

SEQ	PG	LIN	LABEL	OP	OPERANDS	SFX	CT	LOCN	INSTRUCTION	TYPE	CARD	A-ADDR	B-ADDR
148			*		COLUMN 3: NOT USED (NO 705 GROUP MARK 12-5-8 SUPPORT)								
149			*										
150			*		COLUMN 4: NOT USED								
151			*										
152			*		COLUMNS 5-6: NUMBER OF FILES TO SKIP ON UNIT 1 BEFORE BEGINNING								
153			*		CARD-TO-TAPE OPERATION.								
154			*		COLUMNS 7-8: NUMBER OF FILES TO SKIP ON UNIT 2 BEFORE BEGINNING								
155			*		TAPE-TO-PRINT OPERATION.								
156			*		COLUMNS 9-10: NUMBER OF FILES TO SKIP ON UNIT 3 BEFORE BEGINNING								
157			*		TAPE-TO-CARD OPERATION.								
158			*										
159			*		ASSUMES ADVANCED-PROGRAMMING AND INDEX REGISTERS.								
160			*										
161			*		DOESN'T BOTHER WITH READ RELEASE, OR PUNCH RELEASE, SINCE IT								
162			*		WILL PROBABLY ONLY EVER BE USED IN A SIMULATOR.								
163			*										
164			*		HALTS INDICATED BY A- AND B-ADDRESS REGISTER CONTENTS:								
165			*		000: ALL DONE. PRESS START TO READ A NEW CONTROL CARD.								
166			*		111: SENSE SWITCH E REQUESTS INTERRUPTION. CHANGE SENSE SWITCH								
167			*		SETTINGS IF DESIRED. LEAVE SENSE SWITCH E ON AND PRESS								
168			*		START TO READ A NEW CONTROL CARD. OTHERWISE, JUST PRESS								
169			*		START								
170			*		222: MORE THAN TEN READ ERRORS ON UNIT 2. PRESS START TO								
171			*		ACCEPT THE BLOCK.								
172			*		333: A NEW CONTROL CARD HAS BEEN READ. TURN OFF SENSE SWITCH								
173			*		E AND PRESS START.								
174			*		666: MORE THAN 49 SKIPS ON UNIT 1. TAPE IS UNUSABLE. MOUNT								
175			*		NEW TAPE AND PRESS START.								
176			*		999: OUTPUT TAPE ON UNIT 1 IS FULL. REWIND TAPE, MOUNT NEW								
177			*		TAPE, TAPE, AND PRESS START.								
178			*										
179				ORG	87					0087			
180			XXXXX1	DCW	#3	3		0089				4	
181				DC	#2	2		0091				4	
182			XXXXX2	DCW	#3	3		0094				4	
183				DC	#2	2		0096				4	
184			XXXXX3	DCW	#3	3		0099				4	
185			*										
186			*		INITIALIZATION								
187			*										
188				ORG	336					0336			
189			START	B	SSWICH		4	0336	B	581		5	581
190				B	CTLCD		4	0340	B	688		5	688
191				B	INIT		4	0344	B	863		5	863

ACTIVITY LOOP

PAGE 3

SEQ	PG	LIN	LABEL	OP	OPERANDS	SFX	CT	LOCN	INSTRUCTION	TYPE	CARD	A-ADDR	B-ADDR
192				JOB	ACTIVITY LOOP								
193			*										
194			LOOP	CW	LOOPSW DO NOT REPEAT IF NO WORK	4		0348	) 388		6	388	
195				NOP		1		0352	N		6		
196			BCD2TS	B	BCD2TP BCD-TO-TAPE -- SS B	4		0353	B 882		6	882	
197				NOP		1		0357	N		6		
198			TP2PRS	B	TAPE2P TAPE-TO-PRINT -- SS C	4		0358	B S17		6	1217	
199				NOP		1		0362	N		6		
200			T2BCDS	B	TP2BCD TAPE-TO-BCD -- SS D	4		0363	B V14		6	1514	
201				NOP		1		0367	N		7		
202			T2CBSW	B	T2CBIN TAPE-TO-COLUMN-BINARY -- SS F	4		0368	B V66		7	1566	
203				NOP		1		0372	N		7		
204			CB2TSW	B	CBIN2T COLUMN-BINARY-TO-TAPE -- SS G	4		0373	B |32		7	1032	
205				NOP		1		0377	N		7		
206			MIXSBG	B	MIXED BOTH SS B AND SS G	4		0378	B Y40		7	1840	
207				BSS	INTRPT,E	5		0382	B 819 E		7	819	
208				NOP		1		0387	N		8		
209			LOOPSW	B	LOOP	4		0388	B 348		8	348	
210				NOP	000	4		0392	N 000		8	000	
211				H		1		0396	.		8		
212				B	START	4		0397	B 336		8	336	
213				DCW	#1	1		0401			8		

SEQ	PG	LIN	LABEL	OP	OPERANDS	SFX	CT	LOCN	INSTRUCTION	TYPE	CARD	A-ADDR	B-ADDR
214			JOB		ANALYZE SENSE SWITCH SETTINGS								
215			*										
216			* B		MEANS BCD-TO-TAPE ON UNIT 1								
217			* B AND G		MEANS MIXED BCD-TO-TAPE AND COLUMN-BINARY-TO-TAPE								
218			* C		MEANS TAPE-TO-PRINT FROM UNIT 2								
219			* D		MEANS TAPE-TO-BCD FROM UNIT 3								
220			* D ON		DOESN'T TEST F								
221			* E		MEANS READ A NEW CONTROL CARD (NOT TESTED HERE)								
222			* F		MEANS TAPE-TO-COLUMN-BINARY FROM UNIT 3								
223			* G		MEANS COLUMN-BINARY-TO-TAPE ON UNIT 1								
224			*										
225			ORG		581				0581				
226			SSWICH	SBR	SSWICX+3	4		0581	H 666		9	666	
227				SW	BCD2TS,TP2PRS	7		0585	, 353 358		9	353	358
228				SW	T2BCDS,T2CBSW	7		0592	, 363 368		9	363	368
229				SW	CB2TSW,LOOPSW	7		0599	, 373 388		9	373	388
230				CW	MIXSBG	4		0606	) 378		9	378	
231				BSS	SSB,B	5		0610	B 667 B		9	667	
232				CW	BCD2TS	4		0615	) 353		9	353	
233				BSS	*&5,G	5		0619	B 628 G		10	628	
234				CW	CB2TSW	4		0624	) 373		10	373	
235			SSC	BSS	*&5,C	5		0628	B 637 C		10	637	
236				CW	TP2PRS	4		0633	) 358		10	358	
237				BSS	SSD,D	5		0637	B 650 D		10	650	
238				CW	T2BCDS	4		0642	) 363		10	363	
239				B	*&5	4		0646	B 654		10	654	
240			SSD	CW	T2CBSW	4		0650	) 368		11	368	
241				BSS	*&5,F	5		0654	B 663 F		11	663	
242				CW	T2CBSW	4		0659	) 368		11	368	
243			SSWICX	B	0-0	4		0663	B 000		11	000	
244			SSB	BSS	SSBG,G	5		0667	B 680 G		11	680	
245				CW	CB2TSW	4		0672	) 373		11	373	
246				B	SSC	4		0676	B 628		11	628	
247			SSBG	SW	MIXSBG	4		0680	, 378		12	378	
248				B	SSC	4		0684	B 628		12	628	

PROCESS CONTROL CARD

PAGE 5

SEQ	PG	LIN	LABEL	OP	OPERANDS	SFX	CT	LOCN	INSTRUCTION	TYPE	CARD	A-ADDR	B-ADDR
249				JOB	PROCESS CONTROL CARD								
250			*										
251			CTLCD	SBR	CTLCDX+3	4		0688	H 731		13	731	
252				R		1		0692	1		13		
253				B	SKFILE	4		0693	B 732		13	732	
254				DCW	06	2		0698			13		
255				DCW	1	1		0699			13		
256				B	SKFILE	4		0700	B 732		13	732	
257				DCW	08	2		0705			13		
258				DCW	2	1		0706			14		
259				B	SKFILE	4		0707	B 732		14	732	
260				DCW	10	2		0712			14		
261				DCW	3	1		0713			14		
262				MCW	2,FORMSW#1	7		0714	M 002 Y27		14	002	1827
263				MCW	1,PSTORG#1	7		0721	M 001 Y28		14	001	1828
264			CTLCDX	B	0-0	4		0728	B 000		14	000	

SKIP FILES

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SEQ	PG	LIN	LABEL	OP	OPERANDS	SFX	CT	LOCN	INSTRUCTION	TYPE	CARD	A-ADDR	B-ADDR
265				JOB	SKIP FILES								
266			*	B	SKFILE								
267			*	DCW	NN ADDRESS IN READ AREA OF COUNT								
268			*	DCW	U UNIT NUMBER								
269			*										
270			SKFILE	SBR	XXXXX3	4		0732	H 099		15	099	
271				MCW	1+X3,XXXXX2 COUNT ADDRESS IN READ AREA	7		0736	M 0?1 094		15	001+3	094
272				MCW	0+X2,COUNT#2	7		0743	M 0!0 Y30		15	000+2	1830
273				MN	2+X3,SKRD+3 UNIT NUMBER	7		0750	D 0?2 789		15	002+3	789
274				MN	2+X3,SKEND	7		0757	D 0?2 800		15	002+3	800
275				MN	2+X3,SKBSP	7		0764	D 0?2 805		15	002+3	805
276			SKLP	S	+1,COUNT	7		0771	S Y31 Y30		16	1831	1830
277				BWZ	3+X3,COUNT,K	8		0778	V 0?3 Y30 K		16	003+3	1830
278			SKRD	CU	%U0,A DIAGNOSTIC READ	5		0786	U %U0 A		16	%U0	
279				BEF	SKEND	5		0791	B 800 K		16	800	
280				B	SKRD	4		0796	B 786		16	786	
281			SKEND	CU	%U0,A DIAGNOSTIC READ AGAIN TO TEST FOR 2 EOFs	5		0800	U %U0 A		16	%U0	
282			SKBSP	BSP	0	5		0805	U %U0 B		16	%U0	
283				BEF	3+X3	5		0810	B 0?3 K		17	003+3	
284				B	SKLP	4		0815	B 771		17	771	

SEQ	PG	LIN	LABEL	OP	OPERANDS	SFX	CT	LOCN	INSTRUCTION	TYPE	CARD	A-ADDR	B-ADDR
285			JOB		INTERRUPT PROCESSING ROUTINE, ON SS E								
286			*										
287			* READ		NEW SENSE SWITCH SETTINGS. IF SS E IS STILL ON,								
288			* READ		A NEW CONTROL CARD.								
289			*										
290			INTRPT	SW	LOOPSW REPEAT ACTIVITY LOOP	4		0819	,	388	18	388	
291				B	INIT INITIALIZE SOME SWITCHES	4		0823	B	863	18	863	
292			INTRPH	NOP	111	4		0827	N	111	18	111	
293				H		1		0831	.		18		
294				B	SSWICH GET NEW SENSE SWITCH SETTINGS	4		0832	B	581	18	581	
295				BSS	*+5,E	5		0836	B	845 E	18	845	
296				B	LOOPSW	4		0841	B	388	18	388	
297				B	CTLCD	4		0845	B	688	19	688	
298				NOP	333	4		0849	N	333	19	333	
299				H		1		0853	.		19		
300				BSS	INTRPH,E	5		0854	B	827 E	19	827	
301				B	LOOPSW	4		0859	B	388	19	388	

INITIALIZE SOME SWITCHES

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SEQ	PG	LIN	LABEL	OP	OPERANDS	SFX	CT	LOCN	INSTRUCTION	TYPE	CARD	A-ADDR	B-ADDR
302				JOB	INITIALIZE SOME SWITCHES								
303			*										
304			INIT	SBR	INITX+3	4		0863	H 881		20	881	
305				SW	NEEDCD#1	4		0867	, Y32		20	1832	
306				LCA	GMWXX, 81	7		0871	L I99 081		20	3999	081
307			INITX	B	0-0	4		0878	B 000		20	000	

SEQ	PG	LIN	LABEL	OP	OPERANDS	SFX	CT	LOCN	INSTRUCTION	TYPE	CARD	A-ADDR	B-ADDR
308			JOB		CARD-TO-TAPE								
309			*										
310			* BCD		CARD-TO-TAPE								
311			*										
312			SFX	B									
313			BCD2TP	SBR	EXIT+3	B	4	0882	H 958		21	958	
314				SS	\$	B	2	0886	K \$		21		
315				BW	RD,NEEDCD	B	8	0888	V 941 Y32 1		21	941	1832
316				BIN	OUT,H	B	5	0896	B 951 H		21	951	
317				SBR	SKPCT,950	B	7	0901	H S16 950		21	1216	950
318				BCE	WTM,1,{	B	8	0908	B 959 001 {		21	959	001
319			WTAPE	LCA	GMWXX,81	B	7	0916	L I99 081		22	3999	081
320				WT	1,1	B	8	0923	M %U1 001 W		22	%U1	001
321				BER	TPERRW	B	5	0931	B /23 L		22	1123	
322				BEF	FULL	B	5	0936	B |18 K		22	1018	
323			RD	BLC	LST CD	B	5	0941	B 976 A		22	976	
324				R		B	1	0946	1		22		
325				CW	NEEDCD	B	4	0947	) Y32		22	1832	
326			OUT	SW	LOOPSW	B	4	0951	, 388		23	388	
327			EXIT	B	0-0	B	4	0955	B 000		23	000	
328			* CARD	HAD	7-8 IN COLUMN 1. WRITE EOF.								
329			WTM	WTM	1	B	5	0959	U %U1 M		23	%U1	
330				DCW	@N00@	B	3	0966			23		
331				BER	TPERRW	B	5	0967	B /23 L		23	1123	
332				B	RD	B	4	0972	B 941		23	941	
333			* LAST	CARD	SWITCH IS ON								
334			LST CD	WTM	1	B	5	0976	U %U1 M		23	%U1	
335				DCW	@N00@	B	3	0983			24		
336				BER	TPERRW	B	5	0984	B /23 L		24	1123	
337				WTM	1	B	5	0989	U %U1 M		24	%U1	
338				DCW	@N00@	B	3	0996			24		
339				BER	TPERRW	B	5	0997	B /23 L		24	1123	
340				BSP	1	B	5	1002	U %U1 B		24	%U1	
341				CW	BCD2TS,CB2TSW	B	7	1007	) 353 373		24	353	373
342				B	EXIT	B	4	1014	B 955		25	955	
343			* TAPE	FULL.	DO NOT CHECK FOR ERROR, BECAUSE THIS COULD RESULT								
344			* IN	50 SKIPS, I.E.,	175 INCHES, WHICH MIGHT UNSPOOL THE TAPE.								
345			FULL	WTM	1	B	5	1018	U %U1 M		25	%U1	
346				NOP	999	B	4	1023	N 999		25	999	
347				H		B	1	1027	.		25		
348				B	WTAPE	B	4	1028	B 916		25	916	
349			*										
350			* COLUMN	BINARY	CARD-TO-TAPE								
351			*										
352			CBIN2T	SBR	EXIT+3	B	4	1032	H 958		25	958	
353				BLC	LST CD	B	5	1036	B 976 A		25	976	
354			RCB	RCB		B	2	1041	1 C		26		
355				BCE	WTMB,1,{	B	8	1043	B |92 001 {		26	1092	001
356				SW	401	B	4	1051	, 401		26	401	
357			WTAPEC	LCA	GMWXX,BINBUF+160	B	7	1055	L I99 L89		26	3999	2389

SEQ	PG	LIN	LABEL	OP	OPERANDS	SFX	CT	LOCN	INSTRUCTION	TYPE	CARD	A-ADDR	B-ADDR
358				MBD	580,BINBUF+159	B	8	1062	M 580 L88 D		26	580	2388
359				WTB	1,BINBUF	B	8	1070	M %B1 K29 W		26	%B1	2229
360				BER	TPERRW	B	5	1078	B /23 L		27	1123	
361				BEF	FULLB	B	5	1083	B /09 K		27	1109	
362				B	OUT	B	4	1088	B 951		27	951	
363				* CARD HAD 7-8 IN COLUMN 1. WRITE EOF.									
364			WTMB	WTM	1	B	5	1092	U %U1 M		27	%U1	
365				DCW	@N00@	B	3	1099	PAD OUT TO EIGHT CHARACTERS				
366				BER	TPERRW	B	5	1100	B /23 L		27	1123	
367				B	RCB	B	4	1105	B |41		27	1041	
368				* TAPE FULL. DO NOT CHECK FOR ERROR, BECAUSE THIS COULD RESULT									
369				* IN 50 SKIPS, I.E., 175 INCHES, WHICH MIGHT UNSPOOL THE TAPE.									
370			FULLB	WTM	1	B	5	1109	U %U1 M		28	%U1	
371				NOP	999	B	4	1114	N 999		28	999	
372				H		B	1	1118	.		28		
373				B	WTAPEC	B	4	1119	B |55		28	1055	
374				*									
375				* TAPE OUTPUT ERROR HANDLER, CLOBBERS X3									
376				*									
377			TPERRW	SBR	XXXXX3	B	4	1123	H 099		28	099	
378				BSP	1	B	5	1127	U %U1 B		28	%U1	
379				S	+1,ERCNT	B	7	1132	S Y31 S14		28	1831	1214
380				BWZ	*+5,ERCNT,K	B	8	1139	V /51 S14 K		29	1151	1214
381				B	15987+X3	B	4	1147	B IHG		29	15987+3	
382				A	+1,SKPCT	B	7	1151	A Y31 S16		29	1831	1216
383				BAV	SKIPS	B	5	1158	B /84 Z		29	1184	
384				SKP	1	B	5	1163	U %U1 E		29	%U1	
385				BEF	FULL	B	5	1168	B |18 K		29	1018	
386				MCW	+9,ERCNT	B	7	1173	M Y33 S14		30	1833	1214
387				B	15987+X3	B	4	1180	B IHG		30	15987+3	
388			SKIPS	NOP	666	B	4	1184	N 666		30	666	
389				H		B	1	1188	.		30		
390				SBR	SKPCT,950	B	7	1189	H S16 950		30	1216	950
391				B	15987+X3	B	4	1196	B IHG		30	15987+3	
392				* TAPE IS FULL. DO NOT CHECK FOR ERROR HERE SO AS NOT TO UNSPOOL									
393				* THE TAPE.									
394			ERFULL	WTM	1	B	5	1200	U %U1 M		30	%U1	
395				NOP	999	B	4	1205	N 999		31	999	
396				H		B	1	1209	.		31		
397				B	15987+X3	B	4	1210	B IHG		31	15987+3	
398			ERCNT	DCW	#1	B	1	1214	TAPE ERROR COUNT				
399			SKPCT	DCW	#2	B	2	1216	SKIP COUNT				

SEQ	PG	LIN	LABEL	OP	OPERANDS	SFX	CT	LOCN	INSTRUCTION	TYPE	CARD	A-ADDR	B-ADDR
400				JOB	TAPE-TO-PRINT								
401			*										
402				SFX	P								
403			TAPE2P	SBR	T2PX+3	P	4	1217	H T59		32	1359	
404				SW	LOOPSW REPEAT ACTIVITY LOOP	P	4	1221	, 388		32	388	
405				BCE	PRTPOS,PSTORG, SKIP BUSY TESTS IF NO PRINT STORAGE	P	8	1225	B S43 Y28		32	1243	1828
406				BIN	T2PX,P PRINTER BUSY	P	5	1233	B T56 P		32	1356	
407				BPCB	T2PX PRINTER CARRIAGE BUSY	P	5	1238	B T56 R		32	1356	
408			PRTPOS	SBR	XXXXX3,GMWXX+1	P	7	1243	H 099 00|		32	099	4000
409				BCE	READ,15999+X3,} GM 12-7-8	P	8	1250	B U38 III } GMARK		33	1438	15999+3
410				SBR	XXXXX2,200	P	7	1258	H 094 200		33	094	200
411				BBE	USE200,FORMSW,4 4 OR 5	P	8	1265	W S80 Y27 4		33	1280	1827
412				SBR	XXXXX2,201	P	7	1273	H 094 201		33	094	201
413			USE200	MCW	PRTPOS&6,XXXXX3	P	7	1280	M S49 099		33	1249	099
414				MCM	0&X3,0&X2	P	7	1287	P 0?0 0!0		34	000+3	000+2
415				MCM	@ @ CLEAR RECORD MARK	P	4	1294	M Y35		34	1835	
416				MCM	0&X3	P	4	1298	P 0?0		34	000+3	
417				SAR	PRTPOS+6 UPDATE BUFFER ADDRESS	P	4	1302	Q S49		34	1249	
418				BBE	PRCTL,FORMSW,4 4 OR 5	P	8	1306	W T60 Y27 4		34	1360	1827
419			PRINT	W		P	1	1314	2		34		
420				CS		P	1	1315	/		34		
421				CS		P	1	1316	/		35		
422				BCE	*&5,FORMSW,2	P	8	1317	B T29 Y27 2		35	1329	1827
423				B	*&3	P	4	1325	B T31		35	1331	
424				CC	J IMMEDIATE SKIP ONE SPACE	P	2	1329	F J		35		
425				BCE	*&5,FORMSW,3	P	8	1331	B T43 Y27 3		35	1343	1827
426				B	*&3	P	4	1339	B T45		35	1345	
427				CC	K IMMEDIATE SKIP TWO SPACES	P	2	1343	F K		35		
428				BCV	*&5 Q. PAGE FULL	P	5	1345	B T54 @		36	1354	
429				B	*&3 NO	P	4	1350	B T56		36	1356	
430				CC	1 YES, SKIP TO CHANNEL 1	P	2	1354	F 1		36		
431			T2PX	B	0-0	P	4	1356	B 000		36	000	
432			*										
433			*		PROGRAM CONTROLS PRINT SPACING								
434			*										
435			PRCTL	BCE	SUPPRS,200,+	P	8	1360	B U22 200 +		36	1422	200
436				BCE	PRINT,200, SINGLE SPACE	P	8	1368	B T14 200		36	1314	200
437				BCE	*&5,200,0	P	8	1376	B T88 200 0		36	1388	200
438				B	*&6	P	4	1384	B T93		37	1393	
439				CCB	PRINT,J IMMEDIATE SKIP ONE SPACE	P	5	1388	F T14 J		37	1314	
440				BCE	*&5,200,-	P	8	1393	B U05 200 -		37	1405	200
441				B	*&6	P	4	1401	B U10		37	1410	
442				CCB	PRINT,K IMMEDIATE SKIP TWO SPACES	P	5	1405	F T14 K		37	1314	
443				MN	200,*&5 IMMEDIATE SKIP TO CHANNEL	P	7	1410	D 200 U21		37	200	1421
444				CCB	PRINT,0	P	5	1417	F T14 0		37	1314	
445			*										
446			*		& IN COLUMN 1								
447			*										
448			SUPPRS	BCE	T2PX,FORMSW,5 SKIP THE RECORD	P	8	1422	B T56 Y27 5		38	1356	1827
449				2S	PRINT WITHOUT SPACING	P	2	1430	2 S		38		

SEQ	PG	LIN	LABEL	OP	OPERANDS	SFX	CT	LOCN	INSTRUCTION	TYPE	CARD	A-ADDR	B-ADDR
450				CS		P	1	1432	/		38		
451				CS		P	1	1433	/		38		
452				B	T2PX	P	4	1434	B T56		38	1356	
453				*									
454				*	READ A BLOCK FOR PRINTING								
455				*									
456			READ	SBR	READX+3	P	4	1438	H U77		38	1477	
457				SBR	PRTPOS+6, PRTBUF	P	7	1442	H S49 N75		38	1249	2575
458				CW	15999+X3 TURN OFF GMWM FROM PREVIOUS READ	P	4	1449	) III		39	15999+3	
459				SW	GMWMXX THE FIRST CALL CLEARS THIS	P	4	1453	, I99		39	3999	
460				B	READIT	P	4	1457	B X08		39	1708	
461				RT	2, PRTBUF	P	8	1461	M %U2 N75 R		39	%U2	2575
462				BEF	DONE	P	5	1469	B U78 K		39	1478	
463			READX	B	0-0	P	4	1474	B 000		39	000	
464				*									
465				*	END OF FILE								
466				*									
467			DONE	CC	1	P	2	1478	F 1		39		
468				B	READIT	P	4	1480	B X08		40	1708	
469				RT	2, PRTBUF	P	8	1484	M %U2 N75 R		40	%U2	2575
470				BEF	*&5	P	5	1492	B V01 K		40	1501	
471				B	READX	P	4	1497	B U74		40	1474	
472				*	TWO END-OF-FILE MARKS IN A ROW. TURN OFF PRINTING								
473				CW	TP2PRS	P	4	1501	) 358		40	358	
474				RWU	2	P	5	1505	U %U2 U		40	%U2	
475				B	T2PX	P	4	1510	B T56		40	1356	

SEQ	PG	LIN	LABEL	OP	OPERANDS	SFX	CT	LOCN	INSTRUCTION	TYPE	CARD	A-ADDR	B-ADDR
476				JOB	TAPE-TO-CARD								
477			*										
478			*	TAPE-TO-BCD	CARD								
479			*										
480				SFX	4								
481			TP2BCD	SBR	EXIT+3	4	4	1514	H V64		41	1564	
482				SS	\$ TURN ON OVERLAP	4	2	1518	K \$		41		
483				BIN	EXIT,I PUNCH BUSY	4	5	1520	B V61 I		41	1561	
484				LCA	GMWMMXX,81	4	7	1525	L I99 081		41	3999	081
485				B	READIT	4	4	1532	B X08		41	1708	
486				RT	3,101	4	8	1536	M %U3 101 R		41	%U3	101
487				BEF	DONE	4	5	1544	B W21 K		41	1621	
488				MCW	@ @,15999+X1 IN CASE OF SHORT RECORD	4	7	1549	M Y36 IZI		42	1836	15999+1
489				P		4	1	1556	4		42		
490			OUT	SW	LOOPSW REPEAT ACTIVITY LOOP	4	4	1557	, 388		42	388	
491			EXIT	SSB	0-0,2	4	5	1561	K 000 2		42	000	
492			*										
493			*	TAPE-TO-COLUMN-BINARY	CARD								
494			*										
495			T2CBIN	SBR	EXIT+3	4	4	1566	H V64		42	1564	
496				SS	. TURN OFF OVERLAP	4	2	1570	K .		42		
497				LCA	GMWMMXX,BINBUF+181	4	7	1572	L I99 M10		42	3999	2410
498				B	READIT	4	4	1579	B X08		43	1708	
499				RTB	3,BINBUF	4	8	1583	M %B3 K29 R		43	%B3	2229
500				BEF	DONECB	4	5	1591	B W41 K		43	1641	
501				MCW	@ @,15999+X1 IN CASE OF SHORT RECORD	4	7	1596	M Y36 IZI		43	1836	15999+1
502				SW	401	4	4	1603	, 401		43	401	
503				MBC	BINBUF+159,580	4	8	1607	M L88 580 B		43	2388	580
504				PCB		4	2	1615	4 C		43		
505				B	OUT	4	4	1617	B V57		44	1557	
506			*										
507			*	END OF FILE									
508			*										
509			DONE	SBR	XXXXX3	4	4	1621	H 099		44	099	
510				B	READIT	4	4	1625	B X08		44	1708	
511				RT	3,101	4	8	1629	M %U3 101 R		44	%U3	101
512				B	TEST	4	4	1637	B W57		44	1657	
513			DONECB	SBR	XXXXX3	4	4	1641	H 099		44	099	
514				B	READIT	4	4	1645	B X08		44	1708	
515				RTB	3,BINBUF	4	8	1649	M %B3 K29 R		45	%B3	2229
516			TEST	BEF	FINAL	4	5	1657	B W92 K		45	1692	
517				BCE	TWO,EXIT+4,2	4	8	1662	B W81 V65 2		45	1681	1565
518				MCW	@2@,EXIT+4 CHANGE SELECTED STACKER	4	7	1670	M Y37 V65		45	1837	1565
519				B	0+X3	4	4	1677	B 0?0		45	000+3	
520			TWO	MCW	@4@,EXIT+4 CHANGE SELECTED STACKER	4	7	1681	M Y38 V65		45	1838	1565
521				B	0+X3	4	4	1688	B 0?0		46	000+3	
522			FINAL	CW	T2BCDS,T2CBSW TURN OFF PUNCHING	4	7	1692	) 363 368		46	363	368
523				RWU	3	4	5	1699	U %U3 U		46	%U3	
524				B	EXIT	4	4	1704	B V61		46	1561	

SEQ	PG	LIN	LABEL	OP	OPERANDS	SFX	CT	LOCN	INSTRUCTION	TYPE	CARD	A-ADDR	B-ADDR
525				JOB	TAPE READ ROUTINE								
526				*									
527				*	CLOBBERS ALL INDEX REGISTERS								
528				*	LEAVES GMWM ADDRESS +1 IN X1								
529				*									
530				SFX	R								
531			READIT	SBR	XXXXX3	R	4	1708	H 099		47	099	
532				MCW	7+X3,RDTP+7	R	7	1712	M 0?7 X30		47	007+3	1730
533				ZA	ERRCT#1	R	4	1719	? Y39		47	1839	
534			RDTP	RT	0,0	R	8	1723	M %U0 000 R		47	%U0	000
535				SBR	XXXXX1	R	4	1731	H 089		47	089	
536				SW	15999+X1 TURN ON GMWM FROM THIS READ	R	4	1735	, IZI		47	15999+1	
537				BEF	8+X3	R	5	1739	B 0?8 K		47	008+3	
538				MCW	RDTP+6,XXXXX2	R	7	1744	M X29 094		48	1729	094
539				BCE	RDTP,12+X2,} GM	R	8	1751	B X23 0J2 } GMARK		48	1723	012+2
540				CHAIN	12					MACRO			
541				BCE		R	1	1759	B	GEN	48		
542				BCE		R	1	1760	B	GEN	48		
543				BCE		R	1	1761	B	GEN	48		
544				BCE		R	1	1762	B	GEN	48		
545				BCE		R	1	1763	B	GEN	48		
546				BCE		R	1	1764	B	GEN	49		
547				BCE		R	1	1765	B	GEN	49		
548				BCE		R	1	1766	B	GEN	49		
549				BCE		R	1	1767	B	GEN	49		
550				BCE		R	1	1768	B	GEN	49		
551				BCE		R	1	1769	B	GEN	49		
552				BCE		R	1	1770	B	GEN	49		
553				BER	TPERRR	R	5	1771	B X80 L		50	1780	
554				B	8+X3	R	4	1776	B 0?8		50	008+3	
555			TPERRR	A	*-5,ERRCT	R	7	1780	A X81 Y39		50	1781	1839
556				BCE	HALT,ERRCT,I Q. IS COUNT +9	R	8	1787	B Y11 Y39 I		50	1811	1839
557				MN	RDTP+4,*+4	R	7	1795	D X27 Y05		50	1727	1805
558				BSP	2	R	5	1802	U %U2 B		50	%U2	
559				B	RDTP	R	4	1807	B X23		51	1723	
560			HALT	MN	RDTP+4,*+4	R	7	1811	D X27 Y21		51	1727	1821
561				NOP	222	R	4	1818	N 222		51	222	
562				H		R	1	1822	.		51		
563				B	8+X3	R	4	1823	B 0?8		51	008+3	

SEQ	PG	LIN	LABEL	OP	OPERANDS	SFX	CT	LOCN	INSTRUCTION	TYPE	CARD	A-ADDR	B-ADDR
617			BIN1	BBE	BIN2,501,4	Q. COLUMN 1 HAS 7 PUNCH, BROWNIE P	90	M	8	1989	W !01 501 4	58	2001 501
618				B	BCD	COLUMN 1 NOT 7-9, SO NOT BINARY		M	4	1997	B Y90	58	1890
619					* CURRENT CARD IS BINARY								
620			BIN2	MBD	580,160+X2	ARRANGE FOR BINARY WRITING		M	8	2001	M 580 100 D	58	580 160+2
621				CW	BCD SW+X2			M	4	2009	) 1P3	58	173+2
622				BW	FIRSTM,MIXEDS	Q. FIRST CARD		M	8	2013	V Z45 Z09 1	58	1945 1909
623				BW	BINBCD,BCD SW+X1	Q. PREVIOUS BCD		M	8	2021	V !44 1X3 1	59	2044 173+1
624					* CURRENT AND PREVIOUS CARDS BOTH BINARY								
625				LCA	GMWMMXX,169+X1			M	7	2029	L I99 1W9	59	3999 169+1
626				MCW	@ 4 1 @			M	4	2036	M K13	59	2213
627				B	BINOUT			M	4	2040	B Z32	59	1932
628					* CURRENT BINARY, PREVIOUS BCD								
629			BINBCD	LCA	GMWMMXX,85+X1			M	7	2044	L I99 0Y5	59	3999 085+1
630				MCW	@9977@			M	4	2051	M K17	59	2217
631				B	BCDOUT			M	4	2055	B Z68	59	1968
632					* CARD HAS 7-8 IN COLUMN 1. WRITE PREVIOUS RECORD, THEN EOF.								
633			WTMM	BW	WTMBCD,BCD SW+X1			M	8	2059	V J18 1X3 1	60	2118 173+1
634				LCA	GMWMMXX,169+X1			M	7	2067	L I99 1W9	60	3999 169+1
635				MCW	@ 4 1 @			M	4	2074	M K25	60	2225
636				WTB	1,0+X1			M	8	2078	M %B1 0|0 W	60	%B1 000+1
637				BER	TPERRW	OUTPUT ERROR HANDLER		M	5	2086	B /23 L	60	1123
638				BEF	FULL			M	5	2091	B J76 K	60	2176
639			WTMMIX	WTM	1			M	5	2096	U %U1 M	61	%U1
640				DCW	@N00@	PAD OUT TO EIGHT CHARACTERS		M	3	2103		61	
641				BER	TPERRW	CHECK FOR ERROR		M	5	2104	B /23 L	61	1123
642				BLC	MIXEND			M	5	2109	B J51 A	61	2151
643				B	RCM			M	4	2114	B Y60	61	1860
644			WTMBCD	LCA	GMWMMXX,85+X1			M	7	2118	L I99 0Y5	61	3999 085+1
645				MCW	@ @			M	4	2125	M K05	61	2205
646				WT	1,0+X1			M	8	2129	M %U1 0|0 W	62	%U1 000+1
647				BER	TPERRW			M	5	2137	B /23 L	62	1123
648				BEF	FULL			M	5	2142	B J76 K	62	2176
649				B	WTMMIX			M	4	2147	B !96	62	2096
650			MIXEND	WTM	1			M	5	2151	U %U1 M	62	%U1
651				DCW	@N00@	PAD OUT TO EIGHT CHARACTERS		M	3	2158		62	
652				BER	TPERRW	CHECK FOR ERROR		M	5	2159	B /23 L	62	1123
653				SW	MIXEDS	TURN ON FIRST CARD SWITCH		M	4	2164	, Z09	63	1909
654				CW	MIXSBG	TURN OFF MIXED INPUT		M	4	2168	) 378	63	378
655				B	OUT			M	4	2172	B Z49	63	1949
656					* TAPE IS FULL. DO NOT CHECK FOR ERROR BECAUSE THIS MIGHT CAUSE								
657					* FIFTY TAPE SKIPS, THEREBY UNSPOOLING THE TAPE								
658			FULL	SBR	FULLX+3			M	4	2176	H J93	63	2193
659				WTM	1			M	5	2180	U %U1 M	63	%U1
660				NOP	999			M	4	2185	N 999	63	999
661				H				M	1	2189	.	63	
662			FULLX	B	0-0			M	4	2190	B 000	64	000
663				LTORG	*			M			2194		
				DCW	@ 5 1 5 4@			M	8	2201		LIT	64
				DCW	@ @			M	4	2205		LIT	64
				DCW	@ 4 1 @			M	8	2213		LIT	64

WORK AREAS

SEQ	PG	LIN	LABEL	OP	OPERANDS	SFX	CT	LOCN	INSTRUCTION	TYPE	CARD	A-ADDR	B-ADDR
665				JOB	WORK AREAS								
666			CURMIX	DSA	BINBUF		3	2228	K29		65	2229	
667			OTHBUF	EQU	172			0172					
668			BCD SW	EQU	173			0173					
669			BINBUF	DA	1X168,G			2229	2396		65		
669				DCW	@}@		1	2397		GMARK	66		
670				DSA	BINBF2		3	2400	M02		66	2402	
671				DCW	#1		1	2401			66		
672			BINBF2	DA	1X168,G			2402	2569		66		
672				DCW	@}@		1	2570		GMARK	67		
673				DSA	BINBUF		3	2573	K29		67	2229	
674				DCW	#1		1	2574			67		
675			PRTBUF	EQU	*+1			2575					
676				ORG	3999				3999				
677			GMWMXX	DCW	@}@		1	3999		GMARK	68		
678				END	START				/ 336 080			336	

SYMBOL	ADDRESS	SYMBOL	ADDRESS	SYMBOL	ADDRESS	SYMBOL	ADDRESS	SYMBOL	ADDRESS	SYMBOL	ADDRESS
BCD M	1890: 0	BCD SW	0173: 0	BCD2TP	0882: 0	BCD2TS	0353: 0	BCDBCD	1957: 0	BCDOUT	1968: 0
BIN1 M	1989: 0	BIN2 M	2001: 0	BINBCD	2044: 0	BINBF2	2402: 0	BINBUF	2229: 0	BINOUT	1932: 0
CB2TSW	0373: 0	CBIN2T	1032: 0	COUNT	1830: 0	CTLCD	0688: 0	CTLCDX	0728: 0	CURMIX	2228: 0
DONE 4	1621: 0	DONE P	1478: 0	DONECB	1641: 0	ERCNTB	1214: 0	ERFULL	1200: 0	ERRCTR	1839: 0
EXIT 4	1561: 0	EXIT B	0955: 0	FINAL4	1692: 0	FIRSTM	1945: 0	FORMSW	1827: 0	FULL B	1018: 0
FULL M	2176: 0	FULLBB	1109: 0	FULLXM	2190: 0	GMWMXX	3999: 0	HALT R	1811: 0	INIT	0863: 0
INITX	0878: 0	INTRPH	0827: 0	INTRPT	0819: 0	LOOP	0348: 0	LOOPSW	0388: 0	LST CD	0976: 0
MIXED	1840: 0	MIXEDS	1909: 0	MIXEDX	1953: 0	MIXEND	2151: 0	MIXSBG	0378: 0	NEEDCD	1832: 0
OTHBUF	0172: 0	OUT 4	1557: 0	OUT B	0951: 0	OUT M	1949: 0	PRCTLP	1360: 0	PRINTP	1314: 0
PRTBUF	2575: 0	PRTPOS	1243: 0	PSTORG	1828: 0	RCB B	1041: 0	RCM M	1860: 0	RD B	0941: 0
RDTP R	1723: 0	READ P	1438: 0	READIT	1708: 0	READXP	1474: 0	SKBSP	0805: 0	SKEND	0800: 0
SKFILE	0732: 0	SKIPSB	1184: 0	SKLP	0771: 0	SKPCTB	1216: 0	SKRD	0786: 0	SSB	0667: 0
SSBG	0680: 0	SSC	0628: 0	SSD	0650: 0	SSWICH	0581: 0	SSWICX	0663: 0	START	0336: 0
SUPPRS	1422: 0	T2BCDS	0363: 0	T2CBIN	1566: 0	T2CBSW	0368: 0	T2PX P	1356: 0	TAPE2P	1217: 0
TEST 4	1657: 0	TP2BCD	1514: 0	TP2PRS	0358: 0	TPERRR	1780: 0	TPERRW	1123: 0	TWO 4	1681: 0
USE200	1280: 0	WTAPEB	0916: 0	WTAPEC	1055: 0	WTM B	0959: 0	WTMB B	1092: 0	WTMBCD	2118: 0
WTMM M	2059: 0	WTMMIX	2096: 0	XXXXX1	0089: 0	XXXXX2	0094: 0	XXXXX3	0099: 0		

UNREFERENCED SYMBOLS

ERFULL