

SEQ	PG	LIN	LABEL	OP	OPERANDS	SFX	CT	LOCN	INSTRUCTION	TYPE	CARD	A-ADDR	B-ADDR
101			JOB		FORTRAN COMPILER -- SORT ONE PHASE -- PHASE 04								
102			CTL		6611								
103			*										
104			*		EXTERNALLY REFERENCED SYMBOLS ARE MARKED WITH ASTERISK IN COLUMN 1.								
105			*										
106			*		SORT ONE PHASE: DETERMINE WHETHER THERE IS SUFFICIENT ROOM								
107			*		TO EXPAND EVERY STATEMENT BY THREE CHARACTERS.								
108			*		81-83 IS ONE BELOW THE GROUP MARK BELOW THE LAST (BOTTOM								
109			*		ADDRESS) IN CORE.								
110			*										
111			X1	EQU	89			0089					
112			X2	EQU	94			0094					
113			X3	EQU	99			0099					
114			*										
115			*		STUFF IN THE RESIDENT AREA								
116			*										
117				EXT00	SNAPSH, LOADNX, CDOVLY					MACRO			
118			SNAPSH	EQU	333			0333		GEN			
119			PHASLD	EQU	381			0381		GEN			
120			SNAPEX	EQU	564			0564		GEN			
121			LOADNX	EQU	700	CARD OVERLAY UNLESS NOP		0700		GEN			
122			CDOVLY	EQU	700	1 IF LOADING FROM CARDS, N IF FROM TAPE		0700		GEN			
123			TPREAD	EQU	704	LOAD OVERLAY FROM TAPE		0704		GEN			
124			TPERR	EQU	728			0728		GEN			
125			*										
126				EXT03	START, TOP OF PHASE 3					MACRO			
127			BEGIN3	EQU	838			0838		GEN			
128			TOP3	EQU	2600			2600		GEN			
129			*										
130			110	DCW	@SORTER ONE@		10	0110				1	
131			089	DCW	000		3	0089				2	
132			091	DC	00		2	0091				2	
133			094	DCW	000		3	0094				2	
134			096	DC	00		2	0096				2	
135			099	DCW	000		3	0099				2	
136			100	DC	0		1	0100				2	
137			*										
138			PHAS4	LDPH	SORTER ONE,LOADAD,BEGIN4,,,4					MACRO			
			*	PHAZ	LDPH [PHASID],LOADAD,ENTAD[,SKIPFG,SKIP],[NUMBER][,HALT]					GEN			
			*	XFR	PHASZ PROHIBITED IN A MACRO					GEN			
			*							GEN			
			*	LOAD	A BLOCK					GEN			
			*							GEN			
139			)6J003	EQU	110	PHASE ID		0110		GEN			
140			)6K003	EQU	700	LOAD NEXT PHASE		0700		GEN			
141			)6L003	EQU	704	TAPE READ INSTRUCTION		0704		GEN			
142			)6M003	EQU	728	TAPE ERROR HANDLER		0728		GEN			
			*							GEN			
143				ORG	201				0201				
144			PHAS4	EQU	*&1			0201		GEN			

SEQ	PG	LIN	LABEL	OP	OPERANDS	SFX	CT	LOCN	INSTRUCTION	TYPE	CARD	A-ADDR	B-ADDR
145			LCA	)9J003,	)6J003	7		0201	L 253 110	GEN	3	253	110
146			BCE	)6K003,	)6K003,1	8		0208	B 700 700 1	GEN	3	700	700
147			BCE	)6K003,	)6L003&4,0	8		0216	B 700 708 0	GEN	3	700	708
148			RTW	1,LOADAD		8		0224	L %U1 838 R	GEN	3	%U1	838
149			BER	)6M003		5		0232	B 728 L	GEN	3	728	
150			CS	BEGIN4,	)9R003	7		0237	/  10 256	GEN	4	1010	256
151			)9J003	DCW	@SORTER ONE@	10		0253		GEN	4		
152			DC	#1		1		0254		GEN	4		
153			DC	@4@	PHASE NUMBER	1		0255		GEN	4		
154			)9R003	DCW	@}@	1		0256		GEN	4		
155			XFR	PHAS4					B 201		4	201	
156			*										
157			*	TABLE OF ADDRESSES OF THE FIRST STATEMENT OF EACH TYPE,									
158			*	INDEXED BY 30*(ZONE OF STATEMENT TYPE) + 3*(NUMERIC PART OF									
159			*	STATEMENT CODE). FILLED IN NEXT PHASE, Q.V.									
160			*										
161				ORG	BEGIN3				0838				
162			LOADAD	EQU	*&1				0838				
163	*	840	TYPTAB	DCW	#3 BLANK				0840		5		
164		843		DCW	#3 1 READ TAPE				0843		5		
165		846		DCW	#3 2				0846		5		
166		849		DCW	#3 3 WRITE TAPE				0849		5		
167		852		DCW	#3 4				0852		5		
168		855		DCW	#3 5 READ INPUT TAPE				0855		5		
169		858		DCW	#3 6 WRITE OUTPUT TAPE				0858		5		
170		861		DCW	#3 7				0861		6		
171		864		DCW	#3 8				0864		6		
172		867		DCW	#3 9				0867		6		
173		870		DCW	#3 0				0870		6		
174		873		DCW	#3 / END				0873		6		
175		876		DCW	#3 S STOP				0876		6		
176		879		DCW	#3 T COMPUTED GOTO				0879		6		
177		882		DCW	#3 U PUNCH				0882		7		
178		885		DCW	#3 V				0885		7		
179		888		DCW	#3 W IF ( SENSE SWITCH ... )				0888		7		
180		891		DCW	#3 X				0891		7		
181		894		DCW	#3 Y				0894		7		
182		897		DCW	#3 Z REWIND				0897		7		
183		900		DCW	#3 !				0900		7		
184		903		DCW	#3 J SENSE LIGHT				0903		8		
185		906		DCW	#3 K IF ( SENSE LIGHT ... )				0906		8		
186		909		DCW	#3 L READ				0909		8		
187		912		DCW	#3 M				0912		8		
188		915		DCW	#3 N ENDFILE				0915		8		
189		918		DCW	#3 O				0918		8		
190		921		DCW	#3 P PRINT				0921		8		
191		924		DCW	#3 Q				0924		9		
192		927		DCW	#3 R ARITHMETIC				0927		9		
193		930		DCW	#3 ?				0930		9		
194		933		DCW	#3 A PAUSE				0933		9		

SEQ	PG	LIN	LABEL	OP	OPERANDS	SFX	CT	LOCN	INSTRUCTION	TYPE	CARD	A-ADDR	B-ADDR
195		936		DCW	#3 B BACKSPACE	3		0936			9		
196		939		DCW	#3 C CONTINUE	3		0939			9		
197		942		DCW	#3 D DO	3		0942			9		
198		945		DCW	#3 E IF	3		0945			10		
199		948		DCW	#3 F FORMAT	3		0948			10		
200		951		DCW	#3 G GOTO	3		0951			10		
201		954		DCW	#3 H	3		0954			10		
202		957		DCW	#3 I DIMENSION	3		0957			10		
203				ORG	*X00				1000				
204				ORG	*6				1006				
205	1	009	ZONES	DCW	@2SKB@	4		1009			11		
206			*										
207			*		START HERE INSTEAD OF 838								
208			*										
209			*		WHAT IS THE POINT OF THIS CLEAR CORE? IT'S DONE AT THE END								
210			*		OF PHASE 3.								
211			*										
212	1	010	BEGIN4	CS	TOP3-1	4		1010	/ N99		11	2599	
213	1	014		CHAIN	8					MACRO			
214				CS		1		1014	/	GEN	11		
215				CS		1		1015	/	GEN	11		
216				CS		1		1016	/	GEN	11		
217				CS		1		1017	/	GEN	11		
218				CS		1		1018	/	GEN	11		
219				CS		1		1019	/	GEN	12		
220				CS		1		1020	/	GEN	12		
221				CS		1		1021	/	GEN	12		
222	*1	022	BEGN4X	MCW	83,X3 ADDRESS OF END OF LAST STATEMENT	7		1022	M 083 099		12	083	099
223	1	029		MCM	2&X3	4		1029	P 0?2		12	002+3	
224	1	033		MCM		1		1033	M		12		
225	1	034		SBR	X3 ADDRESS OF BEGIN4ING OF LAST STATEMENT	4		1034	H 099		12	099	
226			*										
227			*		MULTIPLY STATEMENT NUMBER OF LAST STATEMENT BY 3								
228			*										
229	1	038		MCW	0&X3,SEQ	7		1038	M 0?0 T20		13	000+3	1320
230	1	045		ZA	SEQ,SEQ5	7		1045	? T20 T25		13	1320	1325
231	1	052		A	SEQ5	4		1052	A T25		13	1325	
232	1	056		A	SEQ,SEQ5	7		1056	A T20 T25		13	1320	1325
233	1	063		S	KP2,SEQ5 3 * # STMTS - 2	7		1063	S T26 T25		13	1326	1325
234	1	070		MCW	SEQ5,WORK5	7		1070	M T25 T31		13	1325	1331
235	1	077		MCW	K16K,SEQ5	7		1077	M T36 T25		14	1336	1325
236	1	084		S	WORK5,SEQ5 16000 - (3 * # STMTS - 2)	7		1084	S T31 T25		14	1331	1325
237			*										
238			*		CONVERT TO ADDRESS								
239			*										
240	1	091		BAV	LOOP CLEAR OVERFLOW	5		1091	B  96 Z		14	1096	
241	1	096	LOOP	A	KP96,SEQ5-3	7		1096	A T38 T22		14	1338	1322
242	1	103		BAV	LOOP	5		1103	B  96 Z		14	1096	
243	1	108		MN	SEQ5-3,*&4	7		1108	D T22 /18		14	1322	1118
244	1	115		MZ	ZONES-0,SEQ5-2	7		1115	Y  09 T23		15	1009	1323

SEQ	PG	LIN	LABEL	OP	OPERANDS	SFX	CT	LOCN	INSTRUCTION	TYPE	CARD	A-ADDR	B-ADDR
245				*									
246	1	122		MCW	83,X1	7		1122	M 083 089		15	083	089
247	1	129		MCW	X1,NOP&3	7		1129	M 089 /53		15	089	1153
248	1	136		MCW	SEQ5,X2	7		1136	M T25 094		15	1325	094
249	1	143		MZ	KM1,NOP&2 SET TAG FOR X2	7		1143	Y T39 /52		15	1339	1152
250	1	150	NOP	NOP	0 X1 + X2	4		1150	N 000		15	000	
251	1	154		SAR	X2	4		1154	Q 094		16	094	
252	1	158		S	W2A	4		1158	S T41		16	1341	
253	1	162		S	W2B	4		1162	S T43		16	1343	
254	1	166		MZ	X2,W2A-1	7		1166	Y 094 T40		16	094	1340
255	1	173		MZ	X2-2,W2B-1	7		1173	Y 092 T42		16	092	1342
256	1	180	LOOP2	BWZ	LOOP2X,W2B-1,2	8		1180	V /99 T42 2		16	1199	1342
257	1	188		A	K10V,W2B	7		1188	A T45 T43		17	1345	1343
258	1	195		B	LOOP2	4		1195	B /80		17	1180	
259	1	199	LOOP2X	BWZ	LOOP3X,W2A-1,2	8		1199	V S18 T40 2		17	1218	1340
260	1	207		A	K04V,W2A	7		1207	A T47 T41		17	1347	1341
261	1	214		B	LOOP2X	4		1214	B /99		17	1199	
262	1	218	LOOP3X	A	W2B-1,W2A	7		1218	A T42 T41		17	1342	1341
263	1	225		MCW	X2,SEQ5	7		1225	M 094 T25		18	094	1325
264	1	232		MCW	W2A	4		1232	M T41		18	1341	
265	1	236		ZA	SEQ5	4		1236	? T25		18	1325	
266	1	240		MZ	*-4,SEQ5 CLEAR ZONE IN TENS DIGIT	7		1240	Y S42 T25		18	1242	1325
267	1	247		C	SEQ5,K2900	7		1247	C T25 T52		18	1325	1352
268	1	254		BL	OK	5		1254	B S93 T		18	1293	
269				*									
270				*	INSUFFICIENT ROOM TO EXPAND EVERY STATEMENT BY THREE CHARACTERS								
271				*									
272	1	259		CS	332	4		1259	/ 332		18	332	
273	1	263		CS		1		1263	/		19		
274	1	264		CC	1	2		1264	F 1		19		
275	1	266		MCW	MSG2,270	7		1266	M T88 270		19	1388	270
276	1	273		W		1		1273	2		19		
277	1	274		CC	1	2		1274	F 1		19		
278	1	276		BCE	HALT,CDOVLY,1	8		1276	B S89 700 1		19	1289	700
279	1	284		RWD	1	5		1284	U %U1 R		19	%U1	
280	1	289	HALT	H	HALT	4		1289	. S89		20	1289	
281				*									
282				*	SOURCE CODE WILL FIT AFTER EXPANDING EVERY STATEMENT BY								
283				*	THREE CHARACTERS								
284				*									
285	1	293	OK	MCW	X2,83 REPLACE ADDRESS OF BOTTOM OF CODE	7		1293	M 094 083		20	094	083
286	1	300		MCM	0&X1	4		1300	P 0 0		20	000+1	
287	1	304		SAR	X1 ADDRESS BELOW LAST STATEMENT	4		1304	Q 089		20	089	
288	1	308		BSS	SNAPSH,C	5		1308	B 333 C		20	333	
289	1	345		B	LOADNX LOAD NEXT OVERLAY	4		1313	B 700		20	700	
290				*									
291				*	CONSTANTS AND WORK AREAS								
292				*									
293	1	349		DCW	0	1		1317			20		
294	1	352	SEQ	DCW	#3 SEQUENCE NUMBER OF LAST STATEMENT	3		1320			21		

SEQ	PG	LIN	LABEL	OP	OPERANDS	SFX	CT	LOCN	INSTRUCTION	TYPE	CARD	A-ADDR	B-ADDR
295	1	357	SEQ5	DCW	#5 STMT NUMBER TIMES 3	5		1325			21		
296	1	358	KP2	DCW	&2	1		1326			21		
297	1	363	WORK5	DCW	#5	5		1331			21		
298	1	368	K16K	DCW	16000	5		1336			21		
299	1	370	KP96	DCW	&96	2		1338			21		
300	1	371	KM1	DCW	-1	1		1339			21		
301	1	373	W2A	DCW	#2	2		1341			22		
302	1	375	W2B	DCW	#2	2		1343			22		
303	1	377	K10V	DCW	@A0@ TEN, OVERFLOWED	2		1345			22		
304	1	379	K04V	DCW	@?4@ 04, OVERFLOWED	2		1347			22		
305	1	384	K2900	DCW	02900	5		1352			22		
306	1	420	MSG2	DCW	@MESSAGE 2 - OBJECT PROGRAM TOO LARGE@	36		1388			23		
307	1	427	GMWM	DCW	@}@	1		1389		GMARK	23		
308				XFR	BEGIN4				B  10		23	1010	
309			CLRME	CLRA	BEGN4X, GMWM					MACRO			
			*	CLRA	CLRBOT, CLRTOP [, ORG, GMWMAD]					GEN			
			*							GEN			
			*	CLEAR CORE	AFTER A PHASE USING THE CLRTOP ADDRESS					GEN			
			*							GEN			
310			ORG		201				0201				
			*							GEN			
			*	CLEAR DOWN	TO CLRBOT & X00 THE EASY WAY					GEN			
			*							GEN			
311			CLRME	EQU	*&1			0201		GEN			
312			)0J004	CS	GMWM CLEAR FROM CLRTOP	4		0201 / T89		GEN	24	1389	
313				SBR	)0J004&3	4		0205 H 204		GEN	24	204	
314				SBR	)0L004&6	4		0209 H 250		GEN	24	250	
315				C	)0J004&3, )0M004 DOWN TO CLRBOT & X00?	7		0213 C 204 261		GEN	24	204	261
316				BU	)0J004	5		0220 B 201 /		GEN	24	201	
			*							GEN			
			*	NOW CLEAR	DOWN TO CLRBOT THE HARD WAY					GEN			
			*							GEN			
317			)0K004	C	)0L004&6, )0N004	7		0225 C 250 264		GEN	24	250	264
318				BU	)0L004	5		0232 B 244 /		GEN	24	244	
319				CS	LOADNX, )0Q004 LOAD THE NEXT BLOCK AT 1	7		0237 / 700 271		GEN	25	700	271
320			)0L004	LCA	)0P004, 0-0 CLEAR WITH BLANK AND WORD MARK	7		0244 L 265 000		GEN	25	265	000
321				SBR	)0L004&6	4		0251 H 250		GEN	25	250	
322				B	)0K004	4		0255 B 225		GEN	25	225	
323			)0M004	DSA	)0R004 CLRBOT & X00 - 1	3		0261  99		GEN	25	1099	
324			)0N004	DSA	BEGN4X CLRBOT	3		0264  22		GEN	25	1022	
325			)0P004	DCW	#1	1		0265		GEN	25		
326				DC	@CLRA @ IDENTIFY IN A DECK, TAPE, OR DUMP	5		0270		GEN	25		
327			)0Q004	DCW	@}@	1		0271		GEN	26		
328				ORG	BEGN4X&X00				1100				
329			)0R004	EQU	* CLRBOT & X00 - 1			1099		GEN			
330				XFR	CLRME				B 201		26	201	

SYMBOL	ADDRESS	SYMBOL	ADDRESS	SYMBOL	ADDRESS	SYMBOL	ADDRESS	SYMBOL	ADDRESS	SYMBOL	ADDRESS
)0J004	0201: 0	)0K004	0225: 0	)0L004	0244: 0	)0M004	0261: 0	)0N004	0264: 0	)0P004	0265: 0
)0Q004	0271: 0	)0R004	1099: 0	)6J003	0110: 0	)6K003	0700: 0	)6L003	0704: 0	)6M003	0728: 0
)9J003	0253: 0	)9R003	0256: 0	BEGIN3	0838: 0	BEGIN4	1010: 0	BEGN4X	1022: 0	CDOVLY	0700: 0
CLRME	0201: 0	GMWM	1389: 0	HALT	1289: 0	K04V	1347: 0	K10V	1345: 0	K16K	1336: 0
K2900	1352: 0	KM1	1339: 0	KP2	1326: 0	KP96	1338: 0	LOADAD	0838: 0	LOADNX	0700: 0
LOOP	1096: 0	LOOP2	1180: 0	LOOP2X	1199: 0	LOOP3X	1218: 0	MSG2	1388: 0	NOF	1150: 0
OK	1293: 0	PHAS4	0201: 0	PHASLD	0381: 0	SEQ	1320: 0	SEQ5	1325: 0	SNAPEX	0564: 0
SNAPSH	0333: 0	TOP3	2600: 0	TPERR	0728: 0	TPREAD	0704: 0	TYPTAB	0840: 0	W2A	1341: 0
W2B	1343: 0	WORK5	1331: 0	X1	0089: 0	X2	0094: 0	X3	0099: 0	ZONES	1009: 0

UNREFERENCED SYMBOLS

PHASLD SNAPEX TPERR TPREAD TYPTAB