


```

12 00B 80 10 02 9F C0 40 00*    ;+ If N is not set, goto to 001 (and HALT).
13 00C 80 00 80 74 00 40 00*    ;+ 0->N. Try to clear the N bit.
14 00D 80 10 02 1F C0 40 00*    ;+ If the N bit is set, goto 001 (and halt).
15 00E 83 60 00 9F C0 40 00*    ;+
                                ;+ Goto to 036 to skip over the interrupt vectors and the system
                                ;+ test fixture code.
                                ;+-
                                ;+
                                ;+
                                ;+ The following 16 branches perform priority encoding and
                                ;+ dispatching for interrupts. The alu forces a microbranch
                                ;+ to address 01X on interrupts, where 'X' is the logical 'OR' of all
                                ;+ pending interrupt conditions. A weight of 1 is given to
                                ;+ memory parity errors, a weight of 2 is given to NMI, a weight
                                ;+ of 4 to IRQ, and a spare, unused interrupt is given a weight
                                ;+ of 8. When several interrupts are pending a branch to the highest
                                ;+ priority interrupt is taken.
                                ;+-
                                ;+
                                ;+
                                ;+
16 010 8C E0 00 9F C0 40 00*    ;+ X is 0, there are no interrupts, and we should not have gotten here,
                                ;+ so goto the invalid instruction trap.
17 011 90 80 00 9F C0 40 00*    ;+ X is 1, it's a parity error alone, goto to parity error trap.
18 012 8F 40 18 9F C0 40 00*    ;+ X is 2, NMI only, so goto NMI routine.
19 013 90 80 00 9F C0 40 00*    ;+ x is 3, parity error and NMI together, so take the higher-priority
                                ;+ parity error and goto the parity error routine.
20 014 8F 20 00 9F C0 40 00*    ;+ X is 4, IRQ alone, so goto the IRQ routine.
21 015 90 80 00 9F C0 40 00*    ;+ X is 5, IRQ and parity error, parity wins.
22 016 8F 40 18 9F C0 40 00*    ;+ X is 6, IRQ and NMI, NMI wins.
23 017 90 80 00 9F C0 40 00*    ;+ X is 7, parity error, NMI and IRQ--parity wins.
24 018 90 90 00 9F C0 40 00*    ;+ X is 8, the unused interrupt has been used, goto DSPINT to
                                ;+ dispose of the unused interrupt.
25 019 90 80 00 9F C0 40 00*    ;+ In the next eight instructions, the unused interrupt is
                                ;+ always present, but it is lower priority than any of the
                                ;+ other interrupts, and will never win here, so it will not
                                ;+ be mentioned again.
                                ;+
                                ;+ Parity error and you-know-what, parity error wins.
26 01A 8F 40 18 9F C0 40 00*    ;+ NMI and um-um, take NMI.
27 01B 90 80 00 9F C0 40 00*    ;+ NMI and parity, take parity.
28 01C 8F 20 00 9F C0 40 00*    ;+ IRQ only, take it.

```



```

50 032 83 30 40 9F CC 44 00*READ:
    *;+
    R0 to memory address
    *;+
    data from memory
    *
    *
    *
    *
    continue general alu arithmetic diagnostics

52 034 80 10 38 1F C0 40 00*GA2:
    *;+
    *;+
    *;+
    *;+
    The several tests below come here when an error is detected.
    If the 'debug' jumper is not in place, goto 'ALUBAD'
    and HALT. Otherwise go to the next statement...
    ...
    ...which sets R13 to -1 to indicate that at least one failure
    was detected. Then fall through to repeat these tests.

53 035 83 60 00 9F C0 D1 DD*
    *;+
    *;+
    *;+
    *;+
    Start here. Clear R0 by subtracting it from itself. Set condition codes.
    System test fixture can be used to start this test here.

54 036 83 70 00 9B 50 D1 00*GA0:
    *;+
    *;+
    *;+
    *;+
    If the 'zero' condition is not true, go to GA2 (error).
    Subtract 1 from R0 (result should be negative) and set cond. codes.

55 037 R3 40 08 9B 40 CC 00*GA1:
    *;+
    *;+
    *;+
    *;+
    Carry should be cleared, if not go to GA2 (error).

56 038 83 40 01 1F C0 40 00*
    *;+
    *;+
    *;+
    *;+
    If not negative result, goto to GA2 (error).

57 039 83 40 02 9F C0 40 00*
    *;+
    *;+
    *;+
    *;+
    If "zero" is set goto GA2 (error).
    Add 1 back to R0 and set condition codes.

58 03A 83 40 08 1E 50 C4 00*
    *;+
    *;+
    *;+
    *;+
    If result is not zero now, goto GA2 (error).

59 03B 83 40 08 9F C0 40 00*
    *;+
    *;+
    *;+
    *;+
    If result is negative, goto GA2 (error)

60 03C 83 40 02 1F C0 40 00*
    *;+
    *;+
    *;+
    *;+
    If carry is not set, goto GA2 (error).

61 03D 83 40 01 9F C0 40 00*
    *;+
    *;+
    *;+
    *;+
    The following tests check for stuck or line-to-line shorts
    on ALU in.

62 03E 83 F0 00 9F C0 40 00*SHORT0:
    *;+
    *;+
    Test fixture can start test here. (Dummy goto).

63 03F AA AA 80 77 C0 C7 00*SHORT1:
    *;+
    *;+
    Load an alternate 1-0 pattern in R0 and its complement
    in R1.

64 040 55 55 80 77 C0 C7 10*
    *;+
    *;+
    Double R1 to shift it left.

65 041 80 00 00 77 C0 C1 11*
    *;+
    *;+
    EOR R1 and R0 and set cond. codes. Result should be zero.

66 042 80 00 00 72 00 71 01*
    *;+
    *;+
    If result is zero, goto to register tests.

67 043 84 80 08 1F C0 40 00*
    *;+
    *;+
    Error was detected. If debug jumper is not on, goto ALUBAD.

```

```

        *:+      Otherwise, set R13 to -1 and repeat the test.
        *
        *
        *
70 046 80 10 38 1F C0 40 00*REGBAD:
        *:+      Register test failures come here. If debug jumper is on
        *:+      repeat the test, otherwise, goto ALUBAD.
71 047 84 80 00 9F C0 D1 D0*
        *
72 048 88 C0 00 8F C0 40 00*REG1:
        *:+      Call a subroutine to put 0000 in R0, 1111 in R1, 2222 in R2,
        *:+      4444 in R4, 8888 in R8, and FFFF in all other registers (except R13).
73 049 80 00 00 77 C0 D9 10*
        *:+      EUR R0 and R1.
74 04A 11 11 80 72 00 75 01*
        *:+      Result should be 1111.
75 04B 84 60 08 9F C0 40 00*
        *:+      If not, goto REGBAD above.
        *:+      Perform the test with R1 and R2, R2 and R4,
        *:+      R4 and R8, and R8 and R0. Any failures indicate
        *:+      a possible short in the register A&B lines of the
        *:+      2901, a bad 2901, or a bad microcode bit.
        *
76 04C 88 C0 00 8F C0 40 00*
77 04D 80 C0 00 77 C0 D9 21*
78 04E 33 33 80 72 00 75 02*
79 04F 84 60 08 9F C0 40 00*
        *
80 050 88 C0 00 8F C0 40 00*
81 051 80 00 00 77 C0 D9 42*
82 052 66 66 80 72 00 75 04*
83 053 84 60 08 9F C0 40 00*
        *
84 054 88 C0 00 8F C0 40 00*
85 055 80 00 00 77 C0 D9 84*
86 056 CC CC 80 72 00 75 08*
87 057 84 60 08 9F C0 40 00*
        *
88 058 88 C0 00 8F C0 40 00*
89 059 80 00 00 77 C0 D9 08*
90 05A 88 88 R0 72 00 75 00*
91 05B 84 60 08 9F C0 40 00*
        *
        *
        *
        *
        *:+      The "P" (condition code) register is outside the 2901's.
        *:+      Test the ALU's ability to communicate with it.
        *
92 05C 85 D0 00 9E 90 51 55*P0:
        *:+      Generate a 0 (R5=R5) and stuff it in P.
        *:+      Test fixture can start here.
        *
93 05D 00 00 81 72 C0 47 00*P1:
        *:+      Pass P back to the 2901's and set the zero bit
        *:+      according to the result.
        *
94 05E 06 30 08 9F C0 40 00*
        *:+      Go to error      if the zero condition is not set now.
        *
95 05F 80 00 84 74 C0 40 00*
        *:+      Force the in      sk on.

```



```

138 08A 87 C0 00 9F C0 D1 DD*      *:+ Otherwise, repeat the I/o test.
139 08B 08 B0 00 9F C0 47 00*IOPBAD1:
140 08C 00 00 80 77 C0 C7 00*SETREG:
141 08D 11 11 80 77 C0 C7 10*
142 08E 22 22 80 77 C0 C7 20*
143 08F 44 44 80 77 C0 C7 40*
144 090 88 88 80 77 C0 C7 80*
145 091 FF FF 80 77 C0 C7 30*
146 092 80 00 00 77 C0 C4 53*
147 093 80 00 00 77 C0 C4 63*
148 094 80 00 00 77 C0 C4 73*
149 095 80 00 00 77 C0 C4 93*
150 096 80 00 00 77 C0 C4 A3*
151 097 80 00 00 77 C0 C4 B3*
152 098 80 00 00 77 C0 C4 C3*
153 099 80 00 00 77 C0 C4 E3*
154 09A 80 00 00 D7 C0 C4 F3*
155 09B 09 B0 00 9F C0 47 00*MCPBAD1:
156 09C FF 41 80 77 CE 47 00*DIAGCONT:
157 09D 00 00 80 77 C8 C7 F0*
158 09E FF 40 C0 77 CE 47 00*
159 09F 38 04 80 77 CA 47 00*
160 0A0 FF 40 80 77 CE 47 00*
161 0A1 00 20 80 77 C8 47 00*      *:+ Set the bank switch to the leftmost slot
162 0A2 FF 0D 80 77 CE 47 00*
163 0A3 00 00 80 77 C9 47 00*
164 0A4 FF 0C C0 77 CE 47 00*

```

```

165 0A5 00 04 80 77 CA 47 00*      *;+ Initialize the PIA used for the 4052/4054 identity
                                     *;+ determination.
166 0A6 80 00 00 76 00 40 00*      *;+
167 0A7 00 0C C0 77 CC 47 00*      *;+
168 0A8 00 00 00 77 CA C7 00*      *;+
169 0A9 08 52 80 72 00 75 00*      *;+ Look for "DB52" in location C of the rompack
                                     *;+ to see if it's the diagnostic rompack.
170 0AA BB 00 08 9F C0 40 00*      *;+ Go to the regular restart at NODEBUG1 if diagnostic
                                     *;+ rompack is not in place.
171 0AB 00 F0 80 77 C0 E5 00*      *;+ Set accumulator A to "F0" if any errors occurred.
                                     *;+ (As noted in R13).
172 0AC 00 0E C0 77 CC 47 00*      *
173 0AD 00 00 00 77 CA C7 40*      *
174 0AE 00 F0 80 76 80 47 00*      *
175 0AF 00 00 50 7F C0 44 04*      *;+ Get the entry point to the diagnostic rompack
                                     *;+ from location 000E and go there.
                                     *
176 0B0 80 00 00 72 00 44 CD=6NODEBUG1: *;+ This is the regular (no diagnostic rompack)
                                     *;+ restart point. Test R13 to see if any error occurred during
                                     *;+ microdiagnostics.
177 0B1 80 00 08 9F C0 40 00*      *;+ If any errors were found, go to RESTART and repeat
                                     *;+ all test.
                                     *
178 0B2 FF 26 80 77 CE 47 00*      *
179 0B3 00 00 80 77 C9 47 00*      *
180 0B4 FF 2A C0 77 CE 47 00*      *
181 0B5 F0 04 80 77 CA 47 00*      *
182 0B6 FF 2A 80 77 CE 47 00*      *
183 0B7 00 60 80 77 C8 47 00*      *;+ Turn off the busy light and begin a more complete test
                                     *;+ of the basic (32K) ram.
                                     *
184 0B8 BB 90 00 9F 10 D1 55*      *
185 0B9 80 00 40 77 DE 44 05=MEM1: *
186 0BA 00 02 80 77 CA 85 55*      *
187 0BB 7F FE 80 72 00 75 05*      *;+ The above four instructions store values at
                                     *;+ ram addresses 1,4,7,10 (incrementing by 3). The value
                                     *;+ stored is the address plus one.
                                     *
188 0BD BB E0 00 9F D0 D1 55*      *
189 0BE 80 00 40 77 DC 44 05=MEM2: *
190 0BF 00 00 00 72 0A F5 65*      *;+ Read the      locations and compare to what should
                                     *;+ be stored
191 0C0 AC 60 00 1F C0 40 00*      *;+ Go to MEM      if no error is found.

```

```

193 OC1 00 00 00 77 D6 44 05e
    ;+ Write out failing address to PC
194 OC2 00 00 00 77 C6 44 06e
    ;+ Write failing bits to PC (bad bits are ones).
195 OC3 00 00 00 77 C0 D1 DDe
    ;+ Put -1 in RI3 to indicate at least one error occurred.
196 OC4 0C 60 38 9F C0 40 00e
    ;+ If the debug jumper is in place, continue
    ;+ with the test.
    ;
197 OC5 0C 50 00 9F C0 47 00eMEMBAD:
    ;+ Otherwise, hang, bad memory.
    ;
    ;
198 OC6 00 03 00 77 C0 C5 55eMEMJ1:
199 OC7 7F FE 00 72 00 75 05e
200 OC8 8B E0 08 9F C0 40 00e
    ;+ Increment the address, test for end, and go back
    ;+ to MEM2 if not finished.
201 OC9 00 00 00 72 00 44 00e
202 OCA 0C 50 00 9F C0 40 00e
    ;+ Test RI3 to see if any errors occurred. If so, goto MEMBAD.
203 OCB FE FE C4 74 CC 47 00e
204 OCC 00 00 00 77 4A C7 40e
205 OCD 00 00 50 7F C6 44 04e
    ;+ Fetch the firmware restart address from FEFE and start BASIC.
    ;
    ;
    ;
206 OCE 10 D0 81 9F C0 C7 40eTRAPS:
    ;
207 OCF 00 00 50 7F C8 C7 00ePULACONT:
208 ODO 00 00 50 7F C8 C7 10ePULBCONT:
209 ODI 00 00 50 7F C 44 00ePSHACONT:
210 ODD 00 00 50 7F C8 44 01ePSHBCONT:
    ;
    ;
211 ODD 00 00 00 77 CA C7 40eRTSCONT:
212 ODE 00 00 50 7F D6 03 34e
213 ODF 00 00 00 77 CC 44 04eNEGCONT:
214 ODE 00 00 00 70 98 CF 50e
215 ODD 00 00 00 77 CE 44 04eSTUFFIT:
216 ODE 00 00 50 7A C8 44 03e
    ;
217 ODD 00 00 00 77 CC 44 04eCOMCONT:
218 ODA 0D 70 00 99 08 FF 50e
    ;
219 ODB 00 00 00 77 CC 44 04eDECCONT:
220 ODC 0D 70 00 98 C8 D7 50e
    ;
221 ODD 00 00 00 77 CC 44 04eINCCONT:
222 ODE 0D 70 00 98 D8 C7 50e
    ;
223 ODF 00 00 00 77 CC 44 04eLSRCONT:
224 OEO 0D 70 00 98 09 47 50e
    ;
225 OEE 00 00 00 77 CC 44 04eRORCONT:

```

```

226 0E2 0D 71 00 9A 89 47 50*
227 0E3 80 00 00 77 C0 44 04*ASRCOUNT:
228 0E4 00 00 00 70 88 C7 50*
229 0E5 8D 72 00 98 81 44 55*
230 0E6 80 00 00 77 C0 44 04*ASLCONT:
231 0E7 00 00 00 77 C8 C7 50*
232 0E8 8D 70 00 98 80 C1 55*
233 0E9 80 00 00 77 C0 44 04*RULCONT:
234 0EA 00 00 00 77 C8 C7 50*
235 0EB 8D 70 00 98 A0 C1 55*
236 0EC 00 00 50 78 88 47 00*TSTCOUNT:
237 0ED 80 00 50 79 58 51 00*CLWIACONT:
*
238 0EE 80 02 00 73 81 44 00*ASRACONT:
239 0EF 80 00 50 7A C0 44 00*SETZA:
240 0F0 80 02 00 73 81 44 11*ASPBUCONT:
241 0F1 40 00 50 7A C0 44 01*SETZB:
*
*
*
242 0F2 FE F8 60 77 C0 C7 50*IHG:
243 0F3 6F 60 00 0F C0 40 00*
244 0F4 FE FC 80 77 C0 C7 50*HWI:
245 0F5 80 00 83 77 C0 40 00*CLIENT:
246 0F6 00 00 61 77 00 C7 60*STACK:
247 0F7 00 06 84 74 DE 40 03*
248 0F8 80 00 00 77 C8 44 06*
249 0F9 00 00 00 77 C4 C7 40*
250 0FA 80 00 40 77 C0 44 05*
251 0FB 00 00 60 77 CA C7 70*
252 0FC 80 00 40 77 C0 40 03*
253 0FD 80 00 00 77 CA 44 04*
254 0FE 00 03 C0 77 DE 40 03*
255 0FF 80 00 00 77 CA 44 02*
256 100 00 04 80 77 DE 40 03*
257 101 80 00 00 77 C4 44 00*
258 102 00 05 80 77 DE 40 03*
259 103 40 00 00 77 C8 44 01*
260 104 00 07 80 77 D0 CD 33*
261 105 80 00 00 73 40 44 0F*
262 106 91 A0 02 1F C0 40 00*
263 107 00 00 80 76 60 50 00*
264 108 80 00 50 7F C0 44 07*
*
*
*
265 109 FE F4 80 77 C1 C7 50*DSPIINT:
266 10A 8F 60 00 4F C0 40 00*
267 10B FE F2 80 77 C0 C7 50*HWFFAIL:
268 10C 8F 50 00 4F C0 40 00*
*
*
269 10D FE FA 80 77 C0 C7 50*SWICONT:
270 10E 8F 60 00 4F C0 40 00*
271 10F 00 00 00 77 C0 C7 50*RTICONT:
272 110 80 00 00 77 DC C4 33*
273 111 00 00 00 77 C8 C7 10*
274 112 80 00 00 77 DC C4 33*
275 113 00 00 00 77 C0 C7 00*
276 114 80 00 40 77 DC C4 33*

```

277	115	40	84	00	77	C4	C7	204
278	116	40	02	C0	77	C0	C9	334
279	117	00	00	00	77	C4	C7	404
280	118	80	00	00	76	B1	64	004
281	119	86	00	54	7F	B6	61	344
						*		
						*		
						*		
282	11A	F7	40	84	77	2E	67	000ALTB071
283	11B	30	20	84	77	C4	67	004
284	11C	40	03	00	74	93	40	004
285	11D	FL	F2	C0	77	DC	63	334
286	11E	00	02	00	77	C4	27	404
287	11F	84	00	00	76	B0	56	004
288	120	80	00	56	7F	C0	64	004
						*		
						*		
						*		
						*		
289	121	00	00	00	77	24	C9	000BLTB071
290	122	00	64	00	77	C4	C7	000JSP1AC041
291	123	40	00	00	77	2E	CC	334
292	124	20	00	00	77	C4	44	004
293	125	44	00	54	79	C0	58	334
						*		
294	126	00	C0	00	78	C0	00	000BLTB071
295	127	24	3F	00	77	24	64	000TLTB071
296	128	00	C4	00	77	24	45	004
297	129	80	02	00	74	00	56	004
298	12A	80	12	50	78	C4	60	004
						*		
						*		
						*		
						*		
299	12B	30	00	50	79	40	20	000BLTB071
300	12C	30	00	50	79	58	40	000CPLB071
301	12D	42	00	54	79	74	20	000BLTB071
302	12E	40	00	50	74	98	25	000BLTB071
303	12F	00	00	50	74	68	05	000BLTB071
304	130	00	20	50	74	40	C1	000BLTB071
305	131	00	20	50	74	40	F5	000BLTB071
306	132	00	00	50	78	68	C4	000BLTB071
307	133	00	00	40	74	68	00	000BLTB071
308	134	00	00	50	79	68	C5	000BLTB071
309	135	00	00	00	71	94	40	020CP1AC041
310	136	00	00	61	77	C4	C7	000CP1AC041
311	137	02	01	20	7F	00	75	004
						*		
312	138	00	00	50	74	00	C7	000BLTB071
						*		
313	139	00	40	50	79	58	C0	110SMBZC041
314	13A	20	00	50	79	54	40	010CP1AC041
315	13B	00	00	50	79	70	C0	110SMBZC041
316	13C	00	00	50	74	68	E5	110SMBZC041
317	13D	00	00	50	74	68	05	010BLTB071
318	13E	00	00	50	74	40	C7	000BLTB071
319	13F	00	00	50	74	64	F5	110SMBZC041
320	140	00	00	50	78	68	C9	010CP1AC041
321	141	00	00	50	74	40	00	010CP1AC041
322	142	00	00	50	78	40	C0	110SMBZC041

323 143 00 00 50 7A 0A C7 20*LDXXCON:
 324 144 00 00 50 7A 0A 44 03*STSACON:
 325 145 00 00 50 7A 0A 44 02*STXXCON:
 326 146 00 00 50 7A 48 44 01*STAACON:
 327 147 00 00 50 7A 48 44 00*STAAXCON:
 *
 328 148 00 FF 80 77 C0 E5 00*
 329 149 00 00 40 77 C0 41 20*
 330 14A 00 00 50 7A 6A C7 20*
 *
 331 14B 00 FF 80 77 C0 E5 00*FLDAXCON:
 332 14C 00 00 00 77 C0 41 20*
 333 14D 00 00 50 7A 48 C7 00*
 *
 334 14E 00 FF 80 77 C0 E5 00*FLDUXCON:
 335 14F 00 00 00 77 C0 41 20*
 336 150 00 00 50 7A 48 C7 10*
 *
 337 151 00 FF 80 77 C0 E5 00*GSTAXCON:
 338 152 00 00 00 77 C0 41 20*
 339 153 00 00 50 7A 48 44 01*
 *
 340 154 00 FF 80 77 C0 E5 00*JMPXCON:
 341 155 00 00 50 7F C0 41 20*
 *
 342 156 00 00 00 8F C0 40 00*PPSHCON:
 343 157 00 10 00 8F C0 40 00*
 344 158 00 00 50 7F C0 40 00*
 *
 345 159 00 00 C0 77 C0 45 00*PPHGT:
 346 15A 00 00 00 77 C0 C7 00*
 347 15B 00 00 C0 77 C0 45 00*
 *
 348 15C 00 00 00 77 C0 C7 00*
 349 15D 00 02 C0 77 C0 45 00*
 350 15E 00 00 00 77 C0 C7 00*
 351 15F 00 00 00 77 C0 44 00*
 352 160 00 00 00 07 C0 C7 00*
 *
 353 161 00 00 00 77 C0 4C 00*PPS1HPT:
 354 162 00 00 00 77 C0 44 00*
 355 163 00 03 C0 77 0E 40 03*
 356 164 00 00 00 77 C0 44 00*
 357 165 00 05 C0 77 0E 40 03*
 358 166 00 00 00 77 C0 44 07*
 359 167 00 07 C0 77 0E 40 03*
 360 168 00 00 00 77 C0 44 00*
 361 169 00 08 00 77 0F 40 03*
 362 16A 00 0C 00 77 C0 47 00*
 363 16B 00 00 00 07 00 C0 33*
 *
 364 16C 00 00 00 73 01 44 A9*PPSHCON:
 365 16D 00 00 00 77 C0 E5 A0*
 366 16E 00 00 00 76 00 71 A9*
 367 16F 15 00 00 8F C0 C7 00*
 368 170 00 10 00 8E 00 44 00*
 369 171 00 08 00 77 C0 45 04*
 370 172 00 00 00 7F C0 40 00*
 *
 371 173 00 00 00 77 D0 C0 33*PULCON:

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372 174 00 0C 80 A7 C0 47 00*
373 175 80 00 40 77 DC C4 33*
374 176 00 00 00 77 CA C7 50*
375 177 80 00 40 77 CE 44 04*
376 178 80 00 00 77 DA 83 35*
377 179 00 02 A0 6F C0 C5 44*
    *
378 17A 80 00 50 7F C0 40 00*
    *
379 17B 00 0B 80 A7 C0 47 00*FDUPCONT:
380 17C 00 08 C0 77 CC 45 03*
381 17D 00 00 00 77 CA C7 50*
382 17E 80 00 40 77 CE 4C 03*
383 17F 80 00 00 77 CA C4 05*
384 180 00 02 A0 6F D0 CD 33*
    *
385 181 80 00 50 7F D0 C4 33*
    *
386 182 00 02 80 77 C0 C5 43*FSWPCONT:
387 183 00 0C 80 A7 C0 47 00*
388 184 80 00 40 77 CC 44 04*
389 185 00 00 00 77 CA C7 50*
390 186 00 09 C0 77 CC 45 04*
    *
391 187 00 00 00 77 CA C7 60*
392 188 00 09 C0 77 CE 45 04*
393 189 80 00 00 77 CA C4 05*
394 18A 80 00 40 77 CE 44 04*
395 18B 80 00 00 77 CA C4 06*
396 18C 00 02 A0 6F C0 C5 44*
    *
397 18D 80 00 50 7F C0 40 00*
398 18E A2 30 00 8F C0 40 00*FMULCON:
399 18F 80 00 00 77 C0 C1 01*
400 190 04 00 80 77 D0 CD 00*
401 191 0U 00 80 77 C0 C7 E0*
402 192 00 00 80 77 C0 C7 D0*
403 193 00 00 80 77 C0 C7 C0*
404 194 99 80 00 88 40 C4 46*
405 195 99 R0 00 88 40 C4 47*
406 196 99 80 00 88 40 C4 48*
407 197 9F E0 00 9F C0 40 00*
    *
    *
408 198 9A 30 08 1F C0 40 00*SHIFTADD:
409 199 00 00 80 A7 C0 47 00*
410 19A 80 04 00 73 01 44 44*
411 19B 99 F0 01 9F C0 40 00*
412 19C 80 00 00 73 40 C1 C9*
413 19D 80 00 00 73 60 C1 DA*
414 19E 80 00 00 73 60 C1 EB*
    *
415 19F 80 05 00 72 81 44 EE*      SHFRT:
416 1A0 80 05 00 72 81 44 DD*
417 1A1 80 05 20 6A 81 44 CC*
    *
418 1A2 80 00 00 D7 C0 40 00*
    *
419 1A3 80 00 00 77 C0 C4 CD*WSHIFT:

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420 1A4 80 00 00 77 C0 C4 D0*
421 1A5 00 00 80 D7 C0 C7 E0*
422 1A6 A2 30 00 8F C0 40 00*FDIVCON:
423 1A7 80 00 00 77 D0 D1 01*
424 1A8 04 01 80 77 C0 C5 00*
425 1A9 80 00 00 73 40 44 0B*
426 1AA 9C 70 08 1F C0 40 00*
427 1AB 00 00 80 77 C0 C7 50*
428 1AC 98 40 00 8F C0 40 00*
429 1AD 80 00 00 77 C0 C4 E4*
430 1AE 00 01 80 77 C0 C7 40*
431 1AF 98 D0 00 8F C0 40 00*
432 1B0 80 00 00 77 C0 C4 D4*
433 1B1 00 01 80 77 C0 C7 40*
434 1B2 98 D0 00 8F C0 40 00*
* . .
435 1B3 9F E0 00 9F C0 C4 C4*
* .
436 1B4 00 01 80 77 C0 C7 40*DIV:
* .
437 1B5 80 00 00 73 50 C9 69*DSUB:
438 1B6 80 00 00 73 60 C9 7A*
439 1B7 80 00 00 73 60 C9 8B*
* .
440 1B8 80 01 00 72 81 44 11*
441 1B9 80 00 84 74 90 D9 15*
* .
442 1BA 80 00 00 70 A0 C1 11*FROLB:
443 1BB 80 00 00 73 60 C1 44*
444 1BC 80 00 01 57 C0 C4 14*
* .
445 1BD 80 00 00 73 40 C1 66*REENT:
446 1BE 80 00 00 73 60 C1 77*
447 1BF 80 00 00 73 60 C1 88*
* .
448 1C0 80 01 00 72 81 44 11*
449 1C1 98 50 01 1F C0 C4 51*
* .
450 1C2 80 00 00 73 40 C1 69*
451 1C3 90 00 00 73 60 C1 7A*
452 1C4 80 00 00 73 60 C1 8B*
453 1C5 80 01 00 72 81 44 11*
454 1C6 98 A0 00 9F C0 E1 15*
* .
455 1C7 80 00 80 73 40 E5 00*DIVBYZ:
456 1C8 00 09 80 77 C0 C5 33*
457 1C9 A1 C0 84 9C 80 40 00*
* .
458 1CA A2 30 00 8F C0 40 00*FSUBCON:
459 1CB 80 00 80 77 C0 F5 00*
460 1CC 9C E0 00 9F C0 40 00*
* .
461 1CD A2 30 00 8F C0 40 00*FADDCON:
* .
462 1CE 80 00 00 77 C0 C4 C9*FADD1:
463 1CF 80 00 00 77 C0 C4 DA*
* .

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464 1D0 07 FF 80 77 C0 E5 40*
465 1D1 07 FF 80 77 C0 E5 51*
466 1D2 80 00 00 73 50 C9 45*
467 1D3 9E C0 08 1F C0 C4 EB*
468 1D4 90 E0 02 9F C0 04 01*
*
469 1D5 80 00 00 77 C0 C4 10*
470 1D6 80 00 00 77 C0 C2 00*
471 1D7 80 00 00 77 C0 C4 C6*
472 1D8 80 00 00 77 C0 C4 69*
473 1D9 80 00 00 77 C0 C4 D7*
474 1DA 80 00 00 77 C0 C4 7A*
475 1DB 80 00 00 77 C0 C4 E8*
476 1DC 80 00 00 77 C0 C4 88*
*
*
*
477 1D0 80 00 00 77 D0 D4 44*
*
478 1DE 00 30 80 73 50 40 04*FOO1
479 1DF 9F E0 01 1F C0 40 00*
*
480 1E0 0F F0 80 73 40 65 04*SHIFTA1
481 1E1 9E 60 08 1F C0 40 00*
482 1E2 00 10 80 77 D0 C0 44*
483 1E3 80 00 00 77 C0 C4 67*
484 1E4 80 00 00 77 C0 C4 78*
485 1E5 9E 00 00 9F D0 D1 88*
486 1E6 80 00 00 73 40 44 04*SINGA1
487 1E7 9E C0 08 1F C0 40 00*SINGA1
488 1E8 80 04 00 73 01 44 88*SINGA1
489 1E9 80 05 00 72 81 44 77*
490 1EA 80 05 00 72 81 44 66*
491 1EB 9E 70 00 94 40 CC 44*
*
492 1EC 80 00 00 73 40 71 10*ADDSUB1
493 1ED 9F 60 02 1F C0 40 00*
494 1EE 80 00 00 73 40 C1 CHESSARE1
495 1EF 80 00 00 73 60 C1 D7*
496 1F0 80 00 00 73 60 C1 E8*
497 1F1 9F E0 01 9F C0 40 00*
*
*
*
498 1F2 80 05 00 72 81 44 EE*
499 1F3 80 05 00 72 81 44 DD*
500 1F4 80 05 00 72 81 44 CC*
501 1F5 9F E0 00 9F D0 C4 00*
*
502 1F6 80 00 00 73 50 C9 C6*DIFF1
503 1F7 80 00 00 73 60 C9 D7*
504 1F8 80 00 00 73 60 C9 E8*
505 1F9 9F E0 01 1F C0 40 00*
*
*
506 1FA 80 00 80 77 C0 FS 00*

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507 1FB 80 00 00 73 50 D4 CC*
508 1FC 80 00 00 73 60 D4 DD*
509 1FD 80 00 00 73 60 D4 EE*
      *
510 1FE 00 09 80 77 C0 C5 33+NORM1:
511 1FF 00 00 80 77 C0 C7 10*
512 200 80 00 00 73 40 44 0E+NORM1:
513 201 A0 80 08 9F C0 40 00*
514 202 00 10 80 77 C0 C5 11*
      *
515 203 00 30 80 70 90 4D 01*
516 204 A0 D0 08 1F C0 40 00*
517 205 80 00 00 77 C0 C4 ED*
518 206 80 00 00 77 C0 C4 DC*
519 207 A0 00 00 9F D0 D1 CC*
      *
520 208 A1 00 02 1F C0 40 00+NORM2:
521 209 80 00 00 77 D0 C4 11*
522 20A 80 00 00 73 40 C1 CC*
523 20B 80 00 00 73 60 C1 DD*
524 20C A0 80 00 9B 60 C1 EE*
      *
525 20D 00 00 80 73 40 C7 00+NORM3:
526 20E A3 30 00 8F C0 40 00+NSTUFF:
527 20F 80 00 50 7F C0 40 00*
      *
528 210 80 00 00 77 D0 C9 01+NORM4:
529 211 78 00 80 73 40 65 00*
530 212 A1 50 08 9F C0 40 00*
531 213 80 00 00 73 40 44 00*
532 214 A0 E0 80 9B C0 40 00*
      *
533 215 40 00 80 73 40 65 00+NORM45:
534 216 A1 B0 08 1F C0 40 00*
535 217 00 00 80 73 40 C7 00*
536 218 80 00 84 74 40 C4 E0*
537 219 80 00 00 77 C0 C4 D0*
538 21A A2 00 00 9F C0 C4 C0*
      *
539 21B 80 00 80 73 40 E5 00+NORM5:
540 21C 07 FF 80 77 C0 DD 00+MAXANS:
541 21D FF FF 84 74 40 C7 E0*
542 21E 80 00 80 73 C0 C4 DE*
543 21F 80 00 00 77 C0 C4 CE*
544 220 A3 30 00 8F C0 40 00+FAULT:
545 221 FE F6 80 77 C0 C7 50*
546 222 8F 60 00 9F C0 40 00*
      *
      *
547 223 00 02 C0 77 CC 45 03+FLOAD:
548 224 00 00 00 77 CA C7 00*
549 225 00 04 C0 77 CC 45 03*
      *
      *
550 226 00 00 00 77 CA C7 B0*
551 227 00 06 C0 77 CC 45 03*
552 228 00 00 00 77 CA C7 A0*

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553 229 00 08 C0 77 CC 45 03*
554 22A 00 00 00 77 CA C7 90*
555 22B 00 08 C0 77 CC 45 03*
556 22C 00 00 00 77 CA C7 10*
557 22D 00 00 C0 77 CC 45 03*
558 22E 00 00 00 77 CA C7 80*
559 22F 00 0F C0 77 CC 45 03*
560 230 00 00 00 77 CA C7 70*
561 231 00 11 C0 77 CC 45 03*
562 232 00 00 00 D7 CA C7 60*
*
563 233 00 02 C0 77 CE 45 03*FSTORE:
564 234 80 00 00 77 CA 44 00*
565 235 00 04 C0 77 CE 45 03*
566 236 80 00 00 77 CA 44 0E*
567 237 00 06 C0 77 CE 45 03*
568 238 80 00 00 77 CA 44 0D*
569 239 00 08 C0 77 CE 45 03*
570 23A 80 00 00 D7 CA 44 0C*
*
571 23B 00 02 C0 77 CC 45 03*FNORMCON:
572 23C 00 00 00 77 CA C7 00*
573 23D 00 04 C0 77 CC 45 03*
574 23E 00 00 00 77 CA C7 E0*
575 23F 00 06 C0 77 CC 45 03*
576 240 00 00 00 77 CA C7 D0*
577 241 00 08 C0 77 CC 45 03*
578 242 00 00 00 77 CA C7 C0*
579 243 A0 00 00 9F D0 D1 11*
*
*
*
*
*
*
580 244 00 70 80 77 C0 E5 40*STRUCONT:
581 245 00 0C 80 A7 0 47 00*
582 246 80 00 20 6B 01 44 44*
583 247 A7 E0 00 8F C0 40 00*
584 248 00 04 C0 77 DC 4D 02*
585 249 00 00 00 77 CA C5 44*
586 24A 00 04 C0 77 CE 45 02*
587 24B 80 00 00 77 CA 44 04*
588 24C 00 0F 80 77 C0 E5 40*
589 24D A7 E0 00 8F C0 40 00*
590 24E 00 02 C0 77 DC 4D 02*
591 24F 00 00 00 77 CA C5 44*
592 250 00 06 C0 77 CE 45 02*
593 251 80 00 00 77 CA 44 04*
594 252 80 00 40 77 CC 44 02*VECCONT:
595 253 28 70 00 8F CA C7 40*
596 254 80 00 00 77 C0 C4 54*
597 255 00 02 C0 77 CC 45 02*
598 256 00 00 00 77 CA C7 60*
599 257 00 04 C0 77 CC 45 02*
600 258 28 70 00 8F CA C7 40*
601 259 00 06 C0 77 CC 45 02*
602 25A 00 00 00 77 CA C7 80*
603 25B 00 02 80 77 C0 C7 80*
604 25C 80 00 00 73 50 C9 45*
605 25D A6 00 02 9F C0 C4 74*

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606 25E 00 02 80 77 D0 C0 BB*
607 25F 00 00 00 77 D0 D4 77*
608 260 00 00 00 73 50 C9 06*VEC2:
609 261 A6 40 02 9F C0 40 00*
610 262 00 04 80 77 C0 C5 BB*
611 263 00 00 00 77 D0 D4 88*
612 264 00 12 80 77 C0 C5 66*VEC3:
613 265 00 00 00 73 50 51 78*
614 266 A6 90 02 9B 40 CC 48*
615 267 00 00 00 77 D0 C4 BB*
616 268 00 00 00 73 40 CC 47*
617 269 00 00 40 77 CE 4C 03*YMAJOR:
618 26A A7 C0 0C 1F CA 44 04*
619 26B 00 02 80 77 DE 4D 03*
620 26C 00 00 00 77 C8 44 08*
*
621 26D 00 00 00 73 40 19 87*VECNORM:
622 26E A7 C0 08 1F C0 40 00*
623 26F 00 00 80 73 40 66 00*
624 270 A7 30 08 9F C0 40 00*
625 271 00 00 00 77 C0 C1 77*
626 272 A6 00 00 9F C0 C1 88*
*
627 273 00 04 C0 77 DE 4D 03*VSTOP:
628 274 00 00 00 77 CA 44 07*
629 275 00 06 C0 77 DE CD 33*
630 276 A7 80 00 8F CA 88 38*
631 277 00 00 50 7A 40 44 00*
*
632 278 00 00 40 77 CE 4C 03*VPSHI:
633 279 00 00 00 77 CA 44 05*
634 27A 00 03 C0 77 DE CD 33*
635 27B 00 00 00 D7 CA 88 36*
*
636 27C A7 80 84 8C 40 40 00*VPOINT:
637 27D 00 00 50 7F C0 40 00*
*
638 27E 00 00 00 77 C0 C4 C4*SCALE:
639 27F 00 00 00 77 C0 C1 44*
640 280 00 00 00 77 C0 C1 44*
641 281 00 01 80 70 80 65 01*
642 282 A8 40 08 9F C0 C1 44*
643 283 00 00 00 77 C0 C1 4C*
*
644 284 00 02 80 70 80 65 01*SCALE1:
645 285 00 00 08 57 C0 C1 CC*
646 286 00 04 00 D3 01 41 4C*
*
647 287 00 00 00 77 C0 04 04*XFORM:
648 288 J0 0A 80 A7 C0 47 00*
649 289 00 06 20 6B 81 44 44*
650 28A 00 00 00 D7 D0 C8 44*
*
*
651 28B 00 00 40 77 CC 44 04*PSHRCONT:
652 28C 00 00 00 77 CA C7 50*
653 28D 00 00 40 77 DC C4 33*
654 28E 00 00 00 77 CA C7 60*
655 28F 00 00 40 77 CE 44 05*
656 290 00 00 00 77 CA 44 06*

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657 291 80 00 40 77 DE 83 34*
 658 292 00 02 80 77 CA 45 05*
 659 293 83 00 00 9F C0 40 00*
 *
 660 294 80 00 40 77 CC 44 04*RTRNCONT:
 661 295 00 00 00 77 CA C7 50*
 662 296 00 02 C0 77 DC CD 55*
 *
 *
 663 297 00 00 00 77 CA C7 60*
 664 298 80 00 40 77 CE 44 04*
 665 299 80 00 00 77 CA 44 05*
 666 29A B1 60 00 9F C6 44 06*
 *
 667 29B 80 00 50 7F CA BB 32*PSHXCONT:
 *
 668 29C 00 00 00 77 CA C7 20*PULXCONT:
 669 29D 80 00 50 7F D0 C4 33*
 *
 *
 670 29E 28 B0 09 9F C4 C7 50*BHICONT:
 671 29F 80 00 50 7F C0 40 00*
 *
 672 2A0 28 B0 09 1F C4 C7 50*BLSCONT:
 673 2A1 80 00 50 7F C0 40 00*
 *
 674 2A2 28 B0 01 9F C4 C7 50*BCCCONT:
 675 2A3 80 00 50 7F C0 40 00*
 *
 676 2A4 28 B0 01 1F C4 C7 50*BCSCONT:
 677 2A5 80 00 50 7F C0 40 00*
 *
 678 2A6 28 B0 08 9F C4 C7 50*EHECONT:
 679 2A7 80 00 50 7F C0 40 00*
 *
 680 2A8 28 B0 08 1F C4 C7 50*EQQCONT:
 681 2A9 80 00 50 7F C0 40 00*
 *
 682 2AA 28 B0 03 9F C4 C7 50*BVCCONT:
 683 2AB 80 00 50 7F C0 40 00*
 *
 684 2AC 28 B0 03 1F C4 C7 50*BVSCONT:
 685 2AD 80 00 50 7F C0 40 00*
 *
 686 2AE 28 B0 02 9F C4 C7 50*BPLOCONT:
 687 2AF 80 00 50 7F C0 40 00*
 *
 688 2B0 28 B0 02 1F C4 C7 50*BHICONT:
 689 2B1 80 00 50 7F C0 40 00*
 *
 690 2B2 28 B0 04 9F C4 C7 50*BGECONT:
 691 2B3 80 00 50 7F C0 40 00*
 *
 692 2B4 28 B0 04 1F C4 C7 50*BLTCONT:
 693 2B5 80 00 50 7F C0 40 00*
 *
 694 2B6 28 B0 0C 9F C4 C7 50*BGTCONT:
 695 2B7 80 00 50 7F C0 40 00*

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696 288 2B B0 0C 1F C4 C7 50•BLECONT:
697 289 00 00 50 7F C0 40 000
698 28A 00 00 00 77 C4 C7 50•BRACONT:
699 28B 00 00 50 7F C6 41 54•DOBANCH:
•
•
•
•
•
700 28C 00 00 40 77 DC 44 03•MVGET:
701 28D 00 00 00 77 CA C7 60•
702 28E 00 03 C0 77 CC 49 03•
703 28F 00 00 00 77 CA C7 50•
704 290 00 05 C0 77 CC 49 03•
705 291 00 00 00 D3 4A C7 700
•
•
706 2C2 AB C0 00 8F C0 40 00•MVRLCONT:
707 2C3 AC E0 00 10 40 4C 07•MVRL1:
708 2C4 AC A0 00 1F C0 40 000
709 2C5 00 02 C0 77 CC 65 660
710 2C6 00 00 00 77 CA C7 400
711 2C7 00 02 C0 77 CE 65 550
712 2C8 00 00 00 77 C4 68 740
713 2C9 AC 30 00 98 40 CC 770
•
•
714 2CA 00 00 00 77 CC 64 06•MVODD:
715 2CB 00 00 00 77 C0 C7 40•
716 2CC 00 00 00 77 CE 64 050
717 2CD 00 00 00 77 C8 64 040
718 2CE 00 00 D0 7F C0 C5 33•MVDCHE:
•
719 2CF AB C0 00 8F C0 40 00•MVRLCONT:
720 2D0 AC E0 00 10 40 4C 07•MVRL1:
721 2D1 AC A0 00 1F C0 40 000
722 2D2 00 00 40 77 CC CC 660
723 2D3 00 00 00 77 CA C7 400
724 2D4 00 00 00 77 C0 CC 660
725 2D5 00 00 40 77 CE CC 550
726 2D6 00 00 00 77 CA 68 560
727 2D7 00 02 00 73 50 CD 770
728 2D8 AD 00 00 9F C0 60 000
•
•
729 2D9 00 00 00 77 C0 C1 64•PATCHCONT:
730 2DA 00 00 00 77 C0 C1 640
731 2DB 44 00 D0 7F C6 45 060
•
•
732 2DC 00 00 00 77 C0 C1 55•CPATCHCONT:
733 2D0 22 00 00 77 C0 C9 550
734 2DE 92 20 00 9F C0 C1 550
•
•
•
•
735 2DF 00 00 40 77 CC 64 06•WADACONT:
736 2E0 00 00 50 7D 6A C9 220
•
•
•
•
•
•
•
•
•

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737 2F6 2F 70 00 9F C4 C7 400LDUMP16:
 o;+ Transfer the PC, which was loaded with the
 o;+ desired address to test, to a work register in 2901
 o;
 738 2F7 00 00 40 77 CE 04 000LP16CONT:
 o;+ Transfer work register to memory write address.
 739 2F8 00 00 00 77 CA 04 030:
 o;+ Write RS (previously loaded with desired data) to memory
 740 2F9 00 00 40 77 CC 04 000:
 o;+ Transfer work register to memory read address.
 741 2FA 2F 70 00 9F CA C7 600:
 o;+ Read memory data to RS and go to LP16CONT.
 o;
 o;
 o;+ The following is an 8-bit version of the same test.
 o;
 742 2FB 2F C0 00 9F C4 C7 400LDUMP8:
 o;+ Transfer PC to work register.
 o;
 743 2FC 00 00 00 77 CE 04 000LP0CONT:
 o;+ Transfer work register to memory write address.
 744 2FD 00 00 00 77 CA 04 030:
 o;+ Write RS to memory.
 745 2FE 00 00 00 77 CC 04 000:
 o;+ Transfer work register to read address.
 746 2FF 2F C0 00 9F C8 C7 600:
 o;+ Read memory into RS and goto LP0CONT.
 o;
 o;
 o;
 o;
 747 300 00 00 00 4F C0 40 000TEST:
 748 301 00 00 50 7F C0 40 000NUP1:
 749 302 00 00 50 7F C0 40 000NUP2:
 750 303 00 C0 50 7E 4C 10 000SFIA:
 751 304 0C E0 00 9F C0 40 000DUMP:
 752 305 0C EU 00 9F C0 40 000:
 753 306 12 70 01 9F C0 C7 400TAPI:
 754 307 12 60 01 9F C0 C7 000TPA:
 755 308 00 00 50 79 00 24 220INA:
 756 309 00 00 50 79 C0 CC 220GDX:
 757 30A 00 00 00 7C 40 00 000CLV:
 758 30B 00 00 D4 7C 60 00 000SEV:
 759 30C 00 00 00 7C 60 00 000CLC:
 760 30D 00 00 D4 7C 60 00 000SEC:
 761 30E 00 00 D0 7C C0 40 000CLII:
 762 30F 00 00 D4 7C C0 40 000SEII:
 763 310 00 00 50 79 50 C9 010SDAI:
 764 311 00 00 50 79 50 91 100CBAI:
 765 312 00 00 50 7E 60 04 000TAPI8:
 766 313 00 00 D1 7F C0 C7 000TPAII:
 767 314 00 00 50 7F C0 C9 220ADIX:
 768 315 00 00 50 7F C0 C9 000ASPI:
 769 316 00 00 50 7A 40 C4 100TABII:
 770 317 00 00 50 7A 40 C6 010TRAII:
 771 318 00 00 50 77 00 00 000SDAI:
 772 319 0C E0 00 9F C0 40 000DAAI:
 773 31A 04 00 00 9F C0 40 000NLDXII:
 774 31B 00 00 50 78 40 C1 010ABAII

775 31C 94 80 00 9F C0 40 00*NLDAX:
 776 31D 94 E0 00 9F C0 40 00*NLD8X:
 777 31E 95 10 00 9F C0 40 00*NSTAX:
 778 31F 95 40 00 9F C0 40 00*JMPAX:
 779 320 AB AU 00 9F C0 C7 40*BRA:
 780 321 80 00 50 7E 00 40 00*SDB:
 781 322 A9 E0 00 9F C0 C7 40*BHI:
 782 323 AA D0 00 9F C0 C7 40*BLS:
 783 324 AA 20 00 9F C0 C7 40*BCC:
 784 325 AA 40 00 9F C0 C7 40*BCC:
 785 326 AA 60 00 9F C0 C7 40*AME:
 786 327 AA 80 00 9F C0 C7 40*PEQ:
 787 328 AA A0 00 9F C0 C7 40*HVC:
 788 329 AA C0 00 9F C0 C7 40*BVS:
 789 32A AA F0 00 9F C0 C7 40*BPL:
 790 32B AB 00 00 9F C0 C7 40*BNI:
 791 32C AB 20 00 9F C0 C7 40*EGE:
 792 32D AB 40 00 9F C0 C7 40*BUT:
 793 32E AH 60 00 9F C0 C7 40*BGT:
 794 32F AB 80 00 9F C0 C7 40*BLE:
 795 330 80 00 50 7F D0 C4 23*TSX:
 796 331 80 00 50 7F D0 C4 33*INS:
 797 332 AC F0 00 9F DC C4 33*PULA:
 798 333 P0 00 00 4F DC C4 33*PULB:
 799 334 90 00 50 7F C0 CC 33*OES:
 800 335 P0 00 50 7F C0 CC 32*TSX:
 801 336 P0 10 00 9F C5 RC 33*PSHA:
 802 337 P0 20 00 9F CE 8C 33*PSHB:
 803 338 90 00 50 7F C6 47 00*JMPIN:
 804 339 P0 30 40 4F DC C4 33*RTS:
 805 33A 95 60 00 9F C0 C7 40*FPSHD:
 806 33B 90 F0 00 9F DC C4 33*RTI:
 807 33C 95 60 00 9F C0 C5 42*FPSHX:
 808 33D 95 60 00 9F C0 C7 40*FPSH:
 809 33E 8C E0 00 9F C0 40 00*WAI:
 810 33F 10 D0 81 9F C0 C7 40*SWI:
 811 340 90 00 50 78 90 D4 00*NEGA:
 812 341 16 C0 81 9F C0 C7 90*FPISHI:
 813 342 97 30 00 9F C0 C7 40*FPULD:
 814 343 80 00 50 79 00 FC 00*CORA:
 815 344 8E F0 00 9H 01 44 00*LSRA:
 816 345 97 30 00 9F C0 C5 42*FPULX:
 817 346 8E F1 00 9A 81 44 00*RUHA:
 818 347 8E E0 00 9A 80 44 00*ASRA:
 819 348 80 00 50 78 80 C1 00*ASLA:
 820 349 80 00 50 78 80 C1 00*ROLA:
 821 34A 80 00 50 78 C0 CC 00*DECA:
 822 34B 97 30 00 9F C0 C7 40*FPUL:
 823 34C 80 00 50 78 D0 C4 00*INCA:
 824 34D 91 00 50 78 80 44 00*ISTA:
 825 34E 97 B0 00 9F C0 40 00*FDUP:
 826 34F 00 00 00 78 80 C7 00*CLRA:
 827 350 80 00 50 78 90 D4 11*NEGB:
 828 351 98 20 00 9F C0 40 00*FSWP:
 829 352 9C D0 00 9F C0 40 00*FAOO:
 830 353 80 00 50 79 00 FC 11*CUMB:
 831 354 8F 10 00 9B 01 44 11*LSRB:
 832 355 9C AU 00 9F C0 40 00*FSUB:
 833 356 8F 11 00 9A 81 44 11*ROPB:
 834 357 8F 00 00 98 80 44 01*ASRB:

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035 358 80 00 50 78 80 C1 11+ASLB;
036 359 80 00 50 78 A0 C1 11+ROLB;
037 35A 80 00 50 78 C0 CC 11+SECB;
038 35B 98 E0 00 9F C0 40 00+MUL;
039 35C 80 00 50 78 D0 C4 11+INCB;
040 35D 80 00 50 78 80 44 01+TSTB;
041 35E 9A 60 00 9F C0 40 00+DIV;
042 35F 00 00 D0 78 80 C7 10+CLRB;
043 360 80 50 00 9F C0 C5 42+NEGX;
044 361 A3 80 00 9F C0 40 00+FNCRM;
045 362 A8 80 00 9F C0 C7 40+SHRET;
046 363 80 90 00 9F C0 C5 42+COMX;
047 364 80 F0 00 9F C0 C5 42+LSRX;
048 365 A9 40 00 9F C0 C7 40+TRN;
049 366 8E 10 00 9F C0 C5 42+RORX;
050 367 8E 30 00 9F C0 C5 42+ASBX;
051 368 8E 60 00 9F C0 C5 42+ASLX;
052 369 8E 90 00 9F C0 C5 42+PULX;
053 36A 8D 80 00 9F C0 C5 42+SECX;
054 36B A9 80 40 9F C8 CC 33+PSBX;
055 36C 8D 00 00 9F C0 C5 42+INCX;
056 36D 8E C0 00 9F C8 45 02+STX;
057 36E 80 00 50 7F C8 45 02+JMPX;
058 36F 8E 80 00 9F C8 45 02+CLRX;
059 370 80 50 00 9F C0 C7 40+NEGI;
060 371 A4 40 00 9F C0 40 00+STRUX;
061 372 A5 20 00 9F C0 40 00+VEC;
062 373 8D 90 00 9F C0 C7 40+CDM;
063 374 8D F0 00 9F C0 C7 40+LSR;
064 375 A9 C0 40 9F DC C4 33+PULX;
065 376 8E 12 00 9F C0 C7 40+ROR;
066 377 8E 30 00 9F C0 C7 40+ASB;
067 378 8E 60 00 9F C0 C7 40+ASL;
068 379 8E 90 00 9F C0 C7 40+POL;
069 37A 8D 80 00 9F C0 C7 40+SEC;
070 37B 8C E0 00 9F C0 40 00+
071 37C 80 00 00 9F C0 C7 40+INC;
072 37D 80 00 50 78 80 47 00+STX;
073 37E 80 00 50 7F C6 47 00+JMP;
074 37F 80 00 50 79 50 51 44+CLR;
075 380 80 00 50 79 50 C0 00+SUBA;
076 381 80 00 50 79 50 40 00+CHPAD;
077 382 80 00 50 79 70 CD 00+BBCA;
078 383 8C E0 00 9F C0 40 00+
079 384 82 00 50 7A 40 E5 00+ANDA;
080 385 80 00 50 7A 40 65 00+ITRA;
081 386 80 00 50 7A 40 C7 00+LDRA;
082 387 8C E0 00 9F C0 40 00+
083 388 80 00 50 7A 40 F5 00+EORRA;
084 389 80 00 50 78 60 C5 00+AOCRA;
085 38A 80 00 50 7A 40 00 00+DRRA;
086 38B 80 00 50 78 60 C5 00+ADDRA;
087 38C 93 60 00 98 50 40 02+CPEX;
088 38D 92 10 00 9F C0 C7 40+BSR;
089 38E 80 00 50 7A 00 C7 30+LCB;
090 38F 8C E0 00 9F C0 40 00+
091 390 80 00 50 79 50 CD 00+SUBAD;
092 391 80 00 50 79 50 40 00+CHPAD;
093 392 80 00 50 79 70 CD 00+BBCAD;
094 393 8C E0 00 9F C0 40 00+

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