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7 / THIS PROGRAM SOURCE FILE IS SUPPLIED IN CONFIDENCE TO THE
8 / CUSTOMER; THE CONTENTS OR DETAILS OF ITS OPERATION MAY ONLY
9 / BE DISCLOSED TO PERSONS EMPLOYED BY THE CUSTOMER WHO
10 / REQUIRE A KNOWLEDGE OF THE SOFTWARE CODING TO CARRY OUT
11 / THEIR JOB. DISCLOSURE TO ANY OTHER PERSON MUST HAVE PRIOR
12 / AUTHORIZATION FROM THE DIRECTORS OF REDAC SOFTWARE LIMITED
13 /
14 /1 SUITE : P.C.B. LAYOUT
15 /2 PROGRAM TITLE : REDAL23 MARK2
16 /3 ROUTINE TITLE :
17 /
18 /4 AUTHOR :
19 /5 DATE :
20 /
21 /6 PURPOSE :
22 /
23 /
24 /7 CALLING SEQUENCE AND DESCRIPTION OF ARGUMENTS :
25 /
26 /8 I/O DEVICES AND FUNCTIONS :
27 /
28 /9 REGISTERS USED :
29 /
30 /10 EXTERNAL COMMON AREAS :
31 /
32 /11 INTERNAL COMMON AREAS :
33 /
34 /12 EXTERNAL GLOBALS :
35 /
36 /13 INTERNAL GLOBALS :
37 /
38 /14 CONDITIONAL ASSEMBLY PARAMETERS :
39 /
40 /15 METHOD :
41 /
42 /16 AMENDMENTS :
43 /
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44      .TITLE BINIOP
45      .GLOBL BINIOP,.DA
46      / 9.3.72 JOE ATIYAH BINIOP(ST,N,DT,M)
47      / IF M=0 WRITES IN IOPS BINARY N WORDS FROM ST TO DEVICE
48      / ON SLOT DT IN BLOCKS OF 251 DATA WORDS,FORTRAN RECORD FORMAT
49      /IF M=1 READS N WORDS FROM DEVICE TO ST ONWARDS
50      /IF ST IS EQUAL TO TRAKAD SPECIAL MODE TO TRANSFER POINTERS
51      00000 R 740040 A BINIOP XX
52      00001 R 120703 E JMS* .DA
53      00002 R 600007 R JMP .+1+4
54      00003 R 000000 A START 0
55      00004 R 000000 A N 0
56      00005 R 000000 A DAT 0
57      00006 R 000000 A MODE 0
58      00007 R 220003 R LAC* START
59      00010 R 540671 R SAD TRAKAD
60      00011 R 741000 A SKP
61      00012 R 600017 R JMP .+5
62      00013 R 220006 R LAC* MODE
63      00014 R 741200 A SNA
64      00015 R 100161 R JMS SPECLW
65      00016 R 200704 R LAC (BUFF+3)
66      00017 R 723777 A AAC -1
67      00020 R 060705 R DAC* (11 / SET PTR TO START
68      00021 R 140665 R DZM LFLG / SET WHEN LAST BLOCK O/P
69      00022 R 220006 R LAC* MODE
70      00023 R 740200 A SZA / WRITE MODE
71      00024 R 600110 R JMP READ
72      00025 R 140670 R DZM BLCNT
73      00026 R 200706 R LAC (177000
74      00027 R 040265 R DAC BUFF / SET HEADER WORD
75      00030 R 220005 R LAC* DAT
76      00031 R 040072 R DAC WITE
77      00032 R 040076 R DAC WAIT1 / PLUG DAT SLOT
78      00033 R 220004 R LAC* N / TOTAL NO OF WORDS
79      00034 R 040666 R DAC CNT
80      00035 R 723404 A WRLUP AAC -374 / 252 DECIMAL
81      00036 R 740100 A SMA / LAST BLOCK
82      00037 R 600043 R JMP NOLAST
83      00040 R 200666 R LAC CNT
84      00041 R 440665 R ISZ LFLG
85      00042 R 741000 A SKP
86      00043 R 200707 R NOLAST LAC (373 / COPY 251 WORDS
87      00044 R 740031 A TCA
88      00045 R 040667 R DAC COPY / -NO OF WORDS IN THIS BLOCK
89      00046 R 200710 R LAC (BUFF+2
90      00047 R 060711 R DAC* (10 / SET PTR FOR COPYING TO BUFF
91      00050 R 220011 A WRCOP LAC* 11 / READ FROM DATA ARE
A
92      00051 R 060010 A DAC* 10 / COPY TO BUFF
93      00052 R 440667 R ISZ COPY / EXIT ON LAST WORD
94      00053 R 600050 R JMP WRCOP
95      00054 R 200665 R LAC LFLG

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PAGE	3	BINIOP	SRC	BINIOP
96		00055	R 741200 A	SNA / LAST BLOCK
97		00056	R 600070 R	JMP SETBLK
98		00057	R 200670 R	LAC BLCNT
99		00060	R 240712 R	XOR (400000 / SET TOP BIT
100		00061	R 040670 R	DAC BLCNT
101		00062	R 200666 R	LAC CNT / NO DATA WORDS IN LAST BLOCK
102		00063	R 723004 A	AAC +4
103		00064	R 742030 A	SWHA
104		00065	R 744020 A	CLL!RAR
105		00066	R 500713 R	AND (377000
106		00067	R 040265 R	DAC BUFF / SET HEADER
107		00070	R 200670 R	SETBLK LAC BLCNT
108		00071	R 040267 R	DAC BUFF+2 / SET RECORD BLOCK COUNT
109		00072	R	WITE .WRITE 0,0,BUFF,10 / IOPS BINARY,DAT SLOT PLUGGED
		00072	R 000000 A *G	CAL+0*1000 0&777
		00073	R 000011 A *G	11
		00074	R 000265 R *G	BUFF
			*G	.DEC
		00075	R 777766 A *G	-10
110		00076	R	WAIT1 .WAIT 0 / SLOT PLUGGED
		00076	R 000000 A *G	CAL 0&777
		00077	R 000012 A *G	12
111		00100	R 200665 R	LAC LFLG
112		00101	R 740200 A	SZA
113		00102	R 620000 R	JMP* BINIOP / LAST BLOCK DONE
114		00103	R 440670 R	ISZ BLCNT / UPDATE BLOCK COUNT
115		00104	R 200666 R	LAC CNT
116		00105	R 723405 A	AAC -373
117		00106	R 040666 R	DAC CNT / UPDATE NO OF WORDS LEFT
118		00107	R 600035 R	JMP WRLUP
119		00110	R 140666 R	READ DZM CNT / NO OF WORDS READ
120		00111	R 220005 R	LAC* DAT
121		00112	R 040114 R	DAC REED
122		00113	R 040120 R	DAC WAIT2
123		00114	R	REED .READ 0,0,BUFF,254 / IOPS BINARY,DAT SLOT PLUGGED
		00114	R 000000 A *G	CAL+0*1000 0&777
		00115	R 000010 A *G	10
		00116	R 000265 R *G	BUFF
			*G	.DEC
		00117	R 777402 A *G	-254
124		00120	R	WAIT2 .WAIT 0 / SLOT PLUGGED
		00120	R 000000 A *G	CAL 0&777
		00121	R 000012 A *G	12
125		00122	R 200265 R	LAC BUFF
126		00123	R 660510 A	LRSS 10 / EVEN WORD COUNT
127		00124	R 723775 A	AAC -3 / SUBTRACT HEADER WORDS
128		00125	R 740031 A	TCA
129		00126	R 040667 R	DAC COPY / -NO OF DATA WORDS (-1?)
130		00127	R 740031 A	TCA
131		00130	R 340666 R	TAD CNT
132		00131	R 040666 R	DAC CNT / UPDATE WORDS READ
133		00132	R 740031 A	TCA

PAGE	4	BINIOP	SRC	BINIOP
134		00133	R 360004	R TAD* N / COUNT EXCEEDS TOTAL NO OF WRDS?
135		00134	R 741100	A SPA / NO . COPY CORRECT, SINCE ALL BUT LAST BLOCK
136				/ HAVE 254 WORDS(EVEN)
137		00135	R 440667	R ISZ COPY / CORRECT LAST BLOCK WRD COUNT
138		00136	R 200710	R LAC (BUFF+2
139		00137	R 060711	R DAC* (10 / SET PTR FOR COPYING FROM BUFF
140		00140	R 220010	A RDCOP LAC* 10 / READ FROM BUFF
141		00141	R 060011	A DAC* 11 / COPY TO DATA AREA
142		00142	R 440667	R ISZ COPY
143		00143	R 600140	R JMP RDCOP
144		00144	R 220004	R LAC* N
145		00145	R 740031	A TCA
146		00146	R 340666	R TAD CNT
147		00147	R 741100	A SPA /NO MORE TO DO
148		00150	R 600114	R JMP REED
149		00151	R 220003	R LAC* START
150		00152	R 540671	R SAD TRAKAD
151		00153	R 741000	A SKP
152		00154	R 600160	R JMP .+4
153		00155	R 220006	R LAC* MODE
154		00156	R 740200	A SZA
155		00157	R 100204	R JMS SPECLR
156		00160	R 620000	R JMP* BINIOP
157		00161	R 740040	A SPECLW XX
158		00162	R 100230	R JMS SPECL1
159		00163	R 220010	A LAC* 10
160		00164	R 060011	A DAC* 11
161		00165	R 220674	R LAC* LAYER
162		00166	R 060011	A DAC* 11
163		00167	R 220675	R LAC* EOCPAD
164		00170	R 060011	A DAC* 11
165		00171	R 220676	R LAC* EOBRAD
166		00172	R 060011	A DAC* 11
167		00173	R 220677	R LAC* EOLBAD
168		00174	R 060011	A DAC* 11
169		00175	R 220700	R LAC* EOCNAD
170		00176	R 060011	A DAC* 11
171		00177	R 220701	R LAC* EOCMAD
172		00200	R 060011	A DAC* 11
173		00201	R 220702	R LAC* EORTAD
174		00202	R 060011	A DAC* 11
175		00203	R 620161	R JMP* SPECLW
176		00204	R 740040	A SPECLR XX
177		00205	R 100230	R JMS SPECL1
178		00206	R 220011	A LAC* 11
179		00207	R 060010	A DAC* 10
180		00210	R 220011	A LAC* 11
181		00211	R 060674	R DAC* LAYER
182		00212	R 220011	A LAC* 11
183		00213	R 060675	R DAC* EOCPAD
184		00214	R 220011	A LAC* 11
185		00215	R 060676	R DAC* EOBRAD

PAGE	5	BINIOB	SRC	BINIOB
186		00216	R 220011 A	LAC* 11
187		00217	R 060677 R	DAC* EOLBAD
188		00220	R 220011 A	LAC* 11
189		00221	R 060700 R	DAC* EOCNAD
190		00222	R 220011 A	LAC* 11
191		00223	R 060701 R	DAC* EOCMAD
192		00224	R 220011 A	LAC* 11
193		00225	R 060702 R	DAC* EORTAD
194		00226	R 620204 R	JMP* SPECLR
195		00227	R 740040 A	SPECL2 XX
196		00230	R 740040 A	SPECL1 XX
197		00231	R 200230 R	LAC .-1
198		00232	R 740030 A	IAC
199		00233	R 040227 R	DAC .-4
200		00234	R 200710 R	LAC (BUFF+2
201		00235	R 060705 R	DAC* (11
202		00236	R 777777 A	LAW -1
203		00237	R 340671 R	TAD TRAKAD
204		00240	R 060711 R	DAC* (10
205		00241	R 777756 A	LAW -22
206		00242	R 100255 R	JMS SPECL3
207		00243	R 340672 R	TAD PADAD
208		00244	R 060711 R	DAC* (10
209		00245	R 777700 A	LAW -100
210		00246	R 100255 R	JMS SPECL3
211		00247	R 340673 R	TAD DRILAD
212		00250	R 060711 R	DAC* (10
213		00251	R 777740 A	LAW -40
214		00252	R 100255 R	JMS SPECL3
215		00253	R 440227 R	ISZ SPECL2
216		00254	R 620227 R	JMP* SPECL2
217		00255	R 740040 A	SPECL3 XX
218		00256	R 040666 R	DAC CNT
219		00257	R 420230 R	XCT* SPECL1
220		00260	R 420227 R	XCT* SPECL2
221		00261	R 440666 R	ISZ CNT
222		00262	R 600257 R	JMP .-3
223		00263	R 777777 A	LAW -1
224		00264	R 620255 R	JMP* SPECL3
225				/ SYMBOL TABLE
226		00265	R A	BUFF .BLOCK 400
227		00665	R 000000 A	LFLG 0 /LAST BLOCK INDICATOR
228		00666	R 000000 A	CNT 0 / TOTAL WORD COUNT
229		00667	R 000000 A	COPY 0 / BLOCK WORD COUNT
230		00670	R 000000 A	BLCNT 0 / BLOCK COUNT
231		00671	R 000000 A	TRAKAD .CBD TRAKAD 1
232		00672	R 000000 A	PADAD .CBD PADAD 1
233		00673	R 000000 A	DRILAD .CBD DRILAD 1
234		00674	R 000000 A	LAYER .CBD LAYER 1
235		00675	R 000000 A	EOCPAD .CBD EOCPAD 1
236		00676	R 000000 A	EOBRAD .CBD EOBRAD 1
237		00677	R 000000 A	EOLBAD .CBD EOLBAD 1

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PAGE    6      BINIOP SRC      BINIOP
238      00700 R 000000 A      EOCNAD .CBD EOCNAD 1
239      00701 R 000000 A      EOCMAD .CBD EOCMAD 1
240      00702 R 000000 A      EORTAD .CBD EORTAD 1
241      000000 A      .END
      00703 R 000703 E *E
      00704 R 000270 R *L
      00705 R 000011 A *L
      00706 R 177000 A *L
      00707 R 000373 A *L
      00710 R 000267 R *L
      00711 R 000010 A *L
      00712 R 400000 A *L
      00713 R 377000 A *L
      SIZE=00716      NO ERROR LINES
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PAGE 7 BINIOP CROSS REFERENCE

BINIOP	00000	44	45	51*	113	156			
BLCNT	00670	72	98	100	107	114	230*		
BUFF	00265	65	74	89	106	108	109	123	125
		138	200	226*					
CNT	00666	79	83	101	115	117	119	131	132
		146	218	221	228*				
COPY	00667	88	93	129	137	142	229*		
DAT	00005	56*	75	120					
DRILAD	00673	211	233*	233					
EOBRAD	00676	165	185	236*	236				
EOCMAD	00701	171	191	239*	239				
EOCNAD	00700	169	189	238*	238				
EOCPAD	00675	163	183	235*	235				
EOLBAD	00677	167	187	237*	237				
EORTAD	00702	173	193	240*	240				
LAYER	00674	161	181	234*	234				
LFLG	00665	68	84	95	111	227*			
MODE	00006	57*	62	69	153				
N	00004	55*	78	134	144				
NOLAST	00043	82	86*						
PADAD	00672	207	232*	232					
RDCOP	00140	140*	143						
READ	00110	71	119*						
REED	00114	121	123*	148					
SETBLK	00070	97	107*						
SPECLR	00204	155	176*	194					
SPECLW	00161	64	157*	175					
SPECL1	00230	158	177	196*	219				
SPECL2	00227	195*	215	216	220				
SPECL3	00255	206	210	214	217*	224			
START	00003	54*	58	149					
TRAKAD	00671	59	150	203	231*	231			
WAIT1	00076	77	110*						
WAIT2	00120	122	124*						
WITE	00072	76	109*						
WRCOP	00050	91*	94						
WRLUP	00035	80*	118						
.DA	00703	45	52						