

SEQ	PG	LIN	LABEL	OP	OPERANDS	SFX	CT	LOCN	INSTRUCTION	TYPE	CARD	A-ADDR	B-ADDR
101			JOB		FORTRAN COMPILER -- DIMENSION PHASE ONE -- 09								
102			CTL		6611								
103			*										
104			*		EXTERNALLY REFERENCED SYMBOLS ARE MARKED WITH ASTERISK IN COLUMN 1.								
105			*										
106			*		A TABLE OF ARRAYS IS GENERATED AT THE END OF STORAGE.								
107			*		EACH TABLE ELEMENT CONSISTS OF THE ARRAY NAME, ITS								
108			*		DIMENSIONS AND SUFFICIENT SPACE FOR CONTROL STATEMENTS								
109			*		AND DATA GENERATED BY THE EQUIVALENCE PHASES AND BY								
110			*		DIMENSION PHASE TWO.								
111			*										
112			*		DIMENSION TABLE ELEMENTS ARE SEPARATED BY GROUP MARK WORD MARK.								
113			*		AT THE TOP OF EACH ELEMENT IS THE ARRAY NAME, SPELT BACKWARD.								
114			*		BELOW THAT ARE TWO CELLS USED TO DOUBLE LINK THE ELEMENTS.								
115			*		THE UPPER ONE POINTS TO THE NEXT ONE HIGHER IN CORE (UNLESS								
116			*		IT'S BLANK); THE LOWER ONE POINTS TO THE NEXT ONE LOWER IN								
117			*		CORE (UNLESS IT'S BLANK). BELOW THAT ARE EMPTY THREE CHARACTER								
118			*		AND FIVE CHARACTER FIELDS. BELOW THAT ARE THE DIMENSIONS, WITH								
119			*		THE FIRST DIMENSION AT THE HIGHER ADDRESS. THE DIGITS OF THE								
120			*		DIMENSIONS ARE NOT REVERSED.								
121			*										
122			*		81-83 = START (TOP ADDRESS) OF FIRST (TOP IN MEMORY)								
123			*		STATEMENT. REMEMBER, STATEMENTS ARE SORTED BY TYPE NOW,								
124			*		AND PUSHED TO THE BOTTOM OF AVAILABLE CORE.								
125			*										
126			*		ON EXIT, 84-86 IS THE ADDRESS OF THE TOPMOST (FIRST)								
127			*		DIMENSION TABLE.								
128			*										
129			X1	EQU	89						0089		
130			X2	EQU	94						0094		
131			X3	EQU	99						0099		
132			*										
133			*		STUFF IN THE RESIDENT AREA								
134			*										
135			GLOBER	EQU	184						0184		
136			TOPCOR	EQU	688						0688		
137			IMOD	EQU	690						0690		
138			MANTIS	EQU	692						0692		
139			*										
140			EXT00		SNAPSH, LOADNX, CDOVLY								MACRO
141			SNAPSH	EQU	333						0333		GEN
142			PHASLD	EQU	381						0381		GEN
143			SNAPEX	EQU	564						0564		GEN
144			LOADNX	EQU	700						0700		GEN
145			CDOVLY	EQU	700						0700		GEN
146			TPREAD	EQU	704						0704		GEN
147			TPERR	EQU	728						0728		GEN
148			*										
149			EXT03		START, TOP OF PHASE 3								MACRO
150			BEGIN3	EQU	838						0838		GEN

SEQ	PG	LIN	LABEL	OP	OPERANDS	SFX	CT	LOCN	INSTRUCTION	TYPE	CARD	A-ADDR	B-ADDR
151			TOP3	EQU	2600			2600		GEN			
152			*										
153			110	DCW	@DIMEN ONE@	9		0110				1	
154			094	DCW	000	3		0094				2	
155			096	DC	00	2		0096				2	
156			099	DCW	000	3		0099				2	
157			100	DC	0	1		0100				2	
158			*										
159			PHAS9	LDPH	DIMEN ONE,DIFF,BEGIN9,,,9					MACRO			
			* PHAZ	LDPH	[PHASID],LOADAD,ENTAD[,SKIPFG,SKIP],[NUMBER][,HALT]					GEN			
			* XFR	PHASZ	PROHIBITED IN A MACRO					GEN			
			*							GEN			
			* LOAD	A BLOCK						GEN			
			*							GEN			
160			)6J003	EQU	110 PHASE ID			0110		GEN			
161			)6K003	EQU	700 LOAD NEXT PHASE			0700		GEN			
162			)6L003	EQU	704 TAPE READ INSTRUCTION			0704		GEN			
163			)6M003	EQU	728 TAPE ERROR HANDLER			0728		GEN			
			*							GEN			
164				ORG	201				0201				
165			PHAS9	EQU	*&1			0201		GEN			
166				LCA	)9J003,)6J003	7		0201	L 252 110	GEN	3	252	110
167				BCE	)6K003,)6K003,1 Q: LOADING FROM CARDS?	8		0208	B 700 700 1	GEN	3	700	700
168				BCE	)6K003,)6L003&4,0 Q: LOADING FROM AUTOCODER TAPE?	8		0216	B 700 708 0	GEN	3	700	708
169				RTW	1,DIFF READ THE BLOCK	8		0224	L %U1 838 R	GEN	3	%U1	838
170				BER	)6M003 Q: TAPE ERROR?	5		0232	B 728 L	GEN	3	728	
171				CS	BEGIN9,)9R003 ENTER THE BLOCK	7		0237	/ 839 255	GEN	4	839	255
172			)9J003	DCW	@DIMEN ONE@ PHASE ID	9		0252		GEN	4		
173				DC	#1	1		0253		GEN	4		
174				DC	@9@ PHASE NUMBER	1		0254		GEN	4		
175			)9R003	DCW	@}@	1		0255		GEN	4		
176				XFR	PHAS9				B 201		4	201	
177			*										
178				ORG	BEGIN3				0838				
179	*	838	DIFF	DCW	@0@ WM IF FP WIDTH /= INTEGER WIDTH	1		0838			5		
180	*	839	BEGIN9	SW	GM	4		0839	, W59		5	1659	
181		843		MCW	83,X1 TOP OF TOP (FIRST) STATEMENT	7		0843	M 083 089		5	083	089
182		850		A	KB1,MANTIS GET RID OF ZONES IN MANTIS	7		0850	A W69 692		5	1669	692
183		857		MCW	MANTIS,MANP2	7		0857	M 692 W71		5	692	1671
184		864		A	KP2,MANP2 MANTIS + 2 = TOTAL FP WIDTH	7		0864	A W72 W71		5	1672	1671
185		871		C	IMOD,MANP2 FP WIDTH == INTEGER WIDTH?	7		0871	C 690 W71		6	690	1671
186		878		BU	DIFWID	5		0878	B 887 /		6	887	
187		883		CW	DIFF	4		0883	) 838		6	838	
188		887	DIFWID	LCA	GM,1&X1 SET GMWM ABOVE STATEMENT	7		0887	L W59 0|1		6	1659	001+1
189		894		LCA	TOPCOR,X2 X2 = TOPCOR	7		0894	L 688 094		6	688	094
190		901		MN	0&X2	4		0901	D 0!0		6	000+2	
191		905		MN		1		0905	D		6		
192		906		MCW	KB1A	4		0906	M W73		7	1673	
193		910		SBR	X2 X2 = TOPCOR - 3	4		0910	H 094		7	094	
194		914	PREV	MCW	KB1,1-0 CLOBBER PREVIOUS LESS-THAN SIGN	7		0914	M W69 001		7	1669	001

SEQ	PG	LIN	LABEL	OP	OPERANDS	SFX	CT	LOCN	INSTRUCTION	TYPE	CARD	A-ADDR	B-ADDR
195		921		MCW	KLESS,2&X1			7	0921	M W74 0|2		7 1674	002+1
196		928		NOP	2&X1			4	0928	N 0|2		7 002+1	
197		932		SAR	PREV&6			4	0932	Q 920		7 920	
198		936		LCA	0&X1,PREFIX			7	0936	L 0|0 W58		7 000+1	1658
199		943		SAR	X1			4	0943	Q 089		8 089	
200		947		SBR	X3			4	0947	H 099		8 099	
201		951		BCE	DONE,PREFIX,			8	0951	B V45 W58		8 1545	1658
202		959		BCE	FIND,PREFIX-3,I			8	0959	B 979 W55 I		8 979	1655
203		967		BCE	END,PREFIX-3,/			8	0967	B V33 W55 /		8 1533	1655
204		975		B	DONE			4	0975	B V45		8 1545	
205				*									
206				*	SKIP OVER THE ARRAY NAME -- MUST END WITH LEFT PAREN								
207				*									
208		979	FIND	BCE	LPAREN,0&X1,%			8	0979	B |19 0|0 %		9 1019	000+1
209		987		BCE	SYNTAX,0&X1,,			8	0987	B U84 0|0 ,		9 1484	000+1
210		995		BCE	SYNTAX,0&X1,)			8	0995	B U84 0|0)		9 1484	000+1
211	1	003		BCE	SYNTAX,0&X1,}			8	1003	B U84 0|0 } GMARK		9 1484	000+1
212	1	011		SBR	X1			4	1011	H 089		9 089	
213	1	015		B	FIND			4	1015	B 979		10 979	
214				*									
215				*	FOUND THE LEFT PAREN								
216				*									
217	1	019	LPAREN	SW	LPFLAG			4	1019	, W68		10 1668	
218	1	023		MN	0&X1			4	1023	D 0|0		10 000+1	
219	1	027		SAR	X1			4	1027	Q 089		10 089	
220	1	031		SW	2&X1			4	1031	, 0|2		10 002+1	
221	1	035		MCW	X2,SAVX2			7	1035	M 094 W77		10 094	1677
222	1	042		BW	FIRST,FIRSTF			8	1042	V /12 W78 1		10 1112	1678
223				*									
224				*	CHECK WHETHER SYMBOL IS IN THE TABLE. X2 IS AT BOTTOM								
225				*	OF THE BOTTOM SYMBOL ENTRY.								
226				*									
227	1	050	CHECK	MCM	1&X2			4	1050	P 0!1		11 001+2	
228	1	054		SAR	X2			4	1054	Q 094		11 094	
229	1	058		BCE	FIRST,0&X2,			8	1058	B /12 0!0		11 1112	000+2
230	1	066	HIGHER	MCM	2&X2			4	1066	P 0!2		11 002+2	
231	1	070		MN				1	1070	D		11	
232	1	071		MN				1	1071	D		11	
233	1	072		SBR	X2			4	1072	H 094		11 094	
234	1	076		BCE	HIGHER,1&X2,|			8	1076	B |66 0!1 |		12 1066	001+2
235	1	084	COMPAR	C	0&X2,0&X3			7	1084	C 0!0 0?0		12 000+2	000+3
236	1	091		SAR	X2			4	1091	Q 094		12 094	
237	1	095		BU	CHECK			5	1095	B |50 /		12 1050	
238	1	100		BW	DOUBLE,1&X2			8	1100	V T56 0!1 1		12 1356	001+2
239	1	108		B	CHECK			4	1108	B |50		12 1050	
240	1	112	FIRST	MCW	SAVX2,X2			7	1112	M W77 094		13 1677	094
241	1	119		LCA	GM,0&X2			7	1119	L W59 0!0		13 1659	000+2
242	1	126		LCA	0&X3			4	1126	L 0?0		13 000+3	
243	1	130		LCA	NEWX3			4	1130	L W62		13 1662	
244	1	134		SBR	X2			4	1134	H 094		13 094	

SEQ	PG	LIN	LABEL	OP	OPERANDS	SFX	CT	LOCN	INSTRUCTION	TYPE	CARD	A-ADDR	B-ADDR
295	1	356	DOUBLE	CS	332	4		1356	/ 332		20	332	
296	1	360		CS		1		1360	/		20		
297	1	361		SW	GLOBER	4		1361	, 184		20	184	
298	1	365		MCW	ERROR2,230	7		1365	M X17 230		20	1717	230
299	1	372		MCW	COMPAR&6,X2	7		1372	M |90 094		20	1090	094
300	1	379		MN	232	4		1379	D 232		20	232	
301	1	383		MN		1		1383	D		20		
302	1	384		SAR	X2	4		1384	Q 094		21	094	
303	1	388		SBR	X3,0&X3	7		1388	H 099 0?0		21	099	000+3
304	1	395	MORECH	MCW	0&X3,CH	7		1395	M 0?0 X18		21	000+3	1718
305	1	402		SAR	X3	4		1402	Q 099		21	099	
306	1	406		MCW	CH,2&X2	7		1406	M X18 0!2		21	1718	002+2
307	1	413		SBR	X2	4		1413	H 094		21	094	
308	1	417		BW	DONECH,1&X3	8		1417	V U29 0?1 1		22	1429	001+3
309	1	425		B	MORECH	4		1425	B T95		22	1395	
310	1	429	DONECH	W		1		1429	2		22		
311	1	430		BCV	OVFL	5		1430	B U39 @		22	1439	
312	1	435		B	NOOVFL	4		1435	B U41		22	1441	
313	1	439	OVFL	CC	1	2		1439	F 1		22		
314	1	441	NOOVFL	BCE	BOTTOM,0&X1,)	8		1441	B U65 0|0)		22	1465	000+1
315	1	449		SBR	X1	4		1449	H 089		23	089	
316	1	453		BCE	SYNTAX,1&X1,}	8		1453	B U84 0|1 } GMARK		23	1484	001+1
317	1	461		B	NOOVFL	4		1461	B U41		23	1441	
318	1	465	BOTTOM	MN	0&X1	4		1465	D 0|0		23	000+1	
319	1	469		SAR	X1	4		1469	Q 089		23	089	
320	1	473		MCW	SAVX2,X2	7		1473	M W77 094		23	1677	094
321	1	480		B	TSTFIN	4		1480	B T07		23	1307	
322			*										
323			*	DIMENSION	SYNTAX ERROR								
324			*										
325	1	484	SYNTAX	CS	332	4		1484	/ 332		24	332	
326	1	488		CS		1		1488	/		24		
327	1	489		SW	GLOBER	4		1489	, 184		24	184	
328	1	493		MN	PREFIX,241	7		1493	D W58 241		24	1658	241
329	1	500		MN		1		1500	D		24		
330	1	501		MN		1		1501	D		24		
331	1	502		MCW	ERROR3	4		1502	M X56		24	1756	
332	1	506		W		1		1506	2		25		
333	1	507		BCV	OVFL2	5		1507	B V16 @		25	1516	
334	1	512		B	NOVL2	4		1512	B V18		25	1518	
335	1	516	OVFL2	CC	1	2		1516	F 1		25		
336	1	518	NOVL2	MCW	SAVX2,X2	7		1518	M W77 094		25	1677	094
337	1	525		BCE	PREV,1&X1,}	8		1525	B 914 0|1 } GMARK		25	914	001+1
338	1	533	END	C	0&X1	4		1533	C 0|0		25	000+1	
339	1	537		SAR	X1	4		1537	Q 089		26	089	
340	1	541		B	PREV	4		1541	B 914		26	914	
341			*										
342	1	545	DONE	BW	GOTLP,LPFLAG	8		1545	V V88 W68 1		26	1588	1668
343	1	553		LCA	GM,0&X2	7		1553	L W59 0!0		26	1659	000+2
344	1	560		LCA	COLON	4		1560	L X57		26	1757	

SEQ	PG	LIN	LABEL	OP	OPERANDS	SFX	CT	LOCN	INSTRUCTION	TYPE	CARD	A-ADDR	B-ADDR
345	1	564		LCA	W3	4		1564	L X60		26	1760	
346	1	568		LCA	W3	4		1568	L X60		26	1760	
347	1	572		LCA	W3	4		1572	L X60		27	1760	
348	1	576		LCA	W5	4		1576	L X65		27	1765	
349	1	580		LCA	W10	4		1580	L X67		27	1767	
350	1	584		SBR	X2	4		1584	H 094		27	094	
351	1	588	GOTLP	NOP	2&X1	4		1588	N 0|2		27	002+1	
352	1	592		MCM		1		1592	P		27		
353	1	593		MCW		1		1593	M		27		
354	1	594		SAR	X1	4		1594	Q 089		28	089	
355	1	598		MCW	6,86	7		1598	M 006 086		28	006	086
356	1	605		BSS	SNAPSH,C	5		1605	B 333 C		28	333	
357	1	642		B	LOADNX	4		1610	B 700		28	700	
358			*										
359			*	PROGRAM IS TOO BIG									
360			*										
361	1	646	TOOBIG	CS	332	4		1614	/ 332		28	332	
362	1	650		CS		1		1618	/		28		
363	1	651		CC	1	2		1619	F 1		28		
364	1	653		MCW	MSG2,270	7		1621	M Y03 270		29	1803	270
365	1	660		W		1		1628	2		29		
366	1	661		CC	1	2		1629	F 1		29		
367	1	663		BCE	HALT,CDOVLY,1	8		1631	B W44 700 1		29	1644	700
368	1	671		RWD	1	5		1639	U %U1 R		29	%U1	
369	1	676	HALT	H	HALT	4		1644	. W44		29	1644	
370			*										
371			*	DATA									
372			*										
373	1	690	PREFIX	DCW	@0 @	11		1658			29		
374	1	691	GM	DC	@}@	1		1659		GMARK	29		
375	1	694	NEWX3	DCW	#3	3		1662			30		
376	1	699	DIMSAV	DCW	#5	5		1667			30		
377	1	700	LPFLAG	DC	#1 WM IN LOW-ORDER CHARACTER IF LEFT PAREN	1		1668			30		
378	1	701	KB1	DCW	#1	1		1669			30		
379	1	703	MANP2	DCW	#2 MANTIS + 2	2		1671			30		
380	1	704	KP2	DCW	&2	1		1672			30		
381	1	705	KB1A	DCW	#1	1		1673			30		
382	1	706	KLESS	DCW	@<@	1		1674			30		
383	1	709	SAVX2	DCW	#3	3		1677			31		
384	1	710	FIRSTF	DCW	#1 WM IS FIRST-TIME FLAG	1		1678			31		
385	1	713	K3B	DCW	#3	3		1681			31		
386	1	718	K5B	DCW	#5	5		1686			31		
387	1	719	CHAR	DCW	#1 CHARACTER FROM DIMENSION FIELD	1		1687			31		
388	1	749	ERROR2	DCW	@ERROR 2 - DOUBLY DEFINED ARRAY@	30		1717			32		
389	1	750	CH	DCW	#1	1		1718			32		
390	1	788	ERROR3	DCW	@ERROR 3 - DIMENSION SYNTAX, STATEMENT @	38		1756			33		
391	1	789	COLON	DCW	@:@	1		1757			33		
392	1	792	W3	DCW	#3	3		1760			34		
393	1	797	W5	DCW	#5	5		1765			34		
394	1	799	W10	DCW	10	2		1767			34		

SEQ	PG	LIN	LABEL	OP	OPERANDS	SFX	CT	LOCN	INSTRUCTION	TYPE	CARD	A-ADDR	B-ADDR
395	1	844	MSG2	DCW	@MESSAGE 2 - OBJECT PROGRAM TOO LARGE@	36		1803				35	
396			200	DCW	#1 MAKE SURE 1-80 ARE BLANK -- SEE MCW 6,86	1		0200				36	
397	1	845	GMWM	DCW	@}@	1		1804		GMARK		37	
398				XFR	BEGIN9				B 839			37	839
399				*									
400			CLRME	CLRA	BEGIN9,GMWM					MACRO			
			*	CLRA	CLRBOT,CLRTOP[,ORG,GMWMAD]					GEN			
			*							GEN			
			*		CLEAR CORE AFTER A PHASE USING THE CLRTOP ADDRESS					GEN			
			*							GEN			
401				ORG	201				0201				
			*							GEN			
			*		CLEAR DOWN TO CLRBOT & X00 THE EASY WAY					GEN			
			*							GEN			
402			CLRME	EQU	*&1			0201		GEN			
403			)0J004	CS	GMWM CLEAR FROM CLRTOP	4		0201	/ Y04	GEN	38	1804	
404				SBR	)0J004&3	4		0205	H 204	GEN	38	204	
405				SBR	)0L004&6	4		0209	H 250	GEN	38	250	
406				C	)0J004&3,)0M004 DOWN TO CLRBOT & X00?	7		0213	C 204 261	GEN	38	204	261
407				BU	)0J004	5		0220	B 201 /	GEN	38	201	
			*							GEN			
			*		NOW CLEAR DOWN TO CLRBOT THE HARD WAY					GEN			
			*							GEN			
408			)0K004	C	)0L004&6,)0N004	7		0225	C 250 264	GEN	38	250	264
409				BU	)0L004	5		0232	B 244 /	GEN	38	244	
410				CS	LOADNX,)0Q004 LOAD THE NEXT BLOCK AT 1	7		0237	/ 700 271	GEN	39	700	271
411			)0L004	LCA	)0P004,0-0 CLEAR WITH BLANK AND WORD MARK	7		0244	L 265 000	GEN	39	265	000
412				SBR	)0L004&6	4		0251	H 250	GEN	39	250	
413				B	)0K004	4		0255	B 225	GEN	39	225	
414			)0M004	DSA	)0R004 CLRBOT & X00 - 1	3		0261	899	GEN	39	899	
415			)0N004	DSA	BEGIN9 CLRBOT	3		0264	839	GEN	39	839	
416			)0P004	DCW	#1	1		0265		GEN	39		
417				DC	@CLRA @ IDENTIFY IN A DECK, TAPE, OR DUMP	5		0270		GEN	39		
418			)0Q004	DCW	@}@	1		0271		GEN	40		
419				ORG	BEGIN9&X00				0900				
420			)0R004	EQU	* CLRBOT & X00 - 1			0899		GEN			
421				XFR	CLRME				B 201		40	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	0899: 0	)6J003	0110: 0	)6K003	0700: 0	)6L003	0704: 0	)6M003	0728: 0
)9J003	0252: 0	)9R003	0255: 0	BEGIN3	0838: 0	BEGIN9	0839: 0	BOTTOM	1465: 0	CDOVLY	0700: 0
CH	1718: 0	CHAR	1687: 0	CHECK	1050: 0	CLRME	0201: 0	COLON	1757: 0	COMPAR	1084: 0
DIFF	0838: 0	DIFWID	0887: 0	DIMFIN	1257: 0	DIMSAV	1667: 0	DONE	1545: 0	DONECH	1429: 0
DOUBLE	1356: 0	END	1533: 0	ERROR2	1717: 0	ERROR3	1756: 0	FIND	0979: 0	FINI	1344: 0
FIRST	1112: 0	FIRSTF	1678: 0	GLOBER	0184: 0	GM	1659: 0	GMWM	1804: 0	GOTLP	1588: 0
HALT	1644: 0	HEAD	1157: 0	HIGHER	1066: 0	IMOD	0690: 0	K3B	1681: 0	K5B	1686: 0
KB1	1669: 0	KB1A	1673: 0	KLESS	1674: 0	KP2	1672: 0	LOADNX	0700: 0	LPAREN	1019: 0
LPFLAG	1668: 0	MANP2	1671: 0	MANTIS	0692: 0	MORE	1207: 0	MORECH	1395: 0	MSG2	1803: 0
NEWVAR	1328: 0	NEWX3	1662: 0	NOHEAD	1164: 0	NOOVFL	1441: 0	NOTBIG	1303: 0	NOTHER	1191: 0
NOVL2	1518: 0	OVFL	1439: 0	OVFL2	1516: 0	PHAS9	0201: 0	PHASLD	0381: 0	PREFIX	1658: 0
PREV	0914: 0	SAVX2	1677: 0	SNAPEX	0564: 0	SNAPSH	0333: 0	SYNTAX	1484: 0	TOOBIG	1614: 0
TOP3	2600: 0	TOPCOR	0688: 0	TPERR	0728: 0	TPREAD	0704: 0	TSTFIN	1307: 0	W10	1767: 0
W3	1760: 0	W5	1765: 0	X1	0089: 0	X2	0094: 0	X3	0099: 0		

UNREFERENCED SYMBOLS

PHASLD SNAPEX TOP3 TPERR TPREAD