

															CHANGED - MODIFICATION		
															First Issue - 1ère Publication = O		
															Changed - modification = X		
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															12ème	Date des	N°
															décimal.	documents	modification
Format	A4																
Type de page	265																
Nombre de feuillets	73																
1	0														1	7201 10	
2																	
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SURVEY OF DOCUMENTS - SOD - LISTE DES DOCUMENTS

état 3	date :	Description : P860	Code 12 NC	Date d'édition	Type de page :
état 2	date :	- S3CPU0 - 4KWORDS. MEMORY	5111 199 8649	7202 16	100
état 1	date :	CPU test program		Auteur de la SOD : PEPONNET	Page : 1/1
Philips Data Systems - IGSC - Centre Technique et Industriel - Fontenay-aux-Roses - France					FORMAT A4

0000  
 0001  
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IDENT 83CPU8 2  
 P000 CPU TEST P  
 ASSEMBLY DATE: 11/01/1972  
 PROGRAMMER: S. RADOJKOVIC  
 \*MIN. MEMORY SIZE: 4K WORDS FOR ALPHA INS., 8K FOR ALL INS. (WITH OPTIONS P800)

1/72

R1	REG	EQ	AS REGISTER
BOOT	REG	32	BOOTSTRAP LOCATIONS
0242	0200	F	DATA ITROUT
0242	0200	F	DATA ITROUT
0244	0200	F	DATA ITROUT
0245	0200	F	DATA ITROUT
0248	0200	F	DATA ITROUT
024A	0200	F	DATA ITROUT
024C	0200	F	DATA ITROUT
024E	0200	F	DATA ITROUT
0251	0200	F	DATA ITROUT
0252	0200	F	DATA ITROUT
0254	0200	F	DATA ITROUT
0255	0200	F	DATA ITROUT
0258	0200	F	DATA ITROUT
025A	0200	F	DATA ITROUT
025C	0200	F	DATA ITROUT
025E	0200	F	DATA ITROUT
025F	4900		ITROUT RIL A1 READ INTERRUPT LINE
0262	207F		HLT UNEXPECTED INTERRUPT, PROGRAM DESTROYED
0264		RES	2
* RESERVED LOCATIONS, TABLES AND DATAS			
0268	0000	ZERO	DATA 0
026A	FFFF	ONES	DATA X1FFFF
026C	0201	ONE	DATA X10001
026E	0002		DATA X10002
0270	0004		DATA X10004
0272	0008		DATA X10008
0274	0010		DATA X10010
0275	0020		DATA X10020
027A	0240		DATA X10240
027A	0280		DATA X10280
027C	0100		DATA X10100
027E	0200		DATA X10200
0280	0400		DATA X10400
0282	0800		DATA X10800

code 12 N.C. 5114 199 86494

type of page: 265

0000	0004	1000	DATA	X'1000'		
0001	0008	2000	DATA	X'2000'		
0002	000C	4000	DATA	X'4000'		
0003	0010	8000	DATA	X'8000'		
0004	0014	1111	FOUR1	DATA	X'1111'	
0005	0018	2222	FOUR2	DATA	X'2222'	
0006	001C	4444	FOUR4	DATA	X'4444'	
0007	0020	8888	FOUR8	DATA	X'8888'	
0008	0024	7FFF	MAXPDS	DATA	X'7FFF'	
0009	0028		ZONE	RES	1	
000A	002C	AAAA	ADRIND	DATA	X'AAAA'	
000B	0030	5555		DATA	X'5555'	
000C	0034		RES		2	
000D	0038	R	MACHIN	DATA	ADRIND	
000E	003C	0110	STACK	DATA	X'0110'	FIRST STACK ADDRESS
000F	0040	0001	DONE	DATA	X'0001'	
0010	0044	0002		DATA	X'0002'	
0011	0048	0004		DATA	X'0004'	
0012	004C	0008		DATA	X'0008'	
0013	0050	0010		DATA	X'0010'	
0014	0054	0020		DATA	X'0020'	
0015	0058	0040		DATA	X'0040'	
0016	005C	0080		DATA	X'0080'	
0017	0060	0100		DATA	X'0100'	
0018	0064	0200		DATA	X'0200'	
0019	0068	0400		DATA	X'0400'	
001A	006C	0800		DATA	X'0800'	
001B	0070	1000		DATA	X'1000'	
001C	0074	2000		DATA	X'2000'	
001D	0078	4000		DATA	X'4000'	
001E	007C	8000		DATA	X'8000'	
001F	0080	0000		DATA	X'0000'	
0020	0084					
0021	0088					
0022	008C					
0023	0090					
0024	0094					
0025	0098	5700	RF	*+4	RF(7)	
0026	009C	207F	HLT		ERROR STOP X	
0027	00A0	207F	HLT		X HLT	
0028			SUMOK	EDU	*	
0029			AS TEST			
002A						
002B	00CA	0140	LD	1,ZERO	CR=0	
002C	00CC	0160	R			
002D	00CE	0902	AB(1)	X'02'	DO NOT JUMP	
002E	00D0	08D4	AB(8)	X'D4'	JUMP	
002F	00D2	207F	HLT			
0030	00D4	0A00	AB(2)	X'03'	DO NOT JUMP	
0031	00D6	00DA	AB(5)	X'0A'	JUMP	
0032	00D8	207F	HLT			

3

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00100 000A 020E AB(3) XIDE! DO NOT JUMP
00103 000C 020E AB(3) XIDE! JUMP
00104 000E 207F HLT
00105 000E 0CE4 A3(4) X DO NOT JUMP
00106 000E 0F00 A0(7) XIDE! JUMP
00107 000E 207F HLT
* RF RELATIVE FORWARD CONDITIONAL BRANCH
00108 000E 0140 LD 1,ZERO CR=0
00109 000E 0000 R
00110 000E 5302 RF(5) **4 CR#1 JUMP RF(5)
00111 000E 207F HLT
00112 000E 5602 RF(6) **4 CR#2 JUMP RF(6)
00113 000E 207F HLT
00114 000E 5404 RF(4) **5 DO NOT JUMP RF(4)
00115 000E 0102 RF(1) **4 DO NOT JUMP RF(1)
00116 000E 0702 RF **4 JUMP
00117 000E 207F HLT
00118 000E 0202 RF(2) **4 DO NOT JUMP RF(2)
00119 0100 0700 F RF AFSTAK JUMP (OVER STACK) RF(7)
00120 0102 207F HLT
00121 0104 R06 10 STACK
00122 0104 AFSTAK EWU *
00123 0110 5302 RF(3) **4 DO NOT JUMP RF(3)
00124 0110 5702 RF **4 JUMP
00125 0110 207F HLT
*
*
00126
00127
00128 0110 0140 LD 1,ONE CR#1
00129 0120 0000 R
00130 0122 5402 RF(4) **4 CR#0 JUMP RF(4)
00131 0124 207F HLT
00132 0125 5602 RF(6) **4 CR#2 JUMP RF(6)
00133 0125 207F HLT
00134 0124 5102 RF(1) **4 JUMP RF(1)
00135 0120 207F HLT
00136 0125 5602 RF(6) **4 DO NOT JUMP RF(6)
00137 0130 0702 RF(7) **4 JUMP
00138 0132 207F HLT
00139 0134 5202 RF(2) **4 DO NOT JUMP RF(2)
00140 0136 5702 RF **4 JUMP
00141 0138 207F HLT
00142 013A 5602 RF(5) **4 DO NOT JUMP RF(5)
00143 013C 5702 RF(7) **4 JUMP
00144 013E 207F HLT
00145 0140 0140 LD 1,ONES CR#2
00146 0142 0000 R
00147 0144 5402 RF(4) **4 JUMP RF(4)

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4

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00146 0140 207F HLT
00147 0140 5002 RF(5) **4 JUMP
00148 0140 207F HLT
00149 0140 5202 RF(2) **4 JUMP RF(2)
00150 0140 207F HLT
00151 0150 5002 RF(0) **4 DO NOT JUMP
00152 0150 5702 RF **4 JUMP RF(7)
00153 0154 207F HLT
00154 0156 5102 RF(1) **4 DO NOT JUMP RF(1)
00155 0158 5702 RF(7) **4 JUMP
00156 015A 207F HLT
00157 0160 5002 RF(6) **4 DO NOT JUMP RF(6)
00158 015E 5702 RF **4 JUMP
00159 0160 207F HLT

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00160
00161
00162 0162 0140 LD 1, MAXPOS
00163 0164 0294 R AD 1, ONE CR#3 CR#3
00164 0166 030C R
00165 016A 5302 RF(3) **4 JUMP RF(3)
00166 016C 207F HLT
00167 016E 5402 RF(4) **4 JUMP RF(4)
00168 0170 207F HLT
00169 0172 5502 RF(5) **4 JUMP RF(5)
00170 0174 207F HLT
00171 0176 5602 RF(6) **4 JUMP RF(6)
00172 0178 207F HLT
00173 017A 5002 RF(0) **4 DO NOT JUMP RF(0)
00174 017C 5702 RF **4 JUMP RF(7)
00175 017E 207F HLT
00176 0180 5102 RF(1) **4 DO NOT JUMP RF(1)
00177 0182 5702 RF **4 JUMP
00178 0184 207F HLT
00179 0186 5202 RF(2) **4 DO NOT JUMP RF(2)
00180 0188 5704 RF **6 JUMP
00181 018A 207F HLT

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\* RB TEST

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00182
00183
00184 018C 500A RF(0) **12
00185 018E 0140 LD 1, ZERO CR#0 CR#0
00186 0190 R
00187 0192 5008 RB(0) **6 JUMP RB(0)
00188 0194 207F HLT
00189 0196 5206 RF(2) **8
00190 0198 5004 RB(5) **2 JUMP RB(5)
00191 019A 207F HLT
00192 019C 5006 RF(0) **9
00193 019E 5E04 RB(6) **2 JUMP RB(6)

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00193	01A9	207F	HLT			
00194	01A9	207F	HLT			
00195	01AA	5004	RB(1)	**	DO NOT JUMP	RB(1)
00196	01A9	5002	RF(0)	**		
00197	01A9	207F	HLT			
00198	01AA	5004	RB(2)	**2	DO NOT JUMP	RB(2)
00199	01AC	5002	RF(0)	**4		
00200	01AE	207F	HLT			
00201	01A9	5004	RB(3)	**2	DO NOT JUMP	RB(3)
00202	01A2	5002	RF(0)	**4		
00203	01A4	207F	HLT			
00204	01A6	5004	RB(4)	**2	DO NOT JUMP	RB(4)
00205	01A8	5002	RF(0)	**4		
00206	01BA	5006	RF(0)	**8		
00207	01B0	5F04	RB	**2	JUMP	RB(7)
00208	01BE	207F	HLT			
00209	01C0	510A	RF(1)	**12		
00210	01C2	0140	LD	1, ONE	CR=1	CR=1
	01C4	020C	R			
00211	01C6	5008	RB(1)	**6	JUMP	RB(1)
00212	01C8	207F	HLT			
00213	01CA	0106	RF(1)	**8		
00214	01CC	5004	RB(4)	**2	JUMP	RB(4)
00215	01CE	207F	HLT			
00216	01D0	5106	RF(1)	**8		
00217	01D2	5004	RB(6)	**2	JUMP	RB(6)
00218	01D4	207F	HLT			
00219	01D6	207F	HLT			
00220	01D8	5004	RB(8)	**2	DO NOT JUMP	RB(8)
00221	01DA	0102	RF(1)	**4		
00222	01DC	207F	HLT			
00223	01DE	5004	RB(2)	**2	DO NOT JUMP	RB(2)
00224	01E0	5102	RF(1)	**4		
00225	01E2	207F	HLT			
00226	01E4	5004	RB(3)	**2	DO NOT JUMP	RB(3)
00227	01E6	0102	RF(1)	**4		
00228	01E8	207F	HLT			
00229	01EA	5004	RB(5)	**2	DO NOT JUMP	RB(5)
00230	01EC	0102	RF(1)	**4		
00231	01EE	0104	RF(1)	**8		
00232	01F0	5F04	RB	**2	JUMP	RB(7)
00233	01F2	020A	RF(2)	**12		
00234	01F4	0140	LD	1, UNES	CR=2	CR=2
	01F6	020A	R			
00235	01F8	5A09	RB(2)	**6	JUMP	RB(3)
00236	01FA	207F	HLT			
00237	01FC	0206	RF(2)	**8		
00238	01FE	0C04	RB(4)	**2	JUMP	RB(4)
00239	0200	207F	HLT			
00240	0202	0206	RF(2)	**8		

002	0024	5024	RD(5)	**1	JUMP	RB(5)
0021	0020	207F	HLT			
00243	0021	207F	HLT			
00244	0021	5024	RD(5)	**2	DO NOT JUMP	RB(5)
00245	0020	5022	RF(2)	**4		
00246	0021	207F	HLT			
00247	0021	5024	RB(1)	**2	DO NOT JUMP	RB(1)
00248	0021	5022	RF(2)	**4		
00249	0021	207F	HLT			
00250	0021	5024	RB(3)	**2	DO NOT JUMP	RB(3)
00251	0021	5022	RF(2)	**4		
00252	0021	207F	HLT			
00253	0021	5024	RB(5)	**2	DO NOT JUMP	RB(5)
00254	0021	5022	RF(2)	**4		
00255	0020	5024	RF(2)	**6		
00256	0022	5024	RB	**2	JUMP	RB(7)
00257	0024	502E	RF(3)	**16		
00258	0025	0141	LD	1, MAXPOS		
00259	0024	0140	R	AD	1, ONE	CR=3
00260	0020	2060	R			
00261	002E	5020	RB(3)	**10	JUMP	RB(3)
00262	0030	207F	HLT			
00263	0032	5026	RF(3)	**8		
00264	0034	5024	RB(4)	**2	JUMP	RB(4)
00265	0036	207F	HLT			
00266	0038	5026	RF(3)	**8		
00267	003A	5024	RB(5)	**2	JUMP	RB(5)
00268	003C	207F	HLT			
00269	003E	5026	RF(3)	**8		
00270	0040	5024	RB(6)	**2	JUMP	RB(6)
00271	0042	207F	HLT			
00272	0044	207F	HLT			
00273	0046	5024	RB(0)	**2	DO NOT JUMP	RB(0)
00274	0048	5022	RF(3)	**4		
00275	004A	207F	HLT			
00276	004C	5024	RB(1)	**2	DO NOT JUMP	RB(1)
00277	004E	5022	RF(3)	**4		
00278	0050	207F	HLT			
00279	0052	5A24	RB(2)	**2	DO NOT JUMP	RB(2)
00280	0054	5022	RF(3)	**4		
00281	0056	5022	RF(3)	**4		
00282	0058	5024	RB	**2	JUMP	RB(7)
00283	005A	0140	LD	1, ONE	1 IN A1, CR=1 (BIT 15)	X LD
00284	005C	0060	R			
00285	005E	5022	RB(5)	*		
00286	0060	0140	LD	1, ZERO	A1=0 CR=0	X
00287	0062	0058	R			
00288	0064	0062	RB(4)	*		

02	0266	0140		LD	1,	2	BIT 14, CR=1
0298	0268	000E	R				
0299	026A	5002		Rb(5)	*		
0299	026C	0140		LD	1,ZERO		
0299	026E	0008	R				
0299	0270	5002		Rb(4)	*		
0299	0272	0140		LD	1,ONE+4	BIT 13, CR=1	
0299	0274	0070	R				
0299	0276	5002		Rb(5)	*		
0299	0278	0140		LD	1,ZERO		
0299	027A	0008	R				
0299	027C	5002		Rb(4)	*		
0299	027E	0140		LD	1,ONE+6	BIT 12, CR=1	
0299	0280	0072	R				
0299	0282	5002		Rb(5)	*		
0299	0284	0140		LD	1,ZERO		
0299	0286	0008	R				
0299	0288	5002		Rb(4)	*		
0299	028A	0140		LD	1,ONE+8	BIT 11, CR=1	
0299	028C	0074	R				
0300	028E	5002		Rb(5)	*		
0300	0290	0140		LD	1,ZERO		
0300	0292	0008	R				
0300	0294	5002		Rb(4)	*		
0300	0296	0140		LD	1,ONE+10	BIT 10, CR=1	
0300	0298	0078	R				
0300	029A	5002		Rb(5)	*		
0300	029C	0140		LD	1,ZERO		
0300	029E	0008	R				
0300	02A0	5002		Rb(4)	*		
0300	02A2	0140		LD	1,ONE+12	BIT 9, CR=1	
0300	02A4	0078	R				
0300	02A6	5002		Rb(5)	*		
0300	02A8	0140		LD	1,ZERO		
0300	02AA	0008	R				
0300	02AC	5002		Rb(4)	*		
0300	02AE	0140		LD	1,ONE+14	BIT 8, CR=1	
0300	02B0	007A	R				
0300	02B2	5002		Rb(5)	*		
0300	02B4	0140		LD	1,ZERO		
0300	02B6	0008	R				
0300	02B8	5002		Rb(4)	*		
0300	02BA	0140		LD	1,ONE+16	BIT 7, CR=1	
0300	02BC	007C	R				
0300	02BE	5002		Rb(5)	*		
0300	02C0	0140		LD	1,ZERO		
0300	02C2	0008	R				
0300	02C4	5002		Rb(4)	*		
0300	02C6	0140		LD	1,ONE+18	BIT 6, CR=1	
0300	02C8	007E	R				

803	820A	8082		RB(5)	*			
8031	820C	8140		LD	1,ZERO			
	820E	8088	R					
80322	8200	5082		RB(4)	*			
80323	8202	8140		LD	1,ONE+20	BIT 0, CR=1		
	8204	8088	R					
80324	8206	5082		RB(5)	*			
80325	8208	8140		LD	1,ZERO			
	820A	8088	R					
80326	820C	5082		RB(4)	*			
80327	820E	8140		LD	1,ONE+22	BIT 4, CR=1		
	8210	8082	R					
80328	8212	5082		RB(5)	*			
80329	8214	8140		LD	1,ZERO			
	8216	8088	R					
80330	8218	5082		RB(4)	*			
80331	821A	8140		LD	1,ONE+24	BIT 0, CR=1		
	821C	8088	R					
80332	821E	5082		RB(5)	*			
80333	8220	8140		LD	1,ZERO			
	8222	8088	R					
80334	8224	5082		RB(4)	*			
80335	8226	8140		LD	1,ONE+26	BIT 2, CR=1		
	8228	8088	R					
80336	822A	5082		RB(5)	*			
80337	822C	8140		LD	1,ZERO			
	822E	8088	R					
80338	8230	5082		RB(4)	*			
80339	8232	8140		LD	1,ONE+28	BIT 1, CR=1		
	8234	8088	R					
80340	8236	5082		RB(5)	*			
80341	8238	8140		LD	1,ZERO			
	823A	8088	R					
80342	823C	5082		RB(4)	*			
80343	823E	8140		LD	1,ONE+30	BIT 0, CR=0		
	8240	8088	R					
80344	8242	5082		RB(5)	*			
80345								
80346								
80347	8314	8140		LD	1,ZERO	0 IN A1, CR=0	X	
	8316	8088	R					
80348	8318	8140		XR	1,ONE	0 XR 1 = 1 CR=1, BIT 15	X	XR
	831A	8088	R					
80349	831C	5082		RB(5)	*			
80350	831E	8140		XR	1,ONE	1 XR 1 = 0, CR=0		
	8320	8088	R					
80351	8322	5082		RB(4)	*			
80352	8324	8140		XR	1,ONE+2	CR=1, BIT 14		
	8326	8088	R					
80353	8328	5082		RB(5)	*			

0331	032A	B140		XR	1, 2	CR=0
0335	032C	03A6	R			
0335	032E	5082		RB(4)	*	
0335	0334	B142		XR	1, ONE+4	CR=1, BIT 13
	0332	0378	R			
0337	033A	5082		RB(5)	*	
0338	033F	B140		XR	1, ONE+4	CR=0
	0339	03A8	R			
0339	033A	5082		RB(4)	*	
0338	033C	B140		XR	1, ONE+8	CR=1, BIT 12
	033E	0372	R			
0331	0340	5082		RB(5)	*	
0332	0342	B142		XR	1, ONE+8	CR=0
	0344	03AA	R			
0333	0345	5082		RB(4)	*	
0334	0349	B142		XR	1, ONE+8	CR=1, BIT 11
	034A	0374	R			
0335	034C	5082		RB(5)	*	
0336	034E	B140		XR	1, ONE+8	CR=0
	0352	03AC	R			
0337	0352	5082		RB(4)	*	
0338	0354	B140		XR	1, ONE+10	CR=1, BIT 10
	0356	0376	R			
0339	0358	5082		RB(5)	*	
0370	035A	B140		XR	1, ONE+10	CR=0
	035C	034E	R			
0371	035E	5082		RB(4)	*	
0372	0362	B140		XR	1, ONE+12	CR=1, BIT 9
	0362	0378	R			
0373	0364	5082		RB(5)	*	
0374	0366	B140		XR	1, ONE+12	CR=0
	0368	0380	R			
0375	036A	5082		RB(4)	*	
0376	036C	B140		XR	1, ONE+14	CR=1, BIT 8
	036E	037A	R			
0377	0370	5082		RB(5)	*	
0378	0372	B140		XR	1, ONE+14	CR=0
	0374	0382	R			
0379	0376	5082		RB(4)	*	
0380	0378	B140		XR	1, ONE+16	CR=1, BIT 7
	037A	037C	R			
0381	037C	5082		RB(5)	*	
0382	037E	B140		XR	1, ONE+16	CR=0
	0382	0384	R			
0383	0382	5082		RB(4)	*	
0384	0384	B140		XR	1, ONE+18	CR=1, BIT 6
	0386	037E	R			
0385	0388	5082		RB(5)	*	
0386	038A	B140		XR	1, ONE+18	CR=0
	038C	0386	R			

0235	030E	5082	RB(4)	*		
0236	030A	B140	XR	1,	20	CR=1, BIT 0
02369	0302	5082	RB(5)	*		
02390	0305	B140	XR	1,	DONE+20	CR=0
02391	0304	5082	RB(4)	*		
02392	0300	B140	XR	1,	ONE+22	CR=1, BIT 4
02393	030E	5082	RB(5)	*		
02394	0302	B140	XR	1,	DONE+22	CR=0
02395	0304	5082	RB(4)	*		
02396	0306	B140	XR	1,	ONE+24	CR=1, BIT 3
02397	030C	5082	RB(5)	*		
02398	030E	B140	XR	1,	DONE+24	CR=0
02399	0302	5082	RB(4)	*		
02400	0304	B140	XR	1,	ONE+20	CR=1, BIT 2
02401	0305	5082	RB(5)	*		
02402	030A	B140	XR	1,	DONE+26	CR=0
02403	030E	5082	RB(4)	*		
02404	0302	B140	XR	1,	ONE+28	CR=1, BIT 1
02405	0304	5082	RB(5)	*		
02406	0306	B140	XR	1,	DONE+28	CR=0
02407	030C	5082	RB(4)	*		
02408	0300	B140	XR	1,	ONE+30	CR=2, BIT 0
02409	030E	5082	RB(5)	*		
02410	0302	B140	XR	1,	DONE+30	CR=0
02411	0305	5082	RB(4)	*		
02412	0308	A940	OR	1,	ONE	CR=1, BIT 15 OR
02413	030C	5082	RB(5)	*		
02414	030E	B140	XR	1,	DONE	1 XR 1 = 0, CR=0
02415	0302	5082	RB(4)	*		
02416	0304	A940	OR	1,	ONE+2	BIT 14, CR=1
02417	030E	5082	RB(5)	*		
02418	030A	B140	XR	1,	DONE+2	CR=0
02419	030E	5082	RB(4)	*		
02420	0302	A940	OR	1,	ONE+4	BIT 13, CR=1

03422	03F2	0070	R				
	03F4	0062		RB(5)	*		
	03F8	0140		XR	1, ONE+4	CR=0	
03423	03FA	0062		RB(4)	*		
03424	03FC	A940		OR	1, ONE+8	BIT 12, CR=1	
03425	03FE	0072	R				
	0400	0062		RB(5)	*		
03426	0402	0140		XR	1, ONE+8	CR=0	
	0404	01AA	R				
03427	0406	0062		RB(4)	*		
03428	0408	A940		OR	1, ONE+8	BIT 11, CR=1	
	042A	0074	R				
03429	043C	0062		RB(5)	*		
03430	043E	0140		XR	1, ONE+8	CR=0	
	0410	00AC	R				
03431	0412	0062		RB(4)	*		
03432	0414	A940		OR	1, ONE+10	BIT 10, CR=1	
	0418	0078	R				
03433	041B	0062		RB(5)	*		
03434	041A	0140		XR	1, ONE+10	CR=0	
	041C	00AE	R				
03435	041E	0062		RB(4)	*		
03436	0420	A940		OR	1, ONE+12	BIT 9, CR=1	
	0422	0078	R				
03437	0424	0062		RB(5)	*		
03438	0426	0140		XR	1, ONE+12	CR=0	
	0428	0088	R				
03439	042A	0062		RB(4)	*		
03440	042C	A940		OR	1, ONE+14	BIT 8, CR=1	
	042E	007A	R				
03441	0430	0062		RB(5)	*		
03442	0432	0140		XR	1, ONE+14	CR=0	
	0434	0052	R				
03443	0436	0062		RB(4)	*		
03444	0438	A940		OR	1, ONE+16	BIT 7, CR=1	
	043A	007C	R				
03445	043C	0062		RB(5)	*		
03446	043E	0140		XR	1, ONE+16	CR=0	
	0440	0084	R				
03447	0442	0062		RB(4)	*		
03448	0444	A940		OR	1, ONE+18	BIT 6, CR=1	
	0446	007E	R				
03449	0448	0062		RB(5)	*		
03450	044A	0140		XR	1, ONE+18	CR=0	
	044C	0086	R				
03451	044E	0062		RB(4)	*		
03452	0450	A940		OR	1, ONE+20	BIT 5, CR=1	
	0452	0088	R				
03453	0454	0062		RB(5)	*		

0045	0456	B140	XR	1,0	CR=0	
00455	0456	0000	R			
00455	045A	0C02	RB(4)	*		
00455	045C	A040	OR	1,ONE+22	BIT 4, CR=1	
00455	045E	0C02	R			
00457	045F	0002	RB(5)	*		
00458	045F	0140	XR	1,ONE+22	CR=0	
00458	0464	000A	R			
00459	0468	0C02	RB(4)	*		
00462	0468	A040	OR	1,ONE+24	BIT 3, CR=1	
00462	046A	0004	R			
00461	046C	0002	RB(5)	*		
00462	046E	0140	XR	1,ONE+24	CR=0	
00463	0470	000C	R			
00463	0472	5C02	RB(4)	*		
00464	0474	A040	OR	1,ONE+26	BIT 2, CR=1	
00464	0476	0005	R			
00465	0478	0002	RB(5)	*		
00465	047A	0140	XR	1,ONE+25	CR=0	
00467	047C	000E	R			
00467	047E	0C02	RB(4)	*		
00468	0480	A040	OR	1,ONE+28	BIT 1, CR=1	
00468	0482	0008	R			
00469	0484	0002	RB(5)	*		
00470	0485	0140	XR	1,ONE+28	CR=0	
00470	0488	0000	R			
00471	048A	0C02	RB(4)	*		
00472	048C	A040	OR	1,ONE+30	BIT 0, CR=2	
00472	048E	000A	R			
00473	0490	0E02	RB(6)	*		
00474	0492	0140	XR	1,ONE+30	CR=0	
00474	0494	0002	R			
00475	0496	5C02	RB(4)	*		
00475						
00477						
00478	0498	0140	LD	1,ONES	CR=2	
00478	049A	000A	R			
00479	049C	0E02	RB(6)	*		
00480	049E	A140	AN	1,ONE	CR=1, BIT 15	X AN
00480	04A0	000C	R			
00481	04A2	0002	RB(5)	*		
00482	04A4	A140	AN	1,ONE+2	CR=0	
00482	04A6	000E	R			
00483	04A8	5C02	RB(4)	*		
00484	04AA	0140	LD	1,ONES		
00484	04AC	000A	R			
00485	04AE	A140	AN	1,ONE+2	BIT 14, CR=1	
00485	04B0	000E	R			
00486	04B2	5D02	RB(5)	*		
00487	04B4	A140	AN	1,ONE+4	CR=0	

00480	0070	R				
00481	0433	5C02	RB(4)	*		
00489	045A	B140	LD	1,ONES		
00490	0480	006A	R			
00491	048E	A140	AN	1,ONE+4	BIT 13, CR=1	
00492	04C0	0072	R			
00493	04C2	5D02	RB(5)	*		
00494	04C4	A140	AN	1,ONE+0	CR=0	
00495	04C8	0C02	RB(4)	*		
00496	04CA	B140	LD	1,ONES		
00497	04CC	006A	R			
00498	04CE	A140	AN	1,ONE+6	BIT 12, CR=1	
00499	04D0	0072	R			
00500	04D2	5D02	RB(5)	*		
00501	04D4	A140	AN	1,ONE+8	CR=0	
00502	04D8	0074	R			
00503	04DA	5C02	RB(4)	*		
00504	04DC	B140	LD	1,ONES		
00505	04DE	006A	R			
00506	04E0	A140	AN	1,ONE+8	BIT 11, CR=1	
00507	04E2	0074	R			
00508	04E4	5D02	RB(5)	*		
00509	04E8	A140	AN	1,ONE+10	CR=0	
00510	04EA	0076	R			
00511	04EC	5C02	RB(4)	*		
00512	04EE	B140	LD	1,ONES		
00513	04F0	006A	R			
00514	04F2	A140	AN	1,ONE+10	BIT 10, CR=1	
00515	04F4	0076	R			
00516	04F8	5D02	RB(5)	*		
00517	04FA	A140	AN	1,ONE+12	CR=0	
00518	04FC	0070	R			
00519	04FE	5C02	RB(4)	*		
00520	04FA	B140	LD	1,ONES		
00521	04FC	006A	R			
00522	04FE	A140	AN	1,ONE+12	BIT 9, CR=1	
00523	0500	0078	R			
00524	0502	5D02	RB(5)	*		
00525	0504	A140	AN	1,ONE+14	CR=0	
00526	0508	007A	R			
00527	050C	5C02	RB(4)	*		
00528	050E	B140	LD	1,ONES		
00529	0510	006A	R			
00530	0512	A140	AN	1,ONE+14	BIT 8, CR=1	
00531	0514	007A	R			
00532	0518	5D02	RB(5)	*		
00533	051A	A140	AN	1,ONE+16	CR=0	
00534	051C	007C	R			
00535	051E	5C02	RB(4)	*		

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0251 051A 8140 LD 1,0
0252 051C 053A R AN 1,ONE+16 BIT 7, CR#1
0253 0520 0529 0070 R
02521 0522 5082 RB(5) +
02522 0524 A143 AN 1,ONE+18 CR#0
02523 0525 207E R
02524 0526 5082 RB(4) +
02525 0528 8140 LD 1,ONES
02526 0529 006A R
02527 052E A140 AN 1,ONE+18 BIT 6, CR#1
02528 0533 007E R
02529 0532 5082 RB(5) +
02530 0534 A140 AN 1,ONE+20 CR#0
02531 0535 0080 R
02532 0536 5082 RB(4) +
02533 0537 A140 LD 1,ONES
02534 0538 006A R
02535 0539 A140 AN 1,ONE+20 BIT 5, CR#1
02536 0540 0080 R
02537 0541 5082 RB(5) +
02538 0542 A140 AN 1,ONE+22 CR#0
02539 0543 0082 R
02540 0544 5082 RB(4) +
02541 0545 8140 LD 1,ONES
02542 0546 006A R
02543 0547 A140 AN 1,ONE+22 BIT 4, CR#1
02544 0548 0082 R
02545 0549 5082 RB(5) +
02546 0550 A140 AN 1,ONE+24 CR#0
02547 0551 0084 R
02548 0552 5082 RB(4) +
02549 0553 8140 LD 1,ONES
02550 0554 006A R
02551 0555 A140 AN 1,ONE+24 BIT 3, CR#1
02552 0556 0084 R
02553 0557 5082 RB(5) +
02554 0558 A140 AN 1,ONE+25 CR#0
02555 0559 0080 R
02556 0560 5082 RB(4) +
02557 0561 8140 LD 1,ONES
02558 0562 006A R
02559 0563 A140 AN 1,ONE+25 BIT 2, CR#1
02560 0564 0080 R
02561 0565 5082 RB(5) +
02562 0566 A140 AN 1,ONE+26 CR#0
02563 0567 0080 R
02564 0568 5082 RB(4) +
02565 0569 8140 LD 1,ONES
02566 0570 006A R

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X

02550	037E	A140		AN	1, 20	BIT 1, CR=1	
02551	0380	B388	R				
02552	0382	B022		RB(5)	*		
02553	0384	A140		AN	1, ONE+30	CR=0	
02554	0386	B38A	R				
02555	0388	5C02		RB(4)	*		
02556	038A	B140		LD	1, ONES		X
02557	038C	B38A	R				
02558	038E	A140		AN	1, ONE+30	BIT 0, CR=2	
02559	0390	B38A	R				
02560	0392	5E02		RB(5)	*		
02561	0394	A140		AN	1, ONE	CR=0	X
02562	0396	B38C	R				
02563	0398	5C02		RB(4)	*		
02564	039A	B140		LD	1, ONES		X
02565	039C	B38A	R				
02566	039E	B140		AD	1, ZERO		X AD
02567	03A0	B388	R				
02568	03A2	B140		XR	1, ONES	CR=0	X
02569	03A4	B78A	R				
02570	03A6	5C02		RB(4)	*		
02571	03A8	B140		AD	1, ONES		X
02572	03AA	B38A	R				
02573	03AC	B140		XR	1, ONES	CR=0	X
02574	03AE	B05A	R				
02575	03B0	5C02		RB(4)	*		
02576	03B2	B140		LD	1, FOUR1		
02577	03B4	B38C	R				
02578	03B6	B140		AD	1, FOUR1		
02579	03B8	B140		XR	1, FOUR2		
02580	03BA	B08E	R				
02581	03BC	5C02		RB(4)	*		
02582	03BE	B140		LD	1, FOUR2		
02583	03C0	B38E	R				
02584	03C2	B140		AD	1, FOUR2		
02585	03C4	B38E	R				
02586	03C6	B140		XR	1, FOUR4		
02587	03C8	B090	R				
02588	03CA	5C02		RB(4)	*		
02589	03CC	B140		LD	1, FOUR4		
02590	03CE	B390	R				
02591	03D0	B140		XR	1, FOUR8		
02592	03D2	B392	R				
02593	03D4	5C02		RB(4)	*		
02594	03D6	B140		LD	1, FOUR8		

00501	050E	0092	R						
	050E	0140		AD	1, ONE				
00502	050E	0092	R						
	050E	0140		XH	1, FOUR1				
00503	050E	006C	R						
	050E	0140		XR	1, ONE				
00504	050E	006C	R						
	050E	006C		RB(4)	*				
00505	050E	0140		LD	1, MAXPOS				
00506	050E	0094	R						
	050E	0140		AD	1, ONE	OVERFLOW			
00507	050E	006C	R						
	050E	006C		RF(3)	++4				
00508	050E	007F		MLT					
00509	050E	0140		LD	1, ONE				
00510	050E	006C	R						
	050E	0140		AD	1, MAXPOS	CR#3			
00511	050E	0094	R						
	050E	0094		RF(3)	++4				
00512	050E	007F		MLT					
00513	050E	0140		LD	1, ONES				
00514	050E	006A	R						
	050E	0140		AD	1, ONE	CR#0			
00515	050E	006C	R						
	050E	006C		RB(4)	*				
00516	050E	0140		LD	1, ONE				
00517	050E	006C	R						
	050E	0140		AD	1, ONES	CR#0			
00518	050E	006A	R						
	050E	006A		RB(4)	*				
00519	050E	006C	R						
	050E	006C		LD	1, FOUR8			X	
00520	050E	0092	R						
	050E	0092		SU	1, FOUR4			X	SU
00521	050E	0092	R						
	050E	0092		SU	1, FOUR4	CR#0		X	
00522	050E	0092	R						
	050E	0092		RB(4)	*				
00523	050E	0140		LD	1, FOUR4			X	
00524	050E	0092	R						
	050E	0092		SU	1, FOUR2			X	
00525	050E	006E	R						
	050E	006E		SU	1, FOUR2	CR#0		X	
00526	050E	0032	R						
	050E	0032		RB(4)	*				
00527	050E	0140		LD	1, FOUR2			X	
00528	050E	006E	R						
	050E	006E		SU	1, FOUR1			X	
00529	050E	006C	R						



00540	00A2	0195	R				
	00A2	0140		LD	1,Z		
00542	00A6	0140	R	XR	1,ZERO		X
	00AA	0088	R				
00543	00AC	00A2		RB(4)	*		
00544	00AE	0140		LD	1,ONE		
	00B8	0080	R				
00545	00B2	0141	R	ST	1,ZONE		
	00B4	0096	R				
00546	00B6	0140		LD	1,ZONE		
	00B8	0098	R				
00547	00BA	0140		XR	1,ONE		
	00BC	0080	R				
00548	00BE	00A2		RB(4)	*		
00549	00C0	0140		LD	1,ONE		
	00C2	0080	R				
00550	00C4	0141		XR,S	1,DONE	1 XR 1 = 0 CR=0	X XR,S
	00C6	00A4	R				
00551	00C8	00A2		RB(4)	*		
00552	00CA	0140		LD	1,DONE	VERIFY RESULT	X
	00CC	00A4	R				
00553	00CE	00A2		RB(4)	*		
00554	00D0	0140		LD	1,ONE	RESTORE DONE	X
	00D2	0080	R				
00555	00D4	0141		ST	1,DONE		X
	00D6	00A4	R				
00556	00D8	0140		LD	1,ZERO		X
	00DA	0088	R				
00557	00DC	0141		XR,S	1,DONE	0 XR 1 = 1 CR=1 BIT 13	X XR,S
	00DE	00A4	R				
00558	00E0	00A2		RB(5)	*		
00559	00E2	0140		LD	1,DONE	VERIFY RESULT	
	00E4	00A4	R				
00560	00E6	0140		XR	1,ONE	1 XR 1 = 0 CR=0	
	00E8	0080	R				
00561	00EA	00A2		RB(4)	*		
00562	00EC	0141		XR,S	1,DONE+2	0 XR 1 = 1, CR=1, BIT 14	
	00EE	00A6	R				
00563	00F0	00A2		RB(5)	*		
00564	00F2	0140		LD	1,DONE+2	VERIFY RESULT	
	00F4	00A6	R				
00565	00F6	0140		XR	1,ONE+2	CR=0	
	00F8	008E	R				
00566	00FA	00A2		RB(4)	*		
00567	00FC	0141		XR,S	1,DONE+4	BIT 13	
	00FE	00A8	R				
00568	0700	00A2		RB(5)	*		
00569	0702	0140		LD	1,DONE+4		
	0704	00A8	R				

06670	0726	B140		XR	1,0	CR=0
	0728	0070	R			
06671	0734	0082		RB(4)	*	
06672	0736	B141		XR,S	1,DONE+0	BIT 12
	0738	00AA	R			
06673	0710	0022		RB(5)	*	
06674	0712	B140		LD	1,DONE+5	
	0714	00AA	R			
06675	0716	B140		XR	1,ONE+0	CR=0
	0718	0072	R			
06676	0714	0082		RB(4)	*	
06677	071C	B141		XR,S	1,DONE+8	BIT 11
	071E	00AC	R			
06678	0720	0082		RB(5)	*	
06679	0722	B140		LD	1,DONE+8	
	0724	00AC	R			
06680	0726	B140		XR	1,ONE+0	CR=0
	0728	0074	R			
06681	072A	0082		RB(4)	*	
06682	072C	B141		XR,S	1,DONE+10	BIT 10
	072E	00AE	R			
06683	0730	0082		RB(5)	*	
06684	0732	B140		LD	1,DONE+10	
	0734	00AE	R			
06685	0736	B140		XR	1,ONE+10	CR=0
	0738	0070	R			
06686	073A	0082		RB(4)	*	
06687	073C	B141		XR,S	1,DONE+12	BIT 9
	073E	0080	R			
06688	0740	0082		RB(5)	*	
06689	0742	B140		LD	1,DONE+12	
	0744	0080	R			
06690	0746	B140		XR	1,ONE+12	CR=0
	0748	0078	R			
06691	074A	0082		RB(4)	*	
06692	074C	B141		XR,S	1,DONE+14	BIT 8
	074E	0082	R			
06693	0750	0082		RB(5)	*	
06694	0752	B140		LD	1,DONE+14	
	0754	0082	R			
06695	0756	B140		XR	1,ONE+14	CR=0
	0758	007A	R			
06696	075A	0082		RB(4)	*	
06697	075C	B141		XR,S	1,DONE+16	BIT 7
	075E	0084	R			
06698	0760	0082		RB(5)	*	
06699	0762	B140		LD	1,DONE+16	
	0764	0084	R			
06700	0766	B140		XR	1,ONE+16	CR=0
	0768	007C	R			

00707	0764	5002		RB(4)	*		
00707	0760	0141		XR,S	1,0	18	BIT 6
00708	0762	0005	R				
00708	0774	5002		RB(5)	*		
00708	0772	0140		LD	1,DONE+18		
00708	0774	0006	R				
00708	0776	0140		XR	1,ONE+18		CR=0
00708	0778	027E	R				
00708	077A	5002		RB(4)	*		
00707	077C	0141		XR,S	1,DONE+20		BIT 5
00708	077E	0008	R				
00708	0780	5002		RB(5)	*		
00708	0782	0140		LD	1,DONE+20		
00710	0784	0008	R				
00710	0786	0140		XR	1,ONE+20		CR=0
00710	0788	0008	R				
00711	078A	5002		RB(4)	*		
00712	078C	0141		XR,S	1,DONE+22		BIT 4
00713	078E	000A	R				
00713	0790	5002		RB(5)	*		
00714	0792	0140		LD	1,DONE+22		
00714	0794	000A	R				
00715	0796	0140		XR	1,ONE+22		CR=0
00715	0798	0002	R				
00716	079A	5002		RB(4)	*		
00717	079C	0141		XR,S	1,DONE+24		BIT 3
00718	079E	000C	R				
00718	07A0	5002		RB(5)	*		
00719	07A2	0140		LD	1,DONE+24		
00720	07A4	000C	R				
00720	07A6	0140		XR	1,ONE+24		CR=0
00720	07A8	000A	R				
00721	07AA	5002		RB(4)	*		
00722	07AC	0141		XR,S	1,DONE+26		BIT 2
00722	07AE	000E	R				
00723	07B0	5002		RB(5)	*		
00724	07B2	0140		LD	1,DONE+28		
00724	07B4	000E	R				
00725	07B6	0140		XR	1,ONE+26		CR=0
00725	07B8	000E	R				
00726	07BA	5002		RB(4)	*		
00727	07BC	0141		XR,S	1,DONE+28		BIT 1
00728	07BE	000E	R				
00728	07C0	5002		RB(5)	*		
00729	07C2	0140		LD	1,DONE+28		
00729	07C4	000E	R				
00730	07C6	0140		XR	1,ONE+28		CR=0
00730	07C8	000E	R				
00731	07CA	5002		RB(4)	*		
00732	07CC	0141		XR,S	1,DONE+30		BIT 0

007	0700	0302	R	RB(5)	*		
00734	0702	0140		LD		1, ONE+30	
	0704	0002	R				
00735	0706	0140		XR		1, ONE+30	CR=0
	0708	030A	R				
00736	070A	0002		RB(4)	*		
00737							
00738							
00739	070C	0140		LD		1, ZERO	
	070E	030B	R				
00740	0710	A941		OR,S		1, ONE	0 OR 1 = 1 CR=1 BIT 15
	0712	03A4	R				OR,S
00741	0714	0002		RB(5)	*		
00742	0716	0140		LD		1, ONE	
	0718	00A4	R				
00743	071A	0140		XR		1, ONE	
	071C	040C	R				
00744	071E	0C02		RB(4)	*		
00745	0720	A241		OR,S		1, ONE+2	BIT 14
	0722	02A0	R				
00746	0724	0002		RB(5)	*		
00747	0726	0140		LD		1, ONE+2	
	0728	03A8	R				
00748	072A	0140		XR		1, ONE+2	CR=0
	072C	000E	R				
00749	072E	0C02		RB(4)	*		
00750	0730	A941		OR,S		1, ONE+4	BIT 13
	0732	03A0	R				
00751	0734	0002		RB(5)	*		
00752	0736	0140		LD		1, ONE+4	
	0738	03A8	R				
00753	073A	0140		XR		1, ONE+4	CR=0
	073C	0074	R				
00754	073E	0C02		RB(4)	*		
00755	0740	A941		OR,S		1, ONE+0	BIT 12
	0742	03A4	R				
00756	0744	0002		RB(5)	*		
00757	0746	0140		LD		1, ONE+0	
	0748	00AA	R				
00758	074A	0140		XR		1, ONE+0	CR=0
	074C	0372	R				
00759	074E	0C02		RB(4)	*		
00760	0750	A941		OR,S		1, ONE+8	BIT 11
	0752	03AC	R				
00761	0754	0002		RB(5)	*		
00762	0756	0140		LD		1, ONE+8	
	0758	03AC	R				
00763	075A	0140		XR		1, ONE+8	CR=0
	075C	0074	R				

007	002E	5C02		RB(4)	*		
007	0032	A941		OR,S	1,	L+10	BIT 10
00766	0032	00AE	R				
00766	0034	5002		RB(5)	*		
00767	0035	0140		LD	1,	DONE+10	
00766	003H	00AE	R				
00766	003A	0140		XR	1,	ONE+10	CR#0
00766	003C	0075	R				
00769	003E	5C02		RB(4)	*		
00770	0040	A941		OR,S	1,	DONE+12	BIT 9
00771	0042	00E0	R				
00771	0044	5002		RB(5)	*		
00772	0045	0140		LD	1,	DONE+12	
00772	0048	00E0	R				
00773	004A	0140		XR	1,	ONE+12	CR#0
00773	004C	0075	R				
00774	004E	5C02		RB(4)	*		
00775	0050	A941		OR,S	1,	DONE+14	BIT 8
00775	0052	00E2	R				
00776	0054	5002		RB(5)	*		
00777	0056	0140		LD	1,	DONE+14	
00777	0059	00E2	R				
00776	005A	0140		XR	1,	ONE+14	CR#0
00776	005C	007A	R				
00779	005E	5C02		RB(4)	*		
00780	0060	A941		OR,S	1,	DONE+16	BIT 7
00781	0062	00E4	R				
00781	0064	5002		RB(5)	*		
00782	0066	0140		LD	1,	DONE+16	
00782	0069	00E4	R				
00783	006A	0140		XR	1,	ONE+16	CR#0
00783	006C	007C	R				
00784	006E	5C02		RB(4)	*		
00785	0070	A941		OR,S	1,	DONE+18	BIT 6
00785	0072	00E6	R				
00786	0074	5002		RB(5)	*		
00787	0076	0140		LD	1,	DONE+18	
00787	0079	00E6	R				
00788	007A	0140		XR	1,	ONE+18	CR#0
00788	007C	007E	R				
00789	007E	5C02		RB(4)	*		
00790	0080	A941		OR,S	1,	DONE+20	BIT 5
00790	0082	00E8	R				
00791	0084	5002		RB(5)	*		
00792	0086	0140		LD	1,	DONE+20	
00792	0089	00E8	R				
00793	008A	0140		XR	1,	ONE+20	CR#0
00793	008C	00E8	R				
00794	008E	5C02		RB(4)	*		
00795	0090	A941		OR,S	1,	DONE+22	BIT 4

007	0092	00BA	R					
00797	0094	00A2		RB(5)	*			
	0098	0140		LD		1, DONE+22		
00798	009A	00BA	R					
	009C	0140		XR		1, DONE+22	CR#0	
00799	009E	5002						
00800	00A7	A941		OR.S	*	1, DONE+24	BIT 3	
	00A2	00BC	R					
00801	00A4	5002		RB(5)	*			
00802	00A6	0140		LD		1, DONE+24		
	00A8	00BC	R					
00803	00AA	0140		XR		1, DONE+24	CR#0	
	00AC	0004	R					
00804	00AE	5002		RB(4)	*			
00805	00B0	A941		OR.S	*	1, DONE+26	BIT 2	
	00B2	000E	R					
00806	00B4	5002		RB(5)	*			
00807	00B6	0140		LD		1, DONE+26		
	00B8	000E	R					
00808	00BA	0140		XR		1, DONE+26	CR#0	
	00BC	000E	R					
00809	00BE	5002		RB(4)	*			
00810	00C0	A941		OR.S	*	1, DONE+28	BIT 1	
	00C2	0000	R					
00811	00C4	5002		RB(5)	*			
00812	00C6	0140		LD		1, DONE+28		
	00C8	0000	R					
00813	00CA	0140		XR		1, DONE+28	CR#0	
	00CC	0000	R					
00814	00CE	5002		RB(4)	*			
00815	00D0	A941		OR.S	*	1, DONE+30	BIT 0	
	00D2	00C2	R					
00816	00D4	5002		RB(5)	*			
00817	00D6	0140		LD		1, DONE+30		
	00D8	00C2	R					
00818	00DA	0140		XR		1, DONE+30	CR#0	
	00DC	000A	R					
00819	00DE	5002		RB(4)	*			
00820								
00821								
00822	00E0	0140		LD		1, DONE	CR#2	
	00E2	000A	R					
00823	00E4	5002		RB(5)	*			
00824	00E6	A141		AN.S	*	1, DONE	CR=1 BIT 15	AN.S
	00E8	00A4	R					
00825	00EA	5002		RB(5)	*			
00826	00EC	0140		LD		1, DONE		
	00EE	00A4	R					
00827	00F0	0140		XR		1, DONE	CR#0	

021	00F2	000C	R				
02529	00F4	0002		RB(4)	*		
	00F5	0140		LD		1,ONES	
00030	00F9	006A	R				
	00FA	A141		AN,S		1,DONE+2	BIT 14
00031	00FC	00A6	R				
	00FE	0002		RB(5)	*		
00032	0027	0140		LD		1,DONE+2	
	0028	00A5	R				
00033	0034	0140		XR		1,ONE+2	CR=0
	0035	006E	R				
00034	0038	0002		RB(4)	*		
00035	003A	0140		LD		1,ONES	
	003C	006A	R				
00036	003E	A141		AN,S		1,DONE+4	BIT 13
	003F	00A8	R				
00037	0012	0002		RB(5)	*		
00038	0014	0140		LD		1,DONE+4	
	0015	00A8	R				
00039	0018	0140		XR		1,ONE+4	CR=0
	001A	0077	R				
00040	001C	0002		RB(4)	*		
00041	001E	0140		LD		1,ONES	
	0020	006A	R				
00042	0022	A141		AN,S		1,DONE+5	BIT 12
	0024	00AA	R				
00043	0025	0002		RB(5)	*		
00044	0028	0140		LD		1,DONE+5	
	002A	00AA	R				
00045	002C	0140		XR		1,ONE+5	CR=0
	002E	0072	R				
00046	0030	0002		RB(4)	*		
00047	0032	0140		LD		1,ONES	
	0034	006A	R				
00048	0036	A141		AN,S		1,DONE+6	BIT 11
	0038	00AC	R				
00049	003A	0002		RB(5)	*		
00050	003C	0140		LD		1,DONE+6	
	003E	00AC	R				
00051	0040	0140		XR		1,ONE+6	CR=0
	0042	0074	R				
00052	0044	0002		RB(4)	*		
00053	0048	0140		LD		1,ONES	
	004B	006A	R				
00054	004A	A141		AN,S		1,DONE+10	BIT 10
	004C	00AE	R				
00055	004E	0002		RB(5)	*		
00056	0050	0140		LD		1,DONE+10	
	0052	00AE	R				
00057	0054	0140		XR		1,ONE+10	CR=0

00050	0050	0076	R	RB(4)	*		
00051	0051	0076	R	LD	1,ONES		
00052	0052	0076	R	AN,S	1,DONE+12	BIT 9	
00053	0053	0076	R	RB(5)	*		
00054	0054	0076	R	LD	1,DONE+12		
00055	0055	0076	R	XR	1,ONE+12	CR#0	
00056	0056	0076	R	RB(4)	*		
00057	0057	0076	R	LD	1,ONES		
00058	0058	0076	R	AN,S	1,DONE+14	BIT 8	
00059	0059	0076	R	RB(5)	*		
00060	0060	0076	R	LD	1,DONE+14		
00061	0061	0076	R	XR	1,ONE+14	CR#0	
00062	0062	0076	R	RB(4)	*		
00063	0063	0076	R	LD	1,ONES		
00064	0064	0076	R	AN,S	1,DONE+16	BIT 7	
00065	0065	0076	R	RB(5)	*		
00066	0066	0076	R	LD	1,DONE+16		
00067	0067	0076	R	XR	1,ONE+16	CR#0	
00068	0068	0076	R	RB(4)	*		
00069	0069	0076	R	LD	1,ONES		
00070	0070	0076	R	AN,S	1,DONE+18	BIT 6	
00071	0071	0076	R	RB(5)	*		
00072	0072	0076	R	LD	1,DONE+18		
00073	0073	0076	R	XR	1,ONE+18	CR#0	
00074	0074	0076	R	RB(4)	*		
00075	0075	0076	R	LD	1,ONES		
00076	0076	0076	R	AN,S	1,DONE+20	BIT 5	
00077	0077	0076	R	RB(5)	*		
00078	0078	0076	R	LD	1,DONE+20		
00079	0079	0076	R	XR	1,ONE+20	CR#0	

0088	008A	0088	R				
0089	008C	0082		RB(4)	*		
0089	008E	0140		LD	1,ONES		
0089	00C7	006A	R				
0089	00C2	A141		AN,S	1,DONE+22	BIT 4	
0089	00C4	00DA	R				
0089	00C5	0092		RB(5)	*		
0089	00C8	0140		LD	1,DONE+22		
0089	00CA	006A	R				
0089	00C0	0140		XR	1,ONE+22	CR#0	
0089	00CE	0082	R				
0089	00D0	0092		RB(4)	*		
0089	00D2	0140		LD	1,ONES		
0089	00D4	006A	R				
0089	00D5	A141		AN,S	1,DONE+24	BIT 3	
0089	00D8	008C	R				
0089	00DA	0092		RB(5)	*		
0089	00DD	0140		LD	1,DONE+24		
0089	00DE	008C	R				
0089	00E0	0140		XR	1,ONE+24	CR#0	
0089	00E2	0084	R				
0089	00E4	0092		RB(4)	*		
0089	00E8	0140		LD	1,ONES		
0089	00E9	006A	R				
0089	00EA	A141		AN,S	1,DONE+25	BIT 2	
0089	00ED	008E	R				
0089	00EE	0092		RB(5)	*		
0089	00F0	0140		LD	1,DONE+25		
0089	00F2	008E	R				
0089	00F4	0140		XR	1,ONE+26	CR#0	
0089	00F6	008E	R				
0089	00F8	0140		LD	1,ONES		
0089	00FA	006A	R				
0089	00FC	A141		AN,S	1,DONE+28	BIT 1	
0089	00FE	008E	R				
0089	0A07	0092		RB(5)	*		
0089	0A08	0140		LD	1,DONE+28		
0089	0A0A	00C0	R				
0089	0A0B	0140		XR	1,ONE+28	CR#0	
0089	0A0D	008E	R				
0089	0A0E	0092		RB(4)	*		
0089	0A0F	0140		LD	1,ONES		
0089	0A10	006A	R				
0089	0A11	A141		AN,S	1,DONE+30	BIT 0	
0089	0A12	00C2	R				
0089	0A14	0092		RB(6)	*		
0089	0A16	0140		LD	1,DONE+30		
0089	0A18	00C2	R				
0089	0A1A	0140		XR	1,ONE+30	CR#0	
0089	0A1C	006A	R				

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009	0A1E	5C02	RB(4)	*		
0091	0A20	8140	LD	1, ONE	POS	
00919	0A22	0094	R			
	0A24	9141	AD, S	1, ONE	OVERFLOW	
	0A28	003C	H			
00927	0A28	5302	RF(3)	**4		
00921	0A2A	207F	HLT			
00922	0A2C	8140	LD	1, ONE	RESTORING	
	0A2E	00A4	R			
00923	0A30	8141	ST	1, ONE	ONE	
	0A32	000C	R			
00924	0A34	9141	AD, S	1, MAXPOS	OVERFLOW	
	0A36	0094	R			
00925	0A38	5302	RF(3)	**4		
00926	0A3A	207F	HLT			
00927	0A3C	8140	LD	1, ONE	RESTORING	
	0A3E	006A	R			
00928	0A40	8140	XR	1, ONE+30	MAXPOS	
	0A42	008A	R			
00929	0A44	8141	ST	1, MAXPOS		
	0A46	0094	R			
00930						
00931						
00932	0A48	8140	LD	1, FOUR		
	0A4A	0002	R			
00933	0A4C	9941	SU, S	1, FOUR	X SU, S	
	0A4E	0098	R			
00934	0A50	9943	SU	1, FOUR		
	0A52	00BE	R			
00935	0A54	9940	SU	1, FOUR		
	0A56	00BE	R			
00936	0A58	8140	XR	1, FOUR	CR=0	
	0A5A	0090	R			
00937	0A5C	5C02	RB(4)	*		
00938	0A5E	8140	LD	1, FOUR		
	0A60	0093	R			
00939	0A62	9941	SU, S	1, FOUR		
	0A64	00BE	R			
00940	0A66	9943	SU	1, FOUR		
	0A68	0A6C	R			
00941	0A6A	9943	SU	1, FOUR		
	0A6C	008C	R			
00942	0A6E	8140	XR	1, FOUR	CR=0	
	0A70	008E	R			
00943	0A72	5C02	RB(4)	*		
00944	0A74	8140	LD	1, FOUR		
	0A76	028E	R			
00945	0A78	9941	SU, S	1, FOUR		
	0A7A	008C	R			
00946	0A7C	8140	LD	1, ONE	RESTORE	

0091	BAS1	0140	R	AD	1,0	FOUR1	
	BAS2	0174	R				
00943	BAS4	0140	R	AD	1,ONE+16		
	BAS5	007C	R				
00949	BAS8	0140	R	AD	1,ONE+24		
	BAS9	0084	R				
00950	BAS0	0140	R	XR	1,FOUR1		
	BAS1	008C	R				
00951	BAS2	0082	R	RB(4)	*		
00952	BAS3	0140	R	LD	1,FOUR8		
	BAS4	0082	R				
00953	BAS5	0041	R	SU.S	1,FOUR8		
	BAS6	0092	R				
00954	BAS9	0140	R	LD	1,FOUR8		
	BAS0	0092	R				
00955	BAS1	0140	R	XR	1,ZERO		
	BAS2	0088	R				
00956	BAS3	0082	R	RB(4)	*		
00957	BAS4	0140	R	LD	1,FOUR4	RESTORE	
	BAS5	0090	R				
00958	BAS8	0140	R	AD	1,FOUR4	FOUR8	
	BAS9	0090	R				
00959	BAA0	0141	R	ST	1,FOUR8		
	BAA1	0092	R				
00960							
00961							
00962	BAB0	F940	R	C1	1,ZERO	C1	
	BAB1	0058	R				
00963	BAB4	0082	R	RB(6)	*		
00964	BAB5	0140	R	XR	1,ONES		
	BAB6	0084	R				
00965	BAB9	0082	R	RB(4)	*		
00966	BAB0	0140	R	LD	1,ZERO		
	BAB1	0088	R				
00967	BAB2	0141	R	ST	1,ZONE		
	BAB3	0096	R				
00968	BAB4	F841	R	C1.S	ZONE		
	BAB5	0098	R				
00969	BAB9	0142	R	LD	1,ONES		
	BAB0	0084	R				
00970	BAB1	0141	R	XR.S	1,ZONE		
	BAB2	0096	R				
00971	BAB3	0082	R	RB(4)	*		
00972	BAB4	F840	R	C1	1,ONE+30		
	BAB5	008A	R				
00973	BAB6	0082	R	RB(5)	*		
00974	BAB8	0140	R	XR	1,MAXPOS		
	BAB9	0084	R				
00975	BAB0	0082	R	RB(4)	*		

00977	BADE	F940		C1	1,0		C1
00977	BAER	0080	R				
00977	BAE2	0141		ST	1,ONE		
00978	BAE4	0060	R				
00978	BAE5	F641		C1.S	ONE		
00979	BAE8	0060	R				
00979	BAEA	0140		LD	1,ONE		
00980	BAEC	0060	R				
00980	BAEE	0140		XR	1,DONE		
00981	BAF0	00A4	R				
00981	BAF2	5062		RB(4)	*		
00982							
00983							
00984	BAF4	0140		LD	1,ONE		
00984	BAF5	0060	R				
00985	BAF8	E940		CH	1,DONE		CH*
00985	BAFA	00A4	R				
00986	BAFC	0062		RB(4)	*		
00987	BAFE	0140		LD	1,ONE+2		
00987	BAF7	006E	R				
00988	BAJ2	E940		CH	1,DONE+2		
00988	BAJ4	02A0	R				
00989	BAJ8	5062		RB(4)	*		
00990	BAJ8	0140		LD	1,ONE		
00991	BAJA	0060	R				
00991	BAJC	E940		CH	1,ZERO		CH>
00991	BAJE	0068	H				
00992	BAJ2	5062		RB(5)	*		
00993	BAJ2	E940		CH	1,ONE+2		CH<
00993	BAJ4	006E	R				
00994	BAJ6	5E02		RB(6)	*		
00995							
00996				LC,SC			
00997							
00998	BAJ8	0140		LD	1,ZERO		
00998	BAJA	0060	R				
00999	BAJC	0141		ST	1,ZONE		
00999	BAJE	0060	R				
01000	BAJ2	E140		LC	1,ONES		
01000	BAJ2	006A	R				
01001	BAJ4	E141		SC	1,ZONE		LEFT CHAR
01001	BAJ5	0096	R				
01002	BAJ3	A140		AN	1,ZONE		(A1)RD
01002	BAJ4	0096	R				
01003	BAJ2	5062		RB(4)	*		
01004	BAJ5	0141		ST	1,ZONE		(ZONE)=0
01004	BAJ6	0096	R				
01005	BAJ2	E140		LC	1,ONES+1		
01005	BAJ4	006B	R				
01006	BAJ6	E141		SC	1,ZONE+1		RIGHT CHAR

010	0039	0397	R				
	0039	0140		XR	1, A	(A1)=0	
	003C	0098	R				
01009	003E	0C02		RB(4)	*		
01009	0040	0141		ST	1, ZONE	(ZONE)=0	
	0042	0098	R				
01012	0044	0140		LC	1, ONE+30	VALUE OF ONE+15, LEFT CHAR	
	0048	003A	R				
01011	0049	0141		BC	1, ZONE		
	004A	0005	R				
01012	004C	0140		LC	1, ONE+15	VALUE OF ONE+7, RIGHT CHAR	
	004E	0078	R				
01013	0050	0140		XR	1, ZONE		
	0052	0095	R				
01014	0054	0040		SU	1, ONE+14		
	0056	007A	R				
01015	0058	0048		SU	1, ONE+30	A1=0	
	005A	008A	R				
01015	005C	0C02		RB(4)	*		
01017	005E	0141		ST	1, ZONE	(ZONE)=0	
	0060	0096	R				
01018							
01019							
01020	0062	0100		LU*	1, MACHIN		LD*
	0064	00A0	R				
01021	0066	A040		OR	1, ADRIND+2		
	0068	009A	R				
01022	006A	0140		XR	1, ONES		
	006C	005A	R				
01023	006E	0C02		RB(4)	*		
01024	0070	0100		LD*	1, MACHIN		
	0072	00A0	R				
01025	0074	0140		XR	1, ADRIND+2		
	0076	009A	R				
01025	0078	0140		XR	1, ONES		
	007A	006A	R				
01027	007C	0C02		RB(4)	*		
01028	007E	0140		LD	1, ADRIND		
	0080	0098	R				
01029	0082	0141		ST	1, ADRIND+4		
	0084	006C	R				
01030	0086	0140		LD	1, ADRIND+2		
	0088	009A	R				
01031	008A	0141		ST	1, ADRIND+6		
	008C	009E	R				
01032	008E	0101		ST*	1, MACHIN		ST*
	0090	00A0	R				
01033	0092	0140		LD	1, MACHIN	INCREMENT	
	0094	00A0	R				
01034	0096	0140		AD	1, ONE+2	MACHIN	

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01200 0894 8141 ST 1,0 IN BY ONE
01236 089E 8149 LD 1,ADRIND+4
01237 08A2 8161 ST* 1,MACHIN
01238 08A6 8147 LD 1,MACHIN
01239 08AA 9940 SU 1,ONE+2
01240 08AC 838E R
01241 08AF 8141 ST 1,MACHIN
01241 0892 8147 LD 1,ADRIND+6
01242 08B5 8143 XR 1,ADRIND COMPARE RESULTS OF ST AND ST*
01243 08BA 8C82 RB(4) *
01244 08AC 8143 LD 1,ADRIND+4
01245 08CE 8143 XR 1,ADRIND+2 COMP. RESULTS OF ST AND ST*
01246 08C4 8C82 RB(4) *
01247 08C5 8143 LD 1,ADRIND+4
01248 08CA 8141 ST 1,ADRIND RESTORE ADRIND
01249 08CE 8143 LD 1,ADRIND+6
01250 08D2 8141 ST 1,ADRIND+2 AND ADRIND+2 (WORD AFTER ADRIND)
01251 08D4 089A R
01252 * INCREMENT, TYPE4
01253 *
01254 08D8 8140 LD 1,ONES CR#2
01255 08D8 026A R
01255 08DA 8141 ST 1,ZONE
01256 08E0 0096 R
01256 08E0 9241 IM ZONE CR#0 X IM
01257 08E2 8C82 RB(4) *
01258 08E4 8140 LD 1,ZONE X
01259 08E6 0096 R
01259 08E9 8140 XR 1,ZERO
01259 08EA 026B R
01259 08EC 0082 RB(4) *
01261 08EE 8140 LD 1,MAXPOS CR#1
01262 08F0 0094 R
01262 08F2 8141 ST 1,ZONE
01262 08F4 0389 R

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01077	00F0	0041		IM	Z0	CR=3	
01078	00F0	0000	R				
01079	00FA	0302		RF(3)	**4		
01080	00FC	007F		HLT			
01081	00FE	0140		LD	1,ONE+30	CR=2	
01082	0000	0000	R				
01083	0022	0141		ST	1,ZONE		
01084	0024	0193	R				
01085	0006	0041		IM	ZONE	CR=2	
01086	0000	0000	R				
01087	002A	0002		RB(6)	*		
01088	0030	0140		LD	1,ONE	CR=1	
01089	0000	0000	R				
01090	0010	0141		ST	1,ZONE		
01091	0012	0090	R				
01092	0014	0041		IM	ZONE	CR=1	
01093	0010	0000	R				
01094	0010	0002		RB(5)	*		
01095	0014	0140		LD	1,ZONE		
01096	0010	0000	R				
01097	001E	0140		XR	1,ONE+2		
01098	0000	0000	R				
01099	0022	0002		RB(4)	*		
01100	0024	0700	F	RF	ABITST		
01101							
01102							
01103							
01104							
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01178							
01179							
01180							
01181	0020	0000	F	DTHLT0	DATA	HLT0	
01182	0020	0000	F	DTHLT1	DATA	HLT1	
01183	002A	0002	F	DTHLT2	DATA	HLT2	
01184	0020	0000	F	DTHLT3	DATA	HLT3	
01185	002E	0000	F	HLT0P1	DATA	HLT0+2	
01186	0030	0000	F	HLT1P1	DATA	HLT1+2	
01187	0032	0000	F	HLT2P1	DATA	HLT2+2	
01188	0034	0000	F	HLT3P1	DATA	HLT3+2	
01189	0036	FFFF	F	INT2	DATA	-2	
01190	0038	0000	F	OUT04	DATA	OUT04	
01191	003A	0000	F	IM	DATA	IM	
01192	003C	0000	F	NOTNEG	DATA	NOTNEG	
01193	003E	0000	F	NOTNUL	DATA	NOTNUL	
01194	0040	0000	F	C2	DATA	C2	
01195	0042	0140		ABITST	LD	1,ZERO	CR=0
01196	0044	0000	R				
01197	0046	0040		ABI(1)	DTHLT0	DO NOT JUMP	
01198	0048	0020	R				
01199	004A	0040		ABI(2)	DTHLT0	DO NOT JUMP	
01200	004C	0020	R				
01201	004E	0040		ABI(3)	DTHLT0	DO NOT JUMP	
01202	0050	0020	R				
01203	0052	0040		ABI(0)	HLT0P1	JUMP	ABI(0)

711	0C54	0C2E	R						
711R1	0C55	207F		HLT0	HLT				
	0C59	0140			LD	1, ONE	CR=1		LD
	0C5A	036C	R						
01192	0C5C	0840			ABI(2)	DTHLT1	DO NOT JUMP		
	0C5E	0C28	R						
71193	0C62	0A40			ABI(2)	DTHLT1	DO NOT JUMP		
	0C62	0C28	R						
01194	0C64	0840			ABI(3)	DTHLT1	DO NOT JUMP		
	0C65	0C28	R						
01195	0C68	0940			ABI(1)	HLT1P1	JUMP		ABI(1)
	0C6A	0C30	R						
01196	0C6C	207F		HLT1	HLT				
21127	0C6E	0140			LD	1, ONES	ALL ONES, CR=2		LD
	0C70	0C6A	R						
01198	0C72	0840			ABI(0)	DTHLT2	DO NOT JUMP		
	0C74	0C2A	R						
01199	0C76	0940			ABI(1)	DTHLT2	DO NOT JUMP		
	0C78	0C2A	R						
01110	0C7A	0840			ABI(3)	DTHLT2	DO NOT JUMP		
	0C7C	0C2A	R						
01111	0C7E	0A40			ABI(2)	HLT2P1	JUMP		ABI(2)
	0C80	0C32	R						
01112	0C82	207F		HLT2	HLT				
01113	0C84	0140			LD	1, MAXPOS			LD
	0C86	0894	R						
01114	0C88	0140			AD	1, ONE	OVERFLOW, CR=3		
	0C8A	026C	R						
01115	0C8C	0840			ABI(0)	DTHLT3	DO NOT JUMP		
	0C8E	0C2C	R						
01116	0C90	0940			ABI(1)	DTHLT3	DO NOT JUMP		
	0C92	0C2C	R						
01117	0C94	0A40			ABI(2)	DTHLT3	DO NOT JUMP		
	0C96	0C2C	R						
01118	0C98	0840			ABI(3)	HLT3P1	JUMP		ABI(3)
	0C9A	0C34	R						
01119	0C9C	207F		HLT3	HLT				
01120	0C9E	0140			LD	1, MIN2			
	0CA0	0C30	R						
71121	0CA2	0141			ST	1, ZONE			
	0CA4	0395	R						
01122	0CA6	0341		IM	IM	ZONE			
	0CA8	0395	R						
01123	0CAA	0E40			ABI(6)	DNOTNG	JUMP IF NOT NEGATIVE		ABI(6)
	0CAC	0C3C	R						
01124	0CAE	0F40			ABI	DIM			
	0CB0	0C3A	R						
01125	0CB2	0C40		NOTNEG	ABI(4)	DNOTNL	JUMP IF NOT ZERO		ABI(4)
	0CB4	0C3E	R						
01126	0CB6	0F40			ABI	DIM			

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21 0C2A 0C3A H NOTNUL ABI(5) DC JUMP. IF NOT POSITIVE
0C2A 0D40 R
01128 0C2C 0C38 R
0C2E 0140 LD 1,ZONE
0C30 0096 R
21129 0C22 0048 SU 1,ONE+2
0C24 0C2E H
21130 0C25 0141 ST 1,ZONE
0C28 0096 R
01131 0C2A 0F40 ABI DNOTNG
0C2C 0C3C R
01132 0C2E 0041 OUT04 IM ZONE
0C30 0096 R
21133 0C22 0048 ABI(5) DATAC2 BEGIN C2 TEST
0C24 0C48 R
21134 0C25 007F HLT
21135 *
21136 *
21137 * C2
01138 0C28 0140 LD 1,ZERO
0C2A 0068 R
01139 0C2C 0141 ST 1,ZONE
0C2E 0096 R
P1140 0C22 0041 C2 ZONE CR#0
0C24 0096 R
01141 0C24 0C02 RB(4) *
01142 0C26 0140 LD 1,ONE
0C28 006C R
01143 0C2A 0141 ST 1,ZONE
0C2C 0096 R
21144 0C2E 0041 C2 ZONE CR#2
0C30 0096 R
01145 0C22 0062 RB(8) *
01146 0C24 0140 LD 1,ONES
0C26 006A R
21147 0C26 0040 CN 1,ZONE COMPARE VALUE
0C28 0096 R
01148 0C2C 0C02 RB(4) *
21149 0C2E 0041 C2 ZONE CR#1
0C30 0096 R
01150 0C22 0062 RB(5) *
21151 0C24 0140 LD 1,ONE
0C26 006C R
01152 0C26 0040 CN 1,ZONE COMPARE VALUE
0C28 0096 R
21153 0C2C 0C02 RB(4) *
01154 0C2E 0140 LD 1,ONE+30
0D10 008A R
01155 0D12 0141 ST 1,ZONE
0D14 0096 R

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01157	0018	0841		C2	ZDN	CR=3	
	0018	0898	R				
01157	001A	0382		RF(3)	**4		
01158	001C	037F		HLT		E.S.	
01159	001E	0140		LD	1,ONES		
	0021	036A	R				
01160	0022	0141		AD,S	1,ONE	CR=0	
	0024	036C	R				
01161	0020	0C02		RB(4)	*		
01162	0025	0142		LD	1,ONE	RESTORING	
	0024	036A	R				
01163	002C	0141		ST	1,ONE	ONE	
	002E	036C	R				
01164	0030	0141		AD,S	1,ONES	CR=0	
	0032	036A	R				
01165	0034	0C02		RB(4)	*		
01165	0039	0142		LD	1,MAXPOS	RESTORING	
	0038	039A	R				
01167	003A	0142		XR	1,ONE+30	ONES	
	003C	036A	R				
01168	003E	0141		ST	1,ONES		
	0040	036A	R				
01169	0042	0141		AD,S	1,ZERO		X AD,S
	0044	0366	R				
01170	0046	0E62		RB(8)	*		
01171	0048	0140		XR	1,ZERO		
	004A	0366	R				
01172	004C	0C02		RB(4)	*		
01173	004E	0141		ST	1,ZERO	REESTABLISHMENT ZERO	
	0050	0350	R				
01174	0052	0141		AD,S	1,ONES		
	0054	036A	R				
01175	0055	0E62		RB(8)	*		
01176	0059	0140		LD	1,ONES		
	005A	036A	R				
01177	005C	0140		AD	1,ONE		
	005E	036C	R				
01178	0061	0C02		RB(4)	*		
01179	0062	0140		LD	1,FOUR1		
	0064	036C	R				
01180	0066	0141		AD,S	1,FOUR1		
	0068	036C	R				
01181	006A	0140		LD	1,FOUR1		
	006C	036C	R				
01182	006E	0140		XR	1,FOUR2		
	0070	036E	R				
01183	0072	0C02		RB(4)	*		
01184	0074	0140		LD	1,FOUR8	RESTORING	
	0076	0392	R				
01185	0078	0140		AD	1,FOUR8	FOUR1	

01187	007A	0092	R		
	007C	0140		AD	1
	007E	008C	R		
	0083	0141		ST	1, FOUR1
	0082	008C	R		
	0084	0140		LD	1, FOUR2
	0085	008E	R		
	0086	0141		AD, S	1, FOUR2
	008A	008E	R		
	008C	0140		LD	1, FOUR2
	008E	008E	R		
	0091	0140		XR	1, FOUR4
	0092	0092	R		
	0094	5C82		RB(4)	*
	0096	0140		LD	1, FOUR1
	0098	008C	R		
	009A	0140		AD	1, FOUR1
	009C	008C	R		
	009E	0141		ST	1, FOUR2
	009F	008E	R		
	00A3	0141		AD, S	1, FOUR4
	00A0	0090	R		
	00AA	5382		RF(3)	**4
	00AC	207F		HLT	
	00AE	0140		LD	1, FOUR4
	00B7	0090	R		
	00B2	0140		XR	1, FOUR6
	00B4	0092	R		
	00B5	5C82		RB(4)	*
	00B9	0140		LD	1, FOUR2
	00BA	008E	R		
	00BC	0140		AD	1, FOUR2
	00BE	008E	R		
	00C0	0141		ST	1, FOUR4
	00C2	0083	R		
	00C4	0140		LD	1, FOUR8
	00C6	0092	R		
	00C8	0141		AD, S	1, FOUR8
	00CA	0092	R		
	00CC	5382		RF(3)	**4
	00CE	207F		HLT	
	00D1	0140		LD	1, FOUR8
	00D2	0092	R		
	00D4	0140		XR	1, FOUR1
	00D6	008C	R		
	00D8	0140		XR	1, ONE
	00DA	008C	R		
	00DC	5C82		RB(4)	*

RESTORING

FOUR2.

RESTORING

FOUR4

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01211	00DE	0140		LD	1, F1	RESTORING
	00E3	0093	R			
01215	00E2	0140		AD	1, FOUR4	FOUR8
	00E4	0090	R			
01216	00E6	0141		ST	1, FOUR8	
	00E8	0092	R			
01217						
01218				CM AND	RTN	
01219						
01220	00EA	0140		LD	1, STACK	TESTING CFI, STACK POINTER#A1 TO A15
	00E0	00A2	R			
01221	00E5	F141		CFI	1, ADRT01	
	00F0	0000	F			
01222	00F2	5002		RB(S)	*	
01223	00F4	0240		LD	2, STACK	
	00F6	00A2	R			
01224	00F8	F241		CFI	2, ADRT02	
	00FA	0000	F			
01225	00FC	5002		RB(S)	*	
01226	00FE	0340		LD	3, STACK	
	0000	00A2	R			
01227	0002	F341		CFI	3, ADRT03	
	0004	0000	F			
01228	0006	5002		RB(S)	*	
01229	0008	0440		LD	4, STACK	
	000A	00A2	R			
01230	000C	F441		CFI	4, ADRT04	
	000E	0000	F			
01231	0010	5002		RB(S)	*	
01232	0012	0540		LD	5, STACK	
	0014	00A2	R			
01233	0015	F541		CFI	5, ADRT05	
	0018	0000	F			
01234	001A	5002		RB(S)	*	
01235	001C	0640		LD	6, STACK	
	001E	00A2	R			
01236	0020	F641		CFI	6, ADRT06	
	0022	0000	F			
01237	0024	5002		RB(S)	*	
01238	0026	0740		LD	7, STACK	
	0028	00A2	R			
01239	002A	F741		CFI	7, ADRT07	
	002C	0000	F			
01240	002E	5002		RB(S)	*	
01241	0030	0800		LD	8, STACK	
	0032	00A2	R			
01242	0034	F801		CFI	8, ADRT08	
	0036	0000	F			
01243	0038	5002		RB(S)	*	
01244	003A	0100		LD	9, STACK	

01241	0E3C	00A2	R			
	0E3E	F1C1		CFI	9,	189
	0E40	00A0	F			
01245	0E42	5002		RB(5)	*	
01247	0E44	02C0		LD	10,STACK	
	0E46	00A2	R			
01248	0E48	F2C1		CFI	10,ADRT10	
	0E4A	0000	F			
01249	0E4C	0002		RB(5)	*	
01250	0E4E	03C0		LD	11,STACK	
	0E50	00A2	R			
01251	0E52	F3C1		CFI	11,ADRT11	
	0E54	0000	F			
01252	0E56	5002		RB(5)	*	
01253	0E58	04C0		LD	12,STACK	
	0E5A	00A2	R			
01254	0E5C	F4C1		CFI	12,ADRT12	
	0E5E	0000	F			
01255	0E60	5002		RB(5)	*	
01256	0E62	05C0		LD	13,STACK	
	0E64	00A2	R			
01257	0E66	F5C1		CFI	13,ADRT13	
	0E68	0000	F			
01258	0E6A	5002		RB(5)	*	
01259	0E6C	06C0		LD	14,STACK	
	0E6E	00A2	R			
01260	0E70	F6C1		CFI	14,ADRT14	
	0E72	0000	F			
01261	0E74	5002		RB(5)	*	
01262	0E76	07C0		LD	15,STACK	
	0E78	00A2	R			
01263	0E7A	F7C1		CFI	15,ADRT15	
	0E7C	0000	F			
01264	0E7E	5002		RB(5)	*	
01265	0E80	0F20		ABL	MEMREF	
	0E82	0000	F			
01266	0E84	0000	F	ADRT01	DATA	ROUT01
01267	0E86	0000	F	ADRT02	DATA	ROUT02
01268	0E88	0000	F	ADRT03	DATA	ROUT03
01269	0E8A	0000	F	ADRT04	DATA	ROUT04
01270	0E8C	0000	F	ADRT05	DATA	ROUT05
01271	0E8E	0000	F	ADRT06	DATA	ROUT06
01272	0E90	0000	F	ADRT07	DATA	ROUT07
01273	0E92	0000	F	ADRT08	DATA	ROUT08
01274	0E94	0000	F	ADRT09	DATA	ROUT09
01275	0E96	0000	F	ADRT10	DATA	ROUT10
01276	0E98	0000	F	ADRT11	DATA	ROUT11
01277	0E9A	0000	F	ADRT12	DATA	ROUT12
01278	0E9C	0000	F	ADRT13	DATA	ROUT13
01279	0E9E	0000	F	ADRT14	DATA	ROUT14

012	0E40	0200	F	ADRT15	DATA	RD			
012	0E42	07C0		ROUT01	LD	13	ONES	MODIFY CR CONTENTS	
	0E44	026A	R						
01282	0E46	0E02			RTN	0			
01283	0E48	F024			RTN	1		RETURN	
01284	0E4A	06C0		ROUT02	LD	4	ONES		
	0E4C	026A	R						
01285	0E4E	F028			RTN	2			
01286	0E50	00C0		ROUT03	LD	13	ONES		
	0E52	026A	R						
01287	0E54	F02C			RTN	3			
01288	0E56	04C0		ROUT04	LD	12	ONES		
	0E58	026A	R						
01289	0E5A	F030			RTN	4			
01290	0E5C	03C0		ROUT05	LD	11	ONES		
	0E5E	026A	R						
01291	0E60	F034			RTN	5			
01292	0E62	02C0		ROUT06	LD	10	ONES		
	0E64	035A	R						
01293	0E66	F038			RTN	6			
01294	0E68	01C0		ROUT07	LD	9	ONES		
	0E6A	026A	R						
01295	0E6C	F03C			RTN	7			
01296	0E6E	0740		ROUT08	LD	7	ONES		
	0E70	026A	R						
01297	0E72	F022			RTN	8			
01298	0E74	0740		ROUT09	LD	7	ONES		
	0E76	035A	R						
01299	0E78	F026			RTN	9			
01300	0E7A	0540		ROUT10	LD	6	ONES		
	0E7C	026A	R						
01301	0E7E	F02A			RTN	10			
01302	0E80	0540		ROUT11	LD	5	ONES		
	0E82	035A	R						
01303	0E84	F02E			RTN	11			
01304	0E86	0440		ROUT12	LD	4	ONES		
	0E88	036A	R						
01305	0E8A	F032			RTN	12			
01306	0E8C	0340		ROUT13	LD	3	ONES		
	0E8E	028A	R						
01307	0E90	F036			RTN	13			
01308	0E92	0240		ROUT14	LD	2	ONES		
	0E94	026A	R						
01309	0E96	F03A			RTN	14			
01310	0E98	0140		ROUT15	LD	1	ONES		
	0E9A	026A	R						
01311	0E9C	F03E			RTN	15			
01312				* MODIFYING REGISTER NUMBER ROUTINE (FOR MEMORY REF. AND CONST. INSTR)					
01313	0E9E	0000	F	ADMOD	DATA	MODIFY			
01314	0FA0	0000	F	ADDEB	DATA	MEMREF		ADDRESS TABLE POINTER	

Address	Op Code	Op	Op Name	Op Type	Op Fields	Op Description
01317	0F02	0200	F	DATA	MEM	SAME (FOR REINITIALISAT
01318	0F04	0400	F	DTASUP	DATA	LAST ADDRESS TO BE MODIFIED+1
01317	0F08	0780	F	MSOREG	DATA	REGISTER NUMBER MASK (R1)
01318	0F09	0700	F	MSORG3	DATA	(R3)
01319	0F2A	F07F	F	REGBAR	DATA	X1F87F!
01320	0F3C	F8FF	F	SROBAR	DATA	..18FF!
01321	0F3E	0000	F	DTREST	DATA	RESTOR
01322	0F10	0000	F	COU	DATA	CUTA
01323	0F12	7800	F	MSWOPC	DATA	X17800!
01324	0F14	0100	F	MODIFY	LD*	A1,ADDEB
	0F16	0F00	R			
01325	0F18	0100	F	RF(1)	ISRB	FORMAT 0
01326	0F1A	A140	F	AN	A1,MSOREG	FORMAT 1, MASK REG, N-BER
	0F1C	0F00	R			
01327	0F1E	9940	F	SU	A1,MSOREG	IS IT THE LAST REG? (15)
	0F20	0F00	R			
01328	0F22	8040	F	ABI(0)	DTREST	YES, RESTORE REG N-BER
	0F24	0F00	R			
01329	0F26	0100	F	LD*	A1,ADDEB	
	0F28	0F00	R			
01330	0F2A	0140	F	AD14	AD	A1,ONE+14 INCR REG N-BER BY 1
	0F2C	007A	R			
01331	0F2E	0101	F	ST*	A1,ADDEB	STORE MODIFIED INSTRUCTION
	0F30	0F00	R			
01332	0F32	0140	F	LD	A1,ADDEB	
	0F34	0F00	R			
01333	0F36	0140	F	AD	A1,ONE+4	INCR. ADDRES BY 4
	0F38	0070	R			
01334	0F3A	0141	F	ST	A1,ADDEB	
	0F3C	0F00	R			
01335	0F3E	0700	F	ISRB	RF	ISLAST
01335	0F40	A140	F	AN	A1,MSWOPC	MASK OP, CODE
	0F42	0F12	R			
01337	0F44	0141	F	ST	A1,ZONE	
	0F46	0700	R			
01338	0F48	0140	F	LD	A1,4BINS	
	0F4A	0700	R			
01339	0F4C	A140	F	AN	A1,MSWOPC	
	0F4E	0F12	R			
01340	0F50	E940	F	CH	A1,ZONE	IS IT AN RB INSP?
	0F52	0100	R			
01341	0F54	0000	F	RF(0)	INCR2	YES, INCR ADDRESS BY 2
01342	0F56	0100	F	LD*	A1,ADDEB	NO IT IS A SHORT CONST, INS.
	0F58	0F00	R			
01343	0F5A	A140	F	AN	A1,MSOREG	MASK REG, N-BER
	0F5C	0F00	R			
01344	0F5E	9940	F	SU	A1,MSOREG	IS IT THE LAST REG? (7)
	0F60	0F00	R			
01345	0F62	8840	F	ABI(0)	DTREST	YES, RESTORE REG N-BER
	0F64	0F00	R			

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013 0F68 8180 LD* A1, 18
0F68 8F68 R
01347 0F6A 9140 AD15 AD A1, ONE+15 INCR REG NUMBER BY 1.
0F6C 827C R
01348 0F6E 8161 ST* A1, ADDEB STORE MODIFIED INSTRUCTION
0F70 8F68 R
01349 0F72 8140 INCR2 LD A1, ADDEB
0F74 2F80 R
01350 0F76 9140 AD A1, ONE+2 INCR ADDRESS BY 2
0F78 028E R
01351 0F7A 8141 ST A1, ADDEB
0F7C 0F80 R
01352 0F7E 8940 ISLAST CW A1, DTASUP OUT OF ZONE TO MODIFY?
0F82 0F84 R
01353 0F84 8A40 ABI(2) ADM00
0F86 8140 LD A1, ADDEB+2 YES, REINITIALIZE
0F88 0F80 R
01355 0F8A 8141 ST A1, ADDEB ADDEB
0F8C 8F80 R
01356 0F8E 8F40 ABI ADDEB AND RESTART EXECUTION
0F90 8F80 R

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01357
01358
01359
01360
01361 * MEMORY REFERENCE, WITH MODIFYING REGISTER NUMBER.
01362
01363
01364 MEMREF EQU *
01365

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0F92 80C0 LD R1, ONE LD
0F94 826C R
01366 0F96 90C0 AD R1, ONE+8 AD
0F98 8874 R
01367 0F9A 85C0 OR R1, ONE+16 OR
0F9C 827C R
01368 0F9E 82C0 XR R1, ONE+24 XR
0FA0 0F84 R
01369 0FA2 85C3 CW R1, FOUR1 CW
0FA4 028C R
01370 0FA6 80C2 RBINS RB(4) *
01371 0FA8 82C1 ST R1, ZONE ST
0FAA 828E R
01372 0FAC 80C0 LD R1, FOUR8
0FAD 8092 R
01373 0FAE 94C0 AD R1, FOUR4
0FB2 0190 R
01374 0FB4 89C0 OR R1, FOUR2
0FB6 028E R
01375 0FB8 80C0 XR R1, ZONE

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213.	0F8A	8096	R						
	0F90	E8C0		CH	R1,				
	0F9E	016A	R						
21377	0F03	5C02		RB(4)	*				
01378	2F02	A0C0		AN	R1,ADRIND			AN	
	0F04	0098	R						
21379	0F06	A0C0		AN	R1,FOUR2				
	2F03	208E	R						
21380	0F0A	E8C0		CH	R1,FOUR2				
	0F0C	208E	R						
21381	0F0E	5C02		RB(4)	*				
01382	0F08	98C0		SU	R1,FOUR1			SU	
	0F02	028C	R						
01383	2FD4	E5C0		CH	R1,FOUR1				
	0FD6	028C	R						
21384	0F08	5C02		RB(4)	*				
01385	2F0A	F8C0		C1	R1,ADRIND			C1	
	0F0C	0298	R						
21386	0F0E	E4C0		CH	R1,ADRIND+2				
	0FE3	009A	R						
21387	0FE2	5C02		RB(4)	*				
01388	0FE4	E0C0		LC	R1,ONE+1	RIGHT CHAR		LC	
	0FE6	006D	R						
21389	0FE8	E4C1		SC	R1,ZONE+1	RIGHT		SC	
	0FEA	0097	R						
21390	0FE0	E8C0		LC	R1,ONE+10	LEFT			
	0FE2	007C	R						
21391	0FE0	E8C1		SC	R1,ZONE	LEFT			
	0FE2	0095	R						
21392	0FF4	00C0		LD	R1,ONE+8				
	0FF6	0074	R						
21393	0FF8	04C0		XR	R1,ONE+24				
	0FFA	0084	R						
21394	0FFC	A8C1		ORS	R1,ZONE			ORS	
	0FFE	0093	R						
21395	1000	80C0		LD	R1,FOUR1				
	1002	026C	R						
21396	1004	E8C0		CH	R1,ZONE				
	1006	0095	R						
21397	1008	5C02		RB(4)	*				
01398	100A	00C1		XRS	R1,ZONE			XRS	
	100C	0095	R						
21399	100E	80C0		LD	R1,ZONE				
	1010	0095	R						
21400	1012	5C02		RB(4)	*				
01401	1014	80C0		LD	R1,FOUR1				
	1016	008C	R						
21402	1018	80C1		ST	R1,ZONE				
	101A	0095	R						
21403	101C	80C0		LD	R1,FOUR8				

014	101E	0392	R						
	1020	03C1	R	AD9	R1,	#9999		AD9	
	1022	0395	R						
01403	1024	0841	R	C19	ZONE	#6666		C19	
	1026	0395	R						
01405	1028	03C0	R	LD	1,FOURP				
	102A	0392	R						
01407	102C	08C1	R	SUS	R1,ZONE	#2222		SUS	
	102E	0395	R						
01408	1030	03C3	R	LD	R1,FOUR2				
	1032	039E	R						
01409	1034	08C3	R	CH	R1,ZONE				
	1036	0396	R						
01410	1038	03C2	R	RB(4)	*				
01411	103A	03C3	R	LD	R1,FOUR2				
	103C	039E	R						
01412	103E	03C3	R	AD	R1,FOUR4	#6666			
	1040	0399	R						
01413	1042	A2C1	R	ANS	R1,ZONE	#2222		ANS	
	1044	0395	R						
01414	1046	03C3	R	LD	R1,FOUR2				
	1048	039E	R						
01415	104A	03C0	R	CH	R1,ZONE				
	104C	0399	R						
01416	104E	03C2	R	LASTAD	RB(4)	*			
01417	1050	0F40	R	ABI	ADMOD				
	1052	0E9E	R						
01418									
01419									
01420									
01421	1054	0169	R	RESTOR	LD*	A1,ADDEB		TAKE AN INS	
	1056	0F00	R						
01422	1058	0182	R	RF(1)	FORM0			FORMAT 0?	
01423	105A	A140	R	AN	A1,REGBAR			FORMAT 1 MASK REG N-BER	
	105C	0F0A	R						
01424	105E	0140	R	ONE14	AD	A1,ONE+14		REG A9 FOR RESTART	
	1060	027A	R						
01425	1062	0161	R	ST*	A1,ADDEB			STORE THE REINITIALIZED INS	
	1064	0F00	R						
01425	1066	0140	R	LD	A1,ADDEB				
	1068	0F00	R						
01427	106A	0140	R	AD	A1,ONE+4			INCR ADDRESS BY 4	
	106C	0370	R						
01426	106E	0141	R	ST	A1,ADDEB				
	1070	0F00	R						
01429	1072	0700	R	RF	ISEND				
01430	1074	A140	R	FORM0	AN	A1,MSQOPC		MASK OF CODE	
	1076	0F12	R						
01431	1078	0141	R	ST	A1,ZONE				
	107A	0206	R						

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01432	107C	0140		LD	A1,		
	107E	0FA0	R				
01433	1080	A140		AN	A1,MSQOPC		
	1082	0F12	R				
01434	1084	0940		CW	A1,ZONE	IS IT AN RB INS	
	1086	0390	R				
01435	1088	0000	F	RF(0)	INCR	YES, INCREMENT ADDRESS BY 2	
	108A	0100	F	LD*	A1,ADDEB	NO, IT IS A SHORT CONST INS	
	108C	0FA0	R				
01437	108E	A140		AN	A1,SRGBAR		
	1090	0F0C	R				
01438	1092	0140		AD	A1,ONE+10	REG A1 FOR RESTART	
	1094	037C	R				
01439	1096	0101		ST*	A1,ADDEB	STORE THE REINITIALIZED INS	
	1098	0F00	R				
01440	109A	0140		INCR LD	A1,ADDEB		
	109C	0F00	R				
01441	109E	0140		AD	A1,ONE+2	INCR ADDRESS BY 2	
	10A0	025E	R				
01442	10A2	0141		ST	A1,ADDEB		
	10A4	0F00	R				
01443	10A6	0240		IBEND CW	A1,DTASUP	OUT OF ZONE TO MODIFY?	
	10A8	0F04	R				
01444	10AA	0A00		RB(2)	RESTOR		
01445	10AC	0140		LD	A1,ADDEB+2	RESTORE ADDEB	
	10AE	0F02	R				
01446	10B0	0141		ST	A1,ADDEB		
	10B2	0F00	R				
01447	10B4	0F40		ABI	DOUT	CONTINUE	
	10B6	0F10	R				
01448							
01449							
01450							
01451							
01452							
01453	10B8	0000	F	DOUTB	DATA	OUTB	
01454	10BA	100C	R	DEBSHC	DATA	**2	
01455	10BC	0100		OUTA	LUX	A1,0	THIS INS SERVS ONLY TO STOP MODIF REG NO AT 7
01456	10BE	0140		LD	A1,ONES	FOR VERIFYING THE LEFT HALF OF THE REGISTER	
	10C0	035A	R				
01457	10C2	0101		LDK	A1,1		
01458	10C4	0140		XR	A1,ONE		
	10C6	035C	R				
01459	10C8	0C02		RB(4)	*		
01460	10CA	0140		LD	A1,ONES		
	10CC	035A	R				
01461	10CE	0100		LDK	A1,0		
01462	10D0	0140		XR	A1,ZERO		
	10D2	035E	R				
01463	10D4	0C02		RB(4)	*		

014	1006	8141	ST	A1,	
	1008	0095	R		
01485	100A	8140	LD	A1,ONES	
	100C	006A	R		
01486	100E	E141	SC	A1,ZONE+1	
	100F	0097	R		
01487	10E2	01FF	LDK	A1,X1FF1	
01488	10E4	8140	XR	A1,ZONE	
	10E6	0096	R		
01489	10E8	5C02	RB(4)	*	
01479	10EA	8140	LD	A1,ADRIND	#X1AAAA1
	10EC	0098	R		
01471	10EE	E141	SC	A1,ZONE+1	
	10F0	0097	R		
01472	10F2	8140	LD	A1,ONES	
	10F4	006A	R		
01473	10F6	01AA	LDK	A1,X1AA1	
01474	10F8	8140	XR	A1,ZONE	
	10FA	0096	R		
01475	10FC	5C02	RB(4)	*	
01476	10FE	8140	LD	A1,ADRIND+2	#X155551
	1100	009A	R		
01477	1102	E141	SC	A1,ZONE+1	
	1104	0097	R		
01478	1106	8140	LD	A1,ONES	
	1108	006A	R		
01479	110A	0155	LDK	A1,X1551	
01480	110C	8140	XR	A1,ZONE	
	110E	0096	R		
01481	1110	5C02	RB(4)	*	
01482	1112	8140	LD	A1,ONES	
	1114	006A	R		
01483	1116	1100	ADK	A1,0	1+0 ADK
01484	1118	8140	XR	A1,ONES	
	111A	006A	R		
01485	111C	5C02	RB(4)	*	
01486	111E	8140	LD	A1,ONES	
	1120	006A	R		
01487	1122	E141	SC	A1,ZONE+1	
	1124	0097	R		
01488	1126	8140	LD	A1,ZERO	
	1128	0060	R		
01489	112A	11FF	ADK	A1,X1FF1	0+1
01490	112C	8140	XR	A1,ZONE	
	112E	0096	R		
01491	1130	5C02	RB(4)	*	
01492	1132	8140	LD	A1,FOUR1	
	1134	006C	R		
01493	1136	1111	ADK	A1,X1111	
01494	1138	E141	SC	A1,ZONE	

01495	113A	0000	R				
	113C	E141		SC	A1,ZL		
	113E	0007	R				
01496	1140	0140		LD	A1,FOUR2		
	1142	000E	R				
01497	1144	E940		CW	A,ZONE		
	1146	0000	R				
01498	1148	0002		RB(4)	*		
01499	114A	0140		LD	A1,ONE+16	BIT 8	
	114C	007C	R				
01500	114E	0141		ST	A1,ZONE		
	1150	0000	R				
01501	1152	0140		LD	A1,ONE		
	1154	000C	R				
01502	1156	11FF		ADK	A1,XIFF!	CARRY ON BIT 8	
01503	1158	0140		XR	A1,ZONE		
	115A	0000	R				
01504	115C	0002		RB(4)	*		
01505	115E	01FF		LOK	A1,XIFF!		
01506	1160	0141		ST	A1,ZONE		
	1162	0000	R				
01507	1164	0140		LD	A1,ONE+16		
	1166	007C	R				
01508	1168	1001		SUK	A1,1		SUK
01509	116A	0140		XR	A1,ZONE		
	116C	0000	R				
01510	116E	0002		RB(4)	*		
01511	1170	0140		LD	A1,ONES		
	1172	000A	R				
01512	1174	E140		LC	A1,ZERO		
	1176	0000	R				
01513	1178	0141		ST	A1,ZONE	-X100!	
	117A	0000	R				
01514	117C	0140		LD	A1,ONES		
	117E	000A	R				
01515	1180	10FF		SUK	A1,XIFF!	-1-XIFF!-X100!	
01516	1182	0140		XR	A1,ZONE		
	1184	0000	R				
01517	1186	0002		RB(4)	*		
01518	1188	0140		LD	A1,ONES		
	118A	000A	R				
01519	118C	2100		ANK	A1,0		ANK
01520	118E	0140		XR	A1,ZERO		
	1190	0000	R				
01521	1192	0002		RB(4)	*		
01522	1194	0140		LD	A1,ONES		
	1196	000A	R				
01523	1198	21AA		ANK	A1,XIAA!		
01524	119A	E141		SC	A1,ZONE		
	119C	0000	R				

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01527	11A5	E141	SC	A1,	
	11A3	0097	R		
01528	11A2	0140	LD	A1,ADRIND	
	11A4	0090	R		
01527	11A6	0140	XR	A1,ZONE	
	11A9	0095	R		
01528	11A4	5C02	RB(4)	*	
01529	11A0	0140	LD	A1,ONES	
	11AE	006A	R		
01532	11B7	E140	LC	A1,ADRIND	
	11E2	0090	R		
01531	11B4	2950	ORK	A1,X1551	ORK
01532	11B5	0140	XR	A1,ONES	
	11B9	026A	R		
01533	11B8	5C02	RB(4)	*	
01534	11B0	2910	ORK	A1,X1101	
01535	11B0	0140	XR	A1,ONE+8	
	11C0	0074	R		
01536	11C2	5C02	RB(4)	*	
01537	11C4	0140	LD	A1,ADRIND+2	
	11C9	009A	R		
01538	11C9	31FF	XRK	A1,X1FF1	XRK
01539	11C4	A140	AN	A1,ADRIND+2	
	11C0	009A	R		
01540	11C0	3155	XRK	A1,X1551	
01541	11C0	0140	XR	A1,ADRIND+2	
	11C2	009A	R		
01542	11C4	5C02	LSTADR	RB(4)	*
01543	11C0	0140	LD	A1,MAXPOS	
	11C9	009A	R		
01544	11DA	1101	ADK	A1,1	OVERFLOW
01545	11DC	5302	RF(3)	++4	
01546	11C0	207F	HLT		
01547	11B0	0140	LD	A1,OTSUPR	PREPARE MODIFYING REGISTER NUMBER
	11E2	0020	F		
01548	11E4	0141	ST	A1,DTASUP	
	11E9	0F04	R		
01549	11E8	0140	LD	A1,DEBSHC	
	11E4	106A	R		
01550	11E0	0141	ST	A1,ADDEU	
	11E0	0F00	R		
01551	11F0	0141	ST	A1,ADDEB+2	
	11F2	0F02	R		
01552	11F4	0140	LD	A1,DOU7B	
	11F0	1000	R		
01553	11F0	0141	ST	A1,DOU7	
	11FA	0F10	R		
01554	11FC	0140	LD	A1,AD10+2	
	11FE	0F6C	R		
01555	1200	0141	ST	A1,AD14+2	

01550	1202	0F2C	R				
	1204	8141		ST	A1, L	14+2	
	1205	1000	R				
01557	1203	0F40		ABI	ADMOO		
	120A	0EFE	R				
01558	1200	1104	R	DTSUPR	DATA	LSTADR	LAST ADDRESS TO BE MODIFIED+1
01559	120E	8143		OUT0	LD	A1, AD14+2	RESTORE AD14+2
	1210	0F2C	R				
01560	1212	1022		SUK	A1, 2		
01561	1214	8141		ST	A1, AD14+2		
	1216	0F2C	R				
01562	1213	8141		ST	A1, ONE14+2		
	121A	1000	R				
01563				LGCONS	EQU	*	
01564	1210	03C0		LD	R1, ONES		
	121E	006A	R				
01565	1220	82A0		LDKL	R1, 0		LOKL
	1222	0200					
01566	1224	5C02		RB(4)	*		VERIFY CR POSITIONNING
01567	1226	02C0		XR	R1, ZERO		
	1229	0158	R				
01568	122A	5C02		RB(4)	*		
01569	122C	80A0		LDKL	R1, X1FFFF		
	122E	FFFF					
01570	1230	5E02		RB(6)	*		VERIFY CR POSITIONNING
01571	1232	83C0		XR	R1, ONES		
	1234	026A	R				
01572	1235	5C02		RB(4)	*		
01573	1238	80A0		LDKL	R1, X15555		
	123A	5555					
01574	123C	5002		RB(5)	*		VERIFY CR POSITIONNING
01575	123E	90A0		ADKL	R1, X'AAAA		
	1240	AAAA					
01576	1242	5E02		RB(6)	*		
01577	1244	03C0		XR	R1, ONES		
	1246	026A	R				
01578	1248	5C02		RB(4)	*		
01579	124A	80C0		LD	R1, ONE+20		
	124C	0388	R				
01580	124E	90A0		SUKL	R1, X12000		SUKL
	1250	2220					
01581	1200	03C0		CX	R1, ONE+20		
	1204	0266	R				
01582	1256	5C02		RB(4)	*		
01583	1258	A0A0		ANKL	R1, X12000		ANKL
	125A	2000					
01584	125C	03C0		CX	R1, ONE+20		
	125E	0266	R				
01585	1260	5C02		RB(4)	*		
01586	1262	A0A0		ORKL	R1, X12000		ORKL

715	1264	2000			
	1265	EBCD	CH	R1, L 20	
	1268	2016	R		
01558	126A	5C22	RB(4)	*	
01559	126C	82A0	XRKL	R1, X'20021	XRKL
	126E	2000			
01590	1274	5C22	RB(4)	*	
01591	1272	82A0	LDKL	R1, X'AAAA1	
	1274	AAAA			
01592	1276	98C0	SU	R1, ADRIND+2	
	1278	E39A	R		
01593	127A	E3A0	CHK	R1, X'55551	
	127C	5555			
01594	127E	5C22	R0(4)	*	
01595	1280	92A0	ADKL	R1, X'55551	
	1282	5555			
01596	1284	E3A0	CHK	R1, X'AAAA1	
	1286	AAAA			
01597	1288	5C22	RB(4)	*	
01598	128A	98A0	SUKL	R1, X'55551	
	128C	5555			
01599	128E	92A0	XRKL	R1, X'AAAA1	
	1290	AAAA			
01600	1292	5E02	RB(0)	*	
01601	1294	E3A0	CHK	R1, X'FFFF1	
	1296	FFFF			
01602	1298	5C22	RB(4)	*	
01603	129A	A0A0	ANKL	R1, X'55551	
	129C	5555			
01604	129E	A0A0	DRKL	R1, X'AAAA1	
	12A0	AAAA			
01605	12A2	5E02	RB(0)	*	
01606	12A4	E3A0	CHK	R1, X'FFFF01	
	12A6	FFFF			
01607	12A8	5D02	R0(5)	*	
01608	12AA	E0A0	CHK	R1, 0	
	12AC	22A0			
01609	12AE	5E02	RB(0)	*	
01610	12B0	E3A0	CHK	R1, X'FFFF1	
	12B2	FFFF			
01611	12B4	5C22	RB(4)	*	
01612	12B6	63C0	LD	R1, ZERO	
	12B8	X200	R		
01613	12BA	E3A0	LCK	R1, X'02FF01	
	12BC	X0FF			
01614	12BE	E0C0	CH	RA, ZERO	
	12C0	0000	R		
01615	12C2	5C22	RB(4)	*	
01616	12C4	E3A0	LCK	R1, X'01FF1	
	12C6	01FF			

01517	1209	E9C0		CH	R1,00		
	120A	398C	R				
01518	120C	5C82		RB(4)	*		
01519	120E	E0A3		LDK	R1,X1FF001		
	1207	FF00					
01520	1202	E7C1		SC	R,ZONE		
	1204	0898	R				
01521	1206	E3C1		SC	R1,ZONE+1		
	1208	0397	R				
01522	120A	80C0		LD	R1,ZONE		
	120C	0096	R				
01523	120E	03C9		XR	R1,ONES		
	12E0	006A	R				
01524	12E2	5C82		ADLAST	RB(4)	*	
01525	12E4	8120		LDKL	1,ADLAST		PREPARE MODIFYING REGISTER NUMBER
	12E6	12E2	H				
01526	12E8	8141		ST	1,DTASUP		
	12EA	8F04	R				
01527	12EC	8120		LDKL	1,LGCONS		
	12EE	121C	R				
01528	12F0	8141		ST	1,ADDEB		
	12F2	8F00	R				
01529	12F4	8141		ST	1,ADDEB+2		
	12F6	8F02	R				
01530	12F8	8120		LDKL	1,OUT06		
	12FA	8800	R				
01531	12FC	8141		ST	1,DOUT		
	12FE	8F10	R				
01532	1300	8F40		ABI	ADMOD		
	1302	8E9E	R				
01533	1304	8120		OUT06	LDKL	1,1	
	1306	0001	R				
01534	1308	9120		ADKL	1,X17FFF!	OVERFLOW	ADKL
	130A	7FFF	R				
01535	130C	6322		RF(3)	**4		
01536	130E	287F		HLT			
01537	1310	8120		LDKL	A1,LASTAD		RESTORE CONSTANTS IN MOD. REG. N=BER ROUTINE
	1312	104E	R				
01538	1314	8141		ST	A1,DTASUP		
	1316	8F04	R				
01539	1318	8120		LDKL	A1,MEMREF		
	131A	8F92	R				
01540	131C	8141		ST	A1,ADDEB		
	131E	8F00	R				
01541	1320	8141		ST	A1,ADDEB+2		
	1322	8F02	R				
01542	1324	8120		LDKL	A1,OUTA		
	1326	10BC	R				
01543	1328	8141		ST	A1,DOUT		
	132A	8F10	R				

ABL TEST

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0164 132C 8140 LD A1,ONES CR#2
0164 132E 005A R
01648 1330 8820 ABL(0) HT1 DO NOT JUMP
01649 1332 0700 F
01649 1334 8A27 ABL(2) HT1+2 JUMP
01650 1336 0000 F
01650 1338 077F HT1 HLT
01651 133A 8920 ABL(1) HT2 DO NOT JUMP
01652 133C 0700 F
01652 133E 8C20 ABL(4) HT2+2 JUMP
01653 1340 0000 F
01653 1342 207F HT2 HLT
01654 1344 8820 ABL(3) HT3 DO NOT JUMP
01655 1346 0000 F
01655 1348 6020 ABL(5) HT3+2 JUMP
01656 134A 0000 F
01656 134C 207F HT3 HLT
01657 134E 0E20 ABL(6) HT4 DO NOT JUMP
01658 1350 0000 F
01658 1352 8F20 ABL HT4+2 JUMP
01659 1354 0000 F
01659 1356 207F HT4 HLT
01660 1358 0700 LD A15,STACK CR#1
01661 135A 02A2 R
01661 135C 07A1 CF A15,SUBRT CF WITH A15
01662 135E 0000 F
01662 1360 8920 ABL(1) REGREG
01663 1362 0000 F
01663 1364 207F HLT NO
01664 1366 0800 SUBRT SLR A3,A3 CR#0
01665 1368 0B3E RTN A15

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\* MODIFYING REGISTER NUMBER FOR REGISTER INSTRUCTIONS.

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01670 136A 0000 F ADDRESS DATA REGREG ADDRESS TABLE POINTER
01671 136C 0000 F DATA REGREG SAME (FOR REINITIALIZATION)
01672 136E 0780 MSRG1 DATA X107801 REGISTER NUMBER MASK (R1)
01673 1370 0A1E MSRG2 DATA X10A1E1 (R2)
01674 1372 0382 INCRS DATA X103821 FOR INCR R1 AND R2
01675 1374 0000 FA SUPADD DATA AFTER LAST ADDRESS TO BE MODIFIED+1
01675 1376 0000 MDMASK DATA X100001 NO MASK
01677 1378 0000 F DTOUT DATA RSTORE
01678 137A 8100 TAKE LD# A1,ADDRESS TAKE AN INSTRUCTION
01679 137C 136A R
01679 137E 8100 F RF(1) INCT#0. FORMAT 0
01680 1380 A140 AN A1,MDMASK. IS MD#0

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21681	1352	1376	R				
21682	1384	8000	F	RF(0)	INCR	YES, INCR REG R1 AND R3.	
	1385	8160		LD*	A1, ADDRES	NO	
	1389	136A	R				
21683	138A	A140		AN	A1, MDMASK	MASK MD	
	138C	1376	R				
21684	139E	8920		CHK	A1, X102201	IS IT=01	
	1399	8220					
21685	13A2	8400	F	RF(4)	INCR1	NO, IT IS NOT A REG-REG INS	
21686	1394	8160		LD*	A1, ADDRES	YES	
	1396	136A	R				
21687	1399	A140		AN	A1, MSOR02	IS R2=0	
	139A	1373	R				
21688	139C	8920	F	RF(0)	INCR1	NO, IT IS NOT A REG-REG INS	
21689	139E	8160		INCRM	LD*	A1, ADDRES	YES, IT IS A REG-REG INS.
	13A2	136A	R				
21692	13A2	8140		AD	A1, INCR0	INCREMENT R1 AND R3 BY 1	
	13A4	1372	R				
21691	13A5	8101		ST*	A1, ADDRES		
	13A8	136A	R				
21692	13A4	8140		INCR0	LD	A1, ADDRES	INCR. ADDRESS TABLE
	13AC	136A	R				
21693	13A5	1102		AOK	A1, 2	BY 2	
21694	1389	8141		ST	A1, ADDRES		
	1382	136A	R				
21695	1354	8940		ISOUT	CH	A1, SUPADD	IS IT THE LAST ADDRESS+1
	1365	1374	R				
21696	1358	8A40		RB(2)	TAKE	NO, CONTINUE	
21697	135A	8140		LD	A1, ADDRESS+2	YES, RESTORE	
	138C	1360	R				
21698	135E	8141		ST	A1, ADDRESS	ADDRESS TABLE	
	1300	136A	R				
21699	1302	8720		ABL	REGREG	AND EXECUTE	
	1304	8060	F				
21700	1305	8160		INCR1	LD*	A1, ADDRESS	INCREMENT R1
	1303	136A	R				
21701	130A	9140		AD	A1, ONE+14	BY 1	
	130C	807A	R				
21702	130E	8181		ST*	A1, ADDRESS		
	1302	136A	R				
21703	1302	8140		LD	A1, ADDRESS	INCREMENT ADDRESS TABLE	
	1304	136A	R				
21704	1305	1104		AOK	A1, 4	BY 4	
21705	1308	8141		ST	A1, ADDRESS		
	130A	138A	R				
21706	130C	8F2A		RB	ISOUT		
21707							
21708							
21709							
21710							

\* REGISTER TO REGISTER INSTRUCTIONS

\* REGREG EQU \*

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017 130E 80A0 LDKL A8, F1
130F FFFF
01712 1302 8102 LDR A1,A8
01713 1304 E923 CHK A1,X1FFFF!
1306 FFFF
01714 1308 5C02 RB(4)
01715 130A 8120 LDKL A1,X100AA!
130C 00AA
01716 130E 00A0 LDKL A8,X10055!
130F 0055
01717 13F2 8102 ADR A1,A8 AA+55=FF+A1. ADR
01718 13F4 82A0 LDKL A8,X1FFFF!
13F6 FFF0
01719 13FB 9102 ADR A1,A8 FF00+00FF=FFFF+A1
01720 13FA E923 CHK A1,X1FFFF!
13FC FFFF
01721 13FE 5C02 RB(4)
01722 1400 8120 LDKL A1,X11111!
1402 1111
01723 1404 80C0 LD A8,MACHIN ADRIND=AAAA
1406 00A0 R
01724 1408 8122 ADR* A1,A8 1111+AAAA=BBBB->A1 ADR*
01725 140A E923 CHK A1,X1BBBB!
140C 00BB
01726 140E 5C02 RB(4)
01727 1410 8120 LDKL A1,X12222!
1412 2222
01728 1414 8123 ADRS A1,A8 2222+AAAA=CCCC->ADRIND ADRS
01729 1416 8123 LDKL A1,X1CCCC!
1418 CCCC
01730 141A E9A0 CW A1,ADRIND
141C 0098 R
01731 141E 5C02 RB(4)
01732 1420 8120 LDKL A1,X1EEEE!
1422 EEEE
01733 1424 8923 SURS A1,A8 EEEE-CCCC=2222->ADRIND SURS
01734 1426 8120 LDKL A1,X12221!
1428 2221
01735 142A 8922 SUR* A1,A8 2221-2222=FFFF->A1 SUR*
01736 142C E923 CHK A1,X1FFFF!
142E FFFF
01737 1434 5C02 RB(4)
01738 1436 82A0 LDKL A8,X15555!
1438 0555
01739 143E 8922 SUR A1,A8 FFFF-5555=AAAA->A1 SUR
01740 1438 E923 CHK A1,X1AAAA!
143A AAAA
01741 143C 5C02 RB(4)
01742 143E 8141 ST A1,ADRIND RESTORE ADRIND
1440 0098 R

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01747	1442	A102	ANR	A1,	AAAA,5555=0000->A1	ANR
017	1444	5C02	RB(4)	*		
01745	1448	80C0	LD	A8,MACHIN	ADRIND	
	1449	00A0	R			
01746	144A	0120	LDKL	A1,X10000!		
	144C	00F0				
01747	144E	A122	ANR*	A1,A8	00F0,AAAA=00A0->A1	ANR*
01748	1450	0920	CHK	A1,X10A00!		
	1452	00A0				
01749	1454	5C02	RB(4)	*		
01750	1456	A123	ANRS	A1,A8	00A0,AAAA=00A0->ADRIND	ANRS
01751	1458	0940	CH	A1,ADRIND		
	145A	0000	R			
01752	145C	5C02	RB(4)	*		
01753	145E	0120	ADKL	A1,X10A00!	RESTORE	
	1458	00A0				
01754	1452	0141	ST	A1,ADRIND	ADRIND 00A0+00A0=AAAA	
	1464	0000	R			
01755	1465	00A0	LDKL	A5,X15555!		
	1465	5555				
01756	146A	A002	ORR	A1,A8	AAAA + 5555=FFFF->A1	ORR
01757	146C	0940	CH	A1,ONES		
	146E	000A	R			
01758	1470	5C02	RB(4)	*		
01759	1472	80C0	LD	A8,MACHIN	ADRIND	
	1474	00A0	R			
01760	1475	0904	SUR	A1,A1	A1=0	
01761	1478	A022	ORR*	A1,A8	0000+AAAA=AAAA->A1	ORR*
01762	147A	0940	CH	A1,ADRIND		
	147C	0000	R			
01763	147E	5C02	RB(4)	*		
01764	1480	0120	LDKL	A1,X10000!		
	1482	0000				
01765	1484	A020	ORRS	A1,A8	0000+AAAA=AAFF->ADRIND	ORRS
01766	1485	0120	LDKL	A1,X1AAFF!		
	1488	AAFF				
01767	148A	0940	CH	A1,ADRIND		
	148C	0000	R			
01768	148E	5C02	RB(4)	*		
01769	1490	0120	LDKL	A1,X10000!	RESTORE ADRIND	
	1492	0000				
01770	1494	0123	XRRS	A1,A8	0000 X0 AAFF = AAAA->ADRIND	XRRS
01771	1495	0140	LD	A1,ADRIND		
	1498	0000	R			
01772	149A	0920	CHK	A1,X1AAAA!		
	149C	AAAA				
01773	149E	5C02	RB(4)	*		
01774	14A0	0140	LD	A1,FOUR2		
	14A2	0000	R			
01775	14A4	0122	XRR*	A1,A8	2222 X0 AAAA = 0000->A1	XRR*

01777	14A6	E940	CH	A1,			
	14A8	0092	R				
01777	14AA	0042		RB(4)	*		
01778	14AC	F922		C1R*	A1,AB	C1(AAAA)=5555->A1	C1R*
01779	14AE	E940		CH	A1,ADRIND+2		
	14B0	009A	R				
01780	14B2	0022		RB(4)	*		
01781	14B4	F823		C1RS	AB	C1(AAAA)=5555->ADRIND	C1RS
01782	14B6	0140		LD	A1,ADRIND		
	14B8	0098	R				
01783	14BA	E920		CHK	A1,X15555!		
	14BC	0055					
01784	14BE	0042		RB(4)	*		
01785	14C0	F823		C1RS	AB	RESTORE ADRIND	
01786	14C2	00C2		LD	AB,ADRIND		
	14C4	0098	R				
01787	14C6	0142		XRR	A1,AB	0000 XH AAAA=FFFF	
01788	14C8	E940		CH	A1,ONES		
	14CA	006A	R				
01789	14CC	0042		RB(4)	*		
01790	14CE	00A0		LDKL	AB,X11111!		
	14D0	1111					
01791	14D2	F942		C1R	A1,AB	C1(1111)=EEEE->A1	C1R
01792	14D4	E920		CHK	A1,X1EEEE!		
	14D6	EEEE					
01793	14D8	0042		RB(4)	*		
01794	14DA	0120		LDKL	A1,1		
	14DC	0061					
01795	14DE	00A0		LDKL	AB,0		
	14E0	0000					
01796	14E2	E942		CHR	A1,AB		CHR
01797	14E4	0002		RB(5)	*		
01798	14E6	00A0		LDKL	AB,2		
	14E8	0002					
01799	14EA	E902		CHR	A1,AB		
01800	14EC	0002		RB(5)	*		
01801	14EE	00A0		LDKL	AB,1		
	14F0	0001					
01802	14F2	E902		CHR	A1,AB		
01803	14F4	0002		RB(4)	*		
01804	14F6	00C0		LD	AB,MACHIN		
	14F8	00A0	R				
01805	14FA	E922		CHR*	A1,AB		CHR*
01806	14FC	0042		RB(5)	*		
01807	14FE	0120		LDKL	A1,X1AAA0!		
	1500	AAAA					
01808	1502	E922		CHR*	A1,AB		
01809	1504	0002		RB(5)	*		
01810	1506	0120		LDKL	A1,1	=AAAA	
	1508	0001					

01811	150A	E922	CHR*	A1			
01812	150C	5002	RB(2)	*			
01813	150E	55A0	LDKL	A0, X155AA!			
	1511	55AA					
01814	1512	E102	ECR	A1, A8		ECR	
01815	1514	A102	ANR	.1, A8			
01816	1515	5002	RB(4)	*			
01817	1519	E102	ECR	A1, A8			
01818	151A	E920	CHK	A1, X1AA55!			
	151C	AA55					
01819	151E	5002	RB(4)	*			
01820	1520	A103	TM	A1, A8	AA55, 55AA=0	TM	
01821	1522	5002	RB(4)	*			
01822	1524	9120	ADKL	A1, X10055! #AAAA			
	1525	0055					
01823	1528	A103	TM	A1, A8			
01824	152A	5002	RB(5)	*			
01825	152C	55A0	LDKL	A0, X18200!			
	152E	0000					
01828	1537	A103	TM	A1, A8			
01827	1532	5002	RB(6)	*			
01828	1534	9103	TNN	A1, A8		TNN	
01829	1536	5002	RB(5)	*			
01830	1538	9802	SUR	A6, A9	#0		
01831	153A	9103	TNN	A1, A8			
01832	153C	5002	RB(6)	*			
01833	153E	9102	LDR	A1, A8			
01834	1547	9103	TNN	A1, A8			
01835	1542	5002	AFTER RB(4)	*			
01836	1544	9160	LD*	A1, ADDRESS	TAKE THE FIRST INS.		
	1546	136A	R				
01837	1548	A149	AN	A1, MSGRG1	MASK R2 REG. N-BER		
	154A	136E	R				
01838	154C	0920	SUKL	A1, X1700!	IS IT THE LAST REG (7 FOR THE FIRST INS)?		
	154E	0700					
01839	1550	8040	ABI(0)	DTOUT	YES, OUT		
	1552	1370	R				
01840	1554	0F20	AUL	TAKE	MODIFY REG. NUMBER		
	1556	137A	R				
01841			*				
01842			*	RESTORE REGISTER N-BER ROUTINE			
01843			*				
01844	1559	9160	RSTORE LD*	A1, ADDRESS			
	155A	130A	R				
01845	155C	9100	F	RF(1)	RINCR2	FORMAT 0	
01846	155E	A140	AN	A1, MODMASK	IS MOD=0?		
	1560	1370	R				
01847	1562	5000	F	RF(0)	RST12	YES, RESTORE R1 AND R2	
01848	1564	9160	LD*	A1, ADDRESS	NO		
	1566	136A	R				

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01850	156A	A140	AN	A1, 5K	MASK NO	
	156A	1378	R			
01851	156C	E929	CHK	A1, X1201	IS IT #01?	
	156E	3020				
01851	1573	5420	F	RF(4)	RST1	NO, IT IS NOT A REG-REG INS
01852	1572	8160		LD*	A1, ADDRESS	YES
	1574	135A	R			
01853	1576	A140	AN	A1, MSORG2	IS R2#0?	
	1578	1370	R			
01854	157A	6220	F	RF(8)	RST1	NO, IT IS NOT A REG-REG INS
01855	157C	8160		RST12	LD*	A1, ADDRESS RESTORE R1 AND R2
	157E	136A	R			
01856	1584	9920		SUKL	A1, X1269A	R1#1, R2#8
	1582	269A				
01857	1594	8161		ST*	A1, ADDRESS	
	1586	136A	R			
01858	1588	8140		RINCR2	LD	A1, ADDRESS INCR ADDRESS TABLE
	158A	136A	R			
01859	158C	1162		ADK	A1, 2	BY 2
01860	158E	8141		ST	A1, ADDRESS	
	1590	136A	R			
01861	1592	8940		ISFIN	CH	A1, SUPADD IS IT THE LAST ADDRESS+1
	1594	1374	R			
01862	1596	5A40		RB(2)	RSTORE	NO, CONTINUE
01863	1598	8140		LD	A1, ADDRESS+2	YES, RESTORE
	159A	135C	R			
01864	159C	8141		ST	A1, ADDRESS	ADDRESS TABLE
	159E	136A	R			
01865	15A2	5720	F	RF	OUTD	AND CONT. TEST
01866	15A2	8160		RST1	LD*	A1, ADDRESS RESTORE R1 N-BER FOR MEMORY REF OR LONG CONST INS
	15A4	136A	R			
01867	15A6	9920		SUKL	A1, X12680	R1#1 OR 8
	15A8	3690				
01868	15AA	8161		ST*	A1, ADDRESS	
	15AC	136A	R			
01869	15AE	8140		LD	A1, ADDRESS	INCR ADDRESS TABLE
	15B0	136A	R			
01870	15B2	1164		ADK	A1, 4	BY 4
01871	15B4	8141		ST	A1, ADDRESS	
	15B6	130A	R			
01872	15B8	3F20		RB	ISFIN	
01873	15BA	8120		OUTD	LUKL	A1, ++8
	15BC	1502	R			
01874	15BE	8920		ABR(1)	A1	ABR
01875	15C0	207F		HLT		
01876	15C2	8120		ADKL	A1, 10	
	15C4	800A				
01877	15C6	9602		SUR	A6, A6	#0
01878	15C8	8524		ABR(2)	A1	
01879	15CA	207F		HLT		

01887	150C	9120		ADKL	A1,		
	150E	8908					
01888	150A	8924		ABR(1)*	A1		ABR*
01889	1502	207F		HLT			
01890	1504	1500	R	DATA	++2		
01891	1506	9120		ADKL	..1,10		
	1508	890A					
01892	150A	8F24		ABR*	A1		
01893	150C	207F		HLT			
01894	150E	15E0	R	DATA	++2		
01895	1509	6140		LD	A1,STACK		
	1502	89A2	R				
01896	1504	89A0		LDKL	A8,++10		
	1506	15EE	R				
01897	1508	F103		CFR	A1,A8		CFR
01898	150A	5002		RB(5)	*		
01899	150C	57A4		RF	++8		
01900	150E	E904		CWR	A1,A1	ROUTINE, CR=0	
01901	1509	F024		RTN	A1	RETURN	RTN
01902	1502	6140		LD	A1,STACK		
	1504	89A2	R				
01903	1506	89A0		LDKL	A8,++10		
	1508	1620	R				
01904	150A	F123		CFR*	A1,A8		CFR*
01905	150C	5002		RB(5)	*		
01906	150E	0706		RF	++8		
01907	1509	1002	R	DATA	++2		
01908	1502	8904		CWR	A1,A1	ROUTINE, CR=0	
01909	1504	F024		RTN	A1	RETURN	
01910	1506	87A0		LDKL	A15,ADRIND+2	TESTING STACK HANDLING INS, STR AND LDR*	
	1508	899A	R				
01911	150A	8720		LDKL	A7,X1FFFF!		
	150C	FFFF					
01912	150E	873F		STR	A7,A15	FFFF->ADRIND+2, ADRIND->A15	
01913	1509	8340		LD	A6,ADRIND+2		
	1502	899A	R				
01914	1504	EE20		CHK	A6,X1FFFF!		
	1506	FFFF					
01915	1508	5002		RB(4)	*		
01916	150A	EFA0		CHK	A15,ADRIND	IS A15 UPDATED?	
	150C	8998	R				
01917	150E	5002		RB(4)	*		
01918	1509	89BE		LDR*	A8,A15	A15+2=ADRIND+2->A15, FFFF->A8	
01919	1502	85A0		CHK	A8,X1FFFF!		
	1504	FFFF					
01920	1506	5002		RB(4)	*		
01921	1508	EFA0		CHK	A15,ADRIND+2	IS A15 UPDATED?	
	150A	899A	R				
01922	150C	5002		RB(4)	*		
01923	150E	8120		LDKL	A1,X1FFFF!		

1632	8141	ST	A1,		
1634	8898	R			
1636	8120	LDKL	A1,ZONE		
1638	8098	R			
1639	9625	C2R	.1	C2R(-1)=1 ->ZONE	C2R
163C	8140	LD	A1,ZONE		
163E	8098	R			
1640	8920	CHK	A1,1		
1642	8001				
1644	8002	RB(4)	*		
1645	8120	LDKL	A1,X18001!		
1648	8201				
164A	8141	ST	A1,ZONE		
164C	8898	R			
164E	8120	LDKL	A1,ZONE		
1650	8205	R			
1652	9825	C2R	A1		
1654	8140	LD	A1,ZONE		
1658	8298	R			
1659	8940	CH	A1,MAXPOS		
165A	8894	R			
165C	5C02	RB(4)	*		
165E	88A0	LDKL	A8,ZONE	LEFT CHAR	
1660	8398	R			
1662	8122	LCR	A1,A8		LCR
1664	8920	CHK	A1,X17F7F!		
1668	7F7F				
1669	5C02	RB(4)	*		
166A	98A0	ADKL	A8,1	RIGHT CHAR	
166C	8001				
166E	8122	LCR	A1,A8		
1670	8920	CHK	A1,X17FFF!		
1672	7FFF				
1674	5C02	RB(4)	*		
1676	88A0	SUKL	A8,1	LEFT CHAR	
1678	8001				
167A	8123	SCR	A1,A8		
167C	98A0	ADKL	A8,1	RIGHT CHAR	
167E	8001				
1680	8120	LDKL	A1,0		
1682	8200				
1684	8123	SCR	A1,A8		
1686	8120	LDKL	A1,X1FFF0!		
1688	FF00				
168A	8948	CH	A1,ZONE		
168C	8098	R			
168E	5C02	RB(4)	*		
1690	8120	LDKL	A1,ZONE		
1692	8098	R			

019	1594	83A0		LDKL	A8		
	1595	83A0					
01949	1598	83C1		ST	A8,ZONE		
	1599	8395	R				
01949	159C	9325		IMR	A1		IMR
01950	159E	83C3		LD	A8,ZONE		
	15A0	8396	R				
01951	15A2	83A0		CHK	A8,1		
	15A4	8381					
01952	15A6	8C22		RB(4)	*		
01953	15A8	83A0		LDKL	A8,X17FFF!		
	15AA	7FFF					
01954	15AC	83C1		ST	A8,ZONE		
	15AE	8396	R				
01955	15B0	9325		IMR	A1		
01956	15B2	83C2		RF(3)	**4		
01957	15B4	227F		MLT			
01958			*				
01959			*	INDEXED AND INDIRECT INSTRUCTIONS			
01960			*				
01961	15B6	83A0		LDKL	A8,-30		
	15B8	FFE2					
01962	15BA	8142		LD	A1,ONE+30,A8		LD,X
	15BC	838A	R				
01963	15BE	E920		CHK	A1,1		
	15C0	8381					
01964	15C2	8C22		RB(4)	*		
01965	15C4	93A0		ADKL	A8,2	INCREMENT INDEX (-28)	
	15C6	E3C2					
01966	15C8	8142		LD	A1,ONE+30,A8		
	15CA	838A	R				
01967	15CC	E920		CHK	A1,2		
	15CE	8382					
01968	15D0	8C22		RB(4)	*		
01969	15D2	93A0		ADKL	A8,2	-26	
	15D4	8382					
01970	15D6	8162		LD*	A1,MACHIN+26,A8		LD*,X
	15D8	838A	R				
01971	15DA	E920		CHK	A1,X1AAAA!		
	15DC	AAAA					
01972	15DE	8C22		RB(4)	*		
01973	15E0	93A0		ADKL	A8,2	-24	
	15E2	8382					
01974	15E4	9341		IM	MACHIN		
	15E6	83A0	R				
01975	15E8	9341		IM	MACHIN		
	15EA	83A0	R				
01976	15EC	8163		ST*	A1,MACHIN+24,A8	AAAA->ADRIND+2	ST*,X
	15EE	8388	R				
01977	15F0	8140		LD	A1,ADRIND		

219.	15F2	0098	R	CW	-A1, AND+2	
	15F4	0940				
	15F8	0994	R			
01979	16F8	5C02		RB(4)	*	
01980	16FA	5162		LDR	A9, A8	ANOTHER INDEX REGISTER
01981	16FC	6220		LDKL	A2, X15555!	
	16FE	6555				
21982	1700	6247		ST	A2, ADRIND+26, A9	ST, X
	1702	0052	R			
01983	1704	EA40		CW	A2, ADRIND+2	
	1706	009A	R			
01984	1708	5C02		RB(4)	*	
01985	170A	6120		LDKL	A1, ADRIND	RESTORE
	170C	0098	R			
21986	170E	8141		ST	A1, MACHIN	MACHIN
	1710	00A0	R			
01987	1712	6240		LD	A2, FOUR1	
	1714	006C	R			
01988	1716	9246		AD	A2, FOUR1+26, A9	FOUR1+FOUR4=5555
	1718	00A0	R			AD, X
01989	171A	EA23		CHK	A2, X15555!	
	171C	6555				
01990	171E	5C02		RB(4)	*	
01991	1720	9260		AD*	A2, MACHIN	
	1722	00A0	R			
01992	1724	EA20		CHK	A2, X1FFFF!	
	1726	FFFF				
01993	1728	5C02		RB(4)	*	
21994	172A	8220		LDKL	A2, X15555!	
	172C	6555				
01995	172E	9265		AD*	A2, MACHIN+24, A9	+5555=1
	1730	0060	R			
01996	1732	1201		ADK	A2, 1	
01997	1734	5C02		RB(4)	*	
01998	1736	6120		LDKL	A1, ZONE	
	1738	0095	R			
01999	173A	8141		ST	A1, MACHIN	
	173C	00A0	R			
02000	173E	8340		LD	A3, FOUR1	
	1740	006C	R			
02001	1742	8341		ST	A3, ZONE	
	1744	0095	R			
02002	1746	9361		AD.S*	A3, MACHIN	(MACHIN)*ZONE
	1748	00A0	R			AD.S*
02003	174A	8343		LD	A3, ZONE	
	174C	0095	R			
02004	174E	EB40		CW	A3, FOUR2	
	1750	008E	R			
02005	1752	5C02		RB(4)	*	
02006	1754	90A0		ADKL	A8, 2	=22

0200	1758	8282	LDR	A11		
02008	1758	8368	AD,S*	A3,MACHIN+22,A10		AD,S*,X
	1760	8368	R			
02009	175E	8342	LD	A3,ZONE		
	1750	8398	R			
02010	1762	8340	CH	A3,FOUR4		
	1764	2398	R			
22011	1768	8082	RB(4)	*		
02012	1758	8348	AD,S	A3,ZONE+22,A10		AD,S,X
	176A	8340	R			
02013	176C	8348	LD	A3,ZONE		
	176E	8398	R			
02014	1773	8348	CH	A3,FOUR8		
	1772	8292	R			
22015	1774	8082	RB(4)	*		
02016	1776	834A	SU	A3,FOUR1+25,A10	FOUR5-FOUR4	SU,X
	1778	8346	R			
02017	177A	8340	CH	A3,FOUR4		
	177C	8398	R			
02018	177E	8082	RB(4)	*		
02019	1768	8328	LDKL	A3,X12222!		
	1762	2222				
02020	1764	8341	ST	A3,ZONE		
	1768	8298	R			
02021	1768	8361	SU,S*	A3,MACHIN		SU,S*
	175A	82A0	R			
02022	176C	8082	RB(4)	*		
02023	176E	8341	XR,S	A3,ZONE		
	1768	8398	R			
02024	1762	8320	LDKL	A3,X14444!		
	1764	4444				
02025	1766	8363	SU*	A3,MACHIN		
	1768	83A0	R			
02026	176A	8320	CHK	A3,X12222!		
	176C	2222				
02027	176E	8082	RB(4)	*		
02028	1768	836A	SU*	A3,MACHIN+22,A10		SU*,X
	1742	8086	R			
02029	1764	8082	RB(4)	*		
02030	1760	8323	LDKL	A3,X13333!		
	17A3	3333				
02031	176A	8368	SU,S*	A3,MACHIN+22,A10		SU,S*,X
	176C	8368	R			
02032	176E	8348	LD	A3,ZONE		
	1760	8098	R			
02033	1762	8320	CHK	A3,X11111!		
	1764	1111				
02034	1768	8082	RB(4)	*		
02035	1768	8348	SU,S	A3,ZONE+22,A10		SU,S,X

02033	173A	83AC	R						
	173C	8343		LD	A3,2				
	174E	8096	R						
02037	1701	5C32		RB(4)	*				
02038	1702	8332		LDR	A11,AB				
02039	1704	8420		LDKL	.4,X15555!				
	1706	5555							
02040	1708	A44E		AN	A4,FOUR1+20,A11	#FOUR4		AN,X	
	170A	82A0	R						
02041	170C	EC20		CWK	A4,X14444!				
	170E	4444							
02042	1702	5C32		RB(4)	*				
02043	1702	8441		ST	A4,ZONE				
	1704	8296	R						
02044	1705	8420		LDKL	A4,X1CCCC!				
	1708	CCCC							
02045	170A	A400		AN*	A4,MACHIN			AN*	
	170C	82A0	R						
02046	170E	EC20		CWK	A4,X14444!				
	170A	4444							
02047	1702	5C32		RB(4)	*				
02048	1704	A45E		AN*	A4,MACHIN+22,A11			AN*,X	
	1706	8406	R						
02049	1708	EC20		CWK	A4,X14444!				
	170A	4444							
02050	170C	5C32		RB(4)	*				
02051	170E	8420		LDKL	A4,X18888!				
	1708	8888							
02052	1702	A44F		AN,S	A4,ZONE+22,A11	(8888), (4444) = 8000		AN,S,X	
	1704	83AC	R						
02053	1706	5C32		RB(4)	*				
02054	1708	8420		LDKL	A4,X18888!				
	170A	8888							
02055	170C	A451		AN,S*	A4,MACHIN	(8888), (4444) = 8000		AN,S*,X	
	170E	82A0	R						
02056	1702	5C32		RB(4)	*				
02057	1704	8420		LDKL	A4,X17777!				
	1706	7777							
02058	1708	8441		ST	A4,ZONE				
	170A	8296	R						
02059	170C	8420		LDKL	A4,X15555!				
	170E	5555							
02060	1702	A45F		AN,S*	A4,MACHIN+22,A11			AN,S*,X	
	1704	83B6	R						
02061	1702	8440		LD	A4,ADRIND+2				
	1704	829A	R						
02062	1706	EC40		CW	A4,ZONE				
	1708	8290	R						
02063	171A	5C32		RB(4)	*				
02064	171C	8482		LDR	A12,AB				

02205	1818	8520	LUKL	A5,		
	1824	2222				
02206	1822	A052	OR	A5,ZONE+22,A12		OR,X
	1824	00AC	R			
02207	1825	ED23	CHK	A5,X17777!		
	1829	7777				
02208	1824	5C32	RB(4)	*		
02209	1820	8323	LUKL	A5,X18888!		
	1822	8888				
02270	1834	AD63	OR*	A5,MACHIN		OR*
	1832	80A3	R			
02271	1834	ED23	CHK	A5,X10000!		
	1835	0000				
02272	1835	5C32	RB(4)	*		
02273	1834	8520	LUKL	A5,X1AAAA!		
	1830	AAAA				
02274	1835	A072	OR*	A5,MACHIN+22,A12		OR*,X
	1840	8000	R			
02275	1842	ED23	CHK	A5,X1FFFF!		
	1844	FFFF				
02276	1840	5C32	RB(4)	*		
02277	1840	8E18	SUR	A8,A8		
02278	1844	8641	ST	A5,ZONE		
	1840	0000	R			
02279	1845	13FF	ADK	A5,X1FFF!		
02280	1854	AE51	OR,S*	A5,MACHIN		OR,S*
	1852	00A0	R			
02281	1854	8540	LD	A5,ZONE		
	1855	8396	R			
02282	1855	EE20	CHK	A5,X1FFF!		
	185A	80FF				
02283	1850	5C32	RB(4)	*		
02284	1850	1801	ADK	A5,1		
02285	1855	90A8	ADKL	A5,2		
	1882	2002				
02286	1864	8582	LOR	A13,A5		
02287	1865	AE77	OR,S*	A5,MACHIN+20,A13		OR,S*,X
	1859	80B4	R			
02288	186A	8643	LD	A5,ZONE		
	186C	8398	R			
02289	186E	EE20	CHK	A5,X11FFF!		
	1874	81FF				
02290	1872	5C32	RB(4)	*		
02291	1874	AE20	ORKL	A5,X1FE33!		
	1876	FE00				
02292	1873	AE57	OR,S	A5,ZONE+22,A13		OR,S,X
	1874	80AA	R			
02293	187C	8343	LD	A5,ZONE		
	187E	8006	R			
02294	1880	EE20	CHK	A5,X1FFFF!		

220	1882	FFFF				
22095	1884	5C82	RB(4)	*		
	1885	8457	XR.S	A8,ZONE+20,A13		XR,S,X
22097	188A	8540	LD	A6,ZONE		
	1890	8295	R			
22098	189E	5C42	RB(4)	*		
22099	1899	16FF	ADK	A5,X1FF!		
22100	1892	8710	LDR	A7,A8		
22101	1894	90A3	ADKL	A8,2	-18	
	1895	8002				
22102	1898	8682	LDR	A14,A8		
22103	189A	8778	XR.S*	A7,MACHIN+18,A14		XR,S*,X
	189C	8362	R			
22104	189E	8740	LD	A7,ZONE		
	18A3	8095	R			
22105	18A2	EF28	CHK	A7,X1FF!		
	18A4	83FF				
22106	18A5	5C82	RB(4)	*		
22107	18A5	8720	LDKL	A7,X111EE!		
	18A4	11EE				
22108	18AC	8761	XR.S*	A7,MACHIN		XR,S*
	18A5	83A0	R			
22109	18B0	8740	LD	A7,ZONE		
	18B2	8095	R			
22110	18B4	EF28	CHK	A7,X11111!		
	18B6	1111				
22111	18B8	5C82	RB(4)	*		
22112	18B4	877A	XR*	A7,MACHIN+18,A14		XR*,X
	18B0	8082	R			
22113	18BE	5C82	RB(4)	*		
22114	18C0	875A	XR	A7,FOUR1+20,A14	(20-18=2)	XR,X
	18C2	80A3	R			
22115	18C4	EF28	CHK	A7,X12222!		
	18C5	2222				
22116	18C8	5C82	RB(4)	*		
22117	18CA	8758	XR*	A7,MACHIN		XR*
	18CC	83A0	R			
22118	18CE	EF28	CHK	A7,X13333!		
	18C9	3333				
22119	18D2	5C82	RB(4)	*		
22120	18D4	90A3	ADKL	A8,2	-18	
	18D5	8082				
22121	18D8	8102	LDR	A1,A8		
22122	18DA	8065	IM*	MACHIN+18,A1		IM*,X
	18DC	8080	R			
22123	18DE	80C3	LD	A8,ZONE		
	18E0	8095	R			
22124	18E2	88A3	CHK	A8,X11112!		
	18E4	1112				

220	1882	FFFF				
02095	1884	5C82	RB(4) *			
	1885	8567	XR.S	A8,ZONE+20,A10		XR.S,X
02097	188A	8640	LD	A8,ZONE		
	188C	8298	R			
02098	188E	5C82	RB(4) *			
02099	1890	10FF	ADK	A8,X1FF!		
02100	1892	8718	LUR	A7,A8		
02101	1894	8EAA	ADKL	A8,2	-18	
	1896	8002				
02122	1898	8682	LDR	A14,A8		
02103	189A	8779	XR.S*	A7,MACHIN+18,A14		XR.S*,X
	189C	8362	R			
02104	189E	8740	LD	A7,ZONE		
	18A0	8398	R			
02105	18A2	8F20	CHK	A7,X1FF!		
	18A4	83FF				
02106	18A5	5C82	RB(4) *			
02107	18A6	8720	LOKL	A7,X11EE!		
	18A8	11EE				
02108	18AC	8701	XR.S*	A7,MACHIN		XR.S*
	18AE	89A0	R			
02109	18B0	8740	LD	A7,ZONE		
	18B2	8898	R			
02110	18B4	8F20	CHK	A7,X11111!		
	18B6	1111				
02111	18B8	5C82	RB(4) *			
02112	18BA	877A	XR*	A7,MACHIN+18,A14		XR*,X
	18BC	8882	R			
02113	18BE	5C82	RB(4) *			
02114	18C0	875A	XR	A7,FOUR1+20,A14	(20-18=2)	XR,X
	18C2	80A8	R			
02115	18C4	8F20	CHK	A7,X12222!		
	18C6	2222				
02116	18C8	5C82	RB(4) *			
02117	18CA	8758	XR*	A7,MACHIN		XR*
	18CC	83A0	R			
02118	18CE	8F20	CHK	A7,X13333!		
	18D0	3333				
02119	18D2	5C82	RB(4) *			
02120	18D4	8EAA	ADKL	A8,2	-18	
	18D6	8002				
02121	18D8	8102	LDR	A1,A8		
02122	18DA	8065	IM*	MACHIN+18,A1		IM*,X
	18DC	8080	R			
02123	18DE	8202	LD	A8,ZONE		
	18E0	8098	R			
02124	18E2	88A8	CHK	A8,X11112!		
	18E4	1112				

02100	18E6	5C02	RB(4)	*			
02101	18E8	8C01	IM*		MA		
02102	18EA	8CAB	R				
02107	18EC	8C0B	LD		A8,ZONE		
02108	18EE	8C56	R				
02108	18FA	8CAB	CHK		8,X111'31		
02109	18F2	1113					
02109	18F4	5C02	RB(4)	*			
02130	18F6	8C48	Im		ZONE+18,A1		IM
02131	18F8	8C46	R				
02131	18FA	8C00	LD		A8,ZONE		
02132	18FC	8C98	R				
02132	18FE	8C49	CHK		A8,X'11141		
02133	1900	1114					
02133	1902	5C02	RB(4)	*			
02134	1904	8C46	C2		ONES+18,A1	=1	C2,X
02135	1906	8C7A	R				
02135	1908	8C08	LD		A8,ONES		
02135	190A	8C6A	R				
02135	190C	8C11	ST		A8,ZONE		
02137	190E	8C96	R				
02137	1912	8C49	SUKL		A8,1		
02138	1914	8C02	RB(4)	*			
02139	1916	8C01	C2*		MACHIN		C2*
02140	1918	8C02	R				
02140	191A	8C00	LD		A8,ZONE		
02141	191C	8C96	R				
02141	191E	8C48	CHK		A8,X'FFFF!		
02142	1920	FFFF					
02142	1922	5C02	RB(4)	*			
02143	1924	8C01	ST		A8,ONES	RESTORE ONES	
02144	1926	8C6A	R				
02144	1928	1102	ADK		A1,2	=14	
02145	192A	8C84	LDR		A2,A1		
02146	192C	8C69	C2*		MACHIN+14,A2	=1	C2*,X
02147	192E	8C4E	R				
02147	1930	8100	LD		A9,ZONE		
02148	1932	8C95	R				
02148	1934	8C49	SUKL		A9,1		
02149	1936	8C41					
02149	1938	81C1	ST		A9,ZONE		
02150	193A	8C96	R				
02150	193C	5C02	RB(4)	*			
02151	193E	F9C8	C1		A9,ADRIND+18,A2	(ADRIND+2)	C1,X
02152	1940	8C48	R				
02152	1942	8C48	CHK		A9,XIAAAA!		
02153	1944	AAAA					
02153	1946	5C02	RB(4)	*			
02154	1948	F9E8	C1*		A9,MACHIN+14,A2	(ZONE=0)	C1*,X

22155	194A	00AE	R	CHK	A9,X'FFFF!		
	194C	09A0					
	194E	FFFF					
22156	1950	5C02		RB(4)	*		
22157	1952	F9E0		C1*	A9,MACHIN (ZONE=0)		C1*
	1954	00A0	R				
22158	1956	E9A0		CHK	A9,X'FFFF!		
	1958	FFFF					
22159	195A	5C02		RB(4)	*		
22160	195C	F861		C1S*	MACHIN (ZONE=FFFF)		C1S*
	195E	03A0	R				
22161	1960	0100		LD	A9,ZONE		
	1962	0000	R				
22162	1964	09A0		CHK	A9,X'FFFF!		
	1966	FFFF					
22163	1968	5C02		RB(4)	*		
22164	196A	1102		ADK	A1,2 -12		
22165	196C	0304		LDR	A3,A1		
22166	196E	F860		C1S*	MACHIN+12,A3 (ZONE=0)		C1S*,X
	1970	00A0	R				
22167	1972	0200		LD	A10,ZONE		
	1974	0000	R				
22168	1976	5C02		RB(4)	*		
22169	1978	F840		C1S	ZONE+12,A3 (ZONE=FFFF)		C1S,X
	197A	03A0	R				
22170	197C	0200		LD	A10,ZONE		
	197E	0300	R				
22171	1980	0AA0		CHK	A10,X'FFFF! A10=-1		
	1982	FFFF					
22172	1984	5C02		RB(4)	*		
22173	1986	0AEC		CK*	A10,MACHIN+12,A3 ZONE=-1		CK*,X
	1988	00A0	R				
22174	198A	5C02		RB(4)	*		
22175	198C	0AA0		SUKL	A10,1 -A10=-2		
	198E	0001					
22176	1990	1102		AUX	A1,2 -10		
22177	1992	0404		LDR	A4,A1		
22178	1994	0AD0		C*	A10,ZONE+10,A4		CK,X
	1996	00A0	R				
22179	1998	5E02		RB(6)	*		
22180	199A	02A0		AUKL	A10,2		
	199C	0002					
22181	199E	0A00		CK*	A10,MACHIN		
	19A0	00A0	R				
22182	19A2	5C02		RB(5)	*		
22183	19A4	000E		SUR	A11,A11		
22184	19A6	0300		LC	A11,FOUR1+10,A4 (FOUR2,RIGHT CHAR)		LC,X
	19A8	0000	R				
22185	19AA	0BA0		SUKL	A11,X'122!		
	19AC	0022					

02187	1907	E3E8	LC*	RB(4) *	A11, MACHIN	LC*
02188	1908	08A8	R			
02189	1909	08A9		SUKL	A11, X'FFF'	
02190	1910	08FA				
02191	1911	08FB		RB(4) *		
02192	1912	1122		ADN	A1, 2 -8	
02193	1913	08C4		LDR	A5, A1	
02194	1914	08C5		SUR	A12, A12	
02195	1915	E4F4		LC*	A12, MACHIN+8, A5	LC*, X
02196	1916	08AB	R			
02197	1917	08AC		SUKL	A12, X'FFF'	
02198	1918	08AD				
02199	1919	08AE		RB(4) *		
02200	1920	1102		ADN	A1, 2 -8	
02201	1921	08B4		LDR	A6, A1	
02202	1922	08B5		SUR	A13, A13	
02203	1923	E0F9		SC*	A13, MACHIN+8, A6	SC*, X
02204	1924	08AB	R			
02205	1925	08AC		LD	A13, ZONE	
02206	1926	08AD	R			
02207	1927	E0A8		CHK	A13, X'00FF'	
02208	1928	08AE		RB(4) *		
02209	1929	08AF		IM	MACHIN (#ZONE+1*RIGHT CHAR)	
02210	1930	08B0	R			
02211	1931	08B1		SUR	A13, A13	
02212	1932	E5E1		SC*	A13, MACHIN	SC*
02213	1933	08AB	R			
02214	1934	08AC		LD	A13, ZONE	
02215	1935	08AD	R			
02216	1936	08AE		RB(4) *		
02217	1937	E5A8		AUXL	A13, X'AA'	
02218	1938	08AA				
02219	1939	E509		SC	A13, ZONE+8, A6	
02220	1940	08AC	R			
02221	1941	08AD		LD	A13, ZONE	
02222	1942	E0A8	R			
02223	1943	E0A9		CHK	A13, X'AA00'	
02224	1944	A400				
02225	1945	08AE		RB(4) *		
02226	1946	6764		LDR	A15, A1 (A15 = -6)	
02227	1947	080E		LD	A13, ZONE+8, A15 USE A15 AS INDEX REGISTER	
02228	1948	080F	R			
02229	1949	AD42		ORXL	A13, X'AA'	
02230	1950	08AA				
02231	1951	E5DE		XR	A13, ADDRINC+8, A15	
02232	1952	E39E	R			
02233	1953	080E		RB(4) *		
02234	1954	E5DF		ST	A13, ZONE+8, A15	

0221	1A12	029C	R						
	1A14	05FE		LD*	A14, MACHIN+0, A15				
	1A16	02A5	R						
02221	1A18	5C02		RB(4)	*				
02221	1A1A	0320		LUXL	A3, ADRIND	RESTORE			
	1A1C	0296	R						
02222	1A1E	0341		ST	A3, MACHIN	MACHIN			
	1A20	03A0	R						
02223	1A22	1132		ADK	A1, 2	*4			
02224	1A24	0704		LDR	A7, A1				
02225	1A25	0A00		SUR	A2, A2	CR#0			
02225	1A27	0B7C		ABI(0)*	ADAD1+4, A7		ABI*, X		
	1A2A	0200	F						
02227	1A2C	217F		HLT					
02228	1A2E	0000	F	ADAD1	DATA	AD1			
02229	1A30	0000	F	AD1	DATA	ADDR1			
02230	1A32	0000	F	ADDR1	ABI(0)*	ADAD2		ABI*	
	1A34	0000	F						
02231	1A36	207F		HLT					
02232	1A38	0000	F	ADAD2	DATA	AD2			
02233	1A3A	0000	F	AD2	DATA	ADDR2			
02234	1A3C	0000	F	ADDR2	ABI(0)	AD3+4, A7		ABI*, X	
	1A3E	0000	F						
02235	1A40	207F		HLT					
02236	1A42	0000	F	AD3	DATA	ADDR3			
02237	1A44	1132		ADDR3	ADK	A1, 2	*2		
02238	1A46	0704		LDR	A7, A1				
02239	1A48	0500		LD	A14, STACK				
	1A4A	00A2	R						
02247	1A4C	00FD		CFI*	A14, ADAD4+2, A7		CFI*, X		
	1A4E	0000	F						
02241	1A50	0002		RB(5)	*				
02242	1A52	0F20		ABL	RTN1				
	1A54	0000	F						
02243	1A56	0000	F	ADAD4	DATA	AD4			
02244	1A58	0000	F	AD4	DATA	ADDR4			
02245	1A5A	0A00		ADDR4	SUR	A2, A2	CR#0		
02246	1A5C	003A		RTN	A14				
02247	1A5E	00E1		RTN1	CFI*	A14, ADAD5		CFI*	
	1A60	0000	F						
02249	1A62	0002		RB(5)	*				
02249	1A64	0F20		ABL	RTN2				
	1A66	0000	F						
02257	1A68	0000	F	ADAD5	DATA	AD5			
02251	1A6A	0000	F	AD5	DATA	ADDR5			
02252	1A6C	0A20		ADDR5	SUR	A2, A2	CR#0		
02253	1A6E	003A		RTN	A14				
02254	1A70	0000		RTN2	CFI	A14, AD6+2, A7		CFI*, X	
	1A72	0000	F						
02255	1A74	0002		RB(5)	*				

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0221	1A76	5F20		ASL	RT		
	1A7B	0300	F				
02207	1A7A	0000	F	ADS	DATA	ADBRO	
02258	1A7C	9A00		ADBR0	SUR	A2, A2	CR=0
02259	1A7E	F23A			RTN	A14	
02260	1A80	8120		RTNS	LOKL	A1, ADRIND	RESTORE
	1A82	0398	R				
02261	1A84	0141		ST	A1, MACHIN	MACHIN	
	1A88	02A0	R				
02262							
02263							
02264							
02265	1A89	02A0		LOKL	A10, -7		FOR MODIFYING REG NUMBER
	1A8A	FFFF9					
02266	1A8C	03A0		LOKL	A11, X'100'		
	1A8E	0100					
02267	1A90	03A0		DEBSHT	LOKL	A8, -20	
	1A92	FFE4					
02268	1A94	0101		ADK01	LOK	A1, 1	
02269	1A95	3921		SLA1	SLA1	A1	A1 IS = 8000 AT THE END
02270	1A98	0300	F	RF(3)	FSLA1		OVERFLOW (SIGN BIT WAS MODIFIED)
02271	1A9A	E942		ADM01	CH	A1, ONE+30, AB	
	1A9C	038A	R				
02272	1A9E	0002		RB(4)	*		
02273	1AA0	00A0		ADKL	A8, 2		A8=0 AT THE END
	1AA2	0002					
02274	1AA4	5F10		RB	SLA1		
02275	1AA6	E920		FSLA1	CHK	A1, X'18000'	
	1AA8	02A0					
02276	1AA4	0002		RB(4)	*		
02277	1AAC	93C1		AD.S	A11, ADK01		INCR. REG NUMBER
	1AAE	1A94	R				
02278	1AB0	93C1		AD.S	A11, SLA1		
	1AB2	1A90	R				
02279	1AB4	93C1		AD.S	A11, ADM01		
	1AB6	1A9A	R				
02280	1AB8	93C1		AD.S	A11, FSLA1		
	1ABA	1AA0	R				
02281	1ASC	8102		LD	A9, ONE+30, AB		
	1ABE	038A	R				
02282	1AC0	3921		SRA1	SRA1	A1	SRA1
02283	1AC2	E020		ADKL01	CHK	A1, X'FFFF'	A1 IS = FFFF AT THE END
	1AC4	FFFF					
02284	1AC6	5000	F	RF(0)	FSRA1		
02285	1AC8	A9C2		DR	A9, ONE+28, AB		A9 IS = FFFF AT THE END
	1ACA	0000	R				
02286	1ACC	E906		ADR01	CHK	A1, A9	
02287	1ACE	0002		RB(4)	*		
02288	1AD0	03A0		SUKL	A8, 2		A8 IS = -20 AT THE END
	1AD2	0002					

9	1AD4	5F18		RB			
2228	1AD6	93C1	FSRA1	AD.S	A1,FSRA1	INCREMENT REGISTER NUMBER	
	1AD8		R				
2229	1ADA	93C1		AD.S	A11,ADKL01		
	1ADC	1AC2	R				
2229	1AD8	93C1		AD.S	A11,ADR01		
	1AE3	1ACC	R				
2229	1AE2	3941	ADSR1	SLL1	A1	BEGINING WITH FFFF, ENDING WITH 0	SLL1
2229	1AE4	5063	F	RF(0)	FSLL1		
2229	1AE6	E906	ADR02	CNR	A1,A9		
2229	1AE8	5062		RB(4)	*		
2229	1AEA	B1C2		XR	A9,ONE+32,A8		
	1AEC	628A	R				
2229	1AEE	93A2		ADKL	A8,2	(+2 AT THE END)	
	1AF3	3022					
2229	1AF2	5F12		RB	ADSR1		
2230	1AF4	93C1	FSLL1	AD.S	A11,ADSR1	INCREMENT REGISTER NUMBER	
	1AF6	1AE2	R				
2230	1AF8	93C1		AD.S	A11,ADR02		
	1AFA	1AE6	R				
2230	1AFC	9882		SUR	A8,A8	RESET A8	
2230	1AFE	0101	ADK02	LDK	A1,1		
2230	1A00	39E1	SRC1	SRC1	A1		SRC1
2230	1A02	E920	ADK03	CNK	A1,1		
	1A04	0001					
2230	1A06	3921	F	RF(0)	FSRC1		
2230	1A08	E942	ADM02	CN	A1,ONE+32,A8		
	1A0A	000A	R				
2230	1A0C	5082		RB(4)	*		
2230	1A0E	98A2		SUKL	A8,2		
	1A10	0002					
2230	1A12	5F14		RB	SRC1		
2230	1A14	93C1	FSRC1	AD.S	A11,ADK02	INCREMENT REGISTER NUMBER	
	1A16	1AFE	R				
2230	1A18	93C1		AD.S	A11,SRC1	UP	
	1A1A	1B00	R				
2230	1A1C	93C1		AD.S	A11,ADK03	TO	
	1A1E	1B02	R				
2230	1A20	93C1		AD.S	A11,ADM02	REGISTER A7	
	1A22		R				
2230	1A24	92A0		ADKL	A10,1		
	1A26	2001					
2230	1A28	5082		RF(0)	**4		
2230	1A2A	5F9C		RB	DEBSHT		
2230	1A2C	85A0		LDKL	A13,X'F900' - THIS COMPL OF X'0700' (7 * X'0100)		
	1A2E	F900					
2230	1A30	95C1		AD.S	A13,ADK01	FOR	
	1A32	1A94	R				
2230	1A34	95C1		AD.S	A13,SLA1	REINITIALIZE	
	1A36	1A98	R				

22322	1833	95C1		AD.S	A13	1	REGISTER
	1834	1A9A	R				
	1835	95C1		AD.S	A13,FSLA1		NUMBER
	183E	1AA6	R				
22323	1840	95C1		AD.S	A13,SRA1		AFTER
	1842	1AC2	R				
22324	1844	95C1		AD.S	A13,ADKL21		THE FIRST
	1846	1AC2	R				
22325	1848	95C1		AD.S	A13,ADR01		PASS
	184A	1ACC	R				
22326	184C	95C1		AD.S	A13,ADS01		
	184E	1AE2	R				
22327	1850	95C1		AD.S	A13,ADR22		
	1852	1AE8	R				
22328	1854	95C1		AD.S	A13,ADK22		
	1856	1AFE	R				
22329	1858	95C1		AD.S	A13,SR01		
	185A	1B03	R				
22330	185C	95C1		AD.S	A13,ADK23		
	185E	1B22	R				
22331	1860	95C1		AD.S	A13,ADM22		
	1862	1B28	R				
22332	1864	5720	CGCA	RF	*+2		TEST GAMMA
22333				END			

SYMBOL TABLE

R1	0028	A	BOOT	0028	R	ITROUT	0062	R	ZERO	0058	R
ONES	006A	N	ONE	006C	R	FOUR1	004C	R	FOUR2	006E	R
FOUR4	0090	R	FOUR6	0092	R	MAXPOS	0094	R	ZONE	0096	R
ADDRIND	0098	R	MACHIN	00A2	R	STACK	00A2	R	DONE	00A4	R
SUMOK	00DA	R	AFSTAK	0118	R	ABITST	0C42	R	UTHLT0	0C28	R
HLT0	0C30	R	DTHLT1	0C28	R	HLT1	0C6C	R	UTHLT2	0C2A	R
HLT2	0C52	R	DTHLT3	0C2C	R	HLT3	0C9C	R	HLT0P1	0C2E	R
HLT1P1	0C33	R	HLT2P1	0C32	R	HLT3P1	0C34	N	MIR2	0C36	R
DOUT04	0C33	R	OUT04	0CCE	R	OIN	0C3A	R	IM	0CA6	R
DOUT06	0C3C	R	NOTNEG	0C62	R	OUTNL	0C3E	S	NOTNUL	0C3A	R
DATA2	0C48	N	CR	0C08	R	ADRT01	0E84	R	ADRT02	0E86	R
ADRT03	0E89	R	ADRT04	0E8A	R	ADRT03	0E8C	N	ADRT06	0E8E	R
ADRT07	0E92	R	ADRT08	0E92	R	ADRT09	0E94	N	ADRT10	0E96	R
ADRT11	0E93	N	ADRT12	0E9A	R	ADRT13	0E9D	N	ADRT14	0E9F	R
ADRT15	0EAD	R	MEMREF	0F92	R	ROUT01	0EA2	R	ROUT02	0EA4	R
ROUT03	0E88	R	ROUT04	0E88	R	ROUT05	0E8C	R	ROUT06	0E8E	R
ROUT07	0E8E	R	ROUT08	0E8E	R	ROUT09	0E94	R	ROUT10	0E9A	R
ROUT11	0E93	R	ROUT12	0E93	R	ROUT13	0E9C	R	ROUT14	0EF2	R
ROUT19	0E98	R	ADMOD	0E9E	R	MODIFY	0F14	R	ADDR0	0F06	R
DTASUP	0F04	R	LASTAD	104E	R	MSGRES	0F05	N	MSGRES	0F08	R
REGBAR	0F0A	R	SRGBAR	0F0C	R	DTREST	0F0E	R	RESTOR	1054	R
DOOT	0F10	R	OUTA	108C	R	MSWOPC	0F12	R	ISRB	0F40	R
AD14	0F2A	R	IELAST	0F7E	R	KBINS	0FA6	R	INCR2	0F72	R
AD16	0F6A	R	FORM0	1074	R	ONE14	105E	R	ISEND	10A0	R
INC2	109A	R	DOUT5	1088	R	OUTH	120E	N	DEBSHC	108A	R
LSTADR	1104	R	DTSUPR	120C	R	LGCONS	121C	N	ADLAST	12E2	R
OUT08	1304	R	HT1	133A	R	HT2	1342	N	HT3	134C	R
HT4	1366	R	SUBRT	1366	R	REGREG	130E	R	ADDR0	136A	R
MSGRG1	138F	R	MSGRG2	1378	R	INCR0	1372	R	SUPADD	1374	R
AFTER	1342	R	MONASK	1376	R	DTOUT	1378	N	RSTORE	1358	R
TAKE	137A	R	INCTWO	13AA	R	INCR0	139E	R	INCR1	13C6	R
ISOUT	1384	R	RINCR2	1508	R	RST12	157C	N	RST1	15A2	R
ISFIN	1592	N	OUT0	158A	R	ADAD1	1A2E	R	AD1	1A30	R
ADDR1	1A32	R	ADAD2	1A38	R	AD2	1A3A	R	ADDR2	1A3C	R
AD3	1A42	R	ADDR3	1A44	R	ADAD4	1A56	R	RTN1	1A5E	R
AD4	1A58	R	ADDR4	1A5A	R	ADAD5	1A58	R	RTN2	1A70	R
AD5	1A6A	R	ADDR5	1A6C	R	AD6	1A7A	R	RTN3	1A80	R
ADDR6	1A7C	R	DESSMT	1A96	R	ADK01	1A94	R	SLA1	1A96	R
FULL1	1A98	R	ADK01	1A9A	R	SRA1	1AC0	R	ADK01	1A02	R
FSRA1	1AD6	R	ADK01	1ACC	R	ADS01	1AE2	R	FSLL1	1AF4	R
ADDR2	1AE6	R	ADK02	1AF2	R	SRC1	1B08	R	ADK03	1B02	R
FSRC1	1B14	R	ADK02	1B06	R						

ABS. ERR. 00000