				WIN0094
0067	0000	BTEMP4				WIN0095
0070	0000	BITFLP				WIN0096
0071	0000	COUNT				WIN0097
	0070		CON	70		WIN0098
0070	0000	NUMBEG				WIN0099
0071	0000	L(CHI)				WIN0100
0072	0000	WDIGCT				WIN0101
0073	0000	STORD				WIN0102

0074	0000	SWBOOL		
	0072		CON	72
0072	0000	LOC(.)		
0073	0000	LOC(E)		
0074	0000	VFX		
0075	0000	VINSIG		
0076	0000	STEM		
	0076		CON	76
0076	0000	VQUO		
	0076		CON	76
0076	0000	VLATEM		
	0076		CON	76
0076	0000	VTEM		
	0200	SBUFAD	EQU	200
	0023	BANK	EQU	BNK
	0200	ERASE	EQU	SBUFAD
	0073	KTDATA	EQU	WLET
	0072	DIGCT	EQU	WDIGCT
			REM	
	0370	TRUF	EQU	SBUFAD 170
	0037	WFET	EQU	SBUF
	0041	FUNCD	EQU	STIP
	0042	WILF	EQU	SWID
	0043	DECF	EQU	SDEC
	0037	WBUF	EQU	SBUF
	0061	WDECCT	EQU	DECCT
	0060	WEXPF	EQU	EXPF
	0073	WSTORD	EQU	STORD
	0066		CON	BTEMP3
0066	0000	CMN1		
0067	0000	CMN2		
0070	0000	MLTSWC		
0071	0000	ENDFLG		
0072	0000	UPLOCC		
0073	0000	BOXADD		
0074	0000	DELSAV	BSS	2
	0073	BOXLOC	EQU	BOXADD
	0060	BWRD11	EQU	BWD11
	0061	BWRD12	EQU	BWD12
	0062	BWRD21	EQU	BWD21
	0063	BWRD22	EQU	BWD22
	0100	VECTOR	EQU	100
	0020	XVAD	EQU	20
	0021	XVISUB	EQU	21
	0022	XVINT	EQU	22
	0022	SVINT	EQU	22
	0023	XVDIV	EQU	23
	0102	XSFORM	EQU	102
	0144	XWIN	EQU	144
	0100	BOOLDJ	EQU	100
	0000		CON	0
0000	7145		BCD	6
0001	4724			
0002	2320			
0003	0463			
0004	0045			
0005	7777			
	0000		ORG	0
0000	2041	WIN	LDD	FUNCD
0001	0765		SBN	65

EQU TABLEP  
TEMP BUY STORAGE FOR CONV

TEMPORARY STORAGE-UP B-BOX

MULTIPLY OR ADD SWITCH UP B-BOX  
END SWITCH UP B-BOX  
LOCATION OF UP-SUBROUTINE  
LOCATION OF B=BOX UP B-BOX

INTEGER ADD IN MACRO SWITCHBOARD  
INTEGER SUBTRACT IN MACRO SWITCHBOARD  
INTEGER MULTIPLY

INPUT

WINTER 1  
45  
7777  
→ Vector 4  
= 378

WIN0106:  
WIN0107:  
WIN0108:  
WIN0109:  
WIN0110:  
WIN0111:  
WIN0112:  
WIN0113:  
WIN0114:  
WIN0115:  
WIN0116:  
WIN0117:  
WIN0118:  
WIN0119:  
WIN0120:  
WIN0121:  
WIN0122:  
WIN0123:  
WIN0124:  
WIN0125:  
WIN0126:  
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WIN0132:  
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WIN0158:  
WIN0159:  
WIN0160:  
WIN0161:  
WIN0162:  
WIN0163:

0002	6273		PJF	DECODR		WIN0164:
0003	7102		JFI	2		WIN0165
0004	0000			0	BLANK BECAUSE OF RELOCATION PROBLEMS	WIN0166
0005	0423			NONNUM		WIN0167
0006	2041	ENDFL	LDD	FUNCD		WIN0168
0007	0765		SBN	65		WIN0169
0010	6012		ZJR	DOFLT		WIN0170
0011	0701		SBN	1		WIN0171
0012	6010		ZJR	DOFLT		WIN0172
0013	2056		LDD	WSIGN		WIN0173
0014	6255		PJF	WEXT		WIN0174
0015	2401		LCD	WHI		WIN0175
0016	4001		STD	WHI		WIN0176
0017	2402		LCD	WLO		WIN0177
0020	4002		STD	WLO		WIN0178
0021	6350		NJR	WEXT		WIN0179
0022	2460	DOFLT	LCD	EXPF		WIN0180
0023	0600		ADN	0		WIN0181
0024	6303		NJF	3		WIN0182
0025	2057		LDD	WEXP		WIN0183
0026	6202		PJF	2		WIN0184
0027	2457		LCD	WEXP		WIN0185
0030	0640		ADN	40		WIN0186
0031	4057		STD	WEXP		WIN0187
0032	2061		LDD	DECCT		WIN0188
0033	6204		PJF	4		WIN0189
0034	3062		ADD	PLACCT		WIN0190
0035	6303		NJF	3		WIN0191
0036	6002		ZJF	2		WIN0192
0037	2461		LCD	DECCT		WIN0193
0040	3072		ADD	DIGCT		WIN0194
0041	5057		RAD	WEXP		WIN0195
0042	1200		LPF	0		WIN0196
0043	7700			7700		WIN0197
0044	6005		ZJF	5		WIN0198
0045	2200		LDF	0		WIN0199
0046	3740			3740		WIN0200
0047	4001		STD	ACC		WIN0201
0050	6117		NZF	CSIGN		WIN0202
0051	2001		LDD	WACC		WIN0203
0052	6017		ZJF	WEXT		WIN0204
0053	0203		LPN	3		WIN0205
0054	0111		LS6			WIN0206
0055	0110		LS3			WIN0207
0056	0102		LS1			WIN0208
0057	5002		RAD	WACC	1	WIN0209
0060	2001		LDD	WACC		WIN0210
0061	0115		RS2			WIN0211
0062	4001		STD	WACC		WIN0212
0063	2057		LDD	WEXP		WIN0213
0064	0110		LS3			WIN0214
0065	0103		LS2			WIN0215
0066	5001		RAD	WACC		WIN0216
0067	2056	OSIGN	LDD	WSIGN	DETERMINE SIGN OF ANSWER	WIN0217
0070	5001		RAD	ACC		WIN0218
0071	2100	WEXT	LDM	XIFORM		WIN0219
0072	0102					
0073	0636		ADN	36	SAFT - SFORMT	WIN0220
0074	0010		SRJO			WIN0221
0075	6267	DECODR	PJF	DECODE		WIN0222



076	5437	INUP	ADD	SBUF		WIN02231
077	5474		ADD	WID		WIN02241
100	6014		ZJF	ENDFLR		WIN02258
101	2137	WINIT	LDI	SBUF		WIN02268
102	4260		STR	WCHAR		WIN02271
03	0721		SBN	21		WIN02281
104	6111		NZR	WMIN		WIN02291
105	5437		ADD	SBUF		WIN02301
106	2060		LDD	WEXPF		WIN02311
107	6105		NZF	ENDFLR		WIN02311
110	2061		LDD	DECCT		WIN02311
111	6203		PJF	ENDFLR		WIN02311
112	2474		LCD	WID		WIN02321
113	5072		RAD	WDIGCT		WIN02331
114	7147	ENDFLR	JFI	CHAR	- 1	WIN02341
115	0605	WMIN	ADN	5	HYPHEN SAME AS MINUS	WIN02351
116	6003		ZJF	3		WIN02361
117	0724		SBN	24	MINUS:	WIN02371
120	6107		NZR	WTPLUS		WIN02381
121	2072		LDD	WDIGCT		WIN02398
122	6034		ZJF	SIGMIN		WIN02401
123	5460		ADD	WEXPF		WIN02411
124	6116		NZR	WECNT		WIN02428
125	5460		ADD	WEXPF		WIN02438
126	6530	INUPR6	NZB	INUP		WIN02441
127	0720	WTPLUS	SBN	20		WIN02451
130	6106		NZF	6		WIN02461
131	2072		LDD	WDIGCT		WIN02471
132	6434		ZJB	INUP		WIN02481
133	2060		LDD	WEXPF		WIN02491
134	6536		NZB	INUP		WIN02491
135	6003		ZJF	WESIG		WIN02491
136	0705		SBN	5	E:	WIN02508
137	6112		NZR	WTSPER		WIN02511
140	0501	WESIG	LCN	1		WIN02528
141	4060		STD	WEXPF	SIGNAL POS EXP	WIN02538
142	2474	WECNT	LCD	WID		WIN02541
143	5062		RAD	PLACCT	END OF FRACTION	WIN02558
144	0457		LDN	WEXP		WIN02561
145	4073		STD	WSTORD		WIN02571
146	0400		LDN	0		WIN02581
147	4237		STF	CONSWT	SIGNAL INTEGER CONVERSION	WIN02591
150	6452		ZJB	INUP		WIN02608
151	0706	WTSPER	SBN	6		WIN02611
152	6151		NZR	DIGCON		WIN02621
153	2074		LDD	WID		WIN02631
154	4061		STD	WDECCT	START OF FRACTION	WIN02648
155	6557		NZB	INUP		WIN02651
156	2232	SIGMIN	LDF	WATH		WIN02668
157	4056		STD	WSIGN		WIN02671
160	6562	INUPR5	NZB	INUP		WIN02681
161	6463	INUPR1	ZJB	INUP	RELAY	WIN02691
162	0000	CHAR				WIN02681
163	0162	WCHAR	EQU	CHAR		WIN02691
164	0006			ENDFLR	MUST FOLLOW CHAR	WIN02901
165	0704	DECODE	SBN	4	I R 71	WIN02701
166	4221		STF	CONSWT		WIN02711
167	6126		NZF	FCON		WIN02721
167	2442	INIT	LCD	WIDF		WIN02731
170	4074		STD	WID	WIDTH FOR I.O CONV	WIN02748

171	0401	LDN	ACC						WIN0275
172	4073	STD	STORD						WIN0276
173	0401	LDN	1						WIN0277
174	4062	STD	PLACCT						WIN0278
175	0400	LDN	0						WIN0279
176	4072	STD	DIGCT						WIN0281
177	4060	STD	EXPF						WIN0281
200	4057	STD	WEXP						WIN0282
201	4001	STD	ACC						WIN0283
202	4002	STD	ACC			1			WIN0284
203	4003	STD	ACC			2			WIN0285
204	4056	STD	WSIGN						WIN0286
205	7102	JFI	2						WIN02865
206	0000	CONSWT							WIN0291
207	0101		WINIT						
210	4000	W4TH	4000						WIN0292
211	6201	BRXSW1	PJF	1		CONSTANT			WIN0293
212	7356	BRXSW3		7356					WIN0294
213	6565	INUPR7	NZB	INUPR6					WIN0295
214	2043	FCON	LDD	DECF					WIN0296
215	4061		STD	DECC					WIN0297
216	2305		LDR	BRXSW1					WIN0298
217	4263		STF	BRANX					WIN0299
220	2306		LDR	BRXSW3					WIN0300
221	4256		STF	SWTD					WIN0301
222	6533		NZB	INIT					WIN0302
223	2341	DIGCON	LDR	WCHAR					WIN0303
224	4200		STF	0					WIN0304
225	0000	VALUE							WIN0305
226	0712		SBN	12					WIN0306
227	6303		NJF	3					WIN0307
230	0400		LDN	0		CHANGE ALL NON DIGITS TO ZERO			WIN0308
231	4304		STR	VALUE					WIN0309
232	2324		LDR	CONSWT					WIN0310
233	6211		PJF	TSCONS		SKIP UPPING SIG DIG COUNT			WIN0311
234	2072		LDD	WDIGCT					WIN0312
235	6103		NZF	3					WIN0313
236	2311		LDR	VALUE					WIN0314
237	6456		ZJR	INUPR1					WIN0315
240	5472		ADD	WDIGCT					WIN0316
241	0711		SBN	11					WIN0317
242	6662	INPR7	PJB	INUPR5					WIN0318
243	6462		ZJB	INUPR1					WIN0319
244	2336	TSCONS	LDB	CONSWT					WIN0320
245	6133		NZF	FLTCON					WIN0321
246	2060		LDD	WEXPF					WIN0322
247	6006		ZJR	WTRUE		TRUE INTEGER CONVERSION			WIN0323
250	2057		LDD	WEXP		EXPONENT CONVERSION			WIN0324
251	0112		MUT						WIN0325
252	3325		ADR	VALUE					WIN0326
253	4057		STD	WEXP					WIN0327
254	6612		PJR	INPR7					WIN0328
255	2001	WTRUE	LDD	WACC					WIN0329
256	6141		NZR	WM10LT					WIN0330
257	2002		LDD	WACC					WIN0331
260	6006		ZJR	WCOMM		ZERO MULTIPLY			WIN0332
261	3600		SBF	0					WIN0333
262	0200	WTO		200					WIN0334
263	6234		PJR	WM10LT					WIN0335
264	2002		LDD	WACC		1			WIN0336
						LESS THAN 200			

265	0112		MUT							WIN0337
266	3341	WCOMM	ADR	VALUE						WIN0338
267	4002		STD	WACC	1					WIN0339
270	6626		PJR	INPR7						WIN0340
271	1200		LPF	0						WIN0341
272	3777			3777						WIN0342
273	4002		STD	WACC	1					WIN0343
274	5401		ADD	WACC						WIN0344
275	6562	INUPR8	NZR	INUPR7						WIN0345
276	6434		ZJR	INPR7						WIN0346
277	0000	SWTD		0						WIN0347
300	5602	FLTCO	ACF	BRANX						WIN0348
301	2354	NEWD	LDB	VALUE						WIN0349
302	6200	BRANX	PJF	0						WIN0350
303	0112	XHND	MUT							WIN0351
304	0112		MUT							WIN0352
305	5173	COMB	RAI	STORD						WIN0353
306	4707		SRB	SWTD						WIN0354
307	6712	OUTD	NJB	INUPR8						WIN0355
310	5473		ADD	STORD						WIN0356
311	2203		LDF	BRXSWT						WIN0357
312	4310		STB	BRANX						WIN0358
313	6712		NJB	NEWD						WIN0359
314	6201	BRXSWT		6201						WIN0360
315	6527	WCOMMR	NZR	WCOMM						WIN0361
316	6430		ZJR	WCOMM						WIN0362
			REM							WIN0363
317	0400	WM10LT	LDN	0						WIN0364
320	4242		STR	WHIP						WIN0365
321	2002		LDD	WLO						WIN0366
322	0102		LS1							WIN0367
323	6210		PJF	WNOV1						WIN0368
324	1200		LPF	0						WIN0369
325	3777	W3777		3777						WIN0370
326	4200		STF	0						WIN0371
327	0000	WLOT								WIN0372
330	0404		LDN	4						WIN0373
331	5231		RAR	WHIP						WIN0374
332	6102		NZF	2						WIN0375
333	4304	WNOV1	STB	WLOT						WIN0376
334	4705		SRB	WLOT						WIN0377
335	6205		PJF	WNOV2						WIN0378
336	1311		LPB	W3777						WIN0379
337	4310		STB	WLOT						WIN0380
340	0402		LDN	2						WIN0381
341	5221		RAR	WHIP						WIN0382
342	2313	WNOV2	LDB	WLOT						WIN0383
343	5002		RAD	WLO						WIN0384
344	6205		PJF	WNOV3						WIN0385
345	1320		LPB	W3777						WIN0386
346	4002		STD	WLO						WIN0387
347	0402		LDN	2						WIN0388
350	5212		RAR	WHIP						WIN0389
351	4402	WNOV3	SRD	WLO						WIN0390
352	6205		PJF	WNOV4						WIN0391
353	1326		LPB	W3777						WIN0392
354	4002		STD	WLO						WIN0393
355	0401		LDN	1						WIN0394
356	5204		RAR	WHIP						WIN0395
357	2001	WNOV4	LDD	WHI						WIN0396

=PJF01

22 BIT DECIMAL SHIFT  
FOR INTEGER CONVERSION IN

DOUBLE LOWER WORD

CARRY 4 TO HIGHER

REDOUBLE LOWER

CARRY 2

ADD IN REDOUBLE LOWER  
TO LOWER

DOUBLE FOR ANSWER FOR LOWER

CARRY 1

Address	Value	Label	Operation	Register	Constant	Notes	Window
0360	0112		MUL			MULTIPLY HIGHER BY 10	WIN03978
0361	3200		ADF		0	ADD IN CARRIER	WIN0398:
0362	0000	WHIP					WIN0399
0363	4001		STD	WHI			WIN0400
0364	2002		LDD	WACC	1		WIN04018
0365	6550		NZR	WCOMMR			WIN0401
0366	6451		ZJR	WCOMMR			WIN0402
0367	0400	OCTCON	LDN	0		OCTAL CONVERSION	WIN04048
0370	4001		STD	ACC			WIN0405
0371	4002		STD	ACC	1		WIN0406:
0372	2442		LCD	SWID			WIN0407:
0373	4074		STD	WID			WIN0408
0374	2001	SHT	LDD	ACC			WIN04090
0375	0110		LS3				WIN0410:
0376	4001		STD	ACC			WIN0411
0377	2002		LDD	ACC	1		WIN0412:
0400	0110		LS3				WIN0413:
0401	4002		STD	ACC	1		WIN0414
0402	0207		LPN	7			WIN0415:
0403	6006		ZJF	VCO			WIN04168
0404	1401		LS0	ACC			WIN0417
0405	4001		STD	ACC			WIN0418:
0406	0507		LCN	7			WIN0419:
0407	1002		LPD	ACC	1		WIN0420
0410	4002		STD	ACC	1		WIN0421:
0411	2137	VCO	LDI	SBUF			WIN0422:
0412	0710		SBN	10			WIN0423
0413	6204		PJF	VUPBUF			WIN04248
0414	0610		ADN	10			WIN04258
0415	1402		LS0	ACC	1		WIN0426
0416	4002		STD	ACC	1		WIN0427:
0417	5437	VUPBUF	AOD	SBUF			WIN042
0420	5474		AOD	WID			WIN0429
0421	6525		NZR	SHT			WIN04308
0422	7132		JFI	WINEND			WIN04318
0423	0617	NGNNUM	ADN	17		A # 46	WIN0432
0424	6435		ZJB	OCTCON			WIN0433:
0425	2442	ACONV	LCD	SWID		A CONVERSION, ALWAYS PUTS 6 CHARACTERS IN THE ACCUMULATOR, LEFT JUSTIFIED IF WIDTH GREATER THAN SIX, TREAT AS SIX	WIN0434:
0426	4200		STF	0			WIN0435
0427	0000	SACNT					WIN0436:
0430	0401		LDN	ACC			WIN04378
0431	4075		STD	SAC			WIN0438
0432	2137	SFETH	LDI	SBUF			WIN04398
0433	4200		STF	0			WIN0440:
0434	0000	SACH					WIN0441
0435	4600		SRC	5252			WIN04428
0436	5252						
0437	6305		NJF	SLOWA			WIN0443
0440	2304		LDB	SACH			WIN04448
0441	0111		LS6				WIN0445:
0442	4175		STI	SAC			WIN0446
0443	6112		NZF	SUPAC			WIN0447:
0444	2310	SLOWA	LDR	SACH			WIN0448:
0445	7675		HWI	SAC			WIN0449
0446	5475		AOD	SAC			WIN04508
0447	0704		SBN	ACC	3		WIN0451:
0450	6305		NJF	SUPAC			WIN0452
0451	5437		AOD	SBUF		EXIT ON FILLING ACCUMULATOR	WIN045
0452	7102		JFI	2			WIN0454:
0453	0000			0			WIN0455

454	0071	WINEND		WEXT	
455	5726	SUPAC	AOB	SACNT	
456	6203		PJF	3	
457	5437		ACD	SBUF	
460	6526		NZB	SFETH	
461	0420		LDN	20	
462	6527	WINTER	NZB	SFETH	1
	0000		END		

COMMON EXIT FOR WIN

BLANK OUT REMAINING PLACES

WIN0456:  
WIN0457:  
WIN0458:  
WIN0459:  
WIN0460:  
WIN0461:  
WIN0462:  
WIN0463:

0000	0000	CON							ATB00001
0000	6154	BCD	6		A**B				ATB00002
0001	5462								ATB00003
0002	2020								ATB00004
0003	0043			LAST	+1				ATB00005
0004	0046			46-380					ATB00006
0005	0002			2					ATB00007
0006	4653			4653					ATB00008
0007	0054			54					ATB00009
0010	7777			7777					ATB00010
0000	0000	ORG	0						ATB00011
0000	0100	FIRST	DRO			DROP OUT			ATB00012
0001	2001		LDD	1		TEST FIRST WORD OF A			ATB00013
0002	6107		NZF	0					ATB00014
0003	0101	A	PTA						ATB00015
0004	0632	-	ADN	OUT	=A				ATB00016
0005	6125		NZR	EXIT	+1				ATB00017
0006	0000	B		0		RESERVE LOCATION FOR B			ATB00018
0007	0000			0					ATB00019
0010	0000			0					ATB00020
0011	2004	C	LDD	4		TEST FIRST WORD OF B			ATB00021
0012	6112		NZF	NEXT		IF			ATB00022
0013	2200		LDC	2042		IF B=0 A**B=1			ATB00023
0014	2042								ATB00024
0015	4001		STD	1					ATB00025
0016	2200		LDC	4000					ATB00026
0017	4000								ATB00027
0020	4002		STD	2					ATB00028
0021	0400		LDN	0					ATB00029
0022	4003		STD	3					ATB00030
0023	6420		ZJB	A		RETURN TO PROGRAM			ATB00031
0024	4316	NEXT	STR	B		STORE CONTENTS ACCL IN B			ATB00032
0025	2005		LDD	5					ATB00033
0026	4317		STR	B	+1				ATB00034
0027	2006		LDD	6					ATB00035
0030	4320		STR	B	+2				ATB00036
0031	0101	EXIT	PTA			RETURN TO INTERPRETIVE			ATB00037
0032	4033		STD	BRTLOC					ATB00038
0033	2200		LDC	RETRDP					ATB00039
0034	0550								ATB00040
0035	0010	OUT	SRJQ						ATB00041
0036	0254		TRA	LOG		OBTAIN LOG OF A			ATB00042
0037	5400		FMOQ	B		MULTIPLY BY B			ATB00043
0040	0006								ATB00044
0041	0253		TRA	EXP		OBTAIN EXPONENT, THIS IS A**B.			ATB00045
0042	0200	RETURN	RTR						ATB00046
	0033	BRTLOC	EQU	33					ATB00047
	0550	RETRDP	EQU	550					ATB00048
	0054	LOG	EQU	54					ATB00049
	0053	EXP	EQU	53					ATB00050
	0042	LAST	EQU	RETURN					ATB00051
			SUPB						ATB00052
	0000		END						ATB00053

000	0000	CON				ATI0000:
0001	6154	BCD	6	A**I		ATI0001:
0002	5471					
0003	2020					
0004	0070					
0005	0047					
0006	7777					
0007	0000					
0008	4521	FIRST	ORG	0		ATI0002:
0009	0100		SAC	21		ATI0003:
0010	2001		DRO			ATI0004:
0011	6013		LDD	1	TEST A FOR A=0	ATI0005:
0012	2004	ALPHA	ZJF	ALPHA1		ATI0006:
0013	6114		LDD	4	TO TEST I FOR I=0	ATI0007:
0014	2005		NZF	BETA		ATI0008:
0015	6112		LDD	5		ATI0009:
0016	2254		NZF	BETA	TEST SECOND WORD OF I	ATI0010:
0017	4001		LDF	FONE	IF I=0 SET ACC = 1,0	ATI0011:
0018	2253		STD	1		ATI0012:
0019	4002		LDF	FONE	+1	ATI0013:
0020	0400		STD	2		ATI0014:
0021	4003		LDN	0		ATI0015:
0022	0101	ALPHA1	STD	3		ATI0016:
0023	0640		ADN	LOC	=ALPHA1	ATI0017:
0024	6127		NZF	OUT		ATI0018:
0025	6213	BETA	PJF	GAMMA	IF SECOND WORD I IS POSITIVE, I IS POSITIVE	ATI0019:
0026	2404		LCD	4	SET I POSITIVE	ATI0020:
0027	4004		STD	4		ATI0021:
0028	2405		LCD	5		ATI0022:
0029	4005		STD	5		ATI0023:
0030	0101		PTA			ATI0024:
0031	0702		SBN	2		ATI0025:
0032	6117		NZF	OUT		ATI0026:
0033	5600	INVERT	FV00	FONE	DIVIDE A INTO FLOATING ONE, LEAVE IN ACC	ATI0027:
0034	0064					ATI0028:
0035	0100		DRO			ATI0029:
0036	2001	GAMMA	LDD	1	LOAD A	ATI0030:
0037	4007		STD	7	STORE IN ACC2	ATI0031:
0038	4012		STD	12		ATI0032:
0039	2002		LDD	2		ATI0033:
0040	4010		STD	10		ATI0034:
0041	4013		STD	13		ATI0035:
0042	2003		LDD	3		ATI0036:
0043	4011		STD	11		ATI0037:
0044	4014		STD	14		ATI0038:
0045	0101	EXIT	PTA			ATI0039:
0046	0603		ADN	3		ATI0040:
0047	4033	OUT	STD	BRTLOC		ATI0041:
0048	2200		LDC	RETRDP		ATI0042:
0049	0550					ATI0043:
0050	0010		SRJ0			ATI0044:
0051	2303	DELTA		2303	LOAD CONTENTS ACC3	ATI0045:
0052	2032		MP32		MULTIPLY BY A AND RESTORE IN ACC3	ATI0046:
0053						ATI0047:
0054						ATI0048:

055	2301			2301	LOAD I	AT10049:
056	6010	LOC	IS10	ONE	SUBTRACT 1 AND RESTORE IN ACC1	AT10050:
057	0066					
060	1405		ZNB	DELTA	IF I DOES NOT EQUAL ZERO REPEAT	AT10051:
061	2303			2303	LOAD FINAL RESULT INTO FORTRAN ACCUMULATOR	AT10052:
062	4561		LAC	21		AT10053
063	0200	RETURN	RTR			AT10054
064	2042	FONE		2042		AT10055:
065	4000			4000		AT10056
066	0000	ONE		0		AT10057:
067	0001	LAST		1		AT10058:
	0033	BRTLOC	EQU	33		AT10059
	0550	RETRP	EQU	550		AT10060:
			SUPB			
	0000		END			AT10061



ITJ0000  
ITJ0001  
ITJ0002  
ITJ0003  
ITJ0004  
ITJ0005  
ITJ0006  
ITJ0007  
ITJ0008  
ITJ0009  
ITJ0010  
ITJ0011  
ITJ0012  
ITJ0013  
ITJ0014  
ITJ0015  
ITJ0016  
ITJ0017  
ITJ0018  
ITJ0019  
ITJ0020  
ITJ0021  
ITJ0022  
ITJ0023  
ITJ0024  
ITJ0025  
ITJ0026  
ITJ0027  
ITJ0028  
ITJ0029  
ITJ0030  
ITJ0031  
ITJ0032  
ITJ0033  
ITJ0034  
ITJ0035  
ITJ0036  
ITJ0037  
ITJ0038  
ITJ0039  
ITJ0040  
ITJ0041  
ITJ0042  
ITJ0043  
ITJ0044  
ITJ0045  
ITJ0046  
ITJ0047

000	0000	CON		
0001	7154	BCD	6	I**J
0002	5441			
0003	2020			
0004	0052		LAST +1	
0005	0050		50 - 400	
0006	7777		7777	
0007	0000	ORG	0	
0008	4520	FIRST SAC	20	
0009	0100	DRO		
0010	2001	LDD	1	TEST I IF ZERO I**J=0
0011	3002	ADD	2	
0012	6104	NZF	ALPHA	
0013	0101	PTA		
0014	0635	ADN	OUT -A	
0015	6124	NZR	EXIT +2	
0016	2004	ALPHA LDD	4	TEST J IF ZERO I**J=1
0017	6203	PJR	BETA	
0018	0400	LDN	0	
0019	6004	ZJR	DELTA	
0020	3005	BETA ADD	5	
0021	6106	NZF	GAMMA	
0022	0401	LDN	1	
0023	4002	DELTA STD	2	
0024	0400	LDN	0	
0025	4001	STD	1	
0026	6615	PJB	ALPHA -3	RETURN TO PROGRAM
0027	2001	GAMMA LDD	1	STORE I IN ACC2
0028	4007	STD	7	
0029	4012	STD	12	
0030	2002	LDD	2	
0031	4010	STD	10	
0032	4013	STD	13	
0033	0101	EXIT PTA		
0034	0603	ADN	3	
0035	4033	STD	BRTLOC	
0036	2200	LDC	RETRDP	
0037	0550			
0038	0010	SRJO		
0039	2303	MULT	2303	PREVIOUS RESULTS
0040	2036	MP36		MULTIPLY ACC BY ACC 2. RESULT IN ACC 3.
0041	2301		2301	LOAD J FROM ACC 1
0042	6010	OUT	IS10 ONE	SUBTRACT ONE
0043	0050			
0044	1409	ZNB	MULT	IF RESULT NOT ZERO MULTIPLY BY I AGAIN
0045	2303		2303	WHEN I ZERO LOAD RESULT INTO FORTRAN ACC
0046	4560	LAC	20	
0047	0200	RETURN RTR		
0048	0000	ONE	0	
0049	0001	LAST	1	
0050	0033	BRTLOC EQU	33	
0051	0550	RETRDP EQU	550	
		SUPB		

SINF000:  
SINF001:SINF002:  
SINF003:  
SINF004:  
SINF005:  
SINF006:  
SINF007:  
SINF008:SINF009:  
SINF010:  
SINF011:  
SINF012:  
SINF013:  
SINF014:  
SINF015:

SINF016:

0000	0000	CON	0		
0000	2271	BCD	6	SINF	CMN 9/24/62
0001	4566				
0002	2020				
0003	0007		LAST	LENGTH	
0004	0051		51		
0005	0001		1		
0006	5152		5152	CALL	COSINE
0007	7777		7777		
	0000	ORG	0		
0000	5300	SINF	FS00	PI/2	$\text{SIN}(X) = \text{COS}(X - \text{PI}/2)$
0001	0004				
0002	0252	TRA	COSINE		
0003	0200	RTR			
0004	2043	PI/2	2043		
0005	7303		7303		
0006	1703		1703		
	0052	COSINE	EQU	52	
0007	0000	LAST			
		SUPB			
	0000	END			

0000	0000	CON				COSF000
0001	6346	BCD	6		COSF	COSF001
0002	2266					
0003	2020					
0004	0203		LAST	+1		COSF002
0005	0052		42D			COSF003
0006	7777		7777			COSF004
0007	0000	ORG	0			COSF005
0008	4640	FIRST	FPS		SET ANGLE POSITIVE	COSF006
0009	1501		STD1		STORE ANGLE IN ACC 1	COSF007
0010	5500		FDD0	PIBY2	DIVIDE BY PI/2	COSF008
0011	0137					
0012	5130	TS30	N		STORE INTEGER PART OF RESULT IN N	COSF009
0013	0054					
0014	4600	FAC			FLOAT INTEGER QUANTITY	COSF010
0015	5400	FMD0	PIBY2			COSF011
0016	0137					
0017	1711	SB11			SUBTRACT FULL RESULT FROM INTEGER	COSF012
0018	0100	DRO			R WILL BE NEGATIVE	COSF013
0019	2242	LDF	N	+1	TEST LOW ORDER BIT POSITION	COSF014
0020	0201	LPN	1		TO DETERMINE QUADRANT	COSF015
0021	4241	STF	FLAG		0 FOR COSINE, 1 FOR SINE	COSF016
0022	6102	NZR	TEST		0.96 RADIANS FOR COSINE OR	COSF017
0023	0411	LBN	11		0.64 RADIANS FOR SINE	COSF018
0024	3200	TEST	ADC	2017		COSF019
0025	2017					
0026	4211	STF	RTEST	+1		COSF020
0027	2232	LDF	N	+1		COSF021
0028	0114	RS1				COSF022
0029	1631	LSR	FLAG			COSF023
0030	4231	STF	SIGN		0 IN SIGN FOR POSITIVE, 1 FOR NEGATIVE	COSF024
0031	2001	LDD	1		2020 IS FIRST WORD OF TEST	COSF025
0032	1200	LPC	3777		FOR SINE AND 2030 FOR COSINE	COSF026
0033	3777					
0034	3600	RTEST	SEC	2020		COSF027
0035	2020					
0036	6312	NJF	FTEST			COSF028
0037	5621	AOR	FLAG		WHERE R EXCEEDS EITHER LIMIT	COSF029
0038	0101	PTA			REVERSE FLAG AND COMPLEMENT R	COSF030
0039	4033	ALPHA	STD	BRTLOC		COSF031
0040	2200		LDC	RETDRP	ALPHA GIVES RETURN TO INTERPRETIVE LANGUAGE	COSF032
0041	0550					
0042	0010	SRJ0				COSF033
0043	5210	FA10	PIBY2		ADD PI/2 TO NEGATIVE R TO	COSF034
0044	0137					
0045	0100	DRO			OBTAIN COMPLEMENT	COSF035
0046	2210	FTEST	LDR	FLAG		COSF036
0047	0201		LPN	1		COSF037
0048	6030		ZJF	COSR	FTEST DETERMINES APPROXIMATION	COSF038
0049	0101		PTA		FORMULA TO BE USED	COSF039
0050	0602		ADN	2		COSF040
0051	6514		NZR	ALPHA		COSF041
0052	0000	N	BSS	2		COSF042
0053	0000	FLAG				COSF043
0054	0000	SIGN			SINE APPROXIMATION	COSF044
0055	0000					COSF045
0056	2420	FST	20			COSF046
0057	2011	MP11			SQUARE R AND STORE IN PSEUDO A CC2,	COSF047

0062	5200		FA00	S5	ADD S5 TO RSQUARED	COSF047:
0063	0156					:
0064	5600		FV00	S4	DIVIDE INTO S4	COSF048:
0065	0153					:
0066	1601		AD01		ADD R SQUARED	COSF049:
0067	5200		FA00	S3	ADD S3	COSF050:
0070	0150					:
0071	5600		FV00	S2	DIVIDE INTO S2	COSF051:
0072	0145					:
0073	5200		FA00	S1	ADD S1	COSF052:
0074	0142					:
0075	2720		FMP	20	MULTIPLY BY NEGATIVE R	COSF053:
0076	4640		FPS		SET RESULT POSITIVE	COSF054:
0077	0523		TPF	DC	TRANSFER TO SIGN TEST	COSF055:
0100	0101	COSR	PTA			COSF056:
0101	0702		SBN	2		COSF057:
0102	6543		NZR	ALPHA	COSINE APPROXIMATION	COSF058:
0103	2011		MP11		SQUARE R AND STORE	COSF059:
0104	5200		FA00	C6	ADD C6	COSF060:
0105	0200					:
0106	5600		FV00	C5	DIVIDE SUM INTO C5	COSF061:
0107	0175					:
0110	1601		AD01		ADD R SQUARED	COSF062:
0111	5200		FA00	C4	ADD C4	COSF063:
0112	0172					:
0113	5600		FV00	C3	DIVIDE INTO C3	COSF064:
0114	0167					:
0115	5200		FA00	C2	ADD C2	COSF065:
0116	0164					:
0117	2001		MP01		MULTIPLY RESULT BY RSQUARED	COSF066:
0120	5200		FA00	ONE	ADD ONE	COSF067:
0121	0161					:
0122	0100	DO	DRO			COSF068:
0123	2344		LDR	SIGN	TEST SIGN	COSF069:
0124	0201		LPN	1		COSF070:
0125	6006		ZJF	OUT		COSF071:
0126	0101		PTA			COSF072:
0127	0702		SBN	2		COSF073:
0130	6571		NZR	ALPHA		COSF074:
0131	4644		FNS		IF SIGN CONTAINS BIT IN	COSF075:
0132	0304		TRF	4	ZERO POSITION SET RESULT NEGATIVE	COSF076:
0133	0101	OUT	PTA			COSF077:
0134	0702	BETA	SBN	2		COSF078:
0135	6576		NZR	ALPHA		COSF079:
0136	0200		RTR			COSF080:
0137	2043	PIBY2		2043		COSF081:
0140	7303			7303		COSF082:
0141	1703			1703		COSF083:
0142	2062	S1		2062	7.2308469	COSF084:
0143	0464			464		COSF085:
0144	0725			725		COSF086:
0145	6164	S2		6164	-814.80759	COSF087:
0146	2740			2740		COSF088:
0147	1367			1367		COSF089:
0150	2115	S3		2115	55.409623	COSF090:
0151	6631			6631		COSF091:
0152	1157			1157		COSF092:
0153	2203	S4		2203	1262.6242	COSF093:
0154	1162			1162		COSF094:
0155	0362			362		COSF095:

156	2104	S5	2104	16,754492	COSF0960
157	1362		1362		COSF0970
160	0754		754		COSF0980
161	2042	ONE	2042	1.0	COSF0990
162	4000		4000		COSF1000
163	0000		0		COSF1010
164	6044	C2	6044	-1,6771458	COSF1020
165	1403		1403		COSF1030
166	0712		712		COSF1040
167	2146	C3	2146	271,20668	COSF1050
170	6170		6170		COSF1060
171	1234		1234		COSF1070
172	2124	C4	2124	80,855187	COSF1080
173	1527		1527		COSF1090
174	0273		273		COSF1100
175	2206	C5	2206	2442,5426	COSF1110
176	0651		651		COSF1120
177	0652		652		COSF1130
200	2104	C6	2104	16,333897	COSF1140
201	0515		515		COSF1150
202	1601	LAST	1601		COSF1160
	0033	ERTLOC EQU	33		COSF1170
	0550	RETDRP EQU	550		COSF1180
	0000	END			COSF1190

Address	Code	Label	Op/Reg	Value	Description	Exp
0000	6527		CON	0		EXPC0000
0001	4766		BCD	6	EXRF	EXPC0001
0002	2020					
0003	0211		LAST	+1		EXPC0026
0004	0053		43D			EXPC0031
0005	7777		7777			EXPC0040
0000	0000		ORG	0	EXPONENTIAL FUNCTION BY S, CHOI	EXPC0005
0000	4521	FIRST	SAC	21		EXPC0006
0001	5100		TS00	X	STORE GIVEN VALUE IN X	EXPC0070
0002	0150					
0003	4640		FPS		ABSOLUTE VALUE OF X	EXPC0008
0004	1501		ST01			EXPC0009
0005	5500		FD00	LN10		EXPC0010
0006	0153					
0007	5130		TS30	N	FIX AND STORE IN N	EXPC0011
0010	0143					
0011	1104		TZF	SKP1	JUMP IF N=0	EXPC0012
0012	4600		FAC			EXPC0013
0013	5400		FM00	LN10		EXPC0014
0014	0153					
0015	1701	SKP1	SB01			EXPC0015
0016	4642		FCS		Z=X-N*LN10	EXPC0016
0017	5520		FD20	LN2	Z/LN2 IN ACC2	EXPC0017
0020	0156					
0021	5200		FA00	C1	Z/LN2+.5	EXPC0018
0022	0161					
0023	4601		IAC		FIND INTERGER PART	EXPC0019
0024	4610		FAC1		M=EXP OF 2	EXPC0020
0025	1121		TZF	ONE	JUMP IF M=0	EXPC0021
0026	5300		FS00	C5		EXPC0022
0027	0175					
0030	0505		TPF	MP23		EXPC0023
0031	6400		CA00	C5		EXPC0024
0032	0175					
0033	2420	FIN	FST	EX2	2**M STORED	EXPC0025
0034	0515		TPF	NEXT		EXPC0026
0035	5300	MP23	FS00	C1		EXPC0027
0036	0161					
0037	0504		TPF	MP3		EXPC0028
0040	6400		CA00	C6		EXPC0029
0041	0200					
0042	0607		TPB	FIN		EXPC0030
0043	6400	MP3	CA00	C7		EXPC0031
0044	0203					
0045	0612		TPB	FIN		EXPC0032
0046	6400	ONE	CA00	C8		EXPC0033
0047	0206					
0050	0615		TPB	FIN		EXPC0034
0051	2301	NEXT		2301	LOAD M	EXPC0035
0052	1702		SB02			EXPC0036
0053	5400		FM00	LN2		EXPC0037
0054	0156					
0055	4652		FCS1		R=(Z/LN2-M)*LN2	EXPC0038
0056	2040		MP40		R**2	EXPC0039
0057	5200		FA00	C3		EXPC0040

0060	0167								
0061	5600	FV00	C2						EXPC041A
0062	0164								
0063	5320	FS20	C4			-S(R)			EXPC042:
0064	0172								
0065	1731	SB31				-S(R)-R			EXPC043:
0066	2302		2302						EXPC044:
0067	1601	ADD1				-S(R)+R			EXPC045:
0070	1131	TZF	LOGF			DEVISOR IS ZERO AND JUMP			EXPC046:
0071	2203	D103				E**R			EXPC047:
0072	2720	FMP	EX2			(2**M)*(E**R)			EXPC048:
0073	5100	TS00	WD1						EXPC049:
0074	0145								
0075	0100	DRO							EXPC050A
0076	0101	PTA							EXPC051:
0077	4033	STD	BRTLOC						EXPC052:
0100	2244	LDF	N	+1		ADJUST THE EXPONENT NOW			EXPC053:
0101	0110	LS3							EXPC054A
0102	0103	LS2							EXPC055:
0103	5242	RAF	WD1						EXPC056:
0104	6210	PJF	PASS						EXPC057:
0105	2200	LDC	3740			O/D FLOW			EXPC058A
0106	3740								
0107	4236	STF	WD1						EXPC059:
0110	0717	SBN	17						EXPC060:
0111	4001	STD	1						EXPC061:
0112	0423	LDN	23						EXPC062:
0113	6102	NZF	PASS	+1		GO SET OVERFLOW SWITCH			EXPC063A
0114	0424	LDN	24			JUMP TWO INSTRUCTIONS			EXPC064:
0115	5033	RAD	BRTLOC						EXPC065:
0116	2200	LDC	BETDRP						EXPC066:
0117	0550								
0120	0010	SRJ0							EXPC067:
0121	6400	LOGF	CA00	C6		EXRF(X)=4.			EXPC068:
0122	0200								
0123	5100	TS00	WD1			STORE 4. IN WD1			EXPC069:
0124	0145								
0125	1302	ZNF	2			SKIP ONE INSTRUCTION			EXPC070:
0126	2040	MP40				SET OVERFLOW SWITCH			EXPC071:
0127	6400	CA00	X			TEST X FOR POS OR NEGATIVE			EXPC072:
0130	0150								
0131	0506	TPF	DONE			IT WAS POSITIVE			EXPC073A
0132	6400	CA00	C6						EXPC074:
0133	0206								
0134	5500	FD00	WD1			1/EXP(X)			EXPC075A
0135	0145								
0136	0503	TPF	OVER			X WAS NEGATIVE CASE DONE			EXPC076A
0137	6400	DONE	CA00	WD1		ALL DONE			EXPC077A
0140	0145								
0141	4561	OVER	LAC	21					EXPC078:
0142	0200		RTR						EXPC079:
	0020	EX2	EQU	20					EXPC080:
	0033	BRTLOC	EQU	33					EXPC081:
	0550	BETDRP	EQU	550					EXPC082:
0143	0000	N		0					EXPC083:
0144	0000			0					EXPC084:
0145	0000	WD1	BSS	3					EXPC085:
0150	0000	X	BSS	3					EXPC086:
0153	2045	LN10		2045					EXPC087:
0154	6031			6031					EXPC088A

0155	1523		1523		EXFC0089:
0156	2021	LN2	2021		EXFC0090:
0157	2472		2472		EXFC0091:
0160	1316		1316		EXFC0092:
0161	2014	C1	2014	.5	EXFC0093:
0162	4000		4000		EXFC0094:
0163	0000		0		EXFC0095:
0164	2157	C2	2157	600.	EXFC0096:
0165	0000		0		EXFC0097:
0166	0000		0		EXFC0098:
0167	2117	C3	2117	60,	EXFC0099:
0170	0000		0		EXFC1000:
0171	0000		0		EXFC1001:
0172	2103	C4	2103	12,	EXFC1002:
0173	0000		0		EXFC1003:
0174	0000		0		EXFC1004:
0175	2045	C5	2045	2.	EXFC1005:
0176	0000		0		EXFC1006:
0177	0000		0		EXFC1007:
0200	2052	C6	2052	4.	EXFC1008:
0201	0000		0		EXFC1009:
0202	0000		0		EXFC1100:
0203	2064	C7	2064	8.	EXFC1101:
0204	0000		0		EXFC1102:
0205	0000		0		EXFC1103:
0206	2042	C8	2042		EXFC1104:
0207	4000		4000	1.	EXFC1105:
0210	0000	LAST	0		EXFC1106:
	0000				EXFC1107:
		SUPB			
		END			



0000	0000	CON	0			LGFC0000:
0001	4346	BCD	6		LOGF	LGFC0001:
0002	6766					
0003	2020					
0004	0156		LAST	+1		LGFC0002:
0005	0054		44D			LGFC0003:
0006	7777		7777			LGFC0004:
0007	0000	ORG	0		LOG FUNCTION BY S. CHOI	LGFC0005:
0008	1304	FIRST	ZNF	POS1		
0009	2140		DV40			LGFC0009:
0010	4642		FCS			LGFC0010:
0011	0200		RTR		RETURN W/ NEG OVERFLOW	LGFC0011:
0012	4521	POS1	SAC	21		LGFC0012:
0013	4640		FPS		TAKE ABSOLUTE VALUE	
0014	5100		TS00	X	STORE IN X	LGFC0013:
0015	0064					
0016	0100	DRO			GO TO 160-A	LGFC0014:
0017	2253	LDI	X			LGFC0015:
0018	0111	LS6				LGFC0016:
0019	0102	LS1			FIX THE EXPONENT	LGFC0017:
0020	0277	LPN	77		PICK UP EXPONENT	LGFC0018:
0021	0740	SBN	40		PICK UP UNBIASED EXPONENT	LGFC0019:
0022	4243	STF	N	+1	STORE EXP OF 10	LGFC0020:
0023	0115	RS2				LGFC0020:
0024	0115	RS2				LGFC0020:
0025	0115	RS2				LGFC0020:
0026	4236	STF	N			LGFC0020:
0027	2241	LDI	X			LGFC0021:
0028	0237	LPN	37			LGFC0022:
0029	0714	SBN	14		GREATER THAN ,48	LGFC0023:
0030	6213	PJF	NULL		IF SO RANGE IS O.K.	LGFC0024:
0031	0606	ADN	6		IS IT GREATER THAN ,24	LGFC0025:
0032	6207	PJF	7		IF SO EXP OF 2 IS 1	LGFC0026:
0033	0603	ADN	3		IS IT GREATER THAN ,12	LGFC0027:
0034	6203	PJF	3		IS SO EXP OF 2 IS 2	LGFC0028:
0035	0503	LCN	3		LESS THAN ,12 AND EXP IS 3	LGFC0029:
0036	6306	NJF	TEX			LGFC0030:
0037	0502	LCN	2			LGFC0031:
0038	6304	NJF	TEX			LGFC0032:
0039	0501	LCN	1			LGFC0033:
0040	6302	NJF	TEX			LGFC0034:
0041	0500	LCN	0			LGFC0035:
0042	4221	STF	M	+1	STORE EXP OF 2 IN M	LGFC0036:
0043	0701	SBN	1			LGFC0037:
0044	4016	STD	16		LOAD M INTO INDEX REG	LGFC0038:
0045	2217	LDI	X			LGFC0039:
0046	0237	LPN	37			LGFC0040:
0047	1600	LSC	2000			LGFC0040:
0048	2000					
0049	4213	STF	X		RETURN TO FORTRAN	LGFC0041:
0050	0101	PTA				LGFC0042:
0051	0613	ADN	13		IN ORDER TO JUMP	LGFC0043:
0052	4033	STD	BRTLOC			LGFC0044:
0053	2200	LDC	BETDRP			LGFC0045:
0054	0550					

0057	0010		SRJ0						LGF0046:
0060	0000	N		0					LGF0047:
0061	0000			0					LGF0048:
0062	7777	M		7777					LGF0049:
0063	0000			0					LGF0050:
0064	0000	X	BSS	3					LGF0051:
0067	5400	MPT	FM00	A		MULTIPLY BY 2			LGF0052:
0070	0142								:
0071	0503		TFF	LOOP					LGF0053:
0072	6400		CA00	X					LGF0054:
0073	0064								:
0074	4705	LOOP	TIX	MPT					LGF0055:
0075	5310		FS10	ONE		Y-1			LGF0056:
0076	0137								:
0077	5200		FA00	A		Y+1			LGF0057:
0100	0142								:
0101	2221		DI21			STORE T			LGF0058:
0102	2050		MP50			STORE T**2			LGF0059:
0103	5200		FA00	D					LGF0060:
0104	0153								:
0105	5600		FV00	C					LGF0061:
0106	0150								:
0107	5200		FA00	B		B+G/(D*T**2)			LGF0062:
0110	0145								:
0111	2001		MP01						LGF0063:
0112	5200		FA00	A					LGF0064:
0113	0142								:
0114	2012		MP12			STORE LOG(Y) IN ACC1			LGF0065:
0115	6700		FC00	N		LOAD AND FL CONV EXP OF 10			LGF0066:
0116	0060								:
0117	5400		FM00	LN10		N*LN10			LGF0067:
0120	0131								:
0121	1611		AD11						LGF0068:
0122	6700		FC00	M					LGF0069:
0123	0062								:
0124	5400		FM00	LN2		-M*LN2			LGF0070:
0125	0134								:
0126	1601		AD01			LNx			LGF0071:
0127	4561		LAC	21					LGF0072:
0130	0200		RTR			RETURN TO MAIN W/ LNx			LGF0073:
	0033	BRTLOC	EQU	33					LGF0074:
	0550	BETDRP	EQU	550					LGF0075:
0131	2045	LN10		2045					LGF0076:
0132	6031			6031					LGF0077:
0133	1523			1523					LGF0078:
0134	2021	LN2		2021					LGF0079:
0135	2472			2472					LGF0080:
0136	1316			1316		1.			LGF0081:
0137	2042	ONE		2042					LGF0082:
0140	4000			4000					LGF0083:
0141	0000			0					LGF0084:
0142	2045	A		2045		2.			LGF0085:
0143	0000			0					LGF0086:
0144	0000			0					LGF0087:
0145	2002	B		2002		.10907889			LGF0088:
0146	5613			5613					LGF0089:
0147	1571			1571					LGF0090:
0150	6023	C		6023		.777314			LGF0091:
0151	3333			3333					LGF0092:
0152	0620			620					LGF0093:

0153 6043 D 6043  
0154 3654 3654  
0155 1213 LAST 1213  
0000 SUPB  
END

-1,3940651

LGFC0941  
LGFC0958  
LGFC0961  
LGFC0978

00483

ATANFI  
*See Appendix C  
to the Report  
201 91 22*

0000	0000	CON			
0001	6123	BCD	6		
0002	6145				
0003	6620				
0004	0166		LAST	+1	
0005	0055		450		
0006	7777		7777		
0007	0000	ORG	0		
0008	4520	FIRST SAC	20		
0009	0100	DRD			
0010	2200	LDC	2042	LOAD FIRST WORD OF ONE	
0011	2042				
0012	4007	STD	7	STORE IN PSUEDO ACC 2.	
0013	0603	ADN	3	INCREASE TO OBTAIN FIRST WORD OF TWO	
0014	4012	STD	12	STORE IN ACC 3	
0015	2200	LDF	0		
0016	4000	HIBIT	4000		
0017	4010	STD	10		
0018	0400	LDN	0		
0019	4011	STD	11		
0020	4013	STD	13		
0021	4014	STD	14		
0022	4004	STD	4	SET ACC1 TO ZERO	
0023	4005	STD	5		
0024	4006	STD	6		
0025	2001	LDD	1	LOAD FIRST WORD OF I TO TEST POSITIVE OR NEGATIVE	
0026	6205	PJF	ALPHA	-2	
0027	1713	LSR	HIBIT		
0028	4001	STD	1	IF NEGATIVE SET POSITIVE AND RESTORE IN ACC	
0029	2315	LDR	HIBIT		
0030	6302	NJF	ALPHA	-1	
0031	0400	LDN	0	IF POSITIVE LOAD 0 TO BE STORED IN FLAG	
0032	4261	STR	FLAG		
0033	2001	ALPHA LDD	1	LOAD FIRST WORD OF I TO TEST MAGNITUDE	
0034	3600	SBC	2012	TO TEST FOR I LESS THAN 0.4	
0035	2012				
0036	6344	NJF	ZACC1	IF I LESS THAN 0.4 T=I AND X=0	
0037	0734	SBN	34	TO TEST FOR I LESS THAN 2.4	
0038	6223	PJF	BETA		
0039	2200	LDC	2023	LOAD FIRST WORD OF P1/4 (X)	
0040	2023				
0041	4004	STD	4	STORE IN ACC 1	
0042	2200	LDC	5033		
0043	5033				
0044	4005	STD	5		
0045	2200	LDC	1460		
0046	1460				
0047	4006	STD	6		
0048	0101	RETINT PTA		RETURN TO INTERPRETING	
0049	4033	STD	BRTLOC		
0050	2200	LDC	RETDRP		
0051	0550				
0052	0010	SRJD			
0053	1622	AD22		ADD 1 TO I LEAVE SUM IN ACC 2	

Address	Code	Label	Operation	Description	Address
0056	1703	SB03		SUBTRACT TWO FROM I+1 TO GET I-1	ATF00461
0057	2132	DV32		DIVIDE I+1 INTO I-1 AND STORE P1/2 IN ACC	ATF00471
0060	0332	TRF	TSQRE		ATF00481
0061	2200	BETA	LDC	2043	ATF00491
0062	2043			FOR I GREATER THAN 2.4 STORE P1/2 IN ACC	ATF00501
0063	4004	STD	4		ATF00511
0064	2200	LDC	7303		ATF00521
0065	7303				ATF00531
0066	4005	STD	5		ATF00541
0067	2200	LDC	1703		ATF00551
0070	1703				ATF00561
0071	4006	STD	6		ATF00571
0072	0101	PTA			ATF00581
0073	0702	RETTWO	SBN	2	ATF00591
0074	6523	NZR	RETINT		ATF00601
0075	2202	DI02		SHORT CUT RETURN TO INTERPRETIVE	ATF00611
0076	4674	FMS3		DIVIDE I INTO ONE	ATF00621
0077	0313	TRF	TSQRE	SET 1/I NEGATIVE AND STORE IN ACC3(T)	ATF00631
0100	2001	ZACC1	LDD	1	ATF00641
0101	4012	STD	12	WHERE T=I STORE I IN ACC3(T)	ATF00651
0102	2002	LDD	2		ATF00661
0103	4013	STD	13		ATF00671
0104	2003	LDD	3		ATF00681
0105	4014	STD	14		ATF00691
0106	0101	PTA			ATF00701
0107	0701	SBN	1		ATF00711
0110	6537	NZB	RETINT		ATF00721
0111	0000	FLAG	0		ATF00731
0112	2023	TSQRE	MP23		ATF00741
0113	5200	FA00	D3	MULTIPLY ACC BY ACC3 AND STORE RESULT T*T	ATF00751
0114	0163			T*T PLUS D3	ATF00761
0115	5600	FV00	E2	DIVIDE INTO E2	ATF00771
0116	0160				ATF00781
0117	5200	FA00	D2	ADD D2	ATF00791
0120	0155				ATF00801
0121	1602	AD02		ADD T*T	ATF00811
0122	5600	FV00	E1	DIVIDE INTO E1	ATF00821
0123	0152				ATF00831
0124	5200	FA00	D1	ADD D1	ATF00841
0125	0147				ATF00851
0126	2002	MP02		MULTIPLY BY T*T	ATF00861
0127	5200	FA00	D0	ADD D0	ATF00871
0130	0144				ATF00881
0131	2003	MP03		MULTIPLY BY T	ATF00891
0132	1601	AD01		ADJUST RESULT FOR ORIGINAL MAGNITUDE OF I	ATF00901
0133	0100	DRO			ATF00911
0134	2323	LDR	FLAG	LOAD FLAG TO TEST FOR NEGATIVE RESULT	ATF00921
0135	1401	LSD	1	SET RESULT NEGATIVE IF FLAG NOT ZERO	ATF00931
0136	4001	STD	1		ATF00941
0137	0101	PTA			ATF00951
0140	0702	SBN	2		ATF00961
0141	6570	NZB	RETINT		ATF00971
0142	4560	LAC	2Q		ATF00981
0143	0200	RTR			ATF00991
0144	2042	D0	2042	1.0	ATF01001
0145	4000		4000		ATF01011
0146	0000		0		ATF01021
0147	5743	D1	5743	-0.015585371	ATF01031
0150	7111		7111		ATF01041
0151	0563		563		ATF01051

0152	6016	E1	6016	-0.56531514	ATF0097A
0153	5023		5023		ATF0098:
0154	1002		1002		ATF0099:
0155	2045	D2	2045	2.1005541	ATF0100:
0156	2005		2005		ATF0101:
0157	1035		1035		ATF0102
0160	6012	E2	6012	-0.419003	ATF0103:
0161	3604		3604		ATF0104:
0162	0454		454		ATF0105:
0163	2044	D3	2044	1.6210238	ATF0106:
0164	0322		322		ATF0107:
0165	0356	LAST	356		ATF0108:
	0033	BRTLOC EQU	33		ATF0109:
	0550	RETDRP EQU	550		ATF0110:
		SUPB			!
	0000	END			ATF01110

0000	0000	CON	0			SQF0000
0001	2250	BCD	6		SOBTF	SQF0001
0002	5123					
0003	6620					
0004	0127		LAST	+1		SQF0002
0005	0056		46D			SQF0003
0006	7777		7777			SQF0004
0007	0000	ORG	0			SQF0005
0008	4521	FIRST SAC	21		SAVE PSEUDO ACC 2 AND 3 AND INDEX REGISTER	SQF0006
0009	0100	DRO				SQF0007
0010	0400	LDN	0			SQF0008
0011	4015	STD	I		SET INDEX REGISTER TO ZERO	SQF0009
0012	4016	STD	I	+1		SQF0010
0013	2001	LDD	ACC		LOAD FIRST WORD OF OPERAND	SQF0011
0014	6061	ZJR	DELTA		EXIT IF OPERAND=0	SQF0012
0015	1200	LPC	3777		SET FIRST WORD POSITIVE	SQF0013
0016	3777					
0017	4001	STD	ACC		RESTORE	SQF0014
0018	0114	RS1			RIGHT SHIFT TO HALVE EXPONENT	SQF0015
0019	1200	LPC	1740		MASK OUT OTHER BITS	SQF0016
0020	1740					
0021	4222	STR	ROOTN		ROOTN CONTAINS EXPONENT FOR RESULT BUT BIAS	SQF0017
0022	2001	LDD	ACC			SQF0018
0023	0240	LPN	40		TEST FOR ODD EXPONENT	SQF0019
0024	6003	ZJF	ALPHA			SQF0020
0025	0406	LDN	6			SQF0021
0026	4016	STD	I	+1	INCREMENT INDEX REGISTER FOR ODD EXPONENT	SQF0022
0027	2001	ALPHA LDD	ACC			SQF0023
0028	0237	LPN	37		MASK TO OBTAIN MAGNITUDE OF OPERAND	SQF0024
0029	0710	SBN	10		TEST RELATIVE TO ,32	SQF0025
0030	6303	NJF	BETA		LESS THAN ,32	SQF0026
0031	0403	LDN	3		IF GREATER THAN ,32	SQF0027
0032	5016	RAD	I	+1	INCREMENT INDEX REGISTER	SQF0028
0033	2001	BETA LDD	ACC		LOAD OPERAND TO ADJUST FOR EVALUATION OF	SQF0029
0034	0277	LPN	77		WILL INCLUDE LAST BIT OF EXPONENT IF ODD	SQF0030
0035	3200	ADC	2000		RESTORE BIAS	SQF0031
0036	2000					
0037	4001	STD	ACC		FORTAN ACCUMULATOR NOW CONTAINS REDUCED	SQF0032
0038	6202	PJF	GAMMA			SQF0033
0039	0000	ROOTN				SQF0034
0040	0101	GAMMA PTA			RETURN TO INTERPRETIVE	SQF0035
0041	4033	STD	BRTLOC			SQF0036
0042	2200	LDC	RETRP			SQF0037
0043	0550					
0044	0010	SRJ0				SQF0038
0045	1503	ST03				SQF0039
0046	5240	FA40	P		ADD P TO OPERAND	SQF0040
0047	0077					
0048	5560	FD60	S		DIVIDE RESULT BY S AND STORE IN ACC2	SQF0041
0049	0113					
0050	2203	D103			DIVIDE APPROXIMATION R INTO OPERAND	SQF0042
0051	1622	AD22			ADD R TO LAST RESULT A STORE IN ACC 2	SQF0043
0052	2233	D133			DIVIDE SUM INTO OPERAND STORE INTO ACC3	SQF0044
0053	2302		2302		LOAD SUM	SQF0045

SGF0046:	DIVIDE BY FOUR	FOUR	FD10	5210	0056
SGF0047:	ADD RESULT TO CONTENTS ACC 3	ADD3	DR0	0100	0061
SGF0048:	DREP OUT	LDD	ACC	2001	0062
SGF0049:	ADJUST RESULT FOR ADDITION OF EXPONENT	SBC	1000	3600	0063
SGF0050:		ROOTN	ACC	3326	0065
SGF0051:	ADJ EXPONENT TO RESULT	ADR	ACC	4001	0066
SGF0052:	FOETRAN ACCUMULATOR NOW CONTAINS ROOT	STD	ACC	0101	0067
SGF0053:		P1A	SEN	0702	0070
SGF0054:		SEN	2	6530	0071
SGF0055:	RETURN TO INTERPRETIVE	NZR	GAMMA +1	4561	0072
SGF0056:		LAC	21	0200	0073
SGF0057:	RETURN TO PROGRAM	RTR		2052	0074
SGF0058:		FOUR		0000	0075
SGF0059:				0000	0076
SGF0060:				2004	0077
SGF0061:	P1 = .18666408 FOR RANGE .1 TO .32			5232	0100
SGF0062:				630	0101
SGF0063:				2016	0102
SGF0064:	P2 = .58926406 FOR RANGE .32 TO 1			5636	0103
SGF0065:				6226	0104
SGF0066:				2044	0105
SGF0067:	P3 = 1.8666408 FOR RANGE 1 TO 3.2			5232	0106
SGF0068:				630	0107
SGF0069:				2056	0110
SGF0070:	P4 = 5.8926406 FOR RANGE 3.2 TO 10			5636	0111
SGF0071:				6226	0112
SGF0072:				2026	0113
SGF0073:				277	0114
SGF0074:				477	0115
SGF0075:				2043	0116
SGF0076:	S2 = 1.5656854 FOR RANGE .32 TO 1			7220	0117
SGF0077:				1526	0120
SGF0078:				2046	0121
SGF0079:	S3 = 2.7888544 FOR RANGE 1 TO 3.2			7570	0122
SGF0080:				1040	0123
SGF0081:				2054	0124
SGF0082:	S4 = 4.951132 FOR RANGE 3.2 TO 10			2777	0125
SGF0083:				500	0126
SGF0084:				EGU	0015
SGF0085:				EGU	0030
SGF0086:				EGU	0030
SGF0087:				EGU	0550
SGF0088:				EGU	0001
SGF0089:				ACC	0000
SGF0090:				END	0000

LAST

S

P

FOUR

DELTA

ROOTN

SBC

LDD

ADD3

FD10

END

SUPB

EGU

EGU

EGU

EGU

EGU

EGU

EGU

EGU

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SGF0091  
SGF0092  
SGF0093

	0000	REM		SIENF	
	0000	CON	0		
0000	2271	BCD	6	SIENF	
0001	6745				
0002	6620				
0003	0007		LAST	+1	
0004	0057		57		
0005	7777		7777		
	0000	ORG	0		
0000	0504	TPF	4		
0001	3220	FLD	20		
0002	4644	FNS			
0003	0200	RTR			
0004	3220	FLD	20		
0005	4640	FPS			
0006	0200	RTR			
		SUPB			
	0000	END			

SGNF000  
SGNF001  
SGNF002

SGNF003  
SGNF004  
SGNF005  
SGNF006  
SGNF007  
SGNF008  
SGNF009  
SGNF010  
SGNF011  
SGNF012  
SGNF013

SGNF014

0000	0000	CUN	0			EXTF001
0001	6527	BCD	6		EXITF	EXTF002
0002	7123					
0003	6620					
0004	0046		LAST	+1		EXTF003
0005	0060		60			EXTF004
0006	7777		7777			EXTF005
0007	0000	ORG	D			EXTF006
0008	0100		100			EXTF007
0009	0060	SIDD				EXTF008
0010	2002	LDD			LOAD FLAG	EXTF009
0011	0207	LPN				EXTF010
0012	6024	ZJF	B163		TEST FLAG, ZERO JUMP TO 163 ROUTINE	EXTF011
0013	7500	B1607 EXC	5011		NOT ZERO(1), START 1607 ROUTINE	EXTF012
0014	5011					
0015	7510	WA EXF	WA1	+1	REQUEST STATUS	EXTF013
0016	7600	INA				EXTF014
0017	1200	LPC	200			EXTF015
0018	0200					
0019	6504	NZB	WA		WAIT READY	EXTF016
0020	7500	EXC	5005		REWIND TAPE	EXTF017
0021	5005					
0022	7500	WA1 EXC	6053		REQUEST STATUS	EXTF018
0023	6053					
0024	7600	INA				EXTF019
0025	1307	LPB	WA	+3		EXTF020
0026	6504	NZB	WA1		WAIT READY	EXTF021
0027	7500	EXC	5001		READ, TAPE1, BINARY	EXTF022
0028	5001					
0029	7201	INP	1		READ BOOTSTRAP FROM TAPE	EXTF023
0030	0220		220			EXTF024
0031	6114	NZF	GO			EXTF025
0032	7500	B163 EXC	1161		163 ROUTINE	EXTF026
0033	1161					
0034	7500	EXC	1171		SELECT ODD PARITY (BINARY)	EXTF027
0035	1171					
0036	7504	EXF	GO	+3	READ TAPE 1	EXTF028
0037	7201	INP	1		SKIP ONE RECORD	EXTF029
0038	0220		220			EXTF030
0039	7500	EXC	2131		INPUT BOOTSTRAP FROM TAPE	EXTF031
0040	2131					
0041	7201	INP	1			EXTF032
0042	0220		220			EXTF033
0043	2200	GO LDC	400			EXTF034
0044	0400					
0045	0010	LAST SRJO			TRANSFER CONTROL	EXTF035
		SUPB				
	0000	END				EXTF036

REM OBJECT CODE DUMP ON MAGNETIC TAPE  
 REM FOR 160-A FORTRAN  
 REM ANNE LAPHAM  
 REM MAY 1963  
 CON 0  
 BCD 6 MDUMPF

MDF0000:  
 MDF0001A:  
 MDF0002:  
 MDF0003A:  
 MDF0004:  
 MDF0005:

0000 0000  
 0001 4464  
 0002 2444  
 0003 4766  
 0004 0137  
 0005 0062  
 0006 7777  
 0007 0000  
 0008 0100  
 0009 0060  
 0010 0130  
 0011 0207  
 0012 4001  
 0013 2402  
 0014 0701  
 0015 4256  
 0016 7500  
 0017 1162  
 0018 2200  
 0019 0101  
 0020 4225  
 0021 0402  
 0022 4225  
 0023 7500  
 0024 1171  
 0025 7516  
 0026 7400  
 0027 6115  
 0028 2200  
 0029 0220  
 0030 4213  
 0031 0101  
 0032 3200  
 0033 0102  
 0034 4002  
 0035 0500  
 0036 4207  
 0037 0020  
 0038 7500  
 0039 2112  
 0040 7303  
 0041 0101  
 0042 6102  
 0043 0002  
 0044 7500  
 0045 1142  
 0046 7600  
 0047 0204  
 0048 6016  
 0049 7504  
 0050 7600  
 0051 7554

LAST +1  
 62  
 7777  
 ORG 0  
 100

SIDO ~~INSERT~~ LDN 20  
 STA STF START

LPN 7  
 STD 1  
 LCD 2  
 SBN 1  
 STR BCOUNT

LOAD EXC 1162 REWIND TAPE + LOAD

N101 LDC 101 LWA + 1 OF REC 1

STF LWORD  
 LDN 2 ADDRESS OF SECOND WORD IN REC. 1

RECORD EXC 1171 SELECT ODD PARITY

EXF WRITE +1 WRITE TAPE 2  
 OTN 0 FIRST WORD OF RECORD 1 IS 0000,

BEGIN LDC 220 INITIALIZATION FOR RECORD 2 BANK0

PTA STF LWORD  
 PTA  
 ADC OUT1 -PTA

BEGIN1 STD 2  
 LCN 0 FIRST WORD OF EACH BANK CONTAINS LOC 7777  
 REM THE LAST WORD OF EACH BANK CONTAINS  
 REM LOC. 0000.

START SICD  
 WRITE EXC 2112 DETERMINES BANK OUTPUT  
 WRITE TAPE 2

OUTINS OUT FWORD  
 LWORD 101

NZF NEXT  
 FWORD 2

NEXT EXC 1142 CHECK TAPE STATUS

INA  
 LPN 4  
 ZJF PROGM CONTINUE WITH DUMPING

EXF BACKSP +1

EXF OUT +1 WRITE EOF

MDF0006:  
 MDF0007A:  
 MDF0008:  
 MDF0009A:  
 MDF0010:

MDF0012A:  
 MDF0013:  
 MDF0014:  
 MDF0015:  
 MDF0016A:  
 MDF0017:  
 MDF0018A:

MDF0019:

MDF0020:  
 MDF0021:  
 MDF0022:  
 MDF0023:

MDF0024:  
 MDF0025:  
 MDF0026:  
 MDF0027:

MDF0028:  
 MDF0029:  
 MDF0030A:

MDF0031:  
 MDF0032A:  
 MDF0033A:  
 MDF0034:  
 MDF0035A:

MDF0036:  
 MDF0037:

MDF0038:  
 MDF0039:  
 MDF0040:  
 MDF0041A:  
 MDF0042:

MDF0043:  
 MDF0044A:  
 MDF0045:  
 MDF0046A:  
 MDF0047A:  
 MDF0048A:

0054	7500	BACKSP	EXC	1122	BACKSPACE ONE RECORD	DDF0049:
0055	1122					:
0056	7600		INA			DDF0050
0057	2316	LOADBK	LDB	LWORD		DDF0051:
0060	3745		SBB	N101	+1	DDF0052:
0061	6442		ZJB	RECORD		DDF005:
0062	6524		NZB	WRITE		DDF0054
0063	5726	RELAY	AOR	START		DDF0055:
0064	6531		NZB	BEGIN1		DDF0056
0065	0000	BCOUNT				DDF0057:
0066	2325	PROGM	LDB	LWORD		DDF0058:
0067	3754		SBB	N101	+1	DDF0059
0070	6444		ZJR	BEGIN		DDF0060
0071	3600		SBC	117		DDF0061:
0072	0117					
0073	6110		NZF	JUMP		DDF0062:
0074	2200	N400	LDC	400		DDF0063:
0075	0400					
0076	4333		STB	FWORD		DDF0064:
0077	2200	N1000	LDC	1000	FWA OF REC 3 IN BK 0 LWA+1 OF REC 3 BK 0	DDF0065:
0100	1000					
0101	4340		STR	LWORD		DDF0066:
0102	6545		NZB	START		DDF0067:
0103	2340	JUMP	LDB	FWORD		DDF0068
0104	3707		SBB	N400	+1	DDF0069:
0105	6104		NZR	START1		DDF0070:
0106	2306		LDB	N1000	+1	DDF0071
0107	4344		STR	FWORD		DDF0072:
0110	6106		NZF	LASTW		DDF0073:
0111	2350	START1	LDB	LWORD		DDF0074
0112	0701		SBN	1		DDF0075:
			REM			DDF0076
			REM			DDF0077
			REM			DDF0078:
0113	6006		ZJF	ORIGIN		DDF0079:
0114	2314		LDB	N1000	+1	DDF0080
0115	5352		RAB	FWORD		DDF0081:
0116	2316	LASTW	LDB	N1000	+1	DDF0082:
0117	5356		RAB	LWORD		DDF0083
0120	6563		NZB	START		DDF0084:
0121	5734	ORIGIN	AOR	BCOUNT		DDF0085:
0122	6004		ZJF	OUT		DDF0086
0123	2323		LDB	N1000	+1	DDF0087:
0124	4363		STR	LWORD		DDF0088:
0125	6542		NZB	RELAY		DDF0089
0126	7500	OUT	EXC	1112	WRITE END OF FILE MARK	DDF0090:
0127	1112					:
0130	7700	OUT1	HLT			DDF0091
0131	0101		PTA			DDF0092:
0132	4033		STD	33		DDF0093:
0133	2200		LDC	550		DDF0094
0134	0550					:
0135	0010		SRJ0			DDF0095:
0136	0200	LAST		200		DDF0096
			SUPB			:
	0000		END			DDF0097:

REM  
REM  
REM  
REM  
CON  
BCD

OBJECT CODE DUMP ON CARDS  
FOR 160-A FORTRAN  
ANNE LAPHAM  
MAY 1963

PDF0000:  
PDF0001:  
PDF0002:  
PDF0003:  
PDF0004:  
PDF0005:

0000 6364  
0001 2444  
0002 4766  
0003 0507  
0004 0061  
0005 7777  
0006 0000  
0007 0100  
0008 0220  
0009 0140  
0010 0101  
0011 0604  
0012 4203  
0013 2210  
0014 0105  
0015 0000  
0016 2202  
0017 0106  
0018 0333  
0019 0400  
0020 0100  
0021 0220  
0022 0405  
0023 3305  
0024 0106  
0025 0105  
0026 2271  
0027 0100  
0028 0223  
0029 0060  
0030 0130  
0031 0207  
0032 4001  
0033 2402  
0034 0701  
0035 4260  
0036 0101  
0037 3200  
0038 0146  
0039 4002  
0040 0400  
0041 4256  
0042 0620  
0043 4234  
0044 0400  
0045 4011  
0046 2325  
0047 4221  
0048 0110

ORG  
BUF

ORG  
EGU  
SBUO  
PTA  
ADM  
STF  
LDF  
ATE

WORD1 +84D  
61 49D  
7777

SELF +1  
BLS1 +1

STORE  
SELF

STORE1  
ATX1

ATX1 +1  
BUF +75D

BLS1

LDN  
BLS

0  
BUF

N105

LDN  
ADR  
ATX

5  
ATX1 +1  
105

BLS2

LDR  
BLS

N1000  
BUF +3

SIDD  
CTA  
LPN  
STD  
LGD  
SBN  
STR  
PTA  
ADC

PTA

BSET

N105A  
STF1

7  
1  
2  
1  
1  
BKCT  
OUT  
2  
0  
BKSET  
20  
SETIB  
0  
FWA  
N105  
COL2  
LS3

-PTA

+1  
+1

INITIALIZATION OF CARD IMAGE

FIND RELATIVE BK SETTING

NUM OF LAST BK LOCATED HERE

SET UP EXIT ADDRESS

SET UP IND BANK FOR PICKUP

INITIALIZATION FOR FWA

INITIALIZATION FOR NUM WORDS

PDF0006:  
PDF0007:  
PDF0008:  
PDF0009:  
PDF0010:  
PDF0011:  
PDF0012:  
PDF0013:  
PDF0014:  
PDF0015:  
PDF0016:  
PDF0017:  
PDF0018:  
PDF0019:  
PDF0020:  
PDF0021:  
PDF0022:  
PDF0023:  
PDF0024:  
PDF0025:  
PDF0026:  
PDF0027:  
PDF0028:  
PDF0029:  
PDF0030:  
PDF0031:  
PDF0032:  
PDF0033:  
PDF0034:  
PDF0035:  
PDF0036:  
PDF0037:  
PDF0038:  
PDF0039:  
PDF0040:  
PDF0041:  
PDF0042:  
PDF0043:  
PDF0044:  
PDF0045:

0051	0103		LS2						0DF0046:
0052	4100		STM	BUF		COL 1 CONTAINS NUMRDS, BKNUM, BIN CODE			0DF0047:
0053	0220								0DF0048:
0054	2243		LDR	BKSET					0DF0049:
0055	0201		LPN	1					0DF0050:
0056	0102		LS1						0DF0051:
0057	5100		RAM	BUF					0DF0052:
0060	0220								0DF0053:
0061	2236		LDR	BKSET					0DF0054:
0062	0206		LPN	6					0DF0055:
0063	0103		LS2						0DF0056:
0064	0605		ADN	5		BINARY CODE IN ROW 7+9			0DF0057:
0065	5100		RAM	BUF					0DF0058:
0066	0220								0DF0059:
0067	2600	COL2	LCC	105					0DF0060:
0070	0105								0DF0061:
0071	4227		STR	WCOUNT					0DF0062:
0072	2346		LDR	BLS2	+1	LOAD BUF +3			0DF0063:
0073	4210		STF	INCR	+1				0DF0064:
0074	2011		LDD	FWA		COL 3 CONTAINS FWA			0DF0065:
0075	4100		STM	BUF	+2	STORE IN CARD IMAGE			0DF0066:
0076	0222								0DF0067:
0077	0000	SETIB				SET INDIRECT BK FOR PICKUP			0DF0068:
0100	2111		LDI	FWA					0DF0069:
0101	0020		SIC0			RESET INDIRECT BANK			0DF0070:
0102	4100	INCR	STM	BUF	+3	STORE COL 4-72 IN CARD IMAGE			0DF0071:
0103	0223								0DF0072:
0104	5100		RAM	BUF	+1	CHECK SUM IS IN COL 2			0DF0073:
0105	0221								0DF0074:
0106	5411		ADD	FWA					0DF0075:
0107	5704		AOR	INCR	+1				0DF0076:
0110	5610		AOR	WCOUNT					0DF0077:
0111	6011		ZJR	SERIES		TO SEQUENCING CARDS			0DF0078:
0112	6513		NZB	SETIB		REDO			0DF0079:
0113	1000	N1000		1000					0DF0080:
0114	6545	RELAY	NZB	STF1					0DF0081:
0115	6547	RELAY1	NZR	N105A					0DF0082:
0116	6554	RELAY2	NZR	BSET					0DF0083:
0117	0000	BKSET							0DF0084:
0120	0000	WCOUNT							0DF0085:
0121	0000	BKCT							0DF0086:
0122	2200	SERIES	LDC	BUF	+78D	SEQUENCING CARDS			0DF0087:
0123	0336								0DF0088:
0124	4012	REDO	STD	12					0DF0089:
0125	2112		LDI	12					0DF0090:
0126	0114		RS1						0DF0091:
0127	6003		ZJF	EXIT					0DF0092:
0130	4112		STI	12					0DF0093:
0131	6106		NZR	PUNCHC					0DF0094:
0132	2317	EXIT	LDR	N1000		REINITIALIZE COLUMN			0DF0095:
0133	4112		STI	12					0DF0096:
0134	2012		LDD	12					0DF0097:
0135	0701		SBN	1					0DF0098:
0136	6512		NZB	REDO					0DF0099:
0137	6153	PUNCHC	NZF	CPUNCH					0DF0100:
0140	2011		LDD	FWA		CONTAINS LWA +1 OF PREVIOUS CARD			0DF0101:
0141	6105		NZF	N1					0DF0102:
0142	0500		LCN	0		LOAD SPECIFIC CELL			0DF0103:
0143	4011		STD	FWA					0DF0104:
0144	0401		LDN	1		CARD CONTAINS ONLY SPECIFIC CELL			0DF0105:

0145	6531		NZR	RELAY			00F0096:
0146	0701	N1	SBN	1		CHECK FOR CARD FOLLOWING SPECIFIC CELL	00F0099:
147	6026		ZJF	ONE			00F0100:
0150	3600		SBC	211		CHECK FOR CARD PRIOR TO 220 IN BK 0	00F0101:
0151	0211						
52	6105		NZF	NEXT			00F0102:
0153	2334		LDR	BKSET			00F0103:
0154	6107		NZF	NEXT1			00F0104:
155	0406		LDN	6		IN BK 0 LOC 220-400 ARE NOT DUMPED	00F0105:
0156	6542	STR1	NZR	RELAY		RELAY TO STF1	00F0106:
0157	0706	NEXT	SBN	6			00F0107:
160	6104		NZF	NEXT2			00F0108:
0161	2254		LDF	N400	+1	LOAD 400	00F0109:
0162	4011		STD	FWA			00F0110:
163	6546	NEXT1	NZR	RELAY1		RELAY TO N105	00F0111:
0164	3600	NEXT2	SBC	7503		DETERMINE IF THIS IS FWA OF LAST REC BK 0	00F0112:
0165	7503						
166	6103		NZF	NEXT3			00F0113:
0167	0454		LDN	54		NUM OF WORDS ON LAST CARD BK 0	00F0114:
0170	6512		NZR	STR1			00F0115:
171	0724	NEXT3	SBN	24		DETERMINE IF THIS IS FWA OF LAST REC BK 1	00F0116:
0172	6507		NZR	NEXT1			00F0117:
0173	0430		LDN	30		NUM OF WORDS ON LAST CARD BK 1-N	00F0118:
174	6516		NZR	STR1			00F0119:
0175	5754	ONE	AOR	BKCT			00F0120:
0176	6003		ZJF	OUT			00F0121:
177	5760		AOR	BKSET			00F0122:
0200	6562		NZR	RELAY2		RELAY TO BSET	00F0123:
0201	7700	OUT	HLT				00F0124:
0202	0101		PTA				00F0125:
0203	4033		STD	33			00F0126:
0204	2200		LDC	550			00F0127:
0205	0550						
0206	0010		SRJO				00F0128:
0207	0200			200		SUBROUTINE PUNCH	00F0129:
			REM				00F0130:
0210	6550		NZR	PUNCHC	+1		00F0131:
0211	6451		ZJR	PUNCHC	+1		00F0132:
	0003	TEM3	EQU	3			00F0133:
	0004	TEM4	EQU	4			00F0134:
	0005	TEM5	EQU	5			00F0135:
	0006	TEM6	EQU	6			00F0136:
	0007	TEM7	EQU	7			00F0137:
	0011	FWA	EQU	11			00F0138:
0212	2001	CPUNCH	LDD	1			00F0139:
0213	0620		ADN	20		SET INDIRECT BK TO SAME NUM AS RELATIVE	00F0140:
0214	4247		STF	SIGN			00F0141:
0215	3200		ADC	120		SET BUFFER TO SAME NUM AS RELATIVE BK	00F0142:
0216	0120						
0217	4201		STF	1			00F0143:
0220	0140		SBUO				00F0144:
0221	4264		STF	SETBUF		RELAY TO SETBF	00F0145:
0222	0101		PTA				00F0146:
0223	0607		ADN	7			00F0147:
0224	4206		STF	SELF1	+1		00F0148:
0225	0101	PTA1	PTA				00F0149:
0226	3200		ADC	WORD1	-PTA1	WORD1:	00F0150:
0227	0136						
0230	4267		STF	CWORD	+1		00F0151:
0231	0105	SELF1	ATE				00F0152:

0232	0000								
0233	3267		ADF	ADD1	+1				0DF0153
0234	0106	N400	ATX	400					0DF0154
0235	0400								
0236	0400		LDM	0					0DF0155
0237	0100	BUF2	BLS	BUF	+79D				0DF015
0240	0337								
0241	2256		LDR	CWORD	+1				0DF0157
0242	0701		SBN	1					0DF0158
0243	4003		STD	TEM3					0DF0159
0244	3256		ADF	ADD1	+1				0DF0160
0245	4007		STD	TEM7					0DF0161
0246	2007	COMPAR	LDD	TEM7					0DF0162
0247	3403		SBD	TEM3					0DF0163
0250	6036		ZJF	CBEN					0DF0164
0251	0410		LDM	10					0DF0165
0252	4006		STD	TEM6					0DF0166
0253	2313		LDR	BUF2	+1				0DF0167
0254	4004		STD	TEM4					0DF0168
0255	0507		LCN	7					0DF0169
0256	4005		STD	TEM5					0DF0170
0257	4406	SRADBT	SRD	TEM6					0DF0171
0260	2104		LDI	TEM4					0DF0172
0261	6207		PJF	NOBIT					0DF0173
0262	2006		LDD	TEM6					0DF0174
0263	0020	SIGN	SICO						0DF0175
0264	5107		RAI	TEM7					0DF0176
0265	6103		NZF	NOBIT					0DF0177
0266	0500		LCN	0					0DF0178
0267	4107		STI	TEM7					0DF0179
0270	0020	NOBIT	SICO						0DF0180
0271	4504		SRI	TEM4					0DF0181
0272	0501		LCN	1					0DF0182
0273	5004		RAD	TEM4					0DF0183
0274	2006		LDD	TEM6					0DF0184
0275	6616		PJB	SRADBT					0DF0185
0276	0501		LCN	1					0DF0186
0277	5007		RAD	TEM7					0DF0187
0300	5405		AOD	TEM5					0DF0188
0301	6522		NZR	SRADBT					0DF0189
0302	6434		ZJB	COMPAR					0DF0190
0303	6573	RELAY3	NZR	CPUNCH	-2				0DF0191
0304	6473		ZJR	CPUNCH	-1				0DF0192
0305	0000	SETBUF							0DF0193
0306	0101	CBEN	PTA						0DF0194
0307	0605		ADM	5					0DF0195
0310	4204		STF	SELF2	+1				0DF0196
0311	0140		SBUO						0DF0197
0312	2224		LDR	BUF1	+1	CARD IMAGE IN BK 0			0DF0198
0313	0105	SELF2	ATE			LOAD BUF			0DF0199
0314	0000								
0315	3243		ADR	ADD2	+1				0DF0200
0316	0106	CWORD	ATX			WORD1			0DF0201
0317	0000								
0320	0400		LDM	0					0DF0202
0321	0100	ADD1	BLS	124					0DF0203
0322	0124								
0323	2316		LDB	SETBUF					0DF0204
0324	4201		STF	1					0DF0205
0325	0000	SBU							0DF0206



326	0101		PTA							0000
327	0604		ADM	4						0000
330	4203		STF	OBEN	+1					0000
331	2312		LDR	CWORD	+1					0000
332	0105	OBEN	ATE							0000
33	0000									0000
334	3312		ADR	ADD1	+1					0000
335	0106	BUF1	ATX	BUF						0000
336	0220									0000
337	7500	CHECK	EXP	0						0000
340	3040			3040						0000
341	7600		INA							0000
342	0102		LS1							0000
343	6211		PJF	OK						0000
344	4600		SRF	0						0000
345	5252			5252						0000
346	6707		NJB	CHECK						0000
347	5603		AGF	ERRORX						0000
350	4202		STF	ERRORX						0000
351	6512		NZB	CHECK						0000
352	0000	ERRORX	ERR			NOT READY				0000
353	6414		ZJB	CHECK						0000
354	4302	OK	STB	ERRORX						0000
355	7500		EXP	0						0000
356	3002			3002						0000
357	7300	ADD2	ISO	72D						0000
360	0110									0000
361	6556		NZR	RELAYS						0000
362	6456		ZJR	RELAYS +1						0000
363	0000	WORD1	BSS	84D						0000
			SUPB							0000
	0000		END							0000

PDF0236  
PDF0237

REM OBJECT CODE DUMP ON PAPER TAPE  
REM FOR FORTRAN 160-A  
REM ANNE LAPHAM  
REM MAY 1963

PDF0000:  
PDF0001:  
PDF0002:  
PDF0003:  
PDF0004:  
PDF0005:

0000 0000  
0000 4764  
0001 2444  
0002 4766  
0003 0145  
0004 0065  
0005 7777  
0000 0000  
0000 0100  
0001 0040  
0002 0130  
0003 0207  
0004 4001  
0005 2402  
0006 0701  
0007 4252  
0010 2600  
0011 0300  
0012 4250  
0013 7500  
0014 4104  
0015 7400  
0016 5644  
0017 6502  
0020 2241  
0021 6537  
0022 2665  
0023 4237  
0024 2002  
0025 7677  
0026 4235  
0027 0101  
0030 3200  
0031 0110  
0032 4002  
0033 0400  
0034 4230  
0035 4011  
0036 0020  
0037 2111  
0040 4225  
0041 5222  
0042 2223  
0043 0111  
0044 0277  
0045 7677  
0046 5614  
0047 2216

CON 0  
BCD 6

LAST +1  
63  
7777  
ORG 0  
100

SDCO  
OTA ~~INSERT~~ LDN 20  
STF RESET

LPN 7 RELATIVE BK NUM STORED HERE  
STD 1  
LCD 2 LOG 2 CONTAINS NUMBER OF BANKS TO BE DUMPED  
REM  
SBN 1

LOAD1 STR BKCT  
LCC 300 LEADER FRAMES AND TRAILING FRAMES

STR FRMECT  
EXC 4104 SELECT PAPER TAPE PUNCH

LOAD OTN 0  
AOR FRMECT  
NZR LOAD  
LDR BKCT CHECK FOR ALL BANKS DUMPED  
ZJR RELAY1

LOR N100 +1  
STR FRMECT  
LDD 2 FIRST FRAME CONTAINS NUMBER OF LAST BK

PTA STR CKSUM  
PTA  
ADC OUT -PTA

STD 2 RETURN ADDRESS STORED HERE

LDN 0  
STR BNKNO  
STD 11

RESET SICO

LDI 11  
STR TEMP TEMPORARY CELL

RAR CKSUM  
LDR TEMP LEFT HALF OF WORD

LS6  
LPN 77

OTA  
AOR FRMECT  
LDR TEMP RIGHT HALF OF WORD

PDF0006:  
PDF0007:  
PDF0008:  
PDF0009:  
PDF0010:  
PDF0011:  
PDF0012:  
PDF0013:  
PDF0014:  
PDF0015:  
PDF0016:  
PDF0017:  
PDF0018:  
PDF0019:  
PDF0020:  
PDF0021:  
PDF0022:  
PDF0023:  
PDF0024:  
PDF0025:  
PDF0026:  
PDF0027:  
PDF0028:  
PDF0029:  
PDF0030:  
PDF0031:  
PDF0032:  
PDF0033:  
PDF0034:  
PDF0035:  
PDF0036:  
PDF0037:  
PDF0038:  
PDF0039:  
PDF0040:  
PDF0041:  
PDF0042:  
PDF0043:  
PDF0044:  
PDF0045:  
PDF0046:  
PDF0047:

0050	0277	LPN	77						PDF0046:
0051	7677	OTA							PDF0049:
0052	2011	LDD	11						PDF0050:
0053	6013	ZJF	ADD						PDF0051:
0054	0600	ADN	0				CHECK FOR LOC 7777		PDF0052:
0055	6052	ZJF	CHANGE						PDF0053:
0056	5110	NZR	ADD						PDF0054:
0057	6447	RELAY	ZJR	LOAD1					PDF0055:
0058	6056	RELAY1	ZJR	OUT					PDF0056:
0061	0000	BKCT							PDF0057:
0062	0000	FRMECT							PDF0058:
0063	0000	CKSUM							PDF0059:
0064	0000	BNKNO							PDF0060:
0065	0000	TEMP							PDF0061:
0066	5411	ADD	AOD	11			BUMP OUTPUT ADDRESS		PDF0062:
0067	6035	ZJR	ZERO				JUMP TO PICKUP LOC 7777		PDF0063:
0070	3600	SBO	220				LOC 220 - 377 OF BANK 0 NOT TO BE DUMPED		PDF0064:
0071	0220								PDF0065:
0072	6107	NZR	CHECK						PDF0066:
0073	2307	LDR	BNKNO				CHECK FOR BANK 0		PDF0067:
0074	6105	NZR	CHECK						PDF0068:
0075	2200	LDC	400						PDF0069:
0076	0400								PDF0070:
0077	4011	STD	11						PDF0071:
0100	6103	NZR	CHECK1						PDF0072:
0101	5717	CHECK	AOR	FRMECT			CHECK SUM WILL APPEAR EVERY 100 FRAMES		PDF0073:
0102	6544	NZR	RESET						PDF0074:
0103	2320	CHECK1	LDR	CKSUM					PDF0075:
0104	0111	LS6							PDF0076:
0105	0277	LPN	77						PDF0077:
0106	3200	N100	ADC	100			CHECK SUM IDENTIFIED BY 2 7TH LEVEL		PDF0078:
0107	0100								PDF0079:
0110	7677	REM					PUNCHES		PDF0080:
0111	2326	OTA							PDF0081:
0112	0277	LDR	CKSUM						PDF0082:
0113	3304	LPN	77						PDF0083:
0114	3304	ADR	N100	+1					PDF0084:
0115	7677	OTA							PDF0085:
0116	2334	LDR	BKCT						PDF0086:
0117	6437	ZJR	RELAY						PDF0087:
0118	2710	LDR	N100	+1			REINITIALIZE FRAME COUNTER		PDF0088:
0119	4336	STR	FRMECT						PDF0089:
0120	0400	LDR	0				REINITIALIZE CHECK SUM		PDF0090:
0121	4337	STR	CKSUM						PDF0091:
0122	6465	ZJR	RESET						PDF0092:
0123	0500	ZERO	LDR	0			OUTPUT LOC 7777		PDF0093:
0124	4011	STD	11						PDF0094:
0125	6570	NZR	RESET						PDF0095:
0126	5746	CHANGE	AOR	BKCT			BUMP BANK COUNTER		PDF0096:
0127	6425	ZJR	CHECK1				ALL BANKS HAVE BEEN DUMPED		PDF0097:
0128	5773	AOR	RESET				BUMP INDIRECT BANK SETTING		PDF0098:
0129	5746	AOR	BNKNO				BUMP NUMBER OF BANKS DUMPED		PDF0099:
0130	0400	LDR	0				REINITIALIZE OUTPUT ADDRESS		PDF0100:
0131	4011	STD	11						PDF0101:
0132	6432	ZJR	CHECK1						PDF0102:
0133	7700	OUT	HLT						PDF0103:
0134	0101	PTA							PDF0104:
0135	4035	STD	33						PDF0105:
0136	2200	LDC	550						PDF0106:
0137	0550								PDF0107:

0143 0010 SRJD  
0144 0200 LAST 200  
0000 SUPB  
END

PDF0104:

PDF0105:

PDF0106:

	0000	REM		NORMAL PLOT THORLIN
0000	4743	CON	0	
0001	4623	BCD	6	PLOT
0002	6620			
0003	0274		LENGTH 1	
0004	0064		64	
0005	7777		7777	
0000	0000	ORG	0	PLOT (X,Y,N)
0001	3222	FLD	22	J
0002	6000	IS00	ONE	J=N
0002	0267			
0003	1111	TZF	J1	X,Y ARE SCALE FACTORS
0004	6000	IS00	ONE	J=N
0005	0267			
0006	1115	TZF	J2	X,Y ARE ORIGINS
0007	6000	IS00	ONE	J=RT 2
0010	0267			
0011	5110	TS10	J	PLOTTER MOTION
0012	0176			
0013	0317	TRF	J34	J=N-3
0014	3220	FLD	20	X SCALE FACTORS
0015	5100	TS00	XS	XSEX
0016	0256			
0017	3221	FLD	21	Y
0020	5100	TS00	YS	YSHY
0021	0261			
0022	0200	RTR		EXIT
0023	3220	FLD	20	X ORIGIN
0024	5100	TS00	X0	XORX
0025	0250			
0026	3221	FLD	21	Y
0027	5100	TS00	Y0	YOHY
0030	0253			
0031	0200	RTR		
0032	6400	CA00	X0	X0
0033	0250			
0034	2620	FSB	20	X0=X
0035	5400	FM00	HUN	100(X0=X)
0036	0271			
0037	5510	FD10	XS	100(X0=X)/XS
0040	0256			
0041	0504	TPF	XPOS	
0042	6500		6500	DOWN ROUND
0043	0264		HALF	
0044	0703	TNF	XPOS	
0045	6400	CA00	HALF	ROUND UP
0046	0264			
0047	1601	AD01		
0050	4621	IAC2		LEFT MOTION IN ACC2
0051	4600	FAC0		
0052	5400	FM00	XS	
0053	0256			
0054	5500	FD00	HUN	
0055	0271			

0056	4642		FOS		
0057	5200		FA00	XD	
0060	0250				
0061	5100		TS00	X0	
0062	0250				
0063	3221		FLD	21	Y
0064	5300		FSD0	Y0	Y-Y0
0065	0253				
0066	5400		FM00	HUN	(Y=YO)100
0067	0271				
0070	5510		FD10	YS	(Y=YO)100/YS
0071	0261				
0072	0504		TPF	YPOS	
0073	6500			6500	
0074	0264			HALF	
0075	0703		TNF	YPOS	2
0076	6400	YPOS	CA00	HALF	
0077	0264				
0100	1601		ADD1		
0101	4631		IACS		UP MOTION IN ACC3
0102	4600		FAC		1
0103	5400		FM00	YS	
0104	0264				
0105	5500		FD00	HUN	
0106	0271				
0107	5200		FA00	Y0	
0110	0253				
0111	5100		TS00	Y0	
0112	0253				
0113	2307		LD07		
0114	1304		ZNF	OKPLT	
0115	2306		LD06		
0116	1302		ZNF	OKPLT	
0117	0200		RTR		
0120	0100	OKPLT	DRO		
0121	7500		EXC	4401	SELECT 165 PLOTTER
0122	4401				
0123	2254		LDR	J	1
0124	6102		NZF	G0G0	
0125	7440		OTN	40	POINT PLOT
0126	2013	G0G0	LDD	13	
0127	4245		STF	DELVER	
0130	2010		LDD	10	
0131	4242		STF	DELHOR	
0132	6306	GO	NJF	LFTCD	
0133	6005		ZJF	LFTCD	
0134	2637		LCR	DELHOR	
0135	4236		STR	DELHOR	
0136	0402		LDN	2	
0137	6102		NZF	LFTCD	1
0140	0401	LFTCD	LDN	1	
0141	4234		STF	LFT/RT	
0142	2232		LDR	DELVER	
0143	5306		NJF	UPCD	
0144	6005		ZJF	UPCD	
0145	2627		LCR	DELVER	
0146	4226		STR	DELVER	
0147	0404		LDN	4	
0150	6102		NZF	UPCD	1
0151	0410	UPCD	LDN	10	

00502

0152	3240	ADR	*7400
0153	4252	STF	PRIMDR
0154	3221	ADF	LFT/RT
0155	4253	STF	COMBIN
0156	2213	GETVER	LDR
0157	3614	SBR	DELHOR
0160	6333	NJF	BEGIN1
0161	2213	LDR	DELVER
0162	4216	STF	TEMP
0163	2210	LDR	DELHOR
0164	4210	STF	LONG
0165	2213	LDR	TEMP
0166	4205	STR	SHORT
0167	2206	LDR	LFT/RT
0170	3222	ADR	*7400
0171	4234	STF	PRIMDR
0172	6121	NZF	BEGIN1
0173	0000	DELHOR	
0174	0000	DELVER	
0173	0173	SHORT	EQU DELHOR
0174	0174	LONG	EQU DELVER
0175	0000	LGMRMG	
0176	0000	J	BSS 2
0176	0176	SHMRMG	EQU J
0200	0000	SWHCTR	
0200	0200	TEMP	EQU SWHCTR
0201	2302	LINXT	LDR J
0202	6102		NZF LEAVE
0203	7420		OTN 20
0204	0101	LEAVE	PTA
0205	4033		STD 33
0206	2200		LDC 550
0207	0550		
0210	0010		SRJO
0211	0200		RTR
0212	7400	*7400	7400
0213	0400	BEGIN1	LDR 0
0214	4314		STB SWHCTR
0215	2321		LDB LONG
0216	4321		STB LGMRMG
0217	2324		LDB SHORT
0220	4322		STB SHMRMG
0221	2720	DRWLIN	LDR SHORT
0222	5322		RAB SWHCTR
0223	3327		ADB LONG
0224	6203		PJF DUAL
0225	0000	PRIMDR	
0226	6100		NZF INCR2
0227	4327	DUAL	STB SWHCTR
0230	0000	COMBIN	
0231	5733	INCR1	AOB SHMRMG
0232	6102		NZF INCR2
0233	4340		STB SHORT
0234	5737	INCR2	AOB LGMRMG
0235	6514		NZB DRWLIN
0236	2340		LDB SHMRMG
0237	5436		ZJB LINXT
0240	2310	SECMV	LDR COMBIN
0241	3714		SBR PRIMDR
0242	3330		ADR *7400

RELOCATE

1

SWHCTR=LONG

CONTAINS PLOT CODE

SWHCTR CARRIED POSITIVE

0243	4200	STF	1
0244	7400	SECMVZ	7400
0245	5747	AOB	SHMRMG
0246	6502	NZB	SECMVZ
0247	6446	ZJB	LINXT
	0175	LFT/RT	LGMRMG
0250	0000	XO	0
0251	0000		0
0252	0000		0
0253	0000	YO	0
0254	0000		0
0255	0000		0
0256	2042	XS	2042
0257	4000		4000
0260	0000		0
0261	2042	YS	2042
0262	4000		4000
0263	0000		0
0264	2014	HALF	2014
0265	4000		4000
0266	0000		0
0267	0000	ONE	
0270	0001		1
0271	2142	HUN	2142
0272	4000		4000
0273	0000	LENGTH	0
	0000	SUPB	
		END	

INTEGER ONE

THIRD CARD OF HUN





	REM		OBJECT CODE DUMP ON MAGNETIC	DD70000
	REM		TAPE - 1607 TAPE UNIT	DD70001
	REM		FOR 1607A	DD70002
	REM		ANNE LAPHAM	DD70003
	REM		JULY, 1963	DD70004
	CON	0		DD70005
	BCD	6	D1607F	DD70006
0000	6401			DD70007
0001	0612			DD70008
0002	0766			DD70009
0003	0171	LAST	+1	DD70010
0004	0066	66		DD70011
0005	7777	7777		DD70012
	0000	ORG	0	DD70013
0000	0100		100	DD70014
0001	0040	SDCC		DD70015
0002	0130	CTA		DD70016
0003	0207	LPN	7	DD70017
0004	4001	STD	1	DD70018
0005	0620	ADN	20	DD70019
0006	4202	STF	2	DD70020
0007	4245	STF	SETCON	DD70021
0010	0000	INDSET	0	DD70022
0011	2402	LCC	2	DD70023
0012	0701	SBN	1	DD70024
0013	4003	STD	3	DD70025
0014	7500	EXC	6021	DD70026
0015	6021			DD70027
0016	0101	PTA		DD70028
0017	6167	NZR	WAIT	DD70029
0020	7500	EXC	6005	DD70030
0021	6005			DD70031
0022	0101	PTA		DD70032
0023	6163	NZR	WAIT	DD70033
0024	2200	LDC	101	DD70034
0025	0101			DD70035
0026	4225	STF	LWORD	DD70036
0027	0402	LDN	2	DD70037
0030	4226	STF	FWORD	DD70038
0031	0020	RECORD	SIC0	DD70039
0032	7517	EXF	WRITE +1	DD70040
0033	7400	OTN	0	DD70041
0034	6116	NZF	OUTINS	DD70042
0035	0000	HOLD		DD70043
0036	2200	BEGIN	LDC 220	DD70044
0037	0220			DD70045
0040	4213	PTA	STF LWORD	DD70046
0041	0101	PTA		DD70047
0042	3200	ADC	OUT1 -PTA	DD70048
0043	0122			DD70049
0044	4002	STD	2	DD70050
0045	0500	BEGIN1	LCN 0	DD70051
		REM		DD70052
		REM		DD70053
0046	4210	STF	FWORD	DD70054
0047	0020	START	SIC0	DD70055
0050	7500	WRITE	EXC 6001	DD70056
0051	6001			DD70057
0052	7304	OUTINS	OUT FWORD	DD70058

INSERT LDN 20  
 STF START

TEMP STORAGE FOR BANK COUNTER  
 SELECT TAPE 2 BINARY

REWIND SELECTED TAPE

LWA +1 OF RECORD 1

ADDRESS OF 2ND WORD IN REC.1

WRITE BINARY TAPE 2

THE LAST WORD OF EACH BANK CONTAINS  
 LOG. 0000.

WRITE TAPE 2

053	0101	LWORD		101					RD700501
054	0000	SETCON							RD700511
055	6102		NZF	NEXT					RD700521
056	0002	FWORD		2					RD700531
057	0101	NEXT	PTA						RD700541
060	6120		NZR	WAIT					RD700551
061	2324		LDR	HOLD					RD700561
062	0220		LPN	20			CHECK FOR PARITY ERROR		RD700571
063	6035		ZJR	PROGM					RD700581
064	7507		EXF	BACKSP +1			BACKSPACE 1 RECORD		RD700591
065	0101		PTA						RD700601
066	6120		NZR	WAIT					RD700611
067	7570		EXF	OUT +1			WRITE END OF FILE		RD700621
070	0101		PTA						RD700631
071	6115		NZR	WAIT					RD700641
072	7500	BACKSP	EXC	6006			BACKSPACE 1 RECORD		RD700651
073	6006								RD700661
074	0101		PTA						RD700668
075	6111		NZR	WAIT					RD700678
076	2323	LOADBK	LDB	LWORD			REWRITE RECORD		RD700681
077	3752		SBR	N101 +1					RD700691
100	6447		ZJB	RECORD					RD700701
101	6532	START2	NZB	START					RD700711
102	2230	RELAY	LDF	N1000 +1					RD700721
103	4330		STB	LWORD					RD700731
104	5735		AOB	START					RD700741
105	6540		NZB	BEGIN1					RD700751
106	0602	WAIT	ADV	2					RD700761
107	4077		STD	77					RD700771
110	7500	RETURN	EXC	6053					RD700781
111	6053								RD700788
112	7600		INA						RD700791
113	4356		STR	HOLD					RD700801
114	1200		LPC	100					RD700811
115	0100								RD700818
116	6506		NZR	RETURN					RD700821
117	7077		JPI	77					RD700831
120	2345	PROGM	LDB	LWORD					RD700841
121	3774		SBR	N101 +1			TEST TO SEE IF THIS IS LWA+1 OF REC 1 BK 0		RD700851
122	6464		ZJR	BEGIN			CONTINUE WITH RECORD 2		RD700861
123	3600		SBC	117			TEST TO SEE IF THIS IS LWA+1 OF REC2 BK0		RD700871
124	0117								RD700881
125	6110		NZF	JUMP					RD700891
126	2200	N400	LDC	400					RD700901
127	0400								RD700911
130	4352		STR	FWORD			FWA OF REC 3 IN BK0		RD700921
131	2200	N1000	LPC	1000			LWA+1 OF REC 3 BK 0		RD700931
132	1000								RD700941
133	4360		STB	LWORD					RD700951
134	6565		NZB	START					RD700961
135	2357	JUMP	LDB	FWORD					RD700971
136	3707		SBR	N400 +1			TEST TO SEE IF THIS IS FWA OF REC 2 BK 0		RD700981
137	6104		NZR	START1					RD700991
140	2306		LDB	N1000 +1					RD701001
141	4363		STB	FWORD			FWA OF REC 4 BANK 0.		RD701011
142	6106		NZF	LASTW					RD701021
143	2370	START1	LDB	LWORD					RD701031
144	0701		SBN	1			THE LAST RECORD OF EACH BANK WILL		RD701041
			REM				CONTAIN 1,000 LOC. FROM 7000-0000. LOC 000		RD701051
			REM				WILL BE STORED TWICE SINCE LOC 7777 IS		RD701061

Line	Address	Label	Code	Value	Comment	Address
0145	6006		REM		INACCESSIBLE AND 0000 BECOMES THE 1000TH WORD	0070104
0146	2314		ZJF	ORIGIN		0070105
0147	5372		LDB	N1000	+1	0070106
0150	2316	LASTW	RAB	FWORD		0070107
0151	5376		LDB	N1000	+1	0070108
0152	6551		RAB	LWORD		0070109
0153	5406	ORIGIN	NZB	START2		0070110
0154	6002		AOD	3		0070111
0155	6553		ZJF	OUT		0070112
0156	7500	OUT	NZB	RELAY		0070113
0157	6003		EXC	6003	WRITE END OF FILE MARK	0070114
0160	0101		PTA			0070115
0161	6553		NZR	WAIT		0070116
0162	7700	OUT1	HLT			0070117
0163	0101		PTA			0070118
0164	4033		STD	33		0070119
0165	2200		LDD	550		0070120
0166	0550					
0167	0010		SRJQ			0070121
0170	0200	LAST		200		0070122
	0000		SUPB			
			END			0070123

OBJECT CODE LOAD ON MAGNETIC TAPE  
 FOR 150-A FORTRAN  
 ANNE LAPHAM  
 MAY 1963

MLF0000  
 MLF0001  
 MLF0002  
 MLF0003  
 MLF0004  
 MLF0005  
 MLF0006  
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 MLF0010  
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 MLF0044  
 MLF0045  
 MLF0046  
 MLF0047  
 MLF0048  
 MLF0049  
 MLF0050  
 MLF0051  
 MLF0052

		REM			
		REM			
		REM			
		REM			
	0000	BK0			
	0000	ORG	0		
	000	SID0			
	0001	JFI	1		
	0002		221		
		ORG	220		
	0220	IDNUM			
	0221	STR	IDNUM		
	0222	EXC	1162		
	0223				
	0224	N100	LDC	100	
	0225				
	0226		STF	LWORD	
	0227	BEGIN1	LON	0	
	0230		STF	FWORD	
	0231	COUNT	LON	4	
	0232		STF	PCOUNT	
	0233	START	SIC0		
	0234	LOOP	EXC	1171	
	0235				
	0236		EXC	2132	
	0237				
	0240		INP	FWORD	
	0241	LWORD		100	
	0242		SIC0		
	0243		NZF	TEST	
	0244	PCOUNT			
	0245	FWORD		0	
	0246	TEST	EXC	1142	
	0247				
	0250		INA		
	0251		ZJF	TESTID	
	0252		SBN	4	
	0253		ZJF	PARITY	
	0254		SBN	14	
	0255		ZJF	CHEOF	
	0256		ADM	20	
	0257		ERR		
	0260	CHEOF	ERR		
			REM		
	0261	PARITY	ADR	PCOUNT	
	0262		ZJF	LIMIT	
	0263		EXC	1122	
	0264				
	0265		INA		
	0266		NZR	START	
	0267	LIMIT	ERR		
	0270	TESTID	LDR	LWORD	
	0271		SBR	N100	+1
	0272		NZF	TEST2	
	0273		LDS		
	0274		SBR	IDNUM	
	0275		ZJF	LOAD	
	0276	EOF	EXC	1132	
	0277				
	0300		NZB	COUNT	

ID NO. IS LOCATED IN A REGISTER ON ENTRY  
 REWIND AND LOAD TAPE

INITIALIZATION FOR REC1BK0,  
 INITIALIZATION FOR ALL BANKS.

FOR DETERMINING BANK FROM WHICH TO OUTPUT  
 SELECT ODD PARITY

READ TAPE

RETURN IND. SETTING TO BK 0 FOR REMAINDER

TEST TAPE STATUS

CHECK FOR PARITY ERROR

CHECK FOR E OF MARK

WAIT FOR FURTHER INSTRUCTIONS  
 SECOND EOF HAS BEEN READ. TAPE DOES NOT  
 CONTAIN RECORDS BEING SEARCHED FOR.

BACKSPACE ONE RECORD

WRITE NOTE THAT CONTENTS ARE INCORRECT  
 TEST TO DETERMINE WHETHER THIS IS REC1BK0

SEARCH FOR EOF MARK

0301	2403	LOAD	LDD	3					
0302	0701		SBN	1					MLF0054:
0303	4247		STF	BCOUNT					MLF0055:
0304	2200		LDC	220			LWA+1 OF REC2 OF BK0		MLF0056:
0305	0220								
0306	4345		STB	LWORD					MLF0057:
0307	6553		NZR	LOOP					MLF0058:
0310	3600	TEST2	SBC	120			TEST TO DETERMINE IF REC IS 2ND REC OF BK0		MLF0059:
0311	0120								
0312	6110		NZF	FIRSTW					MLF0060:
0313	2200	N1000	LDC	1000			LWA+1 OF REC 3 OF BK0		MLF0061:
0314	1000								
0315	4354		STB	LWORD					MLF0062:
0316	2200	N400	LDC	400			FWA OF REC 3 OF BK0		MLF0063:
0317	0400								
0320	4353		STB	FWORD					MLF0064:
0321	6570		NZR	COUNT			LOOP		MLF0065:
0322	2355	FIRSTW	LDB	FWORD					MLF0066:
0323	3704		SBR	N400	+1		TESTING TO DETERMINE IF THIS IS REC 3 OF BK0		MLF0067:
0324	6104		NZF	START1					MLF0068:
0325	2311		LDB	N1000	+1		FWA OF 4TH RECORD BK0		MLF0069:
0326	4361		STB	FWORD					MLF0070:
0327	6106		NZF	LASTW					MLF0071:
0330	2367	START1	LDB	LWORD					MLF0072:
0331	0701		SBN	1			TEST TO SEE IF THIS IS LWA+1 OF BKN.		MLF0073:
			REM				LAST BK CONTAINS 1000 LOC WHICH IS		MLF0074:
			REM				7000-0000, LWA+1=0001,		MLF0075:
0332	6007		ZJF	ORIGIN					MLF0076:
0333	2317		LDB	N1000	+1		EACH RECORD IS INCREASED BY 1000,		MLF0077:
0334	5367		RAB	FWORD					MLF0078:
0335	2321	LASTW	LDB	N1000	+1				MLF0079:
0336	5375		RAB	LWORD					MLF0080:
0337	7101		JFI	1					MLF0081:
0340	0231			COUNT					MLF0082:
0341	5611	ORIGIN	AOF	BCOUNT			ADD 1 TO BANK COUNTER		MLF0083:
0342	6011		ZJF	OUT					MLF0084:
0343	5500		AOM	START					MLF0085:
0344	0233								
0345	2331		LDB	N1000	+1		INITIALIZATION FOR BK 1-7		MLF0086:
0346	4100		STM	LWORD					MLF0087:
0347	0241								
0350	7101		JFI	1					MLF0088:
0351	0227			BEGIN1					MLF0089:
0352	0000	BCOUNT							MLF0090:
0353	7707	OUT	SLS7						MLF0091:
0354	2001		LDD	1					MLF0092:
0355	0610		ADN	10					MLF0093:
0356	4202		STF	JUMP					MLF0094:
0357	2002		LDD	2					MLF0095:
0360	0010	JUMP	SRJG						MLF0096:
			SUPB						
	0000		END						MLF0097:

OBJECT CODE LOAD ON CARDS  
 FOR 160-A FORTRAN  
 ANNE LAPHAM  
 MAY 1963

Address	Label	Operation	Operand 1	Operand 2	Operand 3	Notes	Card No.
0000	REM						CLF0000
0000	REM						CLF0001
0000	REM						CLF0002
0000	REM						CLF0003
0000	BNKO						CLF0004
0000	ORG	P					CLF0005
0001	JFI	1					CLF0006
0220	ORG	221					CLF0007
0220	ORG	220					CLF0008
0220	BCOUNT						CLF0009
0221	SBU0						CLF0010
0222	LDF	TWO			+1		CLF0011
0223	SELF	ATE	SELF				CLF0012
0224							CLF0013
0225	LDN	0					CLF0014
0226	TWO	ATX	JUMP		+1		CLF0015
0227							CLF0016
0230	ZERO	PLS	ZERO				CLF0017
0231							CLF0018
0232		SBU1					CLF0019
0233	ZERWRD	PLS	ZERWRD				CLF0020
0234							CLF0021
0235		SBU0					CLF0022
0236		SIDD					CLF0023
0237	START	EXC	4540			WAIT READY	CLF0024
0240							CLF0025
0241		INA					CLF0026
0242		NZR	START				CLF0027
0243	BEGIN	EXC	4540			SEE IF HOPPER IS EMPTY	CLF0028
0244							CLF0029
0245		INA					CLF0030
0246		ZJF	READ				CLF0031
0247		LPN	1				CLF0032
0250		ZJR	BEGIN				CLF0033
0251		NZF	RELAY1				CLF0034
0252	HOLD						CLF0035
0253	WCOUNT						CLF0036
0254	RELAY	ZJR	BEGIN				CLF0037
0255	READ	EXC	4502			SELECT SINGLE CYCLE READ	CLF0038
0256							CLF0039
0257		INA					CLF0040
0260		ZJF	FEED			FEED OR AMP FAILURE	CLF0041
0261		STR	HOLD				CLF0042
0262		LPC	7740				CLF0043
0263							CLF0044
0264		LS6					CLF0045
0265		LS1					CLF0046
0266		STR	WCOUNT				CLF0047
0267		LOR	WCOUNT				CLF0048
0270		STR	WCOUNT				CLF0049
0271		LDN	0				CLF0050
0272		STR	BCOUNT				CLF0051
0273		LDR	HOLD				CLF0052
0274		LPN	32				CLF0053
0275		LS6					CLF0054
0276		LS1					CLF0055
0277		STR	HOLD				CLF0056

0300	6204	PJR	SECOND			CLF0049:
0301	6404	LDR	4			CLF0050:
0302	5362	RAR	BCOUNT			CLF0051:
0303	2331	LDR	HOLD			CLF0052:
0304	0102	SECOND	LS1			CLF0053:
0305	4333	STR	HOLD			CLF0054:
0306	6204	PJF	THIRD			CLF0055:
0307	0402	LDR	2			CLF0056:
0310	5370	RAR	BCOUNT			CLF0057:
0311	2337	LDR	HOLD			CLF0058:
0312	0103	THIRD	LS2			CLF0059:
0313	6202	PJR	CONTIN			CLF0060:
0314	5774	AOR	BCOUNT			CLF0061:
0315	2375	CONTIN	LDR	BCOUNT		CLF0062:
0316	0620	ADN	20			CLF0063:
0317	4210	STF	BKNUM			CLF0064:
0320	7600	INA		COLUMN 2		CLF0065:
0321	4224	STR	CKSUM			CLF0066:
0322	2623	LDR	CKSUM			CLF0067:
0323	4222	STR	CKSUM			CLF0068:
0324	7600	INA		COLUMN 3		CLF0069:
0325	4204	STR	FWORD	+1	SET INDIRECT BK FOR INPUT	CLF0070:
0326	7600	LOOP	INA			CLF0071:
0327	0000	BKNUM	0			CLF0072:
0330	4100	FWORD	STM	0		:
0331	0000					:
0332	5213	RAR	CKSUM			CLF0074:
0333	5760	AOR	WCOUNT			CLF0075:
0334	6003	ZJR	EXC			CLF0076:
0335	5704	AOR	FWORD	+1		CLF0077:
0336	6510	NZB	LOOP			CLF0078:
0337	7500	EXC	EXC	4500		CLF0079:
0340	4500					:
0341	2204	LDR	CKSUM			CLF0080:
0342	6477	ZJB	BEGIN			CLF0081:
0343	0000	ERR		CHECK SUM ERROR		CLF0082:
0344	6110	RELAY1	NZF	EXEC		:
0345	0000	CKSUM				CLF0085:
0346	7500	FEED	EXC	4540	HALT WITH STATUS IN A	CLF0086:
0347	4540					:
0350	7600	INA				CLF0087:
0351	0000	ERR				CLF0088:
0352	6476	ZJB	RELAY	MUST CLEAR FIRST		CLF0089:
0353	0000	ERR				CLF0090:
0354	7707	EXEC	SLS7	BANK IS IN 0001		CLF0091:
0355	2001	LDD	1	ADDR IS IN 0002		CLF0092:
0356	0610	ADN	10			CLF0093:
0357	4202	STF	JUMP			CLF0094:
0360	2002	LDD	2			CLF0095:
0361	0010	JUMP	SRJ0			CLF0096:
		SUPB				:
		END				CLF0097:
	0000					:



Address	Code	Label	Operation	Value	Description	PDL
	REM				OBJECT CODE LOAD ON PAPER TAPE	PDL0000
	REM				FOR 160-A FORTRAN	PDL0001
	REM				ANNE LAPHAM	PDL0002
	REM				MAY 1963	PDL0003
0000	0000		ORG	0		PDL0004
0001	0220		JFI	1		PDL0005
0220	0040		ORG	220		PDL0006
0221	0400	START1	SDCO	220		PDL0007
0222	4224		LDN	0		PDL0008
0223	4257		STR	INPUT +1		PDL0009
0224	7500		STR	BKNO		PDL0010
0225	4102		EXC	4102	SELECT PAPER TAPE READER	PDL0011
0226	7600	START	INA			PDL0012
0227	6401		ZJR	START	LEADER FRAMES	PDL0013
0230	4251		STR	CKSUM		PDL0014
0231	4240		STR	TEMP		PDL0015
0232	2645		LCR	TEMP	FIRST FRAME CONTAINS NUMBER OF LAST BANK TO BE LOADED	PDL0016
0233	0701		REM			PDL0017
0234	4244		SBN	1		PDL0018
0235	0020	RESET	STR	BKSET		PDL0019
0236	7600		SICO			PDL0020
0237	0111		INA		LEFT HALF OF WORD	PDL0021
0240	4237		LS6			PDL0022
0241	0201		STR	TEMP	TEMPORARY HOLDING CELL	PDL0023
0242	6141		LPN	1	CHECK SUM HAS SEVENTH LEVEL PUNCH	PDL0024
0243	7600		NZR	SEVEN		PDL0025
0244	1633		INA		RIGHT HALF OF WORD	PDL0026
0245	4100	INPUT	SCR	TEMP	PACK TO STORE	PDL0027
0246	0000		STM	0		PDL0028
0247	5232		RAR	CKSUM		PDL0029
0250	2302		LDR	INPUT +1	INCREMENT CHECK SUM	PDL0030
0251	6024		ZJR	ADD		PDL0031
0252	3600		SBC	217	LOG 220-377 OF BANK 0 WERE NOT DUMPED	PDL0032
0253	0217					PDL0033
0254	6107		NZF	NEXT		PDL0034
0255	2225		LIR	BKNO	CHECK TO DETERMINE IF THIS IS BANK 0	PDL0035
0256	6117		NZR	ADD	IF NOT PROCEED AS USUAL	PDL0036
0257	2200		LDC	400		PDL0037
0260	0400					PDL0038
0261	4313	RELAY	STR	INPUT +1		PDL0039
0262	6525		NZR	RESET		PDL0040
0263	3600	NEXT	SBC	7557	CHECK FOR LOC, 7776	PDL0041
0264	7557					PDL0042
0265	6103		NZF	NEXT1		PDL0043
0266	0500		LCN	0	LOAD LOC, 7777.	PDL0044
0267	6506		NZR	RELAY		PDL0045
0270	0701	NEXT1	SBN	1	CHECK FOR LOC, 7777	PDL0046
0271	6104		NZR	ADD		PDL0047

0272	0400		LDN	0	INITIALIZATION FOR BKN.	PDL0047:
0273	4325		STR	INPUT +1		PDL0048:
0274	6437		ZJR	RESET		PDL0049:
0275	5727	ADD	ADR	INPUT +1	BUMP INPUT ADDRESS	PDL0050:
0276	6541		NZR	RESET		PDL0051:
0277	0000	TEMP				PDL0052:
0300	0000	BKSET				PDL0053:
0301	0000	CKSUM				PDL0054:
0302	0000	BKNO				PDL0055:
0303	7600	SEVEN	INA		RIGHT HALF OF WORD	PDL0056:
0304	0277		LPN	77		PDL0057:
0305	3306		ADR	TEMP		PDL0058:
0306	0701		SRN	1	SUBTRACT SEVENTH LEVEL PUNCH	PDL0059:
0307	3706		SR	CKSUM	DECREASE CHECKSUM	PDL0060:
0310	4307	STORE	STR	CKSUM		PDL0061:
0311	6112		NZR	STOP		PDL0062:
0312	2344		LDR	INPUT +1		PDL0063:
0313	6556		NZR	RESET		PDL0064:
0314	5714		ADR	BKSET		PDL0065:
0315	6011		ZJR	OUT	ALL BANKS HAVE BEEN LOADED	PDL0066:
0316	5761		ADR	RESET	CHANGE BNKS FOR INPUT	PDL0067:
0317	5715		ADR	BKNO		PDL0068:
0320	0400		LDN	0	INITIALIZATION OF CHECKSUM	PDL0069:
0321	4320		STR	CKSUM		PDL0070:
0322	6465		ZJR	RESET		PDL0071:
0323	0000	STOP	ERR		RELOAD PAPER TAPE, RESTART PROGRAM,	PDL0072:
0324	0400		LDN	0	IF CHECK SUM ERROR IS TO BE IGNORED	PDL0073:
			REM		ENTER 0 IN A REGISTER, P+1 IN	PDL0074:
			REM		P REGISTER AND RUN	PDL0075:
0325	6415		ZJR	STORE		PDL0076:
0326	7707	OUT	SLS7			PDL0077:
0327	2001		LDD	1		PDL0078:
0330	0610		ADN	10		PDL0079:
0331	4202		STF	JUMP		PDL0080:
0332	2002		LDD	2		PDL0081:
0333	0010	JUMP	SRJO			PDL0082:
			SUPB			
	0000		END			PDL0083:

Address	Code	Label	Operation	Value	Description	Memory Location
	REM				OBJECT CODE LOAD ON MAGNETIC	MLF0000
	REM				TAPE USING 1607 TAPE UNITS	MLF0001
	REM				FOR 160-A FORTRAN	MLF0002
	REM				ANNE LAPHAM	MLF0003
	REM				JULY, 1963	MLF0004
0000	BNKO					MLF0005
0000	ORG			0		MLF0006
0000	SIDO					MLF0007
0001	JFI			1		MLF0008
0002				221		MLF0009
0220	ORG			220		MLF0010
0220		PCOUNT				MLF0011
0221	STR		BCOUNT		ID NO. IS LOCATED IN A REGISTER ON ENTRY	MLF0012
0222	EXC		5021		SELECT TAPE 2 BINARY	MLF0013
0223						
0224	JPR		WAIT		WAIT READY	MLF0014
0225						
0226	EXC		5005		REWIND AND LOAD	MLF0015
0227						
0230	JPR		WAIT		WAIT READY	MLF0016
0231						
0232	LDC		100			MLF0017
0233						
0234	STF		LWORD			MLF0018
0235	LCN	BEGIN1	0		INITIALIZATION FOR ALL BANKS.	MLF0019
0236	STF		FWORD			MLF0020
0237	LCN	COUNT	4			MLF0021
0240	STR		PCOUNT			MLF0022
0241	SICO	START			FOR DETERMINING BANK FROM WHICH TO OUTPUT	MLF0023
0242	EXC		5001		PREPARE TO READ 1 RECORD	MLF0024
0243						
0244	INP		FWORD			MLF0025
0245		LWORD	100			MLF0026
0246	SICO					MLF0027
0247	NZF		TEST			MLF0028
0250		EUFFLG	0			MLF0029
0251		FWORD	0			MLF0030
0252	JPR	TEST	WAIT			MLF0031
0253						
0254	LDR		HOLD			MLF0032
0255	LPN		40		CHECK FOR PARITY ERROR	MLF0033
0256	NZF		PARITY			MLF0034
0257	LDR		HOLD			MLF0035
0260	LPN		10		CHECK FOR END OF FILE SENSED	MLF0036
0261	ZJF		TESTID			MLF0037
0262	LDR		EUFFLG			MLF0038
0263	NZF		ORIGIN -3			MLF0039
0264	ERR				SECOND END OF FILE HAS BEEN	MLF0040
	REM				READ. TAPE DOES NOT CONTAIN	MLF0041
	REM				RECORDS BEING SEARCHED FOR,	MLF0042
0265		PARITY	AOB	PCOUNT		MLF0043
0266			ZJF	LIMIT		MLF0044
0267			EXC	5006	BAGSPACE ONE RECORD	MLF0045
0270						
0271	JPR		WAIT		WAIT READY	MLF0046
0272						
0273	ZJR		START			MLF0047
0274		HOLD				MLF0048
0275		BCOUNT				MLF0049



370	6506		NZR	WAIT	+1
371	6411		ZJR	WAIT	-1
372	7707	OUT	SLS7		
373	2001		LDD	1	
374	0610		ADM	10	
75	4202		STF	JUMP	
376	2002		LDD	2	
377	0010	JUMP	SRJ0		
			SUP3		
	0000		END		

MLF0103:  
MLF0104:  
MLF0105:  
MLF0106:  
MLF0107:  
MLF0108:  
MLF0109:  
MLF0110:  
MLF0111:

Pages 518 to 528 are not missing

## SYSTEMS TAPE EDIT PROGRAM

	0000	REM		0
	0000	ORG		1
0000	7101	JFI		1
0001	0100		START	
0002	7101	JFI		1
0003	1672		LIST	
0004	7101	JFI		1
0005	1754		COPY	
	0011	CON		11
0011	0000	BSS		3
0014	0000	LABEL		
0015	0000	LONG		
0016	0000	TRNLOC		
0017	0000	CALINF		
0020	0000	ENDINS		
0021	0000	CALEND		
0022	0000	FILE		
0023	0000	RECORD		
0024	0000	NEWFIL		
0025	0000	NEWREC		
0026	0000	COMSWC		
0027	0000	INSWTC		
0030	0000	BINSWC		
0031	0000	INLOCC		
0032	0000	CASCOD		
0033	0000	TAPENO		
0034	0000	COUNT		
0035	0000	COPCNT		
0036	0000	TEMP1		
0037	0000	TEMP2		
0040	0000	TEMP3		
0041	0000	TEMP4		
0042	0000	TEMP5		
0043	0000	TEMP6		
	0035	LODADD	EQU	TEMP1
	0036	WORD1	EQU	TEMP2
	0037	CHKWRD	EQU	TEMP3
	0040	STOADD	EQU	TEMP4
	0041	IGNORE	EQU	TEMP5
	0042	LENGTH	EQU	TEMP6
	0043	ASSEMB	EQU	TEMP7
	5000	BUFFER	EQU	5000
	0100		PRG	100
0100	2200	START	LDC	LAST
0101	2022			
0102	4017	STD		ENDINS
	4030	STD		INLOCC
	7500	EXC		1161
	1161			
	7500	EXC		1162
	1162			
	7500	EXC		1171
	1171			
	7100	JPR		TIMER
	2006			
	7100	JPR		READIN
	0313			

LOCATION OF BCD IDENTIFIER  
 LENGTH OF LIBRARY FUNCTION  
 LOCATION IN TRANSFER VECTOR  
 BEGIN CALLING INFORMATION  
 END OF INSTRUCTIONS  
 END OF CALTBL  
 CURRENT FILE  
 CURRENT RECORD  
 FILE OF CURRENT INSTRUCTION  
 RECORD OF CURRENT INSTRUCTION  
 COMMENTS SWITCH  
 INSERT SWITCH  
 BINARY SWITCH  
 LOCATION OF CURRENT INSTRUCTION  
 CURRENT CASE CODE (0=UPPER)  
 CURRENT TAPE NUMBER

INITIALIZE BEGINING OF  
 INSTRUCTIONS TO END OF PROGRAM

BRING IN INSTRUCTION TAPE

EDT0000  
 EDT0001  
 EDT0002  
 EDT0003  
 EDT0004  
 EDT0005  
 EDT0006  
 EDT0007  
 EDT0008  
 EDT0009  
 EDT0010  
 EDT0011  
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 EDT0037  
 EDT0038  
 EDT0039  
 EDT0040  
 EDT0041  
 EDT0042  
 EDT0043  
 EDT0044  
 EDT0045  
 EDT0046  
 EDT0047  
 EDT0048  
 EDT0049  
 EDT0050

0116	2017		LDD	ENDINS				EDT0051
0117	4020		STD	CALEND	SET CALEND TO END OF INSTRUCTIONS			EDT0052
120	0501		LCN	1				EDT0053
0121	4026		STD	INSWTC	SET INSERT SWITCH = - 1			EDT0054
0122	4025		STD	COMSWC	SET COMMENTS SWITCH = - 1			EDT0055
123	0401	EDIT	LDN	1				EDT0056
0124	4021		STD	FILE	SET CURRENT FILE = 1			EDT0057
0125	4022		STD	RECORD	SET CURRENT RECORD = 1			EDT0058
126	2130	NEWINS	LDI	INLOCC	GET CURRENT INSTRUCTION			EDT0059
0127	4035		STD	TEMP1				EDT0060
0130	0111		LS6					EDT0061
131	0207		LPN	7				EDT0062
0132	3200		ADC	7101	INITIALIZE TRANSFER			EDT0063
0133	7101							EDT0064
134	4266		STF	VECTOR				EDT0065
0135	2035		LDD	TEMP1				EDT0066
0136	0207		LPN	7	SET NEWFIL			EDT0067
137	4023		STD	NEWFIL				EDT0068
0140	5430		AOB	INLOCC				EDT0069
0141	2130		LDI	INLOCC				EDT0070
142	4024		STD	NEWREC	LEAVE INLOCC AT NEXT WORD			EDT0071
0143	5430		AOB	INLOCC				EDT0072
0144	2023		LDD	NEWFIL				EDT0073
145	0302		LSN	2	TEST FOR RECORDS 2,3,4			EDT0074
0146	6107		NZF	UPFILE	OF FILE 2			EDT0075
0147	2024		LDD	NEWREC				EDT0076
150	0705		SBN	5				EDT0077
0151	6204		PJF	UPFILE				EDT0078
152	0604		ADN	4				EDT0079
0153	6002		ZJF	2	INSTRUCTION REFERENCES 2-2,3,OR 4			EDT0080
0154	0000		ERR					EDT0081
0155	2023	UPFILE	LDD	NEWFIL				EDT0082
156	3421		SBD	FILE				EDT0083
0157	6323		NJF	OUTSEQ				EDT0084
0160	6017		ZJF	UPREC				EDT0085
161	5426		AOB	INSWTC	IN INSWTC NOT -1, RECORD NEEDS			EDT0086
0162	6002		ZJF	2	TO BE INCREASED BY 1			EDT0087
0163	5422		AOB	RECORD	1 = COPY FROM TAPE 1 TO TAPE 2			EDT0088
164	0401		LDN	1	Duplicate a file			EDT0089
0165	7100		JPR	DUPFIL				EDT0090
0166	0607				SET INSWTC = - 1			EDT0091
167	0501		LCN	1				EDT0092
0170	4026		STD	INSWTC				EDT0093
0171	0401		LDN	1				EDT0094
172	4022		STD	RECORD	INCREASE FILE COUNT			EDT0095
0173	5421		AOB	FILE				EDT0096
0174	0706		SBN	6				EDT0097
175	6520		NZB	UPFILE	TOO MANY FILES			EDT0098
0176	0000		ERR					EDT0099
0177	2024	UPREC	LDD	NEWREC				EDT0100
200	3422		SBD	RECORD				EDT0101
0201	6202		PJF	2	INSTRUCTIONS OUT OF SEQUENCE			EDT0102
202	0000	OUTSEQ	ERR					EDT0103
203	6017		ZJF	VECTOR	IF INSWTC NOT -1, INCREASE			EDT0104
204	2026		LDD	INSWTC	RECORD BY 1			EDT0105
0205	6305		NJF	5				EDT0106
206	5422		AOB	RECORD				EDT0107
0207	0501		LCN	1				EDT0108
0210	4026		STD	INSWTC				EDT0109
0211	6712		NJB	UPREC				EDT0110

0212	0401	LDN	1	1. F COPY 1 RECORD FROM TAPE	EDT0109:
0213	7100	JPR	DUPREC	1 TO TAPE 2	EDT0110:
0214	0636				
0215	6203	PJF	3		EDT0111:
0216	7100	JPR	SAVE	DO NOT LEAVE CURRENT FILE	EDT0112:
0217	1103				
0220	6421	ZJB	UPREC		EDT0113:
0221	6522	NZB	UPREC		EDT0114:
0222	7101	VECTOR JFI	1	TRANSFER TO PROPER COMMAND	EDT0115:
0223	1111		DELETE		EDT0116:
0224	1120		INSERT		EDT0117:
0225	1177		RPLAC		EDT0118:
0226	7100	LINEND JPR	ALPHIN	BRING IN LINE	EDT0119:
0227	1375				
0230	6303	NJF	3		EDT0120:
0231	7101	JFI	1	IF NOT END OF INSTRUCTIONS	EDT0121:
0232	0126		NEWINS	RETURN TO NEWINS	EDT0122:
0233	0401	LDN	1		EDT0123:
0234	7100	JPR	DUPFIL	FINISH DUPLICATION OF TAPE 1	EDT0124:
0235	0607				
0236	0401	LDN	1		EDT0125:
0237	4022	STD	RECORD		EDT0126:
0240	5421	AOD	FILE	THROUGH FILE 5	EDT0127:
0241	0706	SBN	6		EDT0128:
0242	6507	NZB	7		EDT0129:
0243	5425	AOD	COMSWC	OTHERWISE TEST COMSWC	EDT0130:
0244	6110	NZF	REDUPL	FOR END OF EDIT	EDT0131:
0245	0501	LCN	1	IF COMSWC = -1 GO BACK	EDT0132:
0246	4026	STD	INSWTC	AND EDIT COMMENTS RECORD	EDT0133:
0247	2200	LDC	LAST		EDT0134:
0250	2022				
0251	4030	STD	INLOCC		EDT0135:
0252	7101	JFI	1		EDT0136:
0253	0123		EDIT		EDT0137:
0254	0401	REDUPL LDN	1		EDT0138:
0255	7100	JPR	DUPFIL		EDT0139:
0256	0607				
0257	7500	EXC	1161	OTHERWISE SELECTIVE STOP FOR	EDT0140:
0260	1161				
0261	7500	EXC	1162	POSSIBLE CHANGE OF TAPE 1	EDT0141:
0262	1162				
0263	7707	SLS7			EDT0142:
0264	0402	LDN	2	2=DUPLICATE A FILE FROM	EDT0143:
0265	7100	JPR	DUPFIL	TAPE 2 TO TAPE 1	EDT0144:
0266	0607				
0267	0402	LDN	2		EDT0145:
0270	7100	JPR	DUPREC	DURPLICATE FILE 2 RECORD 1	EDT0146:
0271	0636				
0272	7100	JPR	LIBOUT	OUTPUT LIBRARY FUNCTION TABLES	EDT0147:
0273	1413				
0274	0505	LCN	5		EDT0148:
0275	4035	STD	TEMP1		EDT0149:
0276	0402	DUPLUP LDN	2	FINISH DUPLICATION OF TAPE	EDT0150:
0277	7100	JPR	DUPFIL		EDT0151:
0300	0607				
0301	5435	AOD	TEMP1		EDT0152:
0302	6504	NZB	DUPLUP		EDT0153:
0303	7500	EXC	1161	REWIND TAPES	EDT0154:
0304	1161				
0305	7500	EXC	1162		EDT0155:



0306	1162							EDT0156:
0307	7770	SLU7	LIST					EDT0157:
0310	1672							EDT0158:
0311	7700	HLT			NORMAL HALT			EDT0159:
		REM			SUBROUTINE TO LOAD AND CONVERT			EDT0160:
					EDIT INSTRUCTIONS (PAPER TAPE)			EDT0161:
0312	7101	JFI	1					EDT0162:
0313	0000	READIN						EDT0163:
0314	0457	LDN	57		LOWER CASE INITIALIZATION			EDT0164:
0315	4031	STD	CASCOD					EDT0165:
0316	7100	BEGLIN	JPR		GET A CHARACTER			EDT0166:
0317	0446							EDT0167:
0320	6402	ZJB	2		0=TAB			EDT0168:
0321	0777	SBN	77		77=CARRIAGE RETURN			EDT0169:
0322	6404	ZJR	BEGLIN					EDT0170:
0323	0613	ADN	13					EDT0171:
0324	6013	ZJF	PUTWAY		D=0			EDT0172:
0325	0705	SBN	5					EDT0173:
0326	6103	MZF	3					EDT0174:
0327	0401	LDN	1					EDT0175:
0330	6107	MZF	PUTWAY		J=1			EDT0176:
0331	0620	ADN	20					EDT0177:
0332	6004	ZJF	4					EDT0178:
0333	0620	ADN	20		TEST FOR Z=END OF INPUT			EDT0179:
0334	6422	ZJB	READIN =1		1			EDT0180:
0335	0000	ERR			LINE BEGINS NON D,I,OR R			EDT0181:
0336	0402	LDN	2		R=2			EDT0182:
0337	0111	PUTWAY	LS6					EDT0183:
0340	4117	STI	ENDINS					EDT0184:
0341	7100	JPR	CRCTER					EDT0185:
0342	0446							EDT0186:
0343	0707	SBN	7					EDT0187:
0344	6302	MJF	2					EDT0188:
0345	0000	ERR			TEST FILE TOO LARGE			EDT0189:
0346	0607	ADN	7					EDT0190:
0347	5117	RAI	ENDINS		INSERT FILE			EDT0191:
0350	5417	AOD	ENDINS					EDT0192:
0351	7100	JPR	CRCTER		SHOULD BE ZERO(TAB)			EDT0193:
0352	0446							EDT0194:
0353	4117	STI	ENDINS					EDT0195:
0354	6003	ZJF	DECOCT					EDT0196:
0355	0000	ERR			NOT A TAB-CLEAR A-REGISTER			EDT0197:
0356	6405	ZJB	5		TO TRY AGAIN			EDT0198:
0357	7100	DECOCT	JPR		CONVERT DECIMAL RECORD			EDT0199:
0360	0446							EDT0200:
0361	6015	ZJF	COMENT		NUMBER TO OCTAL			EDT0201:
0362	0777	SBN	77		TEST FOR NO COMMENT			EDT0202:
0363	6044	ZJF	BLANKC		IF CARRIAGE RETURN NO COMMENTS			EDT0203:
0364	0665	ADN	65					EDT0204:
0365	6002	ZJF	2		TEST BCD ZERO			EDT0205:
0366	0612	ADN	12					EDT0206:
0367	4035	STD	TEMP1					EDT0207:
0370	2117	LDI	ENDINS		10*(OLD)+NEW			EDT0208:
0371	0112	MUT						EDT0209:
0372	3035	ADD	TEMP1					EDT0210:
0373	4117	STI	ENDINS					EDT0211:
0374	6515	MZR	DECOCT					EDT0212:
0375	6416	ZJB	DECOCT					EDT0213:
0376	5417	COMENT	AOD					EDT0214:
0377	7100	JPR	CRCTER					EDT0215:



0474	3200		ADC	TABLE2 +56					EDT0265
0475	0570								
0476	4202		STF	2					EDT0266
0477	2100		LDM	TABLE2					EDT0267
0500	0512								
0501	4043		STO	TEMP7		TEST UPPER OR LOWER 6 BITS			EDT0268
0502	2031		LDD	CASCOD					EDT0269
0503	6104		NZF	LOWER					EDT0270
0504	2043		LDD	TEMP7					EDT0271
0505	0111		LS6						EDT0272
0506	6102		NZF	2					EDT0273
0507	2043	LOWER	LDD	TEMP7					EDT0274
0510	0277		LPN	77					EDT0275
0511	6044		NZB	CRCTER -1					EDT0276
0512	2323	TABLE2	BCD	200		TT 00 HHNNMM LLRR			EDT0277
0513	2020								
0514	4646								
0515	2020								
0516	7070								
0517	4545								
0520	4444								
0521	2020								
0522	4343								
0523	5151								
0524	6767		BCD	22D		GGIIPP0CVVEEZZDDBSSYY			EDT0278
0525	7171								
0526	4747								
0527	6363								
0530	2525								
0531	6565								
0532	3131								
0533	6464								
0534	6262								
0535	2222								
0536	3030								
0537	6666		BCD	20D		FFXXAAKWWJJ88UUQQKK99			EDT0279
0540	2727								
0541	6161								
0542	2626								
0543	4141								
0544	1010								
0545	2424								
0546	5050								
0547	4242								
0550	1111								
0551	2020		BCD	24D		.. */ +, --			EDT0280
0552	2020								
0553	1373								
0554	2020								
0555	5421								
0556	2020								
0557	6033								
0560	2020								
0561	2020								
0562	2020								
0563	4040								
0564	2020								
0565	3474		BCD	34D		() 00 77 44 33 55 22 66 11			EDT0281
0566	2020								
0567	1212								

0570	2020						
0571	0707						
0572	2020						
0573	0404						
0574	2020						
0575	0303						
0576	2020						
0577	0505						
0600	2020						
0601	0202						
0602	2020						
0603	0606						
0604	2020						
0605	0101						
0606	7101	JFI	1				EDT0282
0607	0000	DUPFIL		DUPPLICATE ONE FILE			EDT0283
0610	4032	STD	TAPENO	TAPENO TELLS WHICH TAPE			EDT0284
0611	7100	JPR	DUPREC	TO READ			EDT0285
0612	0636						
0613	6303	NJFI	FILMRK				EDT0286
0614	2032	LDD	TAPENO				EDT0287
0615	6504	NZB	4				EDT0288
0616	2025	FILMRK	LDD	COMSWC	TEST COMSWC		EDT0289
0617	6013	ZJF	PSEOF				EDT0290
0620	2032	LDD	TAPENO				EDT0291
0621	0701	SBN	1				EDT0292
0622	6102	NZF	2				EDT0293
0623	0402	LDN	2				EDT0294
0624	1600	LSC	1110				EDT0295
0625	1110						
0626	4202	STF	2				EDT0296
0627	7500	EXF	0				EDT0297
0630	0000		0				EDT0298
0631	6523	NZB	DUPFIL -1				EDT0299
0632	7100	PSEOF	JPR	WRITE	PSEUDO END OF FILE		EDT0300
0633	1036						
0634	6426	ZJR	DUPFIL -1				EDT0301
0635	7101	JFI	1				EDT0302
0636	0000	DUPREC					EDT0303
0637	4032	STD	TAPENO				EDT0304
0640	0501	LCN	1	SET SWITCH TO MOVE			EDT0305
0641	4027	STD	RINSWC	FIRST BINARY CARD TO CALTBL.			EDT0306
0642	7100	READRC	JPR	READ			EDT0307
0643	0766						
0644	4300	STS					EDT0308
0645	5422	AOD	RECORD				EDT0309
0646	2300	LDS					EDT0310
0647	6712	NJB	DUPREC -1	EXIT ON END OF FILE			EDT0311
0650	2025	LDD	COMSWC	IF THIS IS FILE 6, TEST FOR A			EDT0312
0651	6036	ZJF	TESTFL	SYMBOLIC END OF FILE			EDT0313
0652	2021	LDD	FILE				EDT0314
0653	0302	LSN	2	TEST FOR FILE 2, RECORD 2,3, OR 4			EDT0315
0654	6106	NZF	WRTREC				EDT0316
0655	2022	LDE	RECORD				EDT0317
0656	0706	SBN	6				EDT0318
0657	6203	PJF	WRTREC				EDT0319
0660	0604	ADN	4				EDT0320
0661	6524	NZB	DUPREC -1	EXIT			EDT0321
0662	7100	WRTREC	JPR	WRITE A RECORD			EDT0322
0663	1036						

664	2025	LDD	COMSWC			EDT0323:
665	6430	ZJB	DUPREC -1	IF COMMENTS RECORD, EXIT		EDT0324:
666	2021	LDD	FILE			EDT0325:
667	0304	LSN	4	LEAVE A-REGISTER POSITIVE		EDT0326:
670	6533	NZR	DUPREC -1	BY DOING A LOGICAL SUM		EDT0327:
671	0041	SDC1		CHANGE DIRECT BANK TO 1		EDT0328:
672	2000	LDD	0	CHECK FIRST WORD FOR ZERO		EDT0329:
673	0040	SDC0		LENGTH RECORD		EDT0330:
674	1200	LPC	1770	EXIT IF TRANSFER CARD		EDT0331:
675	1770					
676	6441	ZJB	DUPREC -1			EDT0332:
677	0501	LCN	1			EDT0333:
700	5022	RAD	RECORD			EDT0334A:
701	5427	ADD	BINSWC	IF BINSWC IS NOT -1, THIS		EDT0335B:
702	6540	NZR	READRC	IS NOT THE FIRST RECORD		EDT0336:
703	7100	JFR	CALLTB	MAKE ENTRY IN LIBRARY FUNCTION TABLES		EDT0337:
704	0724					
705	6443	ZJB	READRC			EDT0338:
706	6544	NZR	READRC			EDT0339:
707	0041	TESTFL SDC1				EDT0340B:
710	2000	LDD	0			EDT0341A:
711	1600	LSF	0			EDT0342:
712	6671	BCD	2	FI		EDT0343:
713	6104	NZF	4			EDT0344A:
714	2001	LDD	1			EDT0345:
715	1600	LSF	0			EDT0346:
716	4365	BCD	2	LE		EDT0347:
717	0040	SDC0				EDT0348:
720	6536	NZR	WRTREC			EDT0349A:
721	0501	LCN	1			EDT0350:
722	6765	NJB	DUPREC -1			EDT0351:
		REM		SUBROUTINE TO PRODUCE CALTBL AND		EDT0352:
		REM		TABLES OF LENGTHS AND BCD IDENTIFIERS		EDT0353A:
723	7101	JFI	1			EDT0354A:
724	0000	CALLTB				EDT0355:
725	0041	SDC1		SET DIRECT BANK TO 1		EDT0356A:
726	2200	LDC	-257D	SET ADDRESS IN LENGTH TABLE		EDT0357:
727	7376					
730	5015	RAD	TRNLOC			EDT0358:
731	2014	LDD	LONG			EDT0359:
732	4115	STI	TRNLOC	MOVE LENGTH TO TABLE		EDT0360B:
733	2704	LCR	4			EDT0361:
734	5015	RAD	TRNLOC			EDT0362B:
735	0102	LS1		SET TRNLOC TO B* TRNLOC +		EDT0363:
736	3200	ADD	-195D	BEGINNING OF ID TABLE-3		EDT0364:
737	7474					
740	5015	RAD	TRNLOC			EDT0365:
741	2011	LDD	LABEL	MOVE		EDT0366:
742	4115	STI	TRNLOC	LABEL		EDT0367A:
743	5415	ADD	TRNLOC	INFO		EDT0368:
744	2012	LDD	LABEL +1	TABLE		EDT0369A:
745	4115	STI	TRNLOC	OF		EDT0370B:
746	5415	ADD	TRNLOC	BCD		EDT0371A:
747	2013	LDD	LABEL +2	IDENTIFIERS		EDT0372:
750	4115	STI	TRNLOC			EDT0373:
751	0040	SDC0				EDT0374A:
752	0416	LDN	CALINF	INITIALIZE CALLING INFORMATION		EDT0375:
753	4035	STD	TEMP1			EDT0376:
754	0021	NOVCAL SIC1		INDIRECT OT ONE		EDT0377:
755	2135	LDI	TEMP1			EDT0378:

0756	0020	SIC0		INDIRECT TO ZERO	EDT0379:
0757	4120	STI	CALEND		EDT0380:
0760	0600	ADN	0	-0 SIGNIFIES END OF	EDT0381:
0761	6436	ZJR	CALLTB -1	CALLING INFORMATION	EDT0382:
0762	5420	AOD	CALEND		EDT0383:
0763	5435	AOD	TEMP1		EDT0384:
0764	6510	NZR	MOVVAL		EDT0385:
		REM		READ A RECORD FROM TAPE	EDT0386:
		REM		NUMBER C(TAPEND) AND SET	EDT0387:
		REM		OUTPUT PARAMETERS:	EDT0388:
0765	7101	JFI	1		EDT0389:
0766	0000	READ			EDT0390:
0767	2032	LDD	TAPEND		EDT0391:
0770	1600	LSC	2120		EDT0392:
0771	2120				EDT0393:
0772	4233	STF	READBK	CREATE BACKSPACE CODE	EDT0394:
0773	0610	ADN	10		EDT0395:
0774	4204	STF	RDSELC	CREATE READ CODE	EDT0396:
0775	0610	ADN	10		EDT0397:
0776	4213	STF	RDSTAT	CREATE STATUS CODE	EDT0398:
0777	7500	EXF	0		EDT0399:
1000	0000	RDSELC		READ	EDT0400:
1001	0021	SIC1		READ INTO BANK1	EDT0401:
1002	7277	INP	ZERO		EDT0402:
1003	0000		0		EDT0403:
1004	0020	SIC0			EDT0404:
1005	0701	SBN	1	INITIALIZE WRITE OUTPUT	EDT0405:
1006	4250	STF	WRITEL	PARAMETERS TO A=1	EDT0406:
1007	7704	SLS4			EDT0407:
1010	7500	EXF	0		EDT0408:
1011	0000	RDSTAT		STATUS	EDT0409:
1012	7600	INA			EDT0410:
1013	0224	LPN	24		EDT0411:
1014	6104	NZF	4		EDT0412:
1015	7100	JPR	TIMER		EDT0413:
1016	2006				EDT0414:
1017	6432	ZJB	READ -1		EDT0415:
1020	0220	LPN	20		EDT0416:
1021	6003	ZJF	3		EDT0417:
1022	0501	LCN	1		EDT0418:
1023	6736	NJB	READ -1	EXIT NEGATIVE ON END OF FILE	EDT0419:
1024	7500	EXF	0		EDT0420:
1025	0000	READBK		BACKSPACE	EDT0421:
1026	7600	INA			EDT0422:
1027	4600	SKC	4444		EDT0423:
1030	4444				EDT0424:
1031	6632	PJR	RDSELC -1		EDT0425:
1032	0000	ERR		THREE READ PARITY ERRORS	EDT0426:
1033	6434	ZJR	RDSELC -1	ZERO A=REGISTER TO TRY AGAIN	EDT0427:
1034	7700	HLT			EDT0428:
1035	7101	JFI	1		EDT0429:
1036	0000	WRITE			EDT0430:
1037	2032	LDD	TAPEND	IF TAPEND=1, WRITE TAPE 2	EDT0431:
1040	0701	SBN	1		EDT0432:
1041	6102	NZF	2	IF TAPEND = 2, WRITE TAPE 1	EDT0433:
1042	0402	LDN	2		EDT0434:
1043	3200	ADC	2110		EDT0435:
1044	2110				EDT0436:
1045	4206	STF	WRTSEL	CREATE WRITE CODE	EDT0437:
1046	0610	ADN	10		EDT0438:

047	4222	STF	WRITBK	CREATE BACKSPACE CODE	EDT0435:
050	0620	ADN	20		EDT0436:
051	4210	STF	WRSTAT	CREATE STATUS REQUEST CODE	EDT0437:
052	7500	EXF	0		EDT0438:
053	0000	WRTSEL		WRITE SELECT	EDT0439:
054	0021	SIC1			EDT0440:
055	7324	OUT	ZERO	OUTPUT LAST RECORD READ	EDT0441:
056	0000	WRITEL			EDT0442:
057	0020	SIC0			EDT0443:
060	7500	EXF	0		EDT0444:
061	0000	WRSTAT		TEST STATUS	EDT0445:
062	7600	INA			EDT0446:
063	0204	LPN	4		EDT0447:
064	6104	NZF	4		EDT0448:
065	7100	JPR	TIMER		EDT0449:
066	2006				:
067	6432	ZJB	WRITE -1		EDT0450:
070	7500	EXF	0		EDT0451:
071	0000	WRITBK		OTHERWISE BACKSPACE ONE RECORD	EDT0452:
072	7600	INA			EDT0453:
073	4600	SRC	4444		EDT0454:
074	4444				:
075	6623	PJB	WRTSEL -1		EDT0455:
076	0000	ERR		THREE WRITE PARITY ERRORS	EDT0456:
077	6425	ZJB	WRTSEL -1	ZERO A-REGISTER TO TRY AGAIN	EDT0457:
100	7700	HLT			EDT0458:
101	0000	ZERO			EDT0459:
102	7101	JFI	1		EDT0460:
103	0000	SAVE		ROUTINE TO SAVE FILE MARKS	EDT0461:
04	7500	EXC	1121		EDT0462:
105	1121				:
106	7600	INA		BACKSPACE ONE RECORD	EDT0463:
107	6505	NZR	SAVE -1		EDT0464:
110	6406	ZJB	SAVE -1		EDT0465:
		REM		OPERATION CODE SUBROUTINES	EDT0466:
111	5426	DELETE	ADD INSWTC	DELETE ONE RECORD	EDT0467:
112	6002	ZJF	2		EDT0468:
113	0000	ERR		RECORD DELETED TWICE	EDT0469:
114	7100	JPR	PASS	PASS OVER ONE RECORD	EDT0470:
115	1205				:
116	6057	ZJF	EXITOP		EDT0471:
117	6156	NZF	EXITOP		EDT0472:
120	5426	INSERT	ADD INSWTC	TEST FOR FIRST INSERTION	EDT0473:
121	6111	NZF	RD+DUP		EDT0474:
122	0401	LBN	1	DUPLICATE ONE RECORD BEFORE	EDT0475:
123	7100	JPR	DUPREC	DOING ANY INSERTIONS AT A	EDT0476:
124	0636				:
125	6203	PJF	3	PARTICULAR POINT	EDT0477:
126	7100	JPR	SAVE	DONT LEAVE CURRENT FIEL	EDT0478:
127	1103				:
130	0501	LCN	1		EDT0479:
131	5022	RAD	RECORD		EDT0480:
132	2021	RD+DUP	LDD FILE	READ A ROUTINE FROM PAPER	EDT0481:
133	0304	LSN	4	TAPE AND DUPLICATE IT	EDT0482:
134	6126	NZF	ONEREC		EDT0483:
135	2025	LDD	COMSWC		EDT0484:
136	6024	ZJF	ONEREC		EDT0485:
137	0501	LCN	1		EDT0486:
140	4027	STD	BINSWC	BINARY RECORD (FILE4)	EDT0487:
141	7100	JPR	DELAY	WAIT FOR PAPER TAPE	EDT0488:

1142	1235								
1143	7100	BINLOP	JPR	RD1BIN	READ ONE BINARY RECORD FROM PAPER TAPE			EDT0489:	
1144	1274								
1145	7100		JPR	WRITE	COEY ON TAPE 2			EDT0490:	
1146	1036								
1147	5427		ADD	BINSWC				EDT0491:	
1150	6103		NZF	3				EDT0492:	
1151	7100		JPR	CALLTB	CAVE CALTBL ENTRIES			EDT0493:	
1152	0724								
1153	0041		SDC1					EDT0494:	
1154	2000		LDD	0	IS THIS AN END CARD			EDT0495:	
1155	0040		SDC0					EDT0496:	
1156	1200	LMASK	LPC	1770				EDT0497:	
1157	1770								
1160	6015		ZJF	EXITOP	IF SQ. EXIT			EDT0498:	
1161	6516		NZB	BINLOP				EDT0499:	
1162	2025	CNEREC	LDD	COMSWC				EDT0500:	
1163	6104		NZF	4	COMSWC#0 MEANS RECORD TO			EDT0501:	
1164	7100		JPR	LABLIN	BE COPIED IS COMMENTS FIELD			EDT0502:	
1165	1246								
1166	6105		NZF	5				EDT0503:	
1167	7100		JPR	DELAY	RECORD AFTER WAITING FOR			EDT0504:	
1170	1235								
1171	7100		JPR	RDBINR	PAPER TAPE			EDT0505:	
1172	1473								
1173	7100		JPR	WRITE				EDT0506:	
1174	1036								
1175	7101	EXITOP	JFI	1				EDT0507:	
1176	0226			LINEND				EDT0508:	
1177	5426	RPLACE	ACD	INSWTC	IF INSWTC NOT -1, THIS IS			EDT0509:	
1200	6546		NZR	RD+DUP	NOT FIRST REPLACEMENT			EDT0510:	
1201	7100		JPR	PASS				EDT0511:	
1202	1205								
1203	6451		ZJB	RD+DUP				EDT0512:	
1204	7101		JFI	1				EDT0513:	
1205	0000	PASS			PASS ONE RECORD			EDT0514:	
1206	0401		LDN	1				EDT0515:	
1207	4032		STD	TAPENO				EDT0516:	
1210	7100	PASSRD	JPR	READ				EDT0517:	
1211	0766								
1212	6205		PJF	5				EDT0518:	
1213	7100		JPR	SAVE				EDT0519:	
1214	1103								
1215	0400		LDN	0				EDT0520:	
1216	6412		ZJB	PASS	-1			EDT0521:	
1217	2025		LDD	COMSWC				EDT0522:	
1220	6414		ZJB	PASS	-1			EDT0523:	
1221	2021		LDD	FILE				EDT0524:	
1222	0304		LSN	4				EDT0525:	
1223	6003		ZJF	3				EDT0526:	
1224	0400		LDN	0				EDT0527:	
1225	6421		ZJB	PASS	-1			EDT0528:	
1226	0041		SDC1					EDT0529:	
1227	2000		LDD	0				EDT0530:	
1230	0040		SDC0					EDT0531:	
1231	1352		LPR	LMASK	+1			EDT0532:	
1232	6426		ZJB	PASS	-1			EDT0533:	
1233	6523		NZB	PASSRD				EDT0535:	
1234	7101		JFI	1				EDT0535:	
1235	0000	DELAY						EDT0536:	

SUBROUTINE TO DISPLAY

09537



236	2021	LDD	FILE	CURRENT FILE AND RECORD	EDT0537:
1237	0111	LS6		NUMBER AND WAIT FOR PAPER	EDT0538:
1240	0110	LS3		TAPE TO BE POSITIONED	EDT0539:
241	3022	ADD	RECORD	IN THE READER	EDT0540:
242	7700	HLT			EDT0541:
1243	6507	NZB	DELAY -1		EDT0542:
244	6410	ZJB	DELAY -1		EDT0543:
		REM		SUBROUTINE TO BRING INT THE	EDT0544:
		REM		COMMENTS PORTION OF AN INSTRUCTION	EDT0545:
245	7101	JFI	1		EDT0546:
1246	0000	LABLIN			EDT0547:
1247	0400	LDM	0	BEGIN STORING RECORD IN	EDT0548:
250	4035	STD	TEMP1	LOCATION 00 OF BANK1	EDT0549:
1251	2130	LDI	INLOCC		EDT0550:
1252	0377	LSN	77		EDT0551:
253	6010	ZJF	ENDCOM	COMMENT ENDS WITH 0077	EDT0552:
1254	0377	LSN	77		EDT0553:
1255	0021	SIC1			EDT0554:
256	4135	STI	TEMP1		EDT0555:
1257	0020	SIC0			EDT0556:
1260	5435	AOD	TEMP1		EDT0557:
261	5430	AOD	INLOCC		EDT0558:
1262	6511	NZB	LABLIN +3		EDT0559:
1263	2035	ENDCOM	LDD	TEMP1	EDT0560:
264	4100	STM	WRITEL	SET WRITE PARAMETER	EDT0561:
1265	1056				:
1266	6521	NZB	LABLIN -1		EDT0562:
		REM		SUBROUTINE TO READ ONE OSAP=A	EDT0563:
		REM		BINARY RECORD WITH CONTROL WORDS	EDT0564:
267	0020	SETWRT	SIC0		EDT0565:
270	2035	LDD	TEMP1		EDT0566:
1271	4100	STM	WRITEL		EDT0567:
1272	1056				:
273	7101	JFI	1		EDT0568:
1274	0000	RD1BIN			EDT0569:
1275	7500	EXC	4102	SELECT READER	EDT0570:
276	4102				:
1277	0400	LDM	0	BEGIN STORING RECORD IN	EDT0571:
1300	4035	STD	TEMP1	LOCATION 00, BANK 1	EDT0572:
301	7600	INCARD	INA		EDT0573:
1302	6401	ZJB	1	PASS OVER LEADER	EDT0574:
1303	0111	NEWCRD	LS6		EDT0575:
304	0021	SIC1			EDT0576:
1305	4135	STI	TEMP1	TEST TO SEE THAT THE FIRST	EDT0577:
1306	0201	LPM	1	WORD HAS A 7TH-LEVEL PUNCH	EDT0578:
307	6102	NZF	2		EDT0579:
1310	0000	ERR		LENGTH ERROR	EDT0580:
1311	7600	INA			EDT0581:
312	7635	HWI	TEMP1	STORE FIRST WORD	EDT0582:
1313	2135	LDI	TEMP1		EDT0583:
1314	4037	STD	TEMP3	TEMP3 HAS CHECKSUM	EDT0584:
315	0111	LS6			EDT0585:
1316	0110	LS3		TEMP4 HAS IGNORE CHECKSUM	EDT0586:
1317	4040	STD	TEMP4	BIT ONE POSITION FORM THE LEFT	EDT0587:
320	1200	LPO	177		EDT0588:
321	0177				:
1322	0606	ADN	6	LENGTH +6 IS THE NUMBER	EDT0589:
323	1600	MINZER	LSC	OF WORDS TO READ	EDT0590:
1324	7777				:
1325	4041	STD	TEMP5	-THIS NUMBER IN TEMPS	EDT0591:

1326	5435	ADD	TEMP1	INCREASE LOCATOR	EDT0592:
1327	7600	INA			EDT0593:
1330	0111	LS6			EDT0594:
1331	4135	STI	TEMP1		EDT0595:
1332	7600	INA			EDT0596:
1333	7635	HWI	TEMP1		EDT0597:
1334	2135	LDI	TEMP1		EDT0598:
1335	5037	RAD	TEMP3		EDT0599:
1336	5435	ADD	TEMP1		EDT0600:
1337	7600	INA		BRING IN CHECKSUM AND	EDT0601:
1340	0111	LS6		COMPLEMENT, THEN ADD TO	EDT0602:
1341	4135	STI	TEMP1	TEMP3	EDT0603:
1342	7600	INA			EDT0604:
1343	7635	HWI	TEMP1		EDT0605:
1344	2135	LDI	TEMP1		EDT0606:
1345	1721	LSR	MINZER +1		EDT0607:
1346	5037	RAD	TEMP3		EDT0608:
1347	5435	ADD	TEMP1		EDT0609:
1350	2041	LDD	TEMP5		EDT0610:
1351	0605	ADN	5		EDT0611:
1352	6013	ZJF	CHKSUM		EDT0612:
1353	7600	INLOOP INA		READ THE REST OF THE RECORD	EDT0613:
1354	0111	LS6			EDT0614:
1355	4135	STI	TEMP1		EDT0615:
1356	7600	INA			EDT0616:
1357	7635	HWI	TEMP1		EDT0617:
1360	2135	LDI	TEMP1		EDT0618:
1361	5037	RAD	TEMP3		EDT0619:
1362	5435	ADD	TEMP1		EDT0620:
1363	5441	ADD	TEMP5		EDT0621:
1364	6511	MZR	INLOOP		EDT0622:
1365	4440	CHKSUM SRD	TEMP4		EDT0623:
1366	6304	NJF	4	NEGATIVE = IGNORE CHECKSUM	EDT0624:
1367	2037	LDD	TEMP3		EDT0625:
1370	6002	ZJF	2		EDT0626:
1371	0000	ERR			EDT0627:
1372	7101	JFI	1		EDT0628:
1373	1267		SETWRT		EDT0629:
1374	7101	REM		SEARCH FOR BEGINNING OF NEXT	EDT0630:
1375	0000	ALPHIN JFI	1	LINE	EDT0631:
1376	2130	LDI	INLOCC		EDT0632:
1377	0377	LSN	77	END OF INSTRUCTION SIGNALLED	EDT0633:
1400	6003	ZJF	3	BY A 77	EDT0634:
1401	5430	ADD	INLOCC		EDT0635:
1402	6504	MZR	4		EDT0636:
1403	5430	ADD	INLOCC		EDT0637:
1404	1417	LSD	ENDINS		EDT0638:
1405	6003	ZJF	3	RETURN 0 IF NOT END OF	EDT0639:
1406	0400	LDM	0	INSTRUCTIONS	EDT0640:
1407	6413	ZJR	ALPHIN -1		EDT0641:
1410	0501	LON	1	RETURN NEGATIVE IF END OF	EDT0642:
1411	6715	NJR	ALPHIN -1	INSTRUCTIONS	EDT0643:
1412	7101	JFI	1		EDT0644:
1413	0000	LIBOUT			EDT0645:
1414	2017	LDD	ENDINS	OUTPUT CALL TABLE	EDT0646:
1415	4232	STF	CALBEG		EDT0647:
1416	2020	LDD	CALEND		EDT0648:
1417	0601	ADN	1		EDT0649:
1420	4204	STF	CALAST		EDT0650:
					EDT0651:

421	7500	EXC	2111		EDT06528
1422	2111				:
1423	7524	OUT	CALBEG		EDT06533
124	5000	CALAST			EDT0654:
1425	7100	JPR	PARITY		EDT0655:
1426	1453				:
427	6700	NJB	CALAST -3		EDT0656:
1430	7500	EXC	2111		EDT0657:
1431	2111				:
432	7316	OUT	LENGBG	OUTPUT TABLE OF LENGTHS	EDT0658:
1433	7477		-1920		EDT0659
1434	7100	JPR	PARITY		EDT0660:
435	1453				:
1436	6706	NJB	CALAST +4		EDT0661:
1437	7500	EXC	2111		EDT0662:
440	2111				:
1441	7310	OUT	LABEG	OUTPUT TABLE OF BCD LABELS	EDT0663:
1442	0000		0		EDT0664:
443	7100	JPR	PARITY		EDT0665:
1444	1453				:
1445	6633	PJB	LIBOUT -1		EDT0666:
446	6707	NJB	7		EDT0667:
1447	0000	CALBEG			EDT0668:
1450	7377	LENGBG	-2560		EDT0669:
451	7513	LABEG	-1800		EDT06708
1452	7101	JFI	1		EDT06718
1453	0000	PARITY			EDT0672:
454	7500	EXC	1141		EDT0673:
1455	1141				:
456	7600	INA			EDT0674:
457	0204	LPN	4		EDT0675:
1460	6406	ZJB	PARITY -1		EDT0676:
1461	7500	EXC	1121		EDT0677:
462	1121				:
1463	7600	INA			EDT0678:
1464	4600	SRC	3333		EDT0679:
465	3333				:
1466	6714	NJB	PARITY -1		EDT0680:
1467	0000	ERR		THREE PARITY ERRORS	EDT0681:
470	0501	LCN	1		EDT0682:
1471	6717	PJB	PARITY -1		EDT0683:
		REM		SUBROUTINE TO LOAD AN ENTIRE ROUTINE	EDT0684:
		REM		IN OSAP=A BINARY FORMAT STARTING AT	EDT0685:
		REM		LOCATION 00 OF BANK 1	EDT0686:
1472	7101	JFI	1		EDT0687:
473	0000	RDBINR			EDT06888
1474	7500	EXC	4102		EDT06898
1475	4102				:
476	7600	INA		SEARCH FOR FIRST 7-LEVEL PUNCH	EDT0690:
1477	6401	ZJB	1		EDT06918
1500	0111	LS6			EDT06928
501	0201	LPN	1		EDT0693:
1502	6103	NZF	3		EDT0694:
1503	0000	ERR		FIRST NON-BLANK FRAME DOES	EDT0696:
504	6406	ZJB	RDBINR +3	NOT HAVE 7-LEVEL PUNCHED	EDT0696:
505	7600	INA		RUN TO RESTART	EDT06978
1506	7600	INA			EDT06980
507	0111	LS6			EDT0699:
1510	4035	STD	LODADD		EDT0700:
1511	7600	INA			EDT07018

1512	1435	LSD	LODADD		EDT07028
1513	4035	STD	LODADD		EDT0703:
1514	7600	SEARCH INA		LOOK FOR FIRST CARD TO BE LOADED AT ADDRESS LODADD	EDT0704
1515	0111	LS6			EDT0705
1516	4036	STD	WORD1		EDT0706:
1517	0201	LPN	1		EDT0707
1520	6404	ZJB	SEARCH	NOT START OF NEW CARD IMAGE	EDT0708:
1521	1436	LSD	WORD1		EDT0709:
1522	4035	STD	WORD1		EDT0710
1523	7600	INA			EDT0711:
1524	1436	LSD	WORD1		EDT0712:
1525	4036	STD	WORD1		EDT0713
1526	7600	INA			EDT0714:
1527	0111	LS6			EDT0715:
1530	4037	STD	CHKWRD	COMPARE FIRST ADDRESS TO LOBADD	EDT0716
1531	7600	INA			EDT0717:
1532	1437	LSD	CHKWRD		EDT0718:
1533	4037	STD	CHKWRD		EDT0719
1534	1435	LSD	LODADD		EDT0720:
1535	6521	NZB	SEARCH		EDT0721:
1536	4040	STD	STOADD	FOUND FIRST CARD, ZERO STOADD	EDT0722
1537	2036	LDD	WORD1		EDT0723:
1540	5037	RAN	CHKWRD		EDT0724:
1541	2036	LDD	WORD1		EDT0725
1542	0111	LS6			EDT0726:
1543	0110	LS3		IGNORE HAS IGNORE CHECKSUM BIT ONE POSITION TO THE RIGHT	EDT07270
1544	4041	STD	IGNORE		EDT0728
1545	1200	LGMASK LPC	177		EDT07298
1546	0177				
1547	1600	CPMASK LSC	7777		EDT0730
1550	7777				
1551	4042	STD	LENGTH	SET -(CARD LENGTH) IN LENGTH	EDT0731:
1552	6144	NZF	CHEKIN		EDT0732
1553	7600	NEUCRD INA			EDT0733:
1554	0111	LS6			EDT0734:
1555	4036	STD	WORD1		EDT0735
1556	0201	LPN	1		EDT0736:
1557	6102	NZF	2		EDT0737
1560	0000	ERR		LENGTH ERROR	EDT0738
1561	1436	LSD	WORD1		EDT0739:
1562	4036	STD	WORD1		EDT07400
1563	7600	INA			EDT0741
1564	1436	LSD	WORD1		EDT0742:
1565	4036	STD	WORD1		EDT0743:
1566	4037	STD	CHKWRD		EDT0744
1567	0111	LS6			EDT0745:
1570	0110	LS3		IGNORE HAS IGNORE CHECKSUM BIT ONE POSITION TO THE RIGHT	EDT0746:
1571	4041	STD	IGNORE		EDT0747
1572	1324	LPB	LGMASK +1		EDT0748:
1573	6012	ZJF	TCRD	DO NOT COMPLEMENT-ZERO LENGTH	EDT0749:
1574	1724	LSB	CPMASK +1		EDT0750
1575	4042	STD	LENGTH		EDT0751:
1576	7600	INA			EDT07520
1577	0111	LS6			EDT0753
1600	4040	STD	STOADD	BRING INITIAL ADDRESS INFO STOADD	EDT0754
1601	7600	INA			EDT0755:
1602	1440	LSD	STOADD		EDT0756
1603	4040	STD	STOADD		EDT07576
1604	6107	NZF	CHEKIN -3		EDT0758:
1605	7600	TCRD INA			EDT0759

1606	0111	LS6				EDT07608
1607	5037	RAD	CHKWRD			EDT07611
1610	2035	LDD	LODADD			EDT07620
611	5040	RAD	STOADD			EDT07631
612	7600	INA				EDT07641
1613	5037	RAD	CHKWRD	ADD TO CHKSUM		EDT07651
614	2435	LDD	LODADD			EDT07661
1615	5040	RAD	STOADD	DECREMENT STOADD BY LODADD		EDT07670
1616	7600	CHEKIN	INA			EDT07681
617	0111	LS6				EDT0769A
1620	4043	STD	ASSEMB			EDT07701
1621	7600	INA				EDT0771A
622	1443	LSD	ASSEMB			EDT07721
1623	1753	LSR	CPMASK +1			EDT07738
1624	5037	RAD	CHKWRD			EDT07740
625	2042	LDD	LENGTH			EDT07751
1626	6116	NZF	INBITS			EDT07761
1627	4436	SRD	WORD1	TEST FOR BANK CARD		EDT07771
630	6306	NJF	6			EDT07781
1631	2040	LDD	STOADD	POSITIVE = END CARD		EDT07791
1632	4100	STM	WRITEL	INITIALIZE OUTPUT PARAMETERS		EDT07801
633	1056					EDT07818
1634	7101	JFI	1			EDT07821
1635	1472	CHEKER	RDBINR -1	EXIT		EDT07831
636	4441	SRD	IGNORE	IGNORE CHKSUM		EDT0784A
1637	6764	NJB	NEUCRD			EDT07851
1640	2037	LDD	CHKWRD			EDT07861
641	6466	ZJB	NEUCRD			EDT07871
1642	0000	ERR		CHECKSUM ERROR ZERO A-REGISTER		EDT07881
643	6470	ZJB	NEUCRD	TO CONTINUE		EDT07891
644	0506	INBITS	LCN			EDT07901
1645	4033	STD	COUNT			EDT0794A
1646	7600	INA				EDT07951
647	0111	LS6				EDT07961
1650	5037	RAD	CHKWRD			EDT07971
1651	7600	INA				EDT07980
652	5037	RAD	CHKWRD			EDT07990
1653	5433	ADD	COUNT			EDT08001
1654	6506	NZR	INBITS +2			EDT08018
655	7600	STOREM	INA	LOAD DATA WORDS		EDT0802A
1656	0111	LS6		AND STORE IN BANK 1		EDT08031
1657	4043	STD	ASSEMB			EDT08041
660	7600	INA				EDT0805
1661	1443	LSD	ASSEMB			EDT08061
1662	0021	SIC1				EDT08071
663	4140	STI	STOADD			EDT0808A
1664	0020	SIC0				EDT08091
1665	5037	RAD	CHKWRD			EDT08101
666	5440	ADD	STOADD			EDT0811A
1667	5442	ADD	LENGTH			EDT08121
1670	6432	ZJB	CHEKER			EDT08131
671	6514	NZR	STOREM			EDT08141
1672	0505	LIST	LCN	LINE PRINTER LIST ROUTINE FOR FILE 6		EDT0815A
1673	0140	SBUG				EDT08161
674	0060	SIDD				EDT08171
1675	4035	STD	TEMP1			EDT0818
1676	7500	EXC	1171			EDT0819
677	1171					EDT0819
1700	7500	EXC	1161			EDT0819
1701	1161					EDT0819

00542

1702	7500	EXC	1162		EDT0820
1703	1162				
1704	7500	EXC	1131	SEARCH FORWARD TO FILE 6	EDT0821
1705	1131				
1706	5435	ACD	TEMP1		EDT0822
1707	6503	NZR	3		EDT0823
1710	2243	LISTLP	LDF	SET CONSTANTS TO BLANK	EDT0824
1711	0105		ATE	BUFFER AREA	EDT0825
1712	0000				
1713	2210		LDF	BLKSTO +4	EDT0826
1714	0100		ATX		EDT0827
1715	0000				
1716	0420		LDN	20	EDT0828
1717	0100	BLKSTO	BLS	BLKSTO	EDT0829
1720	1717				
1721	7500	EXC	1131	READ IN CHARACTER MODE	EDT0830
1722	1131				
1723	7230	INP	BUFFAD	FOR PRINTER	EDT0831
1724	5170		BUFFER	+120D	EDT0832
1725	0701	SBN	1		EDT0833
1726	4035	STD	TEMP1		EDT0834
1727	0420	LDN	20		EDT0835
1730	4135	STI	TEMP1		EDT0836
1731	7500	EXC	1141		EDT0837
1732	1141				
1733	7600	INA			EDT0838
1734	0220	LPN	20		EDT0839
1735	6004	ZJF	4	END OF FILE	EDT0840
1736	7500	EXC	1161		EDT0841
1737	1161				
1740	7700	HLT		REWIND AND HALT	EDT0842
1741	7500	EXC	600	SELECT PRINTER	EDT0843
1742	0600				
1743	7600	INA			EDT0844
1744	6603	PJB	3		EDT0845
1745	7306	OUT	BUFFAD		EDT0846
1746	5170		BUFFER	+120D	EDT0847
1747	7500	EXC	605		EDT0848
1750	0605				
1751	6441	ZJB	LISTLP		EDT0849
1752	6542	NZE	LISTLP		EDT0850
1753	5000	BUFFAD	BUFFER		EDT0851
1754	0506	COPY	LCN	6	EDT0852
1755	4034	STD	COPCNT		EDT0853
1756	7500	EXC	1171		EDT0854
1757	1171				
1760	7500	EXC	1161		EDT0855
1761	1161				
1762	7500	EXC	1162		EDT0856
1763	1162				
1764	7100	JPR	TIMER		EDT0857
1765	2006				
1766	0401	COPLOP	LDN	1	EDT0858
1767	4025	STD	COMSWC		EDT0859
1770	4022	STD	RECORD		EDT0860
1771	0406	LDN	6		EDT0861
1772	4021	STD	FILE		EDT0862
1773	0401	LDN	1	COPY FROM 1 TO 2	EDT0863
1774	7100	JPR	DUPFIL		EDT0864
1775	0607				

1776	5434		ADD	CUPCNT	
1777	6511		NZR	COPLOP	
2000	7500		EXC	1161	
2001	1161				
2002	7500		EXC	1152	
2003	1152				
2004	7700		HLT		
2005	7101		JFI	1	
2006	0000	TIMER			
2007	7500		EXC	1141	
2010	1141				
2011	7500		INA		
2012	0202		LPN	2	
2013	6504		NZR	4	
2014	7500		EXC	1142	
2015	1142				
2016	7600		INA		
2017	0202		LPN	2	
2020	6504		NZR	4	
2021	6414		ZJB	TIMER -1	
2022	0000	LAST			
	0000		SUPB		
			END		

EDT0865:  
EDT0866:  
EDT0867:  
EDT0868:  
EDT0869:  
EDT0870:  
EDT0871:  
EDT0872:  
EDT0873:  
EDT0874:  
EDT0875:  
EDT0876:  
EDT0877:  
EDT0878:  
EDT0879:  
EDT0880:  
EDT0881:  
EDT0882:

		REM		COPY THE 160A FORTRAN SYSTEM TAPE WITH	COPY000:
		REM		CHANGES IN THE I/O ASSIGNMENTS	COPY001:
0447	0447	ORG	447		COPY002:
0450	7101	JFI	1		COPY003:
0451	0000	HLT451	0		COPY004:
0452	7700	HLT		HALT MUST BE AT 451.	COPY005:
0453	0447	JFI	1		COPY006:
	0466	HLT451	-1		COPY007:
0466	7101	ORG	466		COPY008:
0467	0000	JFI	1		COPY009:
0470	7700	HLT470	0		COPY010:
0471	7101	HLT		HALT MUST BE AT 470	COPY011:
0472	0466	JFI	1		COPY012:
	0000	HLT470	-1		COPY013:
0000	7101	CON	0		COPY014:
0001	0100	JFI	1		COPY015:
0002	0000			START	COPY016:
0003	0000	SAVE			COPY017:
0004	0000	LOADSW			COPY018:
0005	0000	EOFLAG			COPY019:
0006	0000	EQFCNT			COPY020:
0007	0000	LAST			COPY021:
0010	0000	TEMP1			COPY022:
0011	0000	TRMP2			COPY023:
	0100	TEMP2			COPY024:
0100	0040	ORG	100		COPY025:
0101	0021	START	SDDO		COPY026:
0102	4002	SIG1			COPY027:
0103	0506	STD	SAVE	SAVE A REG	COPY028:
0104	4005	LCN	6		COPY029:
0105	7500	STD	EQFCNT		COPY030:
0106	1171	EXC	1171		COPY031:
0107	7500	EXC	1162	REWIND TAPES	COPY032:
0110	1162				COPY033:
0111	7500	EXC	1161		COPY034:
0112	1161				COPY035:
0113	7100	JPR	READ1		COPY036:
0114	0261				COPY037:
0115	7100	JPR	WRITE		COPY038:
0116	0351				COPY039:
0117	7100	JPR	READ1	2ND RECORD	COPY040:
0120	0261				COPY041:
0121	2002	LDD	SAVE		COPY042:
0122	6005	ZJF	5		COPY043:
0123	3600	SBC	111		COPY044:
0124	0111				COPY045:
0125	4100	STM	2557	CHANGE FLAG	COPY046:
0126	2557				COPY047:
0127	7100	JPR	WRITE		COPY048:
0130	0351				COPY049:
0131	7100	JPR	READ1	PASS1PART1	COPY050:
0132	0261				COPY051:
0133	0501	LCN	1	P SET SWITCH FOR LOADING LIBRARY	COPY052:
0134	4003	STD	LOADSW		COPY053:
0135	7710	SLJ1	SLJ1	JUMP SW 1 - CHANGE I/O TABLE	COPY054:
0136	0154				COPY055:
0137	7720	SLJ2	SLJ2	JUMP SW 2 - CHANGE COMP I/O	COPY056:



140	0240						
141	7100	COPY	JPR	WRITE			COPY047:
142	0351						:
143	7100	COPY1	JPR	READ1			COPY048:
144	0261						:
145	2004		LDD	EOFLAG			COPY049:
146	6405		ZJR	COPY	NO EOF		COPY050:
147	7500		EXC	1112	EOF ON 2		COPY051:
150	1112						:
151	5405		AOD	EOFCNT	BURP EOFCNT		COPY052:
152	6507		NZB	COPY1			COPY053:
153	7700		HLT				COPY054:
154	7100	MODI/O	JPR	HLT470			COPY055:
155	0467						:
156	4007		STD	TEMP1			COPY056:
157	0110		LS3		GET LEFT MOST 3 BITS		COPY057:
160	0207		LPN	7			COPY058:
161	4011		STD	TEMP2			COPY059:
162	0307		SCN	7	BANK CHANGE		COPY060:
163	6107		NZF	TSTLOD			COPY061:
164	2007		LDD	TEMP1			COPY062:
165	0207		LPN	7			COPY063:
166	4100		STM	434	PUT IN BANK FLAG		COPY064:
167	0434						:
170	7101	GOSLJ1	JFI	1			COPY065:
171	0135			SLJ1	BACK AGAIN		COPY066:
172	5403	TSTLOD	AOD	LOADSW	HAS TABLE BEEN LOADED		COPY067:
173	6117		NZF	LOADED			COPY068:
174	7500		EXC	1131	SKIP FILE		COPY069:
175	1131						:
176	7100	PASADD	JPR	READ2			COPY070:
177	0272						:
200	4600		SRC	4210	4 RECORDS		COPY071:
201	4210						:
202	6604		PJR	PASADD			COPY072:
203	7500		EXC	1161	RESTORE TAPE		COPY073:
204	1161						:
205	7100	SKIP3	JPR	READ3			COPY074:
206	0302						:
207	4600		SRC	4444	3 RECORDS		COPY075:
210	4444						:
211	6604		PJR	SKIP3			COPY076:
212	2011	LOADED	LDD	TEMP2			COPY077:
213	0102		LS1		GIVES I/O TABLE LOCATION		COPY078:
214	3200		ADC	407			COPY079:
215	0407						:
216	5011		RAD	TEMP2			COPY080:
217	2007		LDD	TEMP1			COPY081:
220	1200		LPC	777			COPY082:
221	0777						:
222	0704		SEN	4			COPY083:
223	4007		STD	TEMP1			COPY084:
224	0102		LS1				COPY085:
225	3200		ADC	1775	3*(NUM)+BEG OF ID TABLE -3		COPY086:
226	1775						:
227	5007		RAD	TEMP1	3 GIVES LOC OF LABEL		COPY087:
230	2107	LOOP	LDI	TEMP1			COPY088:
231	4111		STI	TEMP2			COPY089:
232	5407		AOD	TEMP1			COPY090:
233	4600		SRC	4444			COPY091:

00546

0234	4444						
0235	6745		NJR	GOSLJ1			COPY092:
0236	5411		ADD	TEMP2			COPY093:
0237	6507		NZR	LOOP			COPY094:
0240	7100	MODCMP	JPR	HLT451	CHANGE IN C08P I/O		COPY095:
0241	0450						
0242	4007		STD	TEMP1			COPY096:
0243	0111		LS6				COPY097:
0244	0277		LPN	77			COPY098:
0245	6005		ZJF	LOWER			COPY099:
0246	2007		LDD	TEMP1	IF CHANGE IN UNPUT, REPLACE		COPY100:
0247	4100		STM	435	ENTIRE WORD		COPY101:
0250	0435						
0251	6105		NZF	GOCOPY			COPY102:
0252	2302	LOWER	LDB	2	IF NO CHANGE IN INPUT		COPY103:
0253	4011		STD	TEMP2	REPLAVE ONLY LOWER 6 BITS		COPY104:
0254	2007		LDD	TEMP1			COPY105:
0255	7611		HWI	TEMP2			COPY106:
0256	7101	GOCOPY	JFI	1			COPY107:
0257	0141			COPY			COPY108:
0260	7101		JFI	1			COPY109:
0261	0000	READ1			READ INTO 0000		COPY110:
0262	0400		LDN	0			COPY111:
0263	7100		JPR	READ			COPY112:
0264	0312						
0265	2006		LDD	LAST			COPY113:
0266	4267		STF	LWA			COPY114:
0267	7101		JFI	1			COPY115:
0270	0260			READ1 -1			COPY116:
0271	7101		JFI	1			COPY117:
0272	0000	READ2			READ INTO 2000		COPY118:
0273	2200		LDC	2000			COPY119:
0274	2000						
0275	7100		JPR	READ			COPY120:
0276	0312						
0277	7101		JFI	1			COPY121:
0300	0271			READ2 -1			COPY122:
0301	7101		JFI	1			COPY123:
0302	0000	READ3			READ INTO 4000		COPY124:
0303	2200		LDC	4000			COPY125:
0304	4000						
0305	7100		JPR	READ			COPY126:
0306	0312						
0307	7101		JFI	1			COPY127:
0310	0301			READ3 -1			COPY128:
0311	7101		JFI	1			COPY129:
0312	0000	READ			READ 1 RECORD BEGINNING AT		COPY130:
0313	4234		STF	STARTX			COPY131:
0314	7500	IN	EXC	2131			COPY132:
0315	2131						
0316	7231		INP	STARTX			COPY133:
0317	0000			0			COPY134:
0320	0701		SBN	1			COPY135:
0321	4006		STD	LAST			COPY136:
0322	7500		EXC	1141	S(NSE)		COPY137:
0323	1141						
0324	7600		INA				COPY138:
0325	0224		LPN	24			COPY139:
0326	6016		ZJF	NOEOF			COPY140:
0327	0720		SBN	20			COPY141:

0330	6013	ZJF	EOF	EOF		COPY142
0331	4600	PARERR	SRC	4210	PARITY ERR TRY 3 TIMES	COPY143
0332	4210					
0333	6200	PJF	TRY			COPY144
0334	0000	ERR				COPY145
0335	6704	NJR	PARERR			COPY146
0336	7500	TRY	EXC	1121	BACK SPACE	COPY147
0337	1121					
0340	7600	INA				COPY148
0341	6525	NZB	IN			COPY149
0342	6426	ZJB	IN			COPY150
0343	0401	EOF	LLN	1	FLAGTO 1	COPY151
0344	4004	NOEOF	STO	EOFLAG		COPY152
0345	7101	JFI	1			COPY153
0346	0311		READ	-1		COPY154
0347	0000	STARTX				COPY155
0350	7101	JFI	1			COPY156
0351	0000	WRITE			WRITE 1 RECORD FROM 0000	COPY157
0352	7500	OUT	EXC	2112		COPY158
0353	2112					
0354	7533	OUT	ZERO			COPY159
0355	0000	LWA				COPY160
0356	7500	EXC	1142		SENSE	COPY161
0357	1142					
0360	7600	INA				COPY162
0361	0204	LPN	4			COPY163
0362	6412	ZJR	WRITE	-1		COPY164
0363	4600	PARITY	SRC	4210	3 TIMES	COPY165
0364	4210					
0365	6305	NJF	WREOF			COPY166
0366	7515	EXF	BACKSP		BACK SPACE AND TRY AGAIN	COPY167
0367	7600	INA				COPY168
0370	6516	NZB	OUT			COPY169
0371	6417	ZJR	OUT			COPY170
0372	4600	WREOF	SRC	4210	3 TIMES	COPY171
0373	4210					
0374	6202	PJF	2			COPY172
0375	0000	ERR			NO CAN WRITE	COPY173
0376	7505	EXF	BACKSP			COPY174
0377	7600	INA				COPY175
0400	7500	EXC	1112		TRY AN EOF TO SKIP TAPE	COPY176
0401	1112					
0402	7500	EXF	0			COPY177
0403	1122	BACKSP	1122			COPY178
0404	7600	INA				COPY179
0405	6533	NZB	OUT			COPY180
0406	6434	ZJB	OUT			COPY181
0407	0000	ZERO				COPY182
		SUPB				
	0000	END				COPY183

EDIT 1607  
SYSTEMS TAPE EDIT PROGRAM

		REM			EDT7000:
		REM			EDT7001:
	0000	ORG	0		EDT7002:
0000	7101	JFI	1		EDT7003:
0001	0100		START		EDT7004:
0002	7101	JFI	1		EDT7005:
0003	1754		LIST		EDT7006:
0004	7101	JFI	1		EDT7007:
0005	2131		COPY		EDT7008:
	0011	CON	11		EDT7009:
0011	0000	LABEL	RSS	3	EDT7010:
0014	0000	LONG			EDT7011:
0015	0000	TRNLOC			EDT7012:
0016	0000	CALINF			EDT7013:
0017	0000	ENDINS			EDT7014:
0020	0000	CALEND			EDT7015:
0021	0000	FILE			EDT7016:
0022	0000	RECORD			EDT7017:
0023	0000	NEWFIL			EDT7018:
0024	0000	NEWREC			EDT7019:
0025	0000	COMSWC			EDT7020:
0026	0000	INSWTC			EDT7021:
0027	0000	BINSWC			EDT7022:
0030	0000	INLOCC			EDT7023:
0031	0000	CASCCD			EDT7024:
0032	0000	TAPENO			EDT7025:
0033	0000	COUNT			EDT7026:
0034	0000	COPCNT			EDT7027:
0035	0000	TEMP1			EDT7028:
0036	0000	TEMP2			EDT7029:
0037	0000	TEMP3			EDT7030:
0040	0000	TEMP4			EDT7031:
0041	0000	TEMP5			EDT7032:
0042	0000	TEMP6			EDT7033:
0043	0000	TEMP7			EDT7034:
0044	0000	TEMP8			EDT7035:
0045	0000	STATCO			EDT7036:
	0035	LODADD	EQU	TEMP1	EDT7037:
	0036	WORD1	EQU	TEMP2	EDT7038:
	0037	CHKWRD	EQU	TEMP3	EDT7039:
	0040	STOADD	EQU	TEMP4	EDT7040:
	0041	IGNORE	EQU	TEMP5	EDT7041:
	0042	LENGTH	EQU	TEMP6	EDT7042:
	0043	ASSEMB	EQU	TEMP7	EDT7043:
	5000	BUFFER	EQU	5000	EDT7044:
	0100		PRG	100	EDT7045:
0100	2200	START	LDC	LAST	EDT7046:
0101	2232				:
0102	4017	STD	ENDINS		EDT7047:
0103	4030	STD	INLOCC		EDT7048:
0104	7500	EXC	5011		EDT7049:
0105	5011				:
0106	7100	JPR	WAITR		EDT7050:
0107	2207				:
0110	7500	EXC	5005		EDT7051:
0111	5005				:
0112	7100	JPR	WAITR		EDT7052:
0113	2207				:
0114	7500	EXC	5021		EDT7053:
					:

LOCATION OF BCD IDENTIFIER  
LENGTH OF LIBRARY FUNCTION  
LOCATION IN TRANSFER VECTOR  
BEGIN CALLING INFORMATION  
END OF INSTRUCTIONS  
END OF CALTBL  
CURRENT FILE  
CURRENT RECORD  
FILE OF CURRENT INSTRUCTION  
RECORD OF CURRENT INSTRUCTION  
COMMENTS SWITCH  
INSERT SWITCH  
BINARY SWITCH  
LOCATION OF CURRENT INSTRUCTION  
CURRENT CASE CODE (0=UPPER)  
CURRENT TAPE NUMBER

INITIALIZE BEGINING OF

INSTRUCTIONS TO END OF PROGRAM

SELECT TAPE 1 READ BINARY

WAIT READY

REBIND TAPE 1

SELECT TAPE 2 READ BINARY

0115	5021					
0116	7100	JPR	WAITR			EDT7054
0117	2207					
120	7500	EXC	5005	REKIND 2		EDT7055
0121	5005					
0122	7100	JPR	WAITR			EDT7056
0123	2207					
0124	7100	JPR	READIN	BRING IN INSTRUCTION TAPE		EDT7057
0125	0353					
0126	2017	LDD	ENDINS			EDT7058
0127	4020	STD	CALEND	SET CALEND TO END OF INSTRUCTIONS		EDT7059
0130	0501	LCN	1			EDT7060
0131	4026	STD	INSWTC	SET INSERT SWITCH = - 1		EDT7061
0132	4025	STD	COMSWC	SET COMMENTS SWITCH = - 1		EDT7062
0133	0401	EDIT	LDN	1		EDT7063
0134	4021	STD	FILE	SET CURRENT FILE = 1		EDT7064
0135	4022	STD	RECORD	SET CURRENT RECORD = 1		EDT7065
0136	2130	NEWINS	LDI	INLOCC	GET CURRENT INSTRUCTION	EDT7066
0137	4035	STD	TEMP1			EDT7067
0140	0111	LS6				EDT7068
0141	0207	LPN	7			EDT7069
0142	3200	ADC	7101	INITIALIZE TRANSFER		EDT7070
0143	7101					
0144	4266	STF	VECTOR			EDT7071
0145	2035	LDD	TEMP1			EDT7072
0146	0207	LPN	7			EDT7073
0147	4023	STD	NEWFIL	SET NEWFIL		EDT7074
0150	5430	ADD	INLOCC			EDT7075
0151	2130	LDI	INLOCC			EDT7076
152	4024	STD	NEWREC			EDT7077
0153	5430	ADD	INLOCC	LEAVE INLOCC AT NEXT WORD		EDT7078
0154	2023	LDD	NEWFIL			EDT7079
0155	0302	LSN	2			EDT7080
0156	6107	NZF	UPFILE	TEST FOR RECORDS 2,3,4		EDT7081
0157	2024	LDD	NEWREC	OF FILE 2		EDT7082
0160	0705	SBN	5			EDT7083
0161	6204	PUF	UPFILE			EDT7084
0162	0604	ADN	4			EDT7085
0163	6002	ZJF	2			EDT7086
0164	0000	ERR		INSTRUCTION REFERENCES 2-2,3,OR 4		EDT7087
0165	2023	UPFILE	LDD	NEWFIL		EDT7088
0166	3421	SBD	FILE			EDT7089
0167	6323	NJF	OUTSEQ			EDT7090
0170	6017	ZJF	UPREC			EDT7091
0171	5426	ADD	INSWTC			EDT7092
0172	6002	ZJF	2	IN INSWTC NOT -1, RECORD NEEDS		EDT7093
0173	5422	ADD	RECORD	TO BE INCREASED BY 1		EDT7094
0174	0401	LDN	1	1. COPY FROM TAPE 1 TO TAPE 2		EDT7095
0175	7100	JPR	DUPFIL	DUPLICATE A FILE		EDT7096
0176	0647					
0177	0501	LCN	1	SET INSWTC = - 1		EDT7097
0200	4026	STD	INSWTC			EDT7098
0201	0401	LDN	1			EDT7099
0202	4022	STD	RECORD			EDT7100
203	5421	ADD	FILE	INCREASE FILE COUNT		EDT7101
0204	0706	SBN	6			EDT7102
0205	6520	NZB	UPFILE			EDT7103
0206	0000	ERR		TOO MANY FILES		EDT7104
0207	2024	UPREC	LDD	NEWREC		EDT7105
0210	3422	SBD	RECORD			EDT7106

00550

0211	6202	PJF	2			EDT7107
0212	0000	OUTSEQ	ERR		INSTRUCTIONS OUT OF SEQUENCE	EDT7108
0213	6017	ZJF	VECTOR			EDT7109
0214	2026	LDD	INSWTC		IF INSWTC NOT -1, INCREASE	EDT7111
0215	6305	NJF	5		RECORD BY 1	EDT7111
0216	5422	ADD	RECORD			EDT7112
0217	0501	LCN	1			EDT7113
0220	4026	STD	INSWTC			EDT7114
0221	6712	NJB	UPREC			EDT7115
0222	0401	LDN	1		1 COPY 1 RECORD FROM TAPE	EDT7116
0223	7100	JPR	DUPREC		1 TO TAPE 2	EDT7117
0224	0705					
0225	6203	PJF	3			EDT7118
0226	7100	JPR	SAVE		DO NOT LEAVE CURRENT FILE	EDT7119
0227	1150					
0230	6421	ZJB	UPREC			EDT7120
0231	6522	NZB	UPREC			EDT7121
0232	7101	VECTOR	JFI	1	TRANSFER TO PROPER COMMAND	EDT7122
0233	1162		DELETE			EDT7123
0234	1171		INSERT			EDT7124
0235	1250		RPLACE			EDT7125
0236	7100	LINEND	JPR		BRING IN LINE	EDT7126
0237	1446					
0240	6303	NJF	3			EDT7127
0241	7101	JFI	1		IF NOT END OF INSTRUCTIONS	EDT7128
0242	0136		NEWINS		RETURN TO NEWINS	EDT7129
0243	0401	LDN	1			EDT7130
0244	7100	JPR	DUPFIL		FINISH DUPLICATION OF TAPE1	EDT7131
0245	0647					
0246	0401	LDN	1			EDT7132
0247	4022	STD	RECORD			EDT7133
0250	5421	ADD	FILE		THROUGH FILE 5	EDT7134
0251	0706	SBN	6			EDT7135
0252	6507	NZB	7			EDT7136
0253	5425	ADD	COMSWC		OTHERWISE TEST COMSWC	EDT7137
0254	6110	NZF	REDUPL		FOR END OF EDIT	EDT7138
0255	0501	LCN	1		IF COMSWC = -1 GO BACK	EDT7139
0256	4026	STD	INSWTC		AND EDIT COMMENTS RECORD	EDT7140
0257	2200	LDC	LAST			EDT7141
0260	2232					
0261	4030	STD	INLOCC			EDT7142
0262	7101	JFI	1			EDT7143
0263	0133		EDIT			EDT7144
0264	0401	REDUPL	LDN	1		EDT7145
0265	7100	JPR	DUPFIL			EDT7146
0266	0647					
0267	7500	EXC	5011		OTHERWISE SELECTIVE STOP FOR POSSIBLE	EDT7147
0270	5011					
0271	7100	JPR	WAITR		CHANGE OF TAPE 1	EDT7148
0272	2207					
0273	7500	EXC	5005		REWIND 1	EDT7149
0274	5005					
0275	7100	JPR	WAITR			EDT7150
0276	2207					
0277	7500	EXC	5021			EDT715
0300	5021					
0301	7100	JPR	WAITR			EDT7152
0302	2207					
0303	7500	EXC	5005		REWIND 2	EDT7153
0304	5005					

305	7100	JPR	WAITR		EDT71549
306	2207				:
307	7707	SLS7			EDT7155:
30	0402	LDN	2	2=DUPLICATE A FILE FROM	EDT7156:
311	7100	JPR	DUPFIL	TAPE 2 TO TAPE 1	EDT7157A
312	0647				:
313	0402	LDN	2		EDT7158:
314	7100	JPR	DUPREC	DUPLICATE FILE 2 RECORD 1	EDT7159:
315	0705				:
316	7100	JPR	LIBOUT	OUTPUT LIBRARY FUNCTION TABLES	EDT7160A
317	1464				:
320	0505	LDN	5		EDT7161A
321	4035	STD	TEMP1		EDT7162:
322	0402	DUPLUP	LDN	2	EDT7163:
323	7100	JPR	DUPFIL	FINISH DUPLICATION OF TAPE	EDT7164A
324	0647				:
325	5435	ADD	TEMP1		EDT7165A
326	6504	NZE	DUPLUP		EDT7166A
327	7500	EXC	5011	REWIND TAPES	EDT7167:
330	5011				:
331	7100	JPR	WAITR		EDT7168:
332	2207				:
333	7500	EXC	5005		EDT7169:
334	5005				:
335	7100	JPR	WAITR		EDT7170:
336	2207				:
337	7500	EXC	5021		EDT7171A
340	5021				:
341	7100	JPR	WAITR		EDT7172:
342	2207				:
343	7500	EXC	5005		EDT7173:
344	5005				:
345	7100	JPR	WAITR		EDT7174:
346	2207				:
347	7770	SLJ7	LIST		EDT7175A
350	1754				:
351	7700	HLT		NORMAL HALT	EDT7176:
		REM		SUBROUTINE TO LOAD AND CONVERT	EDT7177:
				EDIT INSTRUCTIONS (PAPER TAPE)	EDT7178:
352	7101	JFI	1		EDT7179:
353	0000	READIN			EDT71800
354	0457	LDN	57	LOWER CASE INITIALIZATION	EDT7181:
355	4031	STD	CASCOD		EDT7182:
356	7100	BEGLIN	JPR	GET A CHARACTER	EDT7183:
357	0506				:
360	6402	ZJB	2	D=FAB	EDT7184A
361	0777	SBN	77	77=CARRIAGE RETURN	EDT7185:
362	6404	ZJB	BEGLIN		EDT7186:
363	0613	ADN	13		EDT7187:
364	6013	ZJF	PUTWAY	D=0	EDT7188A
365	0705	SBN	5		EDT7189:
366	6103	NZF	3		EDT71900
367	0401	LDN	1		EDT7191:
370	6107	NZF	PUTWAY	I=1	EDT7192:
71	0620	ADN	20		EDT7193A
372	6004	ZJF	4		EDT7194:
373	0620	ADN	20	TEST FOR Z=END OF INPUT	EDT7195:
374	6622	ZJB	READIN -1	1	EDT7196:
375	0000	ERR		LINE BEGINS NON D,I,OR R	EDT7197A
376	0402	LDN	2	R=2	EDT7198:

00552

0377	0111	PUTWAY	LS6				EDT7199.
0400	4117		STI	ENDINS			EDT7200
0401	7100		JPR	CRCTER			EDT7201
0402	0506						
0403	0707		SBN	7			EDT7202
0404	6302		NJF	2			EDT7203
0405	0000		ERR		TEST FILE TOO LARGE		EDT7204
0406	0607		ADN	7			EDT7205
0407	5117		RAI	ENDINS	INSERT FILE		EDT7206
0410	5417		ADD	ENDINS			EDT7207
0411	7100		JPR	CRCTER	SHOULD BE ZERO(TAB)		EDT7208
0412	0506						
0413	4117		STI	ENDINS			EDT7209
0414	6003		ZJF	DECOCT			EDT7210
0415	0000		ERR		NOT A TAB-CLEAR A-REGISTER		EDT7211
0416	6405		ZJB	5	TO TRY AGAIN		EDT7212
0417	7100	DECOCT	JPR	CRCTER	CONVERT DECIMAL RECORD		EDT7213
0420	0506						
0421	6015		ZJF	COMENT	NUMBER TO OCTAL		EDT7214
0422	0777		SBN	77	TEST FOR NO COMMENT		EDT7215
0423	6044		ZJF	BLANKC	IF CARRIAGE RETURN NO COMMENTS		EDT7216
0424	0665		ADN	65			EDT7217
0425	6002		ZJF	2	TEST BCD ZERO		EDT7218
0426	0612		ADN	12			EDT7219
0427	4035		STD	TEMP1			EDT7220
0430	2117		LDI	ENDINS	10*(OLD)+NEW		EDT7221
0431	0112		MUT				EDT7222
0432	3035		ADD	TEMP1			EDT7223
0433	4117		STI	ENDINS			EDT7224
0434	6515		NZB	DECOCT			EDT7225
0435	6416		ZJB	DECOCT			EDT7226
0436	5417	COMENT	ADD	ENDINS			EDT7227
0437	7100		JPR	CRCTER			EDT7228
0440	0506						
0441	0777		SBN	77			EDT7229
0442	6020		ZJF	INSEND			EDT7230
0443	0677		ADN	77			EDT7231
0444	0111		LS6				EDT7232
0445	4117		STI	ENDINS			EDT7233
0446	7100		JPR	CRCTER			EDT7234
0447	0506						
0450	0777		SBN	77			EDT7235
0451	6104		NZF	4			EDT7236
0452	0420		LDN	20			EDT7237
0453	7617		HBI	ENDINS			EDT7238
0454	6105		NZF	INSEND -1			EDT7239
0455	0677		ADN	77	COUNTER INSERT END		EDT7240
0456	7617		HBI	ENDINS			EDT7241
0457	6521		NZB	COMENT			EDT7242
0460	6422		ZJB	COMENT			EDT7243
0461	5417		ADD	ENDINS			EDT7244
0462	0477	INSEND	LDN	77			EDT7245
0463	4117		STI	ENDINS			EDT7246
0464	5417		ADD	ENDINS			EDT7247
0465	7101		JFI	1			EDT7248
0466	0356			BEGLIN			EDT7249
0467	2200	BLANKC	LDF	0	INSERT BLANK COMMENT		EDT7250
0470	2207		LDF	TABLE1 -3			EDT7251
0471	4202		STF	BLANKR +1			EDT7252
0472	5417	BLANKR	ADD	ENDINS			EDT7253



473	2207	LDF	TABLE1			EDT72540
474	4117	STI	ENDINS			EDT72550
475	5702	AOB	2			EDT72560
476	3600	SBF	0			EDT72570
477	2212	LDF	TABLE1 +7			EDT72580
480	6417	ZJR	INSEND -1			EDT72590
501	6507	NZR	BLANKR			EDT72600
502	6243	TABLE1	BCD	6	BLANK	EDT72610
503	6145					
504	4220					
505	7101	JFI	1			EDT72620
506	0000	CRCTER			BRING IN ONE CHARACTER AND	EDT72630
507	7500	EXC	4102		CONVERT TO BCD, TAB=0	EDT72640
510	4102					
511	7600	INA			CR=77	EDT72650
512	6401	ZJR	1			EDT72660
513	0777	SBN	77		SUPPRESS BLANK FRAMES	EDT72670
514	6403	ZJR	3		AND DELETE CODES	EDT72680
515	0626	ADN	26			EDT72690
516	6411	ZJR	CRCTER -1		EXIT ZERO FOR TAB	EDT72700
517	0604	ADN	4			EDT72710
520	6103	NZF	3			EDT72720
521	0477	LDM	77		EXIT 77 FOR CR	EDT72730
522	6515	NZR	CRCTER -1			EDT72740
523	0702	SBN	2			EDT72750
524	6103	NZF	3			EDT72760
525	4031	STD	CASCOD		IF CASE CODE, RECORD AND	EDT72770
526	6415	ZJR	CRCTER +3		READ NEXT FRAME	EDT72780
527	0710	SBN	10			EDT72790
530	6104	NZF	4			EDT72800
531	0457	LDM	57		LOWER CASE	EDT72810
532	4031	STD	CASCOD			EDT72820
533	6522	NZR	CRCTER +3			EDT72830
534	3200	ADC	TABLE2 +56			EDT72840
535	0630					
536	4202	STF	2			EDT72850
537	2100	LDM	TABLE2			EDT72860
540	0552					
541	4046	STD	TEMP7		TEST UPPER OR LOWER 6 BITS	EDT72870
542	2031	LDD	CASCOD			EDT72880
543	6104	NZF	LOWER			EDT72890
544	2043	LDD	TEMP7			EDT72900
545	0111	LS6				EDT72910
546	6102	NZF	2			EDT72920
547	2043	LOWER	LDD	TEMP7		EDT72930
550	0277	LPN	77			EDT72940
551	6544	NZR	CRCTER -1			EDT72950
552	2323	TABLE2	BCD	200	TT 00 HHNNMM LLRR	EDT72960
553	2020					
554	4646					
555	2020					
556	7070					
557	4545					
560	4444					
561	2020					
562	4343					
563	5151					
564	6767	BCD	220		GGIIPPCVVEEZZDDBBSSYY	EDT72970
565	7171					
566	4747					

00554

0567 6666  
0570 2525  
0571 6565  
0572 8181  
0573 6464  
0574 6262  
0575 2222  
0576 3030  
0577 6666  
0600 2727  
0601 6161  
0602 2626  
0603 4141  
0604 1010  
0605 2424  
0606 5050  
0607 4242  
0610 1111  
0611 2020  
0612 2020  
0613 1373  
0614 2020  
0615 5421  
0616 2020  
0617 6033  
0620 2020  
0621 2020  
0622 2020  
0623 4040  
0624 2020  
0625 3474  
0626 2020  
0627 1212  
0630 2020  
0631 0707  
0632 2020  
0633 0404  
0634 2020  
0635 0303  
0636 2020  
0637 0505  
0640 2020  
0641 0202  
0642 2020  
0643 0606  
0644 2020  
0645 0101  
0646 7101  
0647 0000  
0650 4032  
0651 7100  
0652 0705  
0653 6303  
0654 2032  
0655 6504  
0656 2025  
0657 6022  
0660 2032  
0661 0701  
0662 6102

BCD 200

FFKXAAWJJ88U0QKK99

EDT7298

BCD 240

= . \* / + , ---

EDT7299

BCD 340

( ) 00 77 44 33 55 22 66 11

EDT7300

DUPFIL

JFI 1

DUPLICATE ONE FILE  
TAPENO TELLS WHICH TAPE  
TO READ

EDT7301

EDT7302

EDT7303

EDT7304

STD TAPENO  
JPR DUPREC

FILMRK LDD COMSWC  
ZJF PSEOF  
LDD TAPENO  
SBN 1  
NZF 2

TEST COMSWC

EDT7305

EDT7306

EDT7307

EDT7308

EDT7309

EDT7310

EDT7311

EDT7312

663	0402	LDM	2		EDT7313A
664	0110	LS3			EDT7314:
665	1600	LSC	6001.		EDT7315:
666	6001				!
667	4202	STF	2		EDT7316:
670	7500	EXF	0		EDT7317A
671	0000		0		EDT7318A
672	7100	JPR	WAITW		EDT7319:
673	2221				:
674	7500	EXC	6003		EDT7320A
675	6003				
676	7100	JPR	WAITW		EDT73210
677	2221				:
6700	6432	ZJR	DUPFIL -1		EDT7322:
6701	7100	PSEOF JPR	WRITE	PSEUDO END OF FILE	EDT7323:
6702	1105				!
6703	6435	ZJR	DUPFIL -1		EDT7324A
6704	7101	JFI	1		EDT7325A
6705	0000	DUPREC			EDT7326:
6706	4032	STD	TAPEND		EDT7327A
6707	0501	LCN	1	SET SWITCH TO MOVE	EDT7328:
6710	4027	STD	BINSWC	FIRST BINARY CARD TO CALTBL.	EDT7329A
6711	7100	READRC JPR	READ		EDT7330:
6712	1035				
6713	4300	STS			EDT7331A
6714	5422	AOD	RECORD		EDT7332:
6715	2300	LDS			EDT7333A
6716	6712	NJR	DUPREC -1	EXIT ON END OF FILE	EDT7334:
6717	2025	LDD	COMSWC	IF THIS IS FILE6, TEST FOR A	EDT7335:
6720	6036	ZJF	TESTFL	SYMBOLIC END OF FILE	EDT7336:
6721	2021	LDD	FILE		EDT7337A
6722	0302	LSN	2	TEST FOR FILE 2, RECORD 2,3, OR 4	EDT7338:
6723	6106	NZF	WRTREC		EDT7339:
6724	2022	LDD	RECORD		EDT7340A
6725	0700	SBN	6		EDT7341:
6726	6203	PJF	WRTREC		EDT7342:
6727	0604	ADN	4		EDT7343:
6730	6524	NZR	DUPREC -1	EXIT	EDT7344:
6731	7100	WRTREC JPR	WRITE	WRITE A RECORD	EDT7345:
6732	1105				!
6733	2025	LDD	COMSWC		EDT73460
6734	6430	ZJR	DUPREC -1	IF COMMENTS RECORD, EXIT	EDT7347A
6735	2021	LDD	FILE		EDT7348A
6736	0304	LSN	4	LEAVE A-REGISTER POSITIVE	EDT7349:
6737	6533	NZR	DUPREC -1	BY DOING A LOGICAL SUM	EDT7350:
6740	0041	SDC1		CHANGE DIRECT BANK TO 1-	EDT7351:
6741	2000	LDD	0	CHECK FIRST WORD FOR ZERO	EDT73520
6742	0040	SDC0		LENGTH RECORD	EDT7353:
6743	1200	LPC	1770	EXIT IF TRANSFER CARD	EDT7354A
6744	1770				!
6745	6441	ZJB	DUPREC -1		EDT7355:
6746	0501	LCN	1		EDT7356A
6747	5022	RAD	RECORD		EDT7357:
6750	5427	AOD	BINSWC	IF BINSWC IS NOT -1, THIS	EDT7358:
6751	6540	NZR	READRC	IS NOT THE FIRST RECORD	EDT73590
6752	7100	JPR	CALLTB	MAKE ENTRY IN LIBRARY FUNCTION TABLES	EDT7360:
6753	0775				!
6754	6443	ZJR	READRC		EDT7361:
6755	6544	NZR	READRC		EDT7362A
6756	0041	TESTFL SDC1			EDT7363:

0757	2000	LDD	0		EDT7364
0760	1600	LSF	0		EDT7365
0761	6671	BCD	2	FI	EDT7366
0762	6104	NZF	4		EDT7367
0763	2001	LDD	1		EDT7368
0764	1600	LSF	0		EDT7369
0765	4365	BCD	2	LE	EDT7370
0766	0040	SDCC			EDT7371
0767	6536	NZB	WRTREC		EDT7372
0770	0501	LCN	1		EDT7373
0771	6765	NJR	DUPREC -1		EDT7374
		REM		SUBROUTINE TO PRODUCE CALTBL AND	EDT7375
		REM		TABLES OF LENGTHS AND BCD IDENTIFIERS	EDT7376
0772	7101	JFI	1		EDT7377
0773	0000	CALLTB			EDT7378
0774	0641	SDC1		SET DIRECT BANK TO 1	EDT7379
0775	2200	LDC	-257D	SET ADDRESS IN LENGTH TABLE	EDT7380
0776	7376				
0777	5015	RAD	TRNLOC		EDT7381
1000	2014	LDD	LONG		EDT7382
1001	4115	STI	TRNLOC	MOVE LENGTH TO TABLE	EDT7383
1002	2704	LCB	4		EDT7384
1003	5015	RAD	TRNLOC		EDT7385
1004	0102	LS1		SET TRNLOC TO B* TRNLOC +	EDT7386
1005	3200	ADC	-195D	BEGINNING OF ID TABLE-3	EDT7387
1006	7474				
1007	5015	RAD	TRNLOC		EDT7388
1010	2011	LDD	LABEL	MOVE	EDT7389
1011	4115	STI	TRNLOC	LABEL	EDT7390
1012	5415	ADD	TRNLOC	INFO	EDT7391
1013	2012	LDD	LABEL +1	TABLE	EDT7392
1014	4115	STI	TRNLOC	OF	EDT7393
1015	5415	ADD	TRNLOC	BCD	EDT7394
1016	2013	LDD	LABEL +2	IDENTIFIERS	EDT7395
1017	4115	STI	TRNLOC		EDT7396
1020	0040	SDCC			EDT7397
1021	0416	LDN	CALINF	INITIALIZE CALLING INFORMATION	EDT7398
1022	4035	STD	TEMP1		EDT7399
1023	0021	MOVCAL	SIC1	INDIRECT OF ONE	EDT7400
1024	2135	LDI	TEMP1		EDT7401
1025	0020	SIC0		INDIRECT TO ZERO	EDT7402
1026	4120	STI	CALEND		EDT7403
1027	0600	ADN	0	-0 SIGNIFIES END OF	EDT7404
1030	6436	ZJR	CALLTB -1	CALLING INFORMATION	EDT7405
1031	5420	ADD	CALEND		EDT7406
1032	5435	ADD	TEMP1		EDT7407
1033	6510	NZB	MOVCAL		EDT7408
		REM		READ A RECORD FROM TAPE	EDT7409
		REM		NUMBER C(TAPEND) AND SET	EDT7410
		REM		OUTPUT PARAMETERS	EDT7411
1034	7101	JFI	1		EDT7412
1035	0000	READ			EDT7413
1036	2032	LDD	TAPEND		EDT7414
1037	0110	LS3			EDT7415
1040	1600	LSC	5001		EDT7416
1041	5001				
1042	4202	STF	RDSELC	CREATE SELECT CODE	EDT7417
1043	7500	EXF	0		EDT7418
1044	0000	RDSELC			EDT7419
1045	7100	JPR	WAITR		EDT7420

1046	2207								
1047	7500	EXC	5001	READ					EDT7421:
050	5001								
051	0021	SIC1		READ INTO BANK1					EDT7422:
1052	7274	INP	ZERO						EDT7423:
053	0000								EDT7424:
1054	0020	SIC0							EDT7425:
1055	0701	SBN	1	INITIALIZE WRITE OUTPUT					EDT7426:
056	4250	STF	WRITEL	PARAMETERS TO A=1					EDT7427:
1057	7100	JPR	WAITR						EDT7428:
1060	2207								
061	7704	SLS4							EDT7429:
1062	2045	LDD	STATCO	PICKUP STATUS					EDT7430:
1063	0250	LPN	50						EDT7431:
064	6102	NZF	2						EDT7432:
1065	6431	ZJB	READ	-1					EDT7433:
1066	0210	LPN	10						EDT7434:
067	6003	ZJF	3						EDT7435:
1070	0501	LCN	1						EDT7436:
1071	6735	NJB	READ	-1	EXIT NEGATIVE ON END OF FILE				EDT7437:
072	7500	EXC	5006	BACKSPACE					EDT7438:
1073	5006								
1074	7100	JPR	WAITR						EDT7439:
075	2207								
1076	4600	SRC	4444						EDT7440:
1077	4444								
100	6635	PJB	RDSELC	-1					EDT7441:
1081	0000	ERR			THREE READ PARITY ERRORS				EDT7442:
102	6437	ZJB	RDSELC	-1	ZERO A REGISTER TO TRY AGAIN				EDT7443:
103	7700	HLT							EDT7444:
1104	7101	JFI	1						EDT7445:
1105	0000								EDT7446:
106	2032	LDD	TAPEND		IF TAPEND=1, WRITE TAPE 2				EDT7447:
1107	0701	SBN	1						EDT7448:
1110	6102	NZF	2		IF TAPEND = 2, WRITE TAPE 1				EDT7449:
111	0402	LDN	2						EDT7450:
1112	0110	LS3							EDT7451:
1113	3200	ADC	6001						EDT7452:
114	6001								
1115	4202	STF	WRTSEL		CREATE SELECT CODE				EDT7453:
1116	7500	EXF	0						EDT7454:
117	0000				WRITE SELECT				EDT7455:
1120	7100	JPR	WAITW						EDT7456:
1121	2221								
122	7500	EXC	6001						EDT7457:
1123	6001								
1124	0021	SIC1							EDT7458:
125	7321	OUT	ZERO	OUTPUT LAST RECORD READ					EDT7459:
1126	0000								EDT7460:
1127	7100	JPR	WAITW						EDT7461:
130	2221								
1131	0020	SIC0							EDT7462:
1132	2045	LDD	STATCO	LOAD STATUS RESPONSE					EDT7463:
133	0220	LPN	20						EDT7464:
134	6102	NZF	2						EDT7465:
1135	6431	ZJB	WRITE	-1					EDT7466:
136	7500	EXC	6006	OTHERWISE BACKSPACE ONE RECORD					EDT7467:
1137	6006								
1140	4600	SRC	4444						EDT7468:
141	4444								

1142	6624		PJB	WRTSEL	-1		EDT7469
1143	0000		ERR			THREE WRITE PARITY ERRORS	EDT7470
1144	6426		ZJB	WRTSEL	-1	ZERO A REGISTER TO TRY AGAIN	EDT7471
1145	7700		HLT				EDT7472
1146	0000	ZERO					EDT7473
1147	7101		JFI		1		EDT7474
1150	0000	SAVE				ROUTINE TO SAVE FILE MARKS	EDT7475
1151	7500		EXC		5011		EDT7476
1152	5011						
1153	7100		JPR	WAITR			EDT7477
1154	2207						
1155	7500		EXC		5006	BACKSPACE ONE RECORD	EDT7478
1156	5006						
1157	7100		JPR	WAITR			EDT7479
1160	2207						
1161	6412		ZJB	SAVE	-1		EDT7480
			REN			OPERATION CODE SUBROUTINES	EDT7481
1162	5426	DELETE	ADD	INSWTC		DELETE ONE RECORD	EDT7482
1163	6002		ZJF		2		EDT7483
1164	0000		ERR			RECORD DELETED TWICE	EDT7484
1165	7100		JPR	PASS		PASS OVER ONE RECORD	EDT7485
1166	1256						
1167	6057		ZJF	EXITOP			EDT7486
1170	6156		NZF	EXITOP			EDT7487
1171	5426	INSERT	ADD	INSWTC		TEST FOR FIRST INSERTION	EDT7488
1172	6111		NZF	RD+DUP			EDT7489
1173	0401		LDN		1	DUPLICATE ONE RECORD BEFORE	EDT7490
1174	7100		JPR	DUPREC		DOING ANY INSERTIONS AT A	EDT7491
1175	0705						
1176	6203		PJF		3	PARTICULAR POINT	EDT7492
1177	7100		JPR	SAVE		DONT LEAVE CURRENT FIELD	EDT7493
1200	1150						
1201	0501		LCN		1		EDT7494
1202	5022		RAD	RECORD			EDT7495
1203	2021	RD+DUP	LDD	FILE		READ A ROUTINE FROM PAPER	EDT7496
1204	0304		LSN		4	TAPE AND DUPLICATE IT	EDT7497
1205	6126		NZF	ONEREC			EDT7498
1206	2025		LDD	COMSWC			EDT7499
1207	6024		ZJF	ONEREC			EDT7500
1210	0501		LCN		1		EDT7501
1211	4027		STD	BINSWC		BINARY RECORD (FILE4)	EDT7502
1212	7100		JPR	DELAY		WAIT FOR PAPER TAPE	EDT7503
1213	1300						
1214	7100	BINLOP	JPR	RD1BIN		READ ONE BINARY RECORD FROM PAPER TAPE	EDT7504
1215	1345						
1216	7100		JPR	WRITE		COPY ON TAPE 2	EDT7505
1217	1105						
1220	5427		ADD	BINSWC			EDT7506
1221	6103		NZF		3		EDT7507
1222	7100		JPR	CALLTB		SAVE CALTEL ENTRIES	EDT7508
1223	0773						
1224	0041		SDC1				EDT7509
1225	2000		LDD		0	IS THIS AN END CARD	EDT7510
1226	0040		SDC0				EDT7511
1227	1200	LMASK	LPC		1770		EDT7512
1230	1770						
1231	6015		ZJF	EXITOP		IF SO, EXIT	EDT7513
1232	6516		NZF	BINLOP			EDT7514
1233	2025	ONEREC	LDD	COMSWC			EDT7515
1234	6104		NZF		4	COMSWC0 MEANS RECORD TO	EDT7516

1235	7100	JPR	LABLIN	BE COPIED IS COMMENTS FIELD	EDT7517:
1236	1317				
1237	6105	NZF	5		EDT7518:
1240	7100	JPR	DELAY	RECORD AFTER WAITING FOR	EDT7519:
1241	1306				
1242	7100	JPR	RDBINR	PAPER TAPE	EDT7520:
1243	1555				
1244	7100	JPR	WRITE		EDT7521:
1245	1105				
1246	7101	EXITOP	JFI	1	EDT7522:
1247	0236			LINEND	EDT7523:
1250	5426	RPLACE	ADD	INSWTC	EDT7524:
1251	6546	NZB		RD+DUP	EDT7525:
1252	7100	JPR		PASS	EDT7526:
1253	1256				
1254	6451	ZJB		RD+DUP	EDT7527:
1255	7101	JFI		1	EDT7528:
1256	0000	PASS		PASS ONE RECORD	EDT7529:
1257	0401	LDN		1	EDT7530:
1260	4032	STD		TAPENO	EDT7531:
1261	7100	PASSRD	JPR	READ	EDT7532:
1262	1035				
1263	6205	PJF		5	EDT7533:
1264	7100	JPR		SAVE	EDT7534:
1265	1150				
1266	0400	LDN		0	EDT7535:
1267	6412	ZJB		PASS -1	EDT7536:
1270	2025	LDD		COMSWC	EDT7537:
1271	6414	ZJB		PASS -1	EDT7538:
1272	2021	LDD		FILE	EDT7539:
1273	0304	LSN		4	EDT7540:
1274	6003	ZJF		3	EDT7541:
1275	0400	LDN		0	EDT7542:
1276	6421	ZJB		PASS -1	EDT7543:
1277	0041	SDC1			EDT7544:
1300	2000	LDD		0	EDT7545:
1301	0040	SDC0			EDT7546:
1302	1352	LPB		LMASK +1	EDT7547:
1303	6426	ZJB		PASS -1	EDT7548:
1304	6523	NZB		PASSRD	EDT7549:
1305	7101	JFI		1	EDT7550:
1306	0000	DELAY			EDT7551:
1307	2021	LDD		FILE	EDT7552:
1310	0111	LS6			EDT7553:
1311	0110	LS3			EDT7554:
1312	3022	ADD		RECORD	EDT7555:
1313	7700	HLT			EDT7556:
1314	6507	NZB		DELAY -1	EDT7557:
1315	6410	ZJB		DELAY -1	EDT7558:
		REM			EDT7559:
		REM			EDT7560:
1316	7101	JFI		1	EDT7561:
1317	0000	LABLIN			EDT7562:
1320	0400	LDN		0	EDT7563:
1321	4035	STD		TEMP1	EDT7564:
1322	2130	LDI		INLUCC	EDT7565:
1323	0577	LSN		77	EDT7566:
1324	6010	ZJF		ENDCOM	EDT7567:
1325	0377	LSN		77	EDT7568:
1326	0021	SIC1			EDT7569:

1327	4135	STI	TEMP1		EDT7570
1330	0020	SIC0			EDT7571
1331	5435	ADD	TEMP1		EDT7572
1332	5430	ADD	INLOCC		EDT7573
1333	6511	NZ9	LABLIN +3		EDT7574
1334	2035	ENDCOM	LDD	TEMP1	EDT7575
1335	4100	STM	WRITEL	SET WRITE PARAMETER	EDT7576
1336	1126				:
1337	6521	NZ9	LABLIN -1		EDT7577
		REM		SUBROUTINE TO READ ONE OSAP=A	EDT7578
		REM		BINARY RECORD WITH CONTROL WORDS	EDT7579
1340	0020	SETWRT	SIC0		EDT7580
1341	2035	LDD	TEMP1		EDT7581
1342	4100	STM	WRITEL		EDT7582
1343	1126				:
1344	7101	JFI	1		EDT7583
1345	0000	RD1BIN			EDT7584
1346	7500	EXC	4102	SELECT READER	EDT7585
1347	4102				:
1350	0400	LDN	0	BEGIN STORING RECORD IN	EDT7586
1351	4035	STD	TEMP1	LOCATION 00, BANK 1	EDT7587
1352	7600	INCARD	INA		EDT7588
1353	6401	ZJB	1	PASS OVER LEADER	EDT7589
1354	0111	NEWCRD	LS6		EDT7590
1355	0021	SIC1			EDT7591
1356	4135	STI	TEMP1	TEST TO SEE THAT THE FIRST	EDT7592
1357	0201	LPN	1	WORD HAS A 7TH-LEVEL PUNCH	EDT7593
1360	6102	NZF	2		EDT7594
1361	0000	ERR		LENGTH ERROR	EDT7595
1362	7600	INA			EDT7596
1363	7635	HWI	TEMP1	STORE FIRST WORD	EDT7597
1364	2135	LDI	TEMP1		EDT7598
1365	4037	STD	TEMP3	TEMP3 HAS CHECKSUM	EDT7599
1366	0111	LS6			EDT7600
1367	0110	LS3		TEMP4 HAS IGNORE CHECKSUM	EDT7601
1370	4040	STD	TEMP4	BIT ONE POSITION FROM THE LEFT	EDT7602
1371	1200	LPC	177		EDT7603
1372	0177				:
1373	0606	ADN	6	LENGTH +6 IS THE NUMBER	EDT7604
1374	1600	MINZER	LSC	OF WORDS TO READ	EDT7605
1375	7777				:
1376	4041	STD	TEMP5	-THIS NUMBER IN TEMP5	EDT7606
1377	5435	ADD	TEMP1	INCREASE LOCATOR	EDT7607
1400	7600	INA			EDT7608
1401	0111	LS6			EDT7609
1402	4135	STI	TEMP1		EDT7610
1403	7600	INA			EDT7611
1404	7635	HWI	TEMP1		EDT7612
1405	2135	LDI	TEMP1		EDT7613
1406	5037	RAD	TEMP3		EDT7614
1407	5435	ADD	TEMP1		EDT7615
1410	7600	INA		BRING IN CHECKSUM AND	EDT7616
1411	0111	LS6		COMPLEMENT, THEN ADD TO	EDT7617
1412	4135	STI	TEMP1	TEMP3	EDT7618
1413	7600	INA			EDT7619
1414	7635	HWI	TEMP1		EDT7620
1415	2135	LDI	TEMP1		EDT7621
1416	1721	LSB	MINZER +1		EDT7622
1417	5037	RAD	TEMP3		EDT7623
1420	5435	ADD	TEMP1		EDT7624

00561



1421	2041	LDD	TEMP5			EDT7625:
1422	2605	ADM	5			EDT7626:
23	6013	ZJF	CHKSUM			EDT7627:
24	7600	INLOOP	INA		READ THE REST OF THE RECORD	EDT7628:
1425	0111	LS6				EDT7629:
126	4135	STI	TEMP1			EDT7630:
1427	7600	INA				EDT7631:
1430	7635	HWI	TEMP1			EDT7632:
131	2135	LDI	TEMP1			EDT7633:
1432	5037	RAD	TEMP3			EDT7634:
1433	5435	AOD	TEMP1			EDT7635:
34	5441	AOD	TEMP5			EDT7636:
1435	6511	NZB	INLOOP			EDT7637:
1436	4440	CHKSUM	SRD	TEMP4		EDT7638:
137	6304	NJF	4		NEGATIVE = IGNORE CHECKSUM	EDT7639:
1440	2037	LDD	TEMP3			EDT7640:
1441	6002	ZJF	2			EDT7641:
142	0000	ERR				EDT7642:
1443	7101	JFI	1			EDT7643:
1444	1340		SETWRT			EDT7644:
		REM			SEARCH FOR BEGINNING OF NEXT	EDT7645:
1445	7101	JFI	1		LINE	EDT7646:
1446	0000	ALPHIN				EDT7647:
147	2130	LDI	INLOCC			EDT7648:
1450	0377	LSN	77		END OF INSTRUCTION SIGNALLED	EDT7649:
1451	6003	ZJF	3		BY A 77	EDT7650:
152	5430	AOD	INLOCC			EDT7651:
1453	6504	NZB	4			EDT7652:
54	5430	AOD	INLOCC			EDT7653:
155	1417	LSD	ENDINS			EDT7654:
1456	6003	ZJF	3		RETURN 0 IF NOT END OF	EDT7655:
1457	0400	LDN	0		INSTRUCTIONS	EDT7656:
160	6413	ZJB	ALPHIN -1			EDT7657:
1461	0501	LCN	1		RETURN NEGATIVE IF END OF	EDT7658:
1462	6715	NJB	ALPHIN -1		INSTRUCTIONS	EDT7659:
163	7101	JFI	1			EDT7660:
1464	0000	LIBOUT				EDT7661:
1465	2017	LDD	ENDINS		OUTPUT CALL TABLE	EDT7662:
166	4244	STF	CALBEG			EDT7663:
1467	2020	LDD	CALEND			EDT7664:
1470	0601	ADM	1			EDT7665:
171	4210	STF	CALAST			EDT7666:
1472	7500	EXC	6011			EDT7667:
1473	6011					EDT7668:
174	7100	JPR	WAITW			EDT7669:
1475	2221					EDT7670:
1476	7500	EXC	6001			EDT7671:
177	6001					EDT7672:
1500	7332	OUT	CALBEG			EDT7673:
1501	0000	CALAST				EDT7674:
102	7100	JPR	WAITW			EDT7675:
1503	2221					EDT7676:
1504	7100	JPR	PARITY			EDT7677:
05	1536					EDT7678:
106	5714	NJB	CALAST -7			EDT7679:
1507	7500	EXC	6001			EDT7680:
110	6001					EDT7681:
1511	7322	OUT	LENGBG		OUTPUT TABLE OF LENGTHS	EDT7682:
1512	7477		-192D			EDT7683:
113	7100	JPR	WAITW			EDT7684:

00562

1514	2221						
1515	7100	JPR	PARITY				EDT7679:
1516	1536						:
1517	6710	NJB	CALAST +6				EDT7680:
1520	7500	EXC	6001				EDT7681:
1521	6001						
1522	7312	OUT	LABEG	OUTPUT TABLE OF BCD LABELS			EDT7682:
1523	0000		0				EDT7683:
1524	7100	JPR	WAITW				EDT7684:
1525	2221						
1526	7100	JPR	PARITY				EDT7685:
1527	1536						:
1530	6645	PJB	LIBOUT -1				EDT7686:
1531	6711	NJB	11				EDT7687:
1532	0000	CALHEG					EDT7688:
1533	7377	LENGRG	-256D				EDT7689:
1534	7513	LABEG	-160D				EDT7690:
1535	7101	JFI	1				EDT7691:
1536	0000	PARITY					EDT7692:
1537	2045	LDD	STATCO	PICK UP STATUS			EDT7693:
1540	0220	LPN	20				EDT7694:
1541	6404	ZJS	PARITY -1				EDT7695:
1542	7500	EXC	6006	BACKSPACE 1			EDT7696:
1543	6006						:
1544	7100	JPR	WAITW				EDT7697:
1545	2221						:
1546	4600	SRC	3333				EDT7698:
1547	3333						
1550	6710	NJB	PARITY -1				EDT7699:
1551	0000	ERR		THREE PARITY ERRORS			EDT7700:
1552	0501	LCN	1				EDT7701:
1553	6710	NJB	PARITY -1				EDT7702:
		REM		SUBROUTINE TO LOAD AN ENTIRE ROUTINE			EDT7703:
		REM		IN OSAP-A BINARY FORMAT STARTING AT			EDT7704:
		REM		LOCATION 00 OF BANK 1			EDT7705:
1554	7101	JFI	1				EDT7706:
1555	0000	RDBINR					EDT7707:
1556	7500	EXC	4102				EDT7708:
1557	4102						:
1560	7500	INA		SEARCH FOR FIRST 7-LEVEL PUNCH			EDT7709:
1561	6401	ZJB	1				EDT7710:
1562	0111	LS6					EDT7711:
1563	0201	LPN	1				EDT7712:
1564	6103	NZF	3				EDT7713:
1565	0000	ERR		FIRST NON-BLANK FRAME DOES			EDT7714:
1566	6406	ZJB	RDBINR +3	NOT HAVE 7-LEVEL PUNCHED			EDT7715:
1567	7600	INA		RUN TO RESTART			EDT7716:
1570	7600	INA					EDT7717:
1571	0111	LS6					EDT7718:
1572	4035	STD	LODADD				EDT7719:
1573	7600	INA					EDT7720:
1574	1435	LSD	LODADD				EDT7721:
1575	4035	STD	LODADD				EDT7722:
1576	7600	SEARCH	INA	LOOK FOR FIRST CARD TO BE			EDT7723:
1577	0111	LS6		LOADED AT ADDRESS LODADD			EDT7724:
1600	4036	STD	WORD1				EDT7725:
1601	0201	LPN	1				EDT7726:
1602	6404	ZJB	SEARCH	NOT START OF NEW CARD IMAGE			EDT7727:
1603	1436	LSD	WORD1				EDT7728:
1604	4036	STD	WORD1				EDT7729:

1605	7600	INA				EDT7730:
1606	1436	LSD	WORD1			EDT7731:
07	4036	STD	WORD1			EDT7732:
010	7600	INA				EDT7733:
1611	0111	LS6				EDT7734:
612	4037	STD	CHKWRD	COMPARE FIRST ADDRESS TO		EDT7735:
1613	7600	INA		LODADD		EDT7736:
1614	1437	LSD	CHKWRD			EDT7737:
615	4037	STD	CHKWRD			EDT7738:
1616	1435	LSD	LODADD			EDT7739:
1617	6521	NZR	SEARCH			EDT7740:
620	4040	STD	STOADD	FOUND FIRST CARD, ZERO STOADD		EDT7741:
1621	2036	LDD	WORD1			EDT7742:
1622	5037	RAD	CHKWRD			EDT7743:
623	2036	LDD	WORD1			EDT7744:
1624	0111	LS6				EDT7745:
1625	0110	LS3		IGNORE HAS IGNORE CHECKSUM		EDT7746:
626	4041	STD	IGNORE	BIT ONE POSITION TO THE RIGHT		EDT7747:
1627	1200	LGMASK	LPC	177		EDT7748:
1630	0177					
631	1600	CPMASK	LSC	7777		EDT7749:
1632	7777					
1633	4042	STD	LENGTH	SET -(CARD LENGTH) IN LENGTH		EDT7750:
634	6144	NZF	CHEKIN			EDT7751:
1635	7600	NEUCRD	INA			EDT7752:
1636	0111	LS6				EDT7753:
637	4036	STD	WORD1			EDT7754:
1640	0201	LPN	1			EDT7755:
41	6102	NZF	2			EDT7756:
642	0000	ERR		LENGTH ERROR		EDT7757:
1643	1436	LSD	WORD1			EDT7758:
1644	4036	STD	WORD1			EDT7759:
645	7600	INA				EDT7760:
1646	1436	LSD	WORD1			EDT7761:
1647	4036	STD	WORD1			EDT7762:
650	4037	STD	CHKWRD			EDT7763:
1651	0111	LS6				EDT7764:
1652	0110	LS3		IGNORE HAS IGNORE CHECKSUM		EDT7765:
653	4041	STD	IGNORE	BIT ONE POSITION TO THE RIGHT		EDT7766:
1654	1324	LPR	LGMASK +1			EDT7767:
1655	6012	ZUF	TCRD	DO NOT COMPLEMENT-ZERO LENGTH		EDT7768:
656	1724	LSB	CPMASK +1			EDT7769:
1657	4042	STD	LENGTH			EDT7770:
1660	7600	INA				EDT7771:
661	0111	LS6				EDT7772:
1662	4040	STD	STOADD	BRING INITIAL ADDRESS		EDT7773:
1663	7600	INA		INTO STOADD		EDT7774:
664	1440	LSD	STOADD			EDT7775:
1665	4040	STD	STOADD			EDT7776:
1666	6107	NZF	CHEKIN -3			EDT7777:
667	7600	TCRD	INA			EDT7778:
1670	0111	LS6				EDT7779:
1671	5037	RAD	CHKWRD			EDT7780:
72	2035	LDD	LODADD			EDT7781:
673	5040	RAD	STOADD			EDT7782:
1674	7600	INA				EDT7783:
675	5037	RAD	CHKWRD	ADD TO CHKSUM		EDT7784:
1676	2435	LDD	LODADD			EDT7785:
1677	5040	RAD	STOADD	DECREMENT STOADD BY LODADD		EDT7786:
700	7600	CHEKIN	INA			EDT7787:

00564

1701	0111	LS6			EDT7788	
1702	4043	STD	ASSEMB		EDT7789	
1703	7600	INA			EDT7790	
1704	1443	LS6	ASSEMB		EDT7791	
1705	1753	LSR	OPMASK +1		EDT7792	
1706	5037	RAD	CHKWRD		EDT7793	
1707	2042	LDD	LENGTH		EDT7794	
1710	6116	NZF	INBITS		EDT7795	
1711	4436	SRD	WORD1	TEST FOR BANK CARD	EDT7796	
1712	6306	NJF	6		EDT7797	
1713	2040	LDD	STOADD	POSITIVE = END CARD	EDT7798	
1714	4100	STM	WRITEL	INITIALIZE OUTPUT PARAMETERS	EDT7799	
1715	1120					
1716	7101	JFI	1		EDT7800	
1717	1554		RDBINR -1	EXIT	EDT7801	
1720	4441	CHEKER	SRD	IGNORE	EDT7802	
1721	6764		NJB	NEUCRD	IGNORE CHKSUM	EDT7803
1722	2037		LDD	CHKWRD		EDT7804
1723	6466		ZJB	NEUCRD		EDT7805
1724	0000		ERR		CHECKSUM ERROR ZERO A-REGISTER	EDT7806
1725	6470		ZJB	NEUCRD	TO CONTINUE	EDT7807
1726	0500	INBITS	LCN	6		EDT7808
1727	4033		STD	COUNT		EDT7809
1730	7600		INA			EDT7810
1731	0111		LS6			EDT7811
1732	5037		RAD	CHKWRD		EDT7812
1733	7600		INA			EDT7813
1734	5037		RAD	CHKWRD		EDT7814
1735	5433		AOD	COUNT		EDT7815
1736	6506		NZB	INBITS +2		EDT7816
1737	7600	STOREM	INA		LOAD DATA WORDS	EDT7817
1740	0111		LS6		AND STORE IN BANK 1	EDT7818
1741	4043		STD	ASSEMB		EDT7819
1742	7600		INA			EDT7820
1743	1443		LS6	ASSEMB		EDT7821
1744	0021		SIC1			EDT7822
1745	4140		STI	STOADD		EDT7823
1746	0020		SIC0			EDT7824
1747	5037		RAD	CHKWRD		EDT7825
1750	5440		AOD	STOADD		EDT7826
1751	5442		AOD	LENGTH		EDT7827
1752	6432		ZJB	CHEKER		EDT7828
1753	6514		NZB	STOREM		EDT7829
1754	0505	LIST	LCN	5	LINE PRINTER LIST ROUTINE FOR FILE 6	EDT7830
1755	0140		SBU0			EDT7831
1756	0060		SIC0			EDT7832
1757	4035		STD	TEMP1		EDT7833
1760	7500		EXC	5021	SELECT UNIT 2	EDT7834
1761	5021					
1762	7100		JPR	WAITR		EDT7835
1763	2207					
1764	7500		EXC	5005		EDT7836
1765	5005					
1766	7100		JPR	WAITR		EDT7837
1767	2207					
1770	7500		EXC	5011	SELECT UNIT 1	EDT7838
1771	5011					
1772	7100		JPR	WAITR		EDT7839
1773	2207					
1774	7500		EXC	5005		EDT7840

00565

1775	5005							
1776	7100	JPR	WAITR					EDT7841:
777	2207							
800	7500	READFI	EXC	5001	SEARCH FORWARD TO FILE 6			EDT7842:
2001	5801							
2002	7212	INP	LISTLP	+1				EDT7843:
2003	0000			0				EDT7844:
2004	7100	JPR	WAITR					EDT7845:
2005	2207							
2006	2045	LDD	STATCO					EDT7846:
2007	0210	LPN	10		EOF			EDT7847:
2010	6410	ZJR	READFI		NO READ MORE			EDT7848:
2011	5435	ADD	TEMP1					EDT7849:
2012	6512	NZR	READFI					EDT7850:
2013	2200	LISTLP	LDC	5000	SET CONSTANTS TO BLANK			EDT7851:
2014	5000							
2015	0105	ATE			BUFFER AREA			EDT7852:
2016	0000							
2017	2216	LDF	BLKSTO	+11				EDT7853:
2020	0106	ATX						EDT7854:
2021	0000							
2022	2200	LDC	2020					EDT7855:
2023	2020							
2024	0100	BLKSTO	BLS	BLKSTO				EDT7856:
2025	2024							
2026	7500	EXC	5011					EDT7857:
2027	5011							
2030	7100	JPR	WAITR					EDT7858:
2031	2207							
2032	7500	EXC	5001					EDT7859:
2033	5001							
2034	7274	INP	BUFFAD		FOR PRINTER			EDT7860:
2035	5170		BUFFER	+1200				EDT7861:
2036	0701	SBN	1					EDT7862:
2037	4035	STD	TEMP1					EDT7863:
2040	7100	JPR	WAITR					EDT7864:
2041	2207							
2042	2200	LDC	2020					EDT7865:
2043	2020							
2044	4135	STI	TEMP1					EDT7866:
2045	2045	LDD	STATCO		PICK UP STATUS			EDT7867:
2046	0210	LPN	10					EDT7868:
2047	6006	ZJF	6					EDT7869:
2050	7500	EXC	5005					EDT7870:
2051	5005							
2052	7100	JPR	WAITR					EDT7871:
2053	2207							
2054	7700	HLT			REBIND AND HALT			EDT7872:
2055	2200	LDC	5300					EDT7873:
2056	5300							
2057	4044	STD	TEMP8					EDT7874:
2060	4226	STF	RELOAD	+1				EDT7875:
2061	2200	LDC	5000					EDT7876:
2062	5000							
2063	4204	STF	UNP	+1				EDT7877:
2064	4210	STF	UNP	+6				EDT7878:
2065	4226	STF	RELOAD	+3				EDT7879:
2066	2100	UNP	LDM	BUFFER	UNPACK BUFFER FOR 1612 PRINTER			EDT7880:
2067	5000							
2070	0111	LS6						EDT7881:

(0566)

2071	7644	HWI	TEMP8		EDT7882	
2072	5444	AOD	TEMP8		EDT7883	
2073	2100	LDM	BUFFER		EDT7884	
2074	5000					
2075	7644	HWI	TEMP8		EDT7885	
2076	5444	AOD	TEMP8		EDT7886	
2077	3600	SBC	5470		EDT7887	
2100	5470					
2101	6004	ZJF	RELOAD		EDT7888	
2102	5713	AOR	UNP	+1	EDT7889	
2103	5707	AOR	UNP	+6	EDT7890	
2104	6516	NZB	UNP		EDT7891	
2105	2100	RELOAD	LDM	5300	REPLACE UNPACKED DATA IN BUFFER	EDT7892
2106	5300					
2107	4100	STM	BUFFER		EDT7893	
2110	5000					
2111	5701	AOR	RELOAD	+3	EDT7894	
2112	5704	AOR	RELOAD	+1	EDT7895	
2113	3600	SBC	5470		EDT7896	
2114	5470					
2115	6510	NZB	RELOAD		EDT7897	
2116	7500	EXC	600	SELECT PRINTER	EDT7898	
2117	0600					
2120	7600	INA			EDT7899	
2121	6603	PJR	3		EDT7900	
2122	7306	OUT	BUFFAD		EDT7901	
2123	5170		BUFFER	+1200	EDT7902	
2124	7500	EXC	605		EDT7903	
2125	0605					
2126	7101	JFI	1		EDT7904	
2127	2013		LISTLP		EDT7905	
2130	5000	BUFFAD	BUFFER		EDT7906	
2131	0506	COPY	LDN	6	EDT7907	
2132	4034		STD	COPCNT	EDT7908	
2133	7500		EXC	5011	EDT7909	
2134	5011					
2135	7100	JPR	WAITR		EDT7910	
2136	2207					
2137	7500	EXC	5005		EDT7911	
2140	5005					
2141	7100	JPR	WAITR		EDT7912	
2142	2207					
2143	7500	EXC	5021		EDT7913	
2144	5021					
2145	7100	JPR	WAITR		EDT7914	
2146	2207					
2147	7500	EXC	5005		EDT7915	
2150	5005					
2151	7100	JPR	WAITR		EDT7916	
2152	2207					
2153	0401	COPLOP	LDN	1	EDT7917	
2154	4025		STD	COMSWC	EDT7918	
2155	4022		STD	RECORD	EDT7919	
2156	0406		LDN	6	EDT7920	
2157	4021		STD	FILE	EDT7921	
2160	0401		LDN	1	EDT7922	
2161	7100	JPR	DUPFIL		EDT7923	
2162	0647					
2163	5434	AOD	COPCNT		EDT7924	
2164	6511	NZB	COPLOP		EDT7925	

00567

2165	7500	EXC	5011		EDT7926:
2166	5011				EDT7927:
167	7100	JPR	WAITR		EDT7928:
170	2207				EDT7929:
2171	7500	EXC	5005		EDT7930:
2172	5005				EDT7931:
2173	7100	JPR	WAITR		EDT7932:
2174	2207				EDT7933:
2175	7500	EXC	5021		EDT7934:
2176	5021				EDT7935:
2177	7100	JPR	WAITR		EDT7936:
2200	2207				EDT7937:
2201	7500	EXC	5007		EDT7938:
2202	5007				EDT7939:
2203	7100	JPR	WAITR		EDT7940:
2204	2207				EDT7941:
2205	7700	HLT			EDT7942:
2206	7101	JFI	1		EDT7943:
2207	0000	WAITR		WAIT READY, READ	EDT7944:
2210	7500	EXC	6053	CHECK STATUS	EDT7945:
211	6053				EDT7946:
2212	7600	INA			EDT7947:
2213	4045	STD	STATCO		EDT7948:
214	1200	LPC	200		EDT7949:
2215	0200				EDT7950:
2216	6506	NZB	WAITR +1	NOT READY WAIT	EDT7951:
217	6411	ZJB	WAITR -1		EDT7952:
2220	7101	JFI	1		EDT7953:
221	0000	WAITW		WAIT READY, WRITE	EDT7954:
222	7500	EXC	6053	CHECK STATUS	EDT7955:
2223	6053				EDT7956:
2224	7600	INA			EDT7957:
225	4045	STD	STATCO		EDT7958:
2226	1200	LPC	100		EDT7959:
2227	0100				EDT7960:
230	6506	NZB	WAITW +1		EDT7961:
2231	6411	ZJB	WAITW -1		EDT7962:
2232	0000	LAST			EDT7963:
	0000	SUPB			EDT7964:
		END			EDT7965:

EDT7954  
EDT7955  
EDT7956  
EDT7957

COPY 1607  
COPY THE 160A FORTRAN SYSTEM TAPE WITH  
CHANGES IN THE I/O ASSIGNMENTS

COPY7000:  
COPY7001:  
COPY7002:  
COPY7003:  
COPY7004:  
COPY7005:  
COPY7006:  
COPY7007:  
COPY7008:  
COPY7009:  
COPY7010:  
COPY7011:  
COPY7012:  
COPY7013:  
COPY7014:  
COPY7015:  
COPY7016:  
COPY7017:  
COPY7018:  
COPY7019:  
COPY7020:  
COPY7021:  
COPY7022:  
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COPY7027:  
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COPY7031:  
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COPY7037:  
COPY7038:  
COPY7039:  
COPY7040:  
COPY7041:  
COPY7042:  
COPY7043:  
COPY7044:

0447	0447	REM	
0447	7101	REM	
0450	0000	REM	
0451	7700	ORG	447
0452	7101	JFI	1
0453	0447	JFI	0
	0466	HLT	HLT451
0466	7101	HLT	1
0467	0000	JFI	1
0470	7700	ORG	466
0471	7101	JFI	1
0472	0466	JFI	0
	0000	HLT	HLT470
0000	7101	HLT	1
0001	0015	JFI	1
0002	0000	CON	0
0003	0000	JFI	1
0004	0000		
0005	0000		
0006	0000		
0007	0000		
0010	0000		
0011	0000		
0012	0000		
	0015		
0015	0040	ORG	15
0016	0021	SDCO	
0017	4002	SIC1	
0020	0506	STD	SAVE
0021	4005	LCN	6
0022	7500	STD	EOFCNT
0023	5011	EXC	5011
0024	7100	JPR	WAITR
0025	0376		
0026	7500	EXC	5005
0027	5005		
0030	7100	JPR	WAITR
0031	0376		
0032	7500	EXC	5021
0033	5021		
0034	7100	JPR	WAITR
0035	0376		
0036	7500	EXC	5005
0037	5005		
0040	7100	JPR	WAITR
0041	0376		
0042	7100	JPR	READ1
0043	0233		
0044	2002	LDD	SAVE
0045	6005	ZJF	5
0046	3600	SBC	111
0047	0111		

HALT MUST BE AT 451

HALT MUST BE AT 470

START

SAVE A REG

REWIND TAPES

1ST RECORD

00569



0050	4100	STM	2557	CHANGE FLAG	COP7045:
0051	2557				
0052	7100	JPR	WRITE		COP7046:
0053	0327				
0054	7100	JPR	READ1	2ND RECORD	COP7047:
0055	0233				
0056	7100	JPR	WRITE		COP7048:
0057	0327				
0060	7100	JPR	READ1	PASS1PART1	COP7049:
0061	0233				
0062	0501	LCN	1	P SET SWITCH FOR LOADING LIBRARY	COP7050:
0063	4003	STD	LOADSW		COP7051:
0064	7710	SLJ1	SLJ1	JUMP SW 1 - CHANGE I/O TABLE	COP7052:
0065	0111				
0066	7720	SLJ2	SLJ2	JUMP SW 2 - CHANGE COMP I/O	COP7053:
0067	0212				
0070	7100	COPY	JPR	WRITE	COP7054:
0071	0327				
0072	7100	COPY1	JPR	READ1	COP7055:
0073	0233				
0074	2004	LDD	EOFLAG		COP7056:
0075	6405	ZJB	COPY	NO EOF	COP7057:
0076	7500	EXC	6021		COP7058:
0077	6021				
0100	7100	JPR	WAITW		COP7059:
0101	0410				
0102	7500	EXC	6003	EOF ON 2	COP7060:
0103	6003				
0104	7100	JPR	WAITW		COP7061:
0105	0410				
0106	5405	AOD	EOFCNT	BUMP EOFCNT	COP7062:
0107	6515	NZB	COPY1		COP7063:
0110	7700	HLT			COP7064:
0111	7100	MODI/O	JPR	HLT470	COP7065:
0112	0467				
0113	4007	STD	TEMP1		COP7066:
0114	0110	LS3		GET LEFT MOST 3 BITS	COP7067:
0115	0207	LPN	7		COP7068:
0116	4011	STD	TEMP2		COP7069:
0117	0307	SCN	7	BANK CHANGE	COP7070:
0120	6107	NZF	TSTLOD		COP7071:
0121	2007	LDD	TEMP1		COP7072:
0122	0207	LPN	7		COP7073:
0123	4100	STM	434	PUT IN BANK FLAG	COP7074:
0124	0434				
0125	7101	GOSLJ1	JFI	1	COP7075:
0126	0064		SLJ1	BACK AGAIN	COP7076:
0127	5403	TSTLOD	AOD	HAS TABLE BEEN LOADED	COP7077:
0130	6134	NZF	LOADED		COP7078:
0131	7500	EXC	5011		COP7079:
0132	5011				
0133	7100	JPR	WAITR		COP7080:
0134	0376				
0135	7500	EXC	5001	SKIP FILE	COP7081:
0136	5001				
0137	7223	INP	LOADED -2		COP7082:
0140	0000		0		COP7083:
0141	7100	JPR	WAITR		COP7084:
0142	0376				
0143	2012	LDD	TEMP3		COP7085:

00570

0144	0210		LPN	10	EOF		00P7086
0145	6410		ZJR	TSTLOD +6	NO, READ MORE		00P7087
0146	7100	PASADD	JPR	READ2			00P7088
0147	0244						
0150	4600		SRC	4210	4 RECORDS		00P7089
0151	4210						
0152	6604		PJB	PASADD			00P7090
0153	7500		EXC	5005	RESTORE TAPE		00P7091
0154	5005						
0155	7100		JPR	WAITR			00P7092
0156	0376						
0157	7100	SKIP3	JPR	READ3			00P7093
0160	0254						
0161	4600		SRC	4444	3 RECORDS		00P7094
0162	4444						
0163	6604		PJB	SKIP3			00P7095
0164	2011	LOADED	LDD	TEMP2			00P7096
0165	0102		LS1		GIVES I/O TABLE LOCATION		00P7097
0166	3200		ADC	407			00P7098
0167	0407						
0170	5011		RAD	TEMP2			00P7099
0171	2007		LDD	TEMP1			00P7100
0172	1200		LPC	777			00P7101
0173	0777						
0174	0704		SBN	4			00P7102
0175	4007		STD	TEMP1			00P7103
0176	0102		LS1				00P7104
0177	3200		ADC	1775	3*(NUM)+BEG OF ID TABLE -3		00P7105
0200	1775						
0201	5007		RAD	TEMP1	3 GIVES LOC OF LABEL		00P7106
0202	2107	LOOP	LDI	TEMP1			00P7107
0203	4111		STI	TEMP2			00P7108
0204	5407		ADD	TEMP1			00P7109
0205	4600		SRC	4444			00P7110
0206	4444						
0207	6762		NJB	GOSLJ1			00P7111
0210	5411		ADD	TEMP2			00P7112
0211	6507		NZS	LCOP			00P7113
0212	7100	MODCMP	JPR	HLT451	CHANGE IN COBP I/O		00P7114
0213	0450						
0214	4007		STD	TEMP1			00P7115
0215	0111		LS6				00P7116
0216	0277		LPN	77			00P7117
0217	6005		ZJF	LOWER			00P7118
0220	2007		LDD	TEMP1	IF CHANGE IN INPUT, REPLACE		00P7119
0221	4100		STM	435	ENTIRE WORD		00P7120
0222	0435						
0223	6105		NZF	GOCOPY			00P7121
0224	2302	LOWER	LDB	2	IF NO CHANGE IN INPUT		00P7122
0225	4011		STD	TEMP2	REPLAVE ONLY LOWER 6 BITS		00P7123
0226	2007		LDD	TEMP1			00P7124
0227	7611		HWI	TEMP2			00P7125
0230	7101	GOCOPY	JFI	1			00P7126
0231	0070			COPY			00P7127
0232	7101		JFI	1			00P7128
0233	0000	READ1			READ INTO 0000		00P7129
0234	0400		LDN	0			00P7130
0235	7100		JPR	READ			00P7131
0236	0264						
0237	2000		LDD	LAST			00P7132

00571



0334	7500		EXC	6001			COP7180
0335	6001						
0336	7336		OUT	ZERO			COP7181
0337	0000	LWA					COP7182
0340	7100		JPR	WAITW			COP7183
0341	0410						
0342	2012		LDD	TEMP3	PICK UP STATUS		COP7184
0343	0220		LPN	20			COP7185
0344	6416		ZJB	WRITE -1			COP7186
0345	4600	PARITY	SRC	4210	3 TIMES		COP7187
0346	4210						
0347	6305		MJF	WREOF			COP7188
0350	7520		EXF	BACKSP	BACK SPACE AND TRY AGAIN		COP7189
0351	7100		JPR	WAITW			COP7190
0352	0410						
0353	6423		ZJB	OUT			COP7191
0354	4600	WREOF	SRC	4210	3 TIMES		COP7192
0355	4210						
0356	6202		PJF	2			COP7193
0357	0000		ERR		NO CAN WRITE		COP7194
0360	7510		EXF	BACKSP			COP7195
0361	7100		JPR	WAITW			COP7196
0362	0410						
0363	7500		EXC	6003	TRY AN EOF TO SKIP TAPE		COP7197
0364	6003						
0365	7100		JPR	WAITW			COP7198
0366	0410						
0367	7500		EXF	0			COP7199
0370	6006	BACKSP		6006			COP7200
0371	7100		JPR	WAITW			COP7201
0372	0410						
0373	6443		ZJB	OUT			COP7202
0374	0000	ZERO					COP7203
0375	7100		JFI	1			COP7204
0376	0000	WAITR			READ WAIT READY		COP7205
0377	7500		EXC	6053			COP7206
0400	6053						
0401	7600		INA				COP7207
0402	4012		STD	TEMP3			COP7208
0403	1200		LPC	200			COP7209
0404	0200						
0405	6506		NZB	WAITR +1			COP7210
0406	6411		ZJB	WAITR -1			COP7211
0407	7100		JFI	1			COP7212
0410	0000	WAITW			WRITE, WAIT READY		COP7213
0411	7500		EXC	6053			COP7214
0412	6053						
0413	7600		INA				COP7215
0414	4012		STD	TEMP3	SAVE STATUS		COP7216
0415	1200		LPC	100			COP7217
0416	0100						
0417	6506		NZB	WAITW +1			COP7218
0420	6411		ZJB	WAITW -1			COP7219
			SUPB				
	0000		END				COP7220

REM  
 REM  
 REM  
 REM  
 REM  
 REM  
 REM  
 REM  
 REM  
 CON 0  
 JFI 1

GENERAL PURPOSE TAPE-TO-CARD (JS1)  
 VERIFY (JS2), CARD TO TAPE (JS3)  
 ROUTINE FOR USE WITH 160A  
 FORTRAN  
 CARDS ARE IN A BINARY FORMAT.  
 ENTER A REG WITH NOXY. N IS  
 NUMBER OF FILES, IF N=0, N IS  
 SET TO 6. X=0 FOR 163, OTHERWISE  
 1607. Y=0 FOR 167 OTHERWISE 088.  
 JMU-DGM 22 APR, 1963

CVT00001  
 CVT00012  
 CVT00021  
 CVT00038  
 CVT00048  
 CVT00051  
 CVT00061  
 CVT00071  
 CVT00081  
 CVT00091  
 CVT00101  
 CVT00118  
 CVT00121  
 CVT00138  
 CVT00141  
 CVT00158  
 CVT00161  
 CVT00171  
 CVT00181  
 CVT00191  
 CVT00208  
 CVT00211  
 CVT00221  
 CVT00238  
 CVT00241  
 CVT00258  
 CVT00261  
 CVT00278  
 CVT00281  
 CVT00291  
 CVT00308  
 CVT00311  
 CVT00321  
 CVT00331  
 CVT00341  
 CVT00351  
 CVT00361  
 CVT00378  
 CVT00381  
 CVT00398  
 CVT00401  
 CVT00411  
 CVT00428  
 CVT00431  
 CVT00441  
 CVT00451  
 CVT00461  
 CVT00471  
 CVT00488  
 CVT00491  
 CVT00508  
 CVT00518  
 CVT00528  
 CVT00538  
 CVT00541  
 CVT00551  
 CVT00568  
 CVT00571

0000 7102 BEGIN JFI 1 START  
 0001 0100  
 0002 0000 EOFONT  
 0003 0000 LASTWD  
 0004 0000 TCOUNT  
 0005 0177 XEOF 177  
 0006 0000 TEM1X  
 0007 0000 TEM2X  
 0010 0000 XCOUNT  
 0011 0000 XCHKSM  
 0012 0000 TEM3  
 0013 0000 TEM4  
 0014 0000 TEM5  
 0015 0000 TEM6  
 0016 0000 TEM7  
 0017 0000 0  
 0020 0000 0  
 0021 0000 0  
 0022 0000 CCOUNT 0  
 0023 0000 TEMP  
 0024 0000 WORD  
 0025 0000 COL  
 0026 0000 COUNT  
 0027 0000 NFILE  
 0030 0000 NCARD  
 0031 0000 NTAPE  
 0032 0000 88TEM1  
 0033 0000 88TEM2  
 0034 0000 88X  
 0035 0000 88K  
 0036 0104 K104 104  
 0037 0204 K204 204  
 0040 0300 K300 300  
 0041 0000 CHOLD  
 0042 0000 ENDFLG  
 0043 0000 4HOLD  
 0100 0100 ORG 100  
 100 0040 START SDC0  
 0101 0141 SBU1  
 0102 4027 STD NFILE  
 0103 0207 LPN 7  
 0104 4030 STD NCARD  
 0105 2027 LDD NFILE  
 0106 0270 LPN 70  
 0107 4031 STD NTAPE  
 0110 2027 LDD NFILE  
 111 0110 LS3

SAVE A REG:  
 READER FLAG  
 TAPE FLAG

00574

0112	0207	LPN	7			CVT0056
0113	6102	NZF	2			CVT0059
0114	0406	LDN	6	SET NFILE TO 6 IF ZERO		CVT0060
0115	4027	STD	NFILE			CVT0061
0116	2427	LCD	NFILE	N FILES		CVT0062
0117	4002	STD	EUFONT			CVT0063
0120	2200	LDC	FIRST	SET CHOLD TO FIRST IT WILL		CVT0064
0121	7657					
0122	4041	STD	CHOLD	BE CHANGED IN 405RD		CVT0065
0123	4043	STD	4HOLD			CVT0066
0124	0400	LDN	0			CVT0067
0125	4042	STD	ENDFLG			CVT0068
0126	0020	SIC0		SET UP CONSTANT AND JUMPS		CVT0069
0127	0410	LDN	10	FOR ALTERNATING BIT.		CVT0070
0130	4100	STM	SCCON			CVT0071
0131	0333					
0132	2200	LDF	0			CVT0072
0133	6104	NZF	4			CVT0073
0134	4100	STM	VJUMP			CVT0074
0135	1045					
0136	4100	STM	CJUMP			CVT0075
0137	1361					
0140	0021	SIC1		INDIRECT TO 1		CVT0076
0141	7710	JUMP1 SLJ1	TTC	TAPE TO CARD		CVT0077
0142	0154					
0143	7720	SLJ2	VER	VERIFY		CVT0078
0144	0600					
0145	7740	SLJ4	CTT	CARD TO TAPE		CVT0079
0146	1212					
0147	0400	LDN	0			CVT0080
0150	0000	ERR		ERROR-NO JUMP SWITCH		CVT0081
0151	6410	ZJB	JUMP1			CVT0082
0152	7101	JFI	1			CVT0083
0153	1625		SEQ			CVT0084
0154	2031	TTC LDD	NTAPE	WHICH TAPES		CVT0085
0155	6012	ZJF	SENSE	160		CVT0086
0156	7546	EXF	SN1607	1	1607-REQUEST STATUS	CVT0087
0157	7600	INA				CVT0088
0160	1037	LPD	K204			CVT0089
0161	6503	NZB	3			CVT0090
0162	7500	EXC	5011	SET TO BINARY		CVT0091
0163	5011					
0164	7500	EXC	5005	REWIND		CVT0092
0165	5005					
0166	6111	NZF	FIRSTX			CVT0093
0167	7563	SENSE EXF	TSENSE	1	SENSE TAPE	CVT0094
0170	7600	INA				CVT0095
0171	0202	LPN	2			CVT0096
0172	6503	NZB	SENSE			CVT0097
0173	7500	EXC	1161	REWIND		CVT0098
0174	1161					
0175	7500	EXC	1171	BINARY		CVT0099
0176	1171					
0177	2200	FIRSTX LDC	1000	SET COUNTS TO 0 FOR PUNCH.		CVT0100
0200	1000					
0201	4022	STD	CCOUNT			CVT0101
0202	4021	STD	CCOUNT	-1		CVT0102
0203	4020	STD	CCOUNT	-2		CVT0103
0204	4017	STD	CCOUNT	-3		CVT0104
0205	0512	LCN	12	TRY TO REWIND 5 TIMES		CVT0105









0465	0106			ATX		CVT0256
0466	0457			WBEN		CVT0257
	0106	ATX	EQU	106		CVT0258
0467	0400	ZERWRD	LDN	0		CVT0259
0470	0100			BLS		CVT0260
0471	0467			ZERWRD		CVT0261
	0100	BLS	EQU	100		CVT0262
0472	2200		LDF	0		CVT0263
0473	7515			WORD1	-1	CVT0264
0474	4012		STD	TEM3		CVT0265
0475	3200		ADF	0		CVT0266
0476	0124			124		CVT0267
0477	4016		STD	TEM7		CVT0268
0500	2016	COMPAR	LDD	TEM7		CVT0269
0501	3412		SBD	TEM3		CVT0270
0502	6031		ZJF	CBEN		CVT0271
0503	0410		LDN	10		CVT0272
0504	4015		STD	TEM6		CVT0273
0505	0501		LCN	1		CVT0274
0506	4013		STD	TEM4		CVT0275
0507	0507		LCN	7		CVT0276
0510	4014		STD	TEM5		CVT0277
0511	4415	SRADBT	SRD	TEM6		CVT0278
0512	2113		LDI	TEM4		CVT0279
0513	6206		PJF	NOBIT		CVT0280
0514	2015		LDD	TEM6		CVT0281
0515	5116		RAI	TEM7		CVT0282
0516	6103		NZF	NOBIT		CVT0283
0517	0500		LCN	0		CVT0284
0520	4116		STI	TEM7		CVT0285
0521	4513	NOBIT	SRI	TEM4		CVT0286
0522	0501		LCN	1		CVT0287
0523	5013		RAD	TEM4		CVT0288
0524	2015		LDD	TEM6		CVT0289
0525	6614		PJB	SRADBT		CVT0290
0526	0501		LCN	1		CVT0291
0527	5016		RAD	TEM7		CVT0292
0530	5414		AOD	TEM5		CVT0293
0531	6520		NZB	SRADBT		CVT0294
0532	6432		ZJB	COMPAR		CVT0295
0533	2200	CBEN	LDF	0		CVT0296
0534	7657			COLUMN		CVT0297
0535	0105			ATE		CVT0298
0536	0533			CBEN		CVT0299
0537	0400	CBEX	LDN	0		CVT0300
0540	0106			ATX		CVT0301
0541	0537			CBEX		CVT0302
0542	0100	ZERCOL	BLS	CBEX		CVT0303
0543	0537					
0544	2200	OBEN	LDF	0		CVT0304
0545	7516			WORD1		CVT0305
0546	0105			ATE		CVT0306
0547	0544			OBEN		CVT0307
0550	3200	OBEX	ADF	0		CVT0308
0551	0124			124		CVT0309
0552	0106			ATX		CVT0310
0553	0544			OBEN		CVT0311
0554	7500	CHECK	EXP	0		CVT0312
0555	3040			3040		CVT0313
0556	7600		INA			CVT0314



0647	6045	ZJF	VEOF	EOF	CVT0369
0650	6042	ZJF	ERROR1		CVT0370
0651	2006	LDD	TEM1X		CVT0371
0652	1037	LPD	K204		CVT0372
0653	6514	NZB	1607SN		CVT0373
0654	7500	EXC	5006	BACKSPACE	CVT0374
0655	5006				
0656	6535	NZB	READX		CVT0375
0657	7500	STATX	EXC	1141	REQUEST STATUS
0660	1141				CVT0376
0661	7600	INA			CVT0377
0662	0202	LPN	2		CVT0378
0663	6504	NZB	STATX		CVT0379
0664	0510	LCN	10	SET COUNT TO READ RECORD 8 TIMES	CVT0380
0665	4026	STD	COUNT	IF PARITY ERROR INDICATED	CVT0381
0666	7500	READ	EXC	2131	READ RECORD INTO BANK 1, ALL OF
0667	2131				CVT0382
0670	7201	INP	1	WHICH IS AVAILABLE,	CVT0383
0671	0000		0		CVT0384
0672	0701	SBN	1		CVT0385
0673	4006	STD	LSTWRD	THE NUMBER OF WORDS READ INTO CORE	CVT0386
0674	0400	LDN			CVT0387
0675	4024	STD	WORD		CVT0388
0676	7500	EXC	1141	TEST CONDITION	CVT0389
0677	1141				
0700	7600	INA			CVT0390
0701	6075	RELAY1	ZJF	CARD	JUMP TO CARD READ ROUTINE ON NO ERROR
0702	0720		SBN	20	CVT0391
0703	6011		ZJF	VEOF	EOF
0704	5426		ACD	COUNT	CVT0392
0705	6005		ZJF	ERROR1	CVT0393
0706	7500		EXC	1121	BACKSPACE
0707	1121				CVT0394
0710	7600	INA			CVT0395
0711	6523	ERROR1	NZB	READ	BACKSPACE
0712	0000	RELAY3	ERR		CVT0396
0713	6574		NZB	STATUS	TAPE READ ERROR1
0714	2030	VEOF	LDD	NCARD	CVT0397
0715	6016		ZJF	V167A	167
0716	0702		SBN	2	CVT0398
0717	6007		ZJF	V405A	405
0720	7100		JPR	88READ	CVT0399
0721	1536				CVT0400
0722	2100		LDM	FIRST	CVT0401
0723	7657				CVT0402
0724	6130		NZF	V167B	CVT0403
0725	6032		ZJF	EOFERR	CVT0404
0726	7100	V405A	JPR	405RD	405
0727	1720				CVT0405
0730	2141		LDI	CHOLD	PICK UP COL. 1
0731	6123		NZF	V167B	CVT0406
0732	6025		ZJF	EOFERR	CVT0407
0733	7500	V167A	EXC	4540	REQUEST STATUS
0734	4540				CVT0408
0735	7600		INA		CVT0409
0736	6503		NZB	3	CVT0410
0737	7500		EXC	4502	CVT0411
0740	4502				CVT0412
0741	7600		INA		CVT0413
0742	4023		STD	TEMP	HOLD COLUMN 1

743	7500		EXC	4500		LOOK OUT TIMING ERROR		CVT04191
744	4500							
745	2023		LDD	TEMP				CVT04200
746	6106		NZF	V167B				CVT04211
747	7500		EXC	4540		DISPLAY STATUS		CVT04221
750	4540							
751	7600		INA					CVT04231
752	0000		ERR			FEED FAILURE		CVT04241
753	6420		ZJR	V167A				CVT04251
754	3600	V167B	SBC	177				CVT04260
755	0177							
756	6002		ZJF	2				CVT04271
757	0000	EOFERR	ERR					CVT04281
760	5402		AOD	EOF CNT				CVT04291
761	6546		NZB	RELAY3		NEXT FILE		CVT04301
762	7700		HLT			HALT		CVT04311
763	7770		SLJ7	VNEXT				CVT04321
764	0767							
765	7101		JFI	1				CVT04331
766	1336			REWIND				CVT04341
767	6102	VNEXT	NZF	2				CVT04350
770	0401		LDN	1				CVT04361
771	0601		ADN	1				CVT04371
772	4002		STD	EOF CNT				CVT04381
773	2402		LCD	EOF CNT				CVT04390
774	4002		STD	EOF CNT				CVT04400
775	5515		NZB	EOFERR	1			CVT04411
776	2030	CARD	LDD	NCARD				CVT04421
777	6025		ZJF	CARDX		167		CVT04430
700	0702		SBN	2				CVT04441
7001	6012		ZJF	V405B		405		CVT04450
1002	7100		JPR	88READ		088		CVT04460
003	1536							
004	2200		LDC	FIRST	1	SET UP LOCATION COUNTER		CVT04471
1005	7660							
006	4006		STD	TEM1X				CVT04481
007	2100		LDM	FIRST				CVT04491
1010	7657							
011	6132		NZF	A1				CVT04500
012	6010		ZJF	YRELAY				CVT04511
013	7100	V405B	JPR	405RD				CVT04521
014	1720							
015	2041		LDD	CHOLD				CVT04531
1016	0601		ADN	1				CVT04541
017	4006		STD	TEM1X		COL 2		CVT04551
020	2141		LDI	CHOLD		PICK UP COL 1		CVT04561
1021	6122		NZF	A1				CVT04570
022	7101	YRELAY	JFI	1				CVT04581
023	1171			VERR				CVT04591
1024	7500	CARDX	EXC	4540		REQUEST STATUS		CVT04600
025	4540							
026	7600		INA					CVT04610
1027	6503		NZB	3		REPEAT UNTIL 167 SELECTED		CVT04620
030	7500		EXC	4502		READ COLUMN 1		CVT04630
31	4502							
1032	7600		INA					CVT04641
033	6110		NZF	A1				CVT04650
034	7500		EXC	4500				CVT04660
1035	4500							
036	7500		EXC	4540		DISPLAY STATUS		CVT04671

00582



1133	4013	STD	TEM4	SET ERROR FLAG TO NON-ZERO	CVT0523
1134	2124	LDI	WORD	TO INDICATE ERROR SAVE WORD FROM	CVT0524
1135	4012	STD	TEM3	TAPE.	CVT0525
1136	5424	ADD	WORD		CVT0526
1137	5425	ADD	COL		CVT0527
1140	6523	NZR	SUBSEQ		CVT0528
1141	2030	LDD	NCARD		CVT0529
1142	6103	NZF	3		CVT0530
1143	7500	EXC	4500	FOR 167, LOCK OUT ERROR.	CVT0531
1144	4500				
1145	2011	LDD	CHKSUM		CVT0532
1146	6020	ZJF	VOK1		CVT0533
1147	0000	ERR		CHECKSUM ERROR	CVT0534
1150	6016	ZJF	VOK1	IGNORE ERROR IN A IS CLEARED	CVT0535
1151	2214	LDF	VERRHD		CVT0536
1152	5024	RAD	WORD	CORRECTG COUNTER	CVT0537
1153	0020	SIC0		RESET JUMP	CVT0538
1154	2100	LDM	VJUMP		CVT0539
1155	1045				
1156	1600	SCC	100		CVT0540
1157	0100				
1160	4100	STM	VJUMP		CVT0541
1161	1045				
1162	0021	SIC1			CVT0542
1163	7101	XRELAY	JFI	1	CVT0543
1164	0776		CARD		CVT0544
1165	0000	VERRHD		0	CVT0545
1166	2013	VOK1	LDD	TEM4	CVT0546
1167	6003		ZJF	3	CVT0547
1170	2012		LDD	TEM3	CVT0548
1171	0000	VERR	ERR		CVT0549
1172	2003		LDD	LSTWRD	CVT0550
1173	6510		NZR	XRELAY	CVT0551
1174	7101		JFI	1	CVT0552
1175	0617			STATUS	CVT0553
1176	2023	NDORD	LDD	TEMP	CVT0554
1177	0111		LS6		CVT0555
1200	0102		LS1		CVT0556
1201	1200		LPC	177	CVT0557
1202	0177				
1203	4023	STD	TEMP		CVT0558
1204	2423	LCD	TEMP		CVT0559
1205	4320	STR	VERRHD	SAVE COUNTER IN CASE OF ERROR	CVT0560
1206	4025	STD	COL		CVT0561
1207	5003	RAD	LSTWRD		CVT0562
1210	6465	ZJB	XRLAY		CVT0563
1211	0000	ERR		RECORD NOT VERIFIED	CVT0564
	0003	LSTWRD	EQU	LASTWD	CVT0565
	0011	CHKSUM	EQU	XCHKSM	CVT0566
1212	2031	CTT	LDD	NTAPE	CVT0567
1213	6012		ZJF	CT163A	CVT0568
1214	7566		EXF	CT1607S 1	CVT0569
1215	7600		INA		CVT0570
1216	1036		LPD	K104	CVT0571
1217	6503		NZR	3	CVT0572
1220	7500	EXC	6011	BINARY	CVT0573
1221	6011				
1222	7500	EXC	6005	REHIND	CVT0574
1223	6005				
1224	6105	NZF	CTREC		CVT0575

00584

1225	7500	CT163A	EXC	1171	163-BINARY	CVT0576:
1226	1171					
1227	7500		EXC	1161	REMINO	CVT0577
1230	1161					
1231	0400	CTREC	LDM			CVT0578B
1232	4007		STD	TEM2X		CVT0579:
1233	2030	CTA	LDD	NCARD	READ CARD	CVT0580:
1234	6013		ZJF	CT167A	167	CVT0581:
1235	0702		SBN	2		CVT0582:
1236	6005		ZJF	C405A	405	CVT0583:
1237	7100		JPR	88READ	088	CVT0584:
1240	1536					
1241	6130		NZF	CTB		CVT0585:
1242	6027		ZJF	CTB		CVT0586:
1243	7100	C405A	JPR	405RD		CVT0587:
1244	1720					
1245	2141		LDI	GHOLD	PICK UP COL 1	CVT0588:
1246	6125		NZF	CTB1		CVT0589:
1247	7500	CT167A	EXC	4540	167-REQUEST STATUS	CVT0590:
1250	4540					
1251	7500		INA			CVT0591:
1252	6503		NZB	3		CVT0592:
1253	7500		EXC	4502		CVT0593:
1254	4502					
1255	7215		INP	CTB	1	CVT0594:
1256	7773			-4		CVT0595:
1257	3701		SBB	1		CVT0596:
1260	6007		ZJF	CTA1		CVT0597:
1261	7507		EXF	CTA1	1	CVT0598:
1262	7500		EXC	4540	DISPLAY STATUS	CVT0599:
1263	4540					
1264	7600		INA			CVT0600:
1265	0000		ERR		FEED FAILURE	CVT0601:
1266	6417		ZJB	CT167A		CVT0602:
1267	7500	CTA1	EXC	4500		CVT0603:
1270	4500					
1271	2100	CTB	LDM	FIRST	IMAGE IS IN -80D BANK 1	CVT0604:
1272	7657					
1273	4006	CTB1	STD	TEM1X		CVT0605:
1274	3600		SBC	177		CVT0606:
1275	0177					
1276	6161		NZF	CTD		CVT0607:
1277	2031		LDD	NTAPE	EOF	CVT0608:
1300	6011		ZJF	CT163B	163	CVT0609:
1301	7500	C1607S	EXC	6053	1607-REQUEST STATUS	CVT0610:
1302	6053					
1303	7600		INA			CVT0611:
1304	1036		LPD	K104		CVT0612:
1305	6504		NZB	4		CVT0613:
1306	7500		EXC	6003	WRITE EOF	CVT0614:
1307	6003					
1310	6110		NZF	CTC		CVT0615:
1311	7500	CT163B	EXC	1141	163-REQUEST STATUS	CVT0616:
1312	1141					
1313	7600		INA			CVT0617:
1314	0202		LPN	2		CVT0618:
1315	6504		NZB	4		CVT0619:
1316	7500		EXC	1111	EOF	CVT0620:
1317	1111					
1320	5402	CTC	AOD	EOFCNT		CVT0621:

00585



1321	6570		NZB	CTREC					
1322	7700		HLT			NEXT RECORD			CVT0622
1323	7770		SLJ7	NEXTF		END			CVT0623
1324	1327								CVT0624
1325	7101		JFI	1					CVT0625
1326	1336			REWIND					CVT0626
1327	6102	NEXTF	NZF	2					CVT0627
1330	0401		LDN	1					CVT0628
1331	0601		ADN	1					CVT0629
1332	4002		STD	EQFCNT					CVT0630
1333	2402		LDD	EQFCNT					CVT0631
1334	4002		STD	EQFCNT					CVT0632
1335	6515		NZB	CTC					CVT0633
1336	2031	REWIND	LDD	NTAPE					CVT0634
1337	6011		ZJF	R163					CVT0635
1340	7500		EXC	6053					CVT0636
1341	6053								CVT0637
1342	7600		INA						CVT0638
1343	1040		LPD	K300					CVT0639
1344	6504		NZB	4					CVT0640
1345	7500		EXC	6005					CVT0641
1346	6005								CVT0642
1347	6107		NZF	RHLT					CVT0643
1350	7500	R163	EXC	1141					CVT0644
1351	1141								CVT0645
1352	7600		INA						CVT0646
1353	6503		NZB	3					CVT0647
1354	7500		EXC	1161					CVT0648
1355	1161								CVT0649
1356	7700	RHLT	HLT						CVT0650
1357	2006	CTD	LDD	TEM1X					CVT0651
1360	0210		LPN	10					CVT0652
1361	6104	CJUMP	NZF	CJUMPA		CHECK ALTERNATING BIT WILL CHANGE			CVT0653
1362	0000		ERR						CVT0654
1363	7101		JFI	1					CVT0655
1364	1233			CTA					CVT0656
1365	2304	CJUMPA	LDB	CJUMP		CHANGE JUMP			CVT0657
1366	1600		SCC	100					CVT0658
1367	0100								CVT0659
1370	4307		STB	CJUMP					CVT0660
1371	2006		LDD	TEM1X		SET UP SC COMMAND			CVT0661
1372	0217		LPN	17					CVT0662
1373	3040		ADD	K300					CVT0663
1374	4202		STF	SC					CVT0664
1375	2406		LDD	TEM1X					CVT0665
1376	0307	SC	SCN	7					CVT0666
1377	0111		LS6						CVT0667
1400	0102		LS1						CVT0668
1401	4026		STD	COUNT					CVT0669
1402	4243		STF	OERRHD		HOLD COUNT IN CASE OF ERROR			CVT0670
1403	2030		LDD	NCARD					CVT0671
1404	0702		SBN	2					CVT0672
1405	6107		NZF	COTHER					CVT0673
1406	5441		AOD	CHOLD		405			CVT0674
1407	2141		LDI	CHOLD		PICK UP COL 2			CVT0675
1410	4011		STD	CHKSUM					CVT0676
1411	5441		AOD	CHOLD		COL 3			CVT0677
1412	4024		STD	WORD					CVT0678
1413	6107		NZF	CTE					CVT0679
1414	2500	COTHER	LCM	FIRST	1	PICK UP CHECK SUM			CVT0680

00586









1774	2043		LDR	4HOLD	
1775	3600	4SUB	SBC	FIRST	
1776	7657				
1777	6304		NJF	4NOT	
2000	2200		LDC	88INGE	
2001	7533				
2002	6172		NZF	4SET	
2003	2385	4NOT	LDR	4SUB	1
2004	4043	4SET	STD	4HOLD	
2005	4041		STD	CHOLD	
2006	6514		NZS	4CHNGE	-1
			SUPB		
	0000		END		

4HOLD IS = TO FIRST OR  
88INGE. CHOLD MAY HAVE  
CHANGED.

CVT0876 )  
CVT0877: )  
CVT087 )  
CVT0879. )  
CVT0880 )  
CVT0881A )  
CVT0882A )  
CVT0883 )  
CVT0884: )  
CVT0885 )

