

SEQ	PG	LIN	LABEL	OP	OPERANDS	SFX	CT	LOCN	INSTRUCTION	TYPE	CARD	A-ADDR	B-ADDR
101			JOB		FORTRAN COMPILER -- CONSTANTS PHASE TWO -- 19								
102			CTL		6611								
103			*										
104			*		EXTERNALLY REFERENCED SYMBOLS ARE MARKED WITH ASTERISK IN COLUMN 1.								
105			*										
106			*		SAME AS VARIABLES PHASE TWO. THE TABLE OF SIMPLE VARIABLES								
107			*		IS DESTROYED								
108			*										
109			X1	EQU	89						0089		
110			X2	EQU	94						0094		
111			X3	EQU	99						0099		
112			*										
113			*		ON ENTRY, 83 IS THE TOP OF CODE AND X2 IS ONE BELOW THE								
114			*		BOTTOM OF CODE, AT THE TOP OF MEMORY.								
115			*										
116			*		STUFF IN THE RESIDENT AREA								
117			*										
118			TOPCOR	EQU	688 TOP CORE ADDRESS FROM PARAM CARD						0688		
119			IMOD	EQU	690 INTEGER MODULUS -- NUMBER OF DIGITS						0690		
120			MANTIS	EQU	692 FLOATING POINT MANTISSA DIGITS & 2 FOR EXP						0692		
121			*										
122					EXT00 SNAPSH, LOADNX, CDOVLY								MACRO
123			SNAPSH	EQU	333						0333		GEN
124			PHASLD	EQU	381						0381		GEN
125			SNAPEX	EQU	564						0564		GEN
126			LOADNX	EQU	700 CARD OVERLAY UNLESS NOP						0700		GEN
127			CDOVLY	EQU	700 1 IF LOADING FROM CARDS, N IF FROM TAPE						0700		GEN
128			TPREAD	EQU	704 LOAD OVERLAY FROM TAPE						0704		GEN
129			TPERR	EQU	728						0728		GEN
130			*										
131					EXT03 START, TOP OF PHASE 3								MACRO
132			BEGIN3	EQU	838						0838		GEN
133			TOP3	EQU	2600						2600		GEN
134			BOTADR	EQU	TOP3-1 BOTTOM OF WORKING CORE						2599		
135			*										
136			110	DCW	@CONST TWO@			9	0110				1
137			089	DCW	000			3	0089				2
138			091	DC	00			2	0091				2
139			099	DCW	000			3	0099				3
140			100	DC	0			1	0100				3
141			*										
142			PHAS19	LDPH	CONST TWO,LOADAD,BEGN19,,,19								MACRO
			*	PHAZ	LDPH [PHASID],LOADAD,ENTAD[,SKIPFG,SKIP],[NUMBER][,HALT]								GEN
			*	XFR	PHASZ PROHIBITED IN A MACRO								GEN
			*										GEN
			*	LOAD	A BLOCK								GEN
			*										GEN
143			)6J003	EQU	110 PHASE ID						0110		GEN
144			)6K003	EQU	700 LOAD NEXT PHASE						0700		GEN
145			)6L003	EQU	704 TAPE READ INSTRUCTION						0704		GEN

SEQ	PG	LIN	LABEL	OP	OPERANDS	SFX	CT	LOCN	INSTRUCTION	TYPE	CARD	A-ADDR	B-ADDR
146			)6M003	EQU	728 TAPE ERROR HANDLER			0728		GEN			
			*							GEN			
147				ORG	201				0201				
148			PHAS19	BSS	)8J003,G	5	0201	B 257	G	GEN	4	257	
149				NOP	TO PATCH IN TRAPS FOR DEBUGGING	1	0206	N		GEN	4		
150			)0J003	EQU	*&1			0207		GEN			
151				LCA	)9J003,)6J003	7	0207	L 281 110		GEN	4	281	110
152				BCE	)1J003,)6K003,1 Q: LOADING FROM CARDS?	8	0214	B 250 700 1		GEN	4	250	700
153				BCE	)1J003,)6L003&4,0 Q: LOADING FROM AUTOCODER TAPE?	8	0222	B 250 708 0		GEN	4	250	708
154				RTW	1,LOADAD READ THE BLOCK	8	0230	L %U1 838 R		GEN	4	%U1	838
155				BER	)6M003 Q: TAPE ERROR?	5	0238	B 728 L		GEN	5	728	
156				CS	BEGN19,)9R003 ENTER THE BLOCK	7	0243	/ 849 285		GEN	5	849	285
157			)1J003	CS	)6K003,)9R003 LOAD CARDS OR AUTOCODER TAPE	7	0250	/ 700 285		GEN	5	700	285
158			)8J003	SW	)9R003	4	0257	, 285		GEN	5	285	
159				MU	%T0,)8K003,W	8	0261	M %T0 273 W		GEN	5	%T0	273
160				H	)0J003	4	0269	. 207		GEN	5	207	
161			)8K003	EQU	*&1			0273		GEN			
162			)9J003	DCW	@CONST TWO@ PHASE ID	9	0281			GEN	6		
163				DCW	#1	1	0282			GEN	6		
164				DC	@19@ PHASE NUMBER	2	0284			GEN	6		
165			)9R003	DCW	@}@	1	0285			GEN	6		
166				XFR	PHAS19			B 201			6	201	
167			*										
168				ORG	BEGIN3			0838					
169			LOADAD	EQU	*&1 LOAD ADDRESS			0838					
170	*	840	TOPCOD	DCW	#3 TOP OF CODE & X00 - 1	3	0840				7		
171	*	845	DIFF	DCW	#5 TOP OF CORE - TOPCOD AS FIVE DIGITS	5	0845				7		
172	*	848	BNDRY	DCW	#3	3	0848				7		
173			*										
174			*		CLEAR FROM THE BOTTOM OF CODE DOWN TO BOTADR & 1								
175			*										
176	*	849	BEGN19	MCW	X2,X3	7	0849	M 094 099			7	094	099
177		856		SW	GM	4	0856	, T03			7	1303	
178		860	CLRL	CS	0&X3	4	0860	/ 0?0			7	000+3	
179		864		SBR	X3	4	0864	H 099			7	099	
180		868		C	X3,BOTCLR	7	0868	C 099 T38			8	099	1338
181		875		BU	CLRL	5	0875	B 860 /			8	860	
182			*										
183			*		MOVE CODE BACK DOWN TO BOTADR-2								
184			*										
185		880		SBR	X1,BOTADR WHY NOT	7	0880	H 089 N99			8	089	2599
186		887		MN	0&X1 JUST	4	0887	D 0 0			8	000+1	
187		891		SAR	X1 SAR X1,BOTADR-1?	4	0891	Q 089			8	089	
188		895	MOVE	MCM	0&X2	4	0895	P 0!0			8	000+2	
189		899		SAR	SX2&6	4	0899	Q 921			8	921	
190		903		MCM	0&X2,1&X1	7	0903	P 0!0 0 1			9	000+2	001+1
191		910		MN		1	0910	D			9		
192		911		SBR	X1	4	0911	H 089			9	089	
193		915	SX2	SBR	X2,0-0	7	0915	H 094 000			9	094	000
194		922		BCE	MOVE,0&X1,  DO NOT SET WM UNDER RM	8	0922	B 895 0 0			9	895	000+1

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195		930		MN	0&X2	4		0930	D 0!0		9	000+2	
196		934		CW		1		0934	)		9		
197		935		SW	0&X1 UNDER GM	4		0935	, 0 0		10	000+1	
198		939		C	X2, TOPCOR	7		0939	C 094 688		10	094	688
199		946		BU	MOVE	5		0946	B 895 /		10	895	
200		951		CW	0&X2	4		0951	) 0!0		10	000+2	
201		955		CW		1		0955	)		10		
202		956		SBR	TOPCOD, 1&X1 TOPCOD IS	7		0956	H 840 0 1		10	840	001+1
203		963		MN	K99, TOPCOD NOW TOP OF	7		0963	D T02 840		10	1302	840
204		970		MN	CODE & X00 - 1	1		0970	D		11		
205				*									
206				*	CLEAR FROM TOP OF CORE DOWN TO TOPCOD & 1								
207				*									
208		971		MCW	83, X3	7		0971	M 083 099		11	083	099
209		978	CLRL2	CS	0&X3	4		0978	/ 0?0		11	000+3	
210		982		SBR	X3	4		0982	H 099		11	099	
211		986		C	X3, TOPCOD	7		0986	C 099 840		11	099	840
212		993		BU	CLRL2	5		0993	B 978 /		11	978	
213		998		MCW	KLESS, 0&X3	7		0998	M T39 0?0		11	1339	000+3
214	1	005		MCW	83, TOCONV	7		1005	M 083 T00		12	083	1300
215	1	012		B	CONV	4		1012	B S26		12	1226	
216	1	016		MCW	CONV5, DIFF	7		1016	M T44 845		12	1344	845
217	1	023		MCW	TOPCOD, TOCONV	7		1023	M 840 T00		12	840	1300
218	1	030		B	CONV	4		1030	B S26		12	1226	
219	1	034		S	CONV5, DIFF	7		1034	S T44 845		12	1344	845
220	1	041		A	DIFF-1, W6	7		1041	A 844 T50		13	844	1350
221	1	048		A	W6	4		1048	A T50		13	1350	
222	1	052		A	DIFF-1, W6	7		1052	A 844 T50		13	844	1350
223	1	059		A	CONV5, W6 DIFF * 1.3	7		1059	A T44 T50		13	1344	1350
224				*									
225				*	CONVERT DIFF * 1.3 TO MACHINE ADDRESS								
226				*									
227	1	066		MCW	W6-3, X3	7		1066	M T47 099		13	1347	099
228	1	073		A	X3	4		1073	A 099		13	099	
229	1	077		MZ	ZONES&X3, W6-2	7		1077	Y T?4 T48		14	1304+3	1348
230	1	084		MZ	ZONES&1&X3, W6	7		1084	Y T?5 T50		14	1305+3	1350
231	1	091		MCW	W6, X3	7		1091	M T50 099		14	1350	099
232				*									
233	1	098		SW	2&X3	4		1098	, 0?2		14	002+3	
234	1	102		MCW	KLESS	4		1102	M T39		14	1339	
235	1	106		SBR	BNDRY	4		1106	H 848		14	848	
236	1	110		MCW	X1, X2	7		1110	M 089 094		15	089	094
237	1	117		MN	0&X2	4		1117	D 0!0		15	000+2	
238	1	121		SAR	X1	4		1121	Q 089		15	089	
239	1	125		MCW	83, X3	7		1125	M 083 099		15	083	099
240	1	132		LCA	GM, 1&X3	7		1132	L T03 0?1		15	1303	001+3
241	1	139		CS	299	4		1139	/ 299		15	299	
242	1	143		MCW	MANTIS, X3	7		1143	M 692 099		16	692	099
243	1	150		MCW	KZ1 AND A ZERO	4		1150	M T51		16	1351	
244	1	154		SW	200	4		1154	, 200		16	200	

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245	1	158		MCW	83,*&7	7		1158	M 083 /71		16	083	1171
246	1	165		LCA	199&X3,0 SPACE FOR A FP NUMBER	7		1165	L 119 000		16	199+3	000
247	1	172		SBR	83	4		1172	H 083		16	083	
248	1	176		SBR	SPINT&6	4		1176	H /94		16	1194	
249	1	180		MN	IMOD,X3	7		1180	D 690 099		17	690	099
250	1	187		MN		1		1187	D		17		
251	1	188	SPINT	LCA	199&X3,0 SPACE FOR AN INTEGER	7		1188	L 119 000		17	199+3	000
252	1	195		SBR	X3	4		1195	H 099		17	099	
253	1	199		SBR	142	4		1199	H 142		17	142	
254	1	203		LCA	K1,0&X3	7		1203	L T52 0?0		17	1352	000+3
255	1	210		SBR	157	4		1210	H 157		17	157	
256	1	214		LCA	K15100	4		1214	L T55		18	1355	
257	1	218		SBR	83	4		1218	H 083		18	083	
258				*									
259				*	DONE								
260				*									
261	1	252		B	LOADNX	4		1222	B 700		18	700	
262				*									
263				*	CONVERT TOCONV FROM MACHINE ADDRESS FORMAT TO FIVE-DIGIT								
264				*	FORMAT IN CONV5								
265				*									
266	1	256	CONV	SBR	CONVX&3	4		1226	H S95		18	1295	
267	1	260		MN	TOCONV,CONV5	7		1230	D T00 T44		18	1300	1344
268	1	267		MN		1		1237	D		18		
269	1	268		MN		1		1238	D		18		
270	1	269		MCW		1		1239	M		19		
271	1	270		MZ	TOCONV,K99	7		1240	Y T00 T02		19	1300	1302
272	1	277		MZ	TOCONV-2,K99-1	7		1247	Y S98 T01		19	1298	1301
273	1	284		NOP	K99-1	4		1254	N T01		19	1301	
274	1	288		SAR	X3	4		1258	Q 099		19	099	
275	1	292	CONVL	C	4&X3,K99	7		1262	C 0?4 T02		19	004+3	1302
276	1	299		SAR	X3	4		1269	Q 099		19	099	
277	1	303		A	KP1,CONV5-3	7		1273	A T56 T41		20	1356	1341
278	1	310		BU	CONVL	5		1280	B S62 /		20	1262	
279	1	315		MZ	KB1,CONV5-3	7		1285	Y T57 T41		20	1357	1341
280	1	322	CONVX	B	0	4		1292	B 000		20	000	
281				*									
282				*	DATA								
283				*									
284	1	330	TOCONV	DCW	@0J @	5		1300			20		
285	1	332	K99	DCW	99	2		1302			20		
286	1	333	GM	DC	@}@	1		1303		GMARK	20		
287			ZONES	EQU	*&1			1304					
288	1	365		DC	@99Z9R9I99ZZZRZIZ9RZRRRIR9IZIRIII@	32		1335			21		
289	1	368	BOTCLR	DSA	BOTADR CLEAR DOWN TO HERE	3		1338	N99		21	2599	
290	1	369	KLESS	DCW	@<@	1		1339			21		
291	1	374	CONV5	DCW	#5	5		1344			22		
292	1	380	W6	DCW	#6	6		1350			22		
293	1	381	KZ1	DCW	0	1		1351			22		
294	1	382	K1	DCW	@1@	1		1352			22		

SEQ	PG	LIN	LABEL	OP	OPERANDS	SFX	CT	LOCN	INSTRUCTION	TYPE	CARD	A-ADDR	B-ADDR
295	1	385	K15100	DSA	15100	3		1355	A0?		22	15100	
296	1	395	KP1	DCW	&1	1		1356			22		
297	1	396	KB1	DCW	#1	1		1357			22		
298	1	397	GMWM	DCW	@}@	1		1358		GMARK	23		
299				XFR	BEGN19				B 849		23	849	
300			CLRME	CLRA	BEGN19, GMWM, C					MACRO			
			*	CLRA	CLRBOT, CLRTOP [, SS, HERE, GWMAD]					GEN			
			*							GEN			
			*	CLEAR CORE	AFTER A PHASE USING THE CLRTOP ADDRESS					GEN			
			*							GEN			
301			ORG		201				0201				
			*							GEN			
			*	CLEAR DOWN	TO CLRBOT & X00 THE EASY WAY					GEN			
			*							GEN			
302			CLRME	EQU	*&1			0201		GEN			
303				BSS	SNAPSH, C	5		0201	B 333 C	GEN	24	333	
304			)0J004	CS	GMWM CLEAR FROM CLRTOP	4		0206	/ T58	GEN	24	1358	
305				SBR	)0J004&3	4		0210	H 209	GEN	24	209	
306				SBR	)0L004&6	4		0214	H 255	GEN	24	255	
307				C	)0J004&3, )0M004 DOWN TO CLRBOT & X00?	7		0218	C 209 266	GEN	24	209	266
308				BU	)0J004	5		0225	B 206 /	GEN	24	206	
			*							GEN			
			*	NOW CLEAR	DOWN TO CLRBOT THE HARD WAY					GEN			
			*							GEN			
309			)0K004	C	)0L004&6, )0N004	7		0230	C 255 269	GEN	24	255	269
310				BU	)0L004	5		0237	B 249 /	GEN	25	249	
311				CS	LOADNX, )0Q004 LOAD THE NEXT BLOCK AT 1	7		0242	/ 700 276	GEN	25	700	276
312			)0L004	LCA	)0P004, 0-0 CLEAR WITH BLANK AND WORD MARK	7		0249	L 270 000	GEN	25	270	000
313				SBR	)0L004&6	4		0256	H 255	GEN	25	255	
314				B	)0K004	4		0260	B 230	GEN	25	230	
315			)0M004	DSA	)0R004 CLRBOT & X00 - 1	3		0266	899	GEN	25	899	
316			)0N004	DSA	BEGN19 CLRBOT	3		0269	849	GEN	25	849	
317			)0P004	DCW	#1	1		0270		GEN	26		
318				DC	@CLRA @ IDENTIFY IN A DECK, TAPE, OR DUMP	5		0275		GEN	26		
319			)0Q004	DCW	@}@	1		0276		GEN	26		
320				ORG	BEGN19&X00				0900				
321			)0R004	EQU	* CLRBOT & X00 - 1			0899		GEN			
322				XFR	CLRME				B 201		26	201	

SYMBOL	ADDRESS	SYMBOL	ADDRESS	SYMBOL	ADDRESS	SYMBOL	ADDRESS	SYMBOL	ADDRESS	SYMBOL	ADDRESS
)0J003	0207: 0	)0J004	0206: 0	)0K004	0230: 0	)0L004	0249: 0	)0M004	0266: 0	)0N004	0269: 0
)0P004	0270: 0	)0Q004	0276: 0	)0R004	0899: 0	)1J003	0250: 0	)6J003	0110: 0	)6K003	0700: 0
)6L003	0704: 0	)6M003	0728: 0	)8J003	0257: 0	)8K003	0273: 0	)9J003	0281: 0	)9R003	0285: 0
BEGIN3	0838: 0	BEGN19	0849: 0	BNDRY	0848: 0	BOTADR	2599: 0	BOTCLR	1338: 0	CDOVLY	0700: 0
CLRL	0860: 0	CLRL2	0978: 0	CLRME	0201: 0	CONV	1226: 0	CONV5	1344: 0	CONVL	1262: 0
CONVX	1292: 0	DIFF	0845: 0	GM	1303: 0	GMWM	1358: 0	IMOD	0690: 0	K1	1352: 0
K15100	1355: 0	K99	1302: 0	KB1	1357: 0	KLESS	1339: 0	KP1	1356: 0	KZ1	1351: 0
LOADAD	0838: 0	LOADNX	0700: 0	MANTIS	0692: 0	MOVE	0895: 0	PHAS19	0201: 0	PHASLD	0381: 0
SNAPEX	0564: 0	SNAPSH	0333: 0	SPINT	1188: 0	SX2	0915: 0	TOCONV	1300: 0	TOP3	2600: 0
TOPCOD	0840: 0	TOPCOR	0688: 0	TPERR	0728: 0	TPREAD	0704: 0	W6	1350: 0	X1	0089: 0
X2	0094: 0	X3	0099: 0	ZONES	1304: 0						

## UNREFERENCED SYMBOLS

CDOVLY PHASLD SNAPEX TPERR TPREAD