

SYSTEMS ENGINEERING LABORATORIES PROGRAM LIBRARY

SOFTWARE DESCRIPTION

CATALOG NO. 300001F

DATE 1 April 1971

PROGRAM TITLE: SYSTEMS 810A/B STANDARD LOAD/ DUMP PACKAGE

PURPOSE: To provide capability for:

- (1) Loading relocatable object programs generated by the SYSTEMS 810A/B Macro-Assembler or SYSTEMS 810A/B FORTRAN IV Compiler;
- (2) Dumping selected areas of memory in absolute binary format;
- (3) Loading object modules generated by the absolute dump function,

CONFIGURATION: SYSTEMS 810A/B with ASR-33, High Speed Paper Tape Reader/Punch, and 7-track or 9-track Magnetic Tape/BTC 1.

SOFTWARE: Stand-Alone

PROGRAM LANGUAGE: SYSTEMS 810A/B Assembler Language

SIZE: 2000<sub>8</sub>

## LOADING PROCEDURE:

Use of this package assumes a memory configuration of greater than 4K; otherwise, the SYSTEMS STANDARD BOOTSTRAP PACKAGE (Catalog No. 300000F) will provide similar Load/Dump capabilities.

The procedure required to load this package includes:

- (1) MASTER CLEAR the computer;
- (2) Load the SYSTEMS 810A/B STANDARD BOOTSTRAP PACKAGE (Catalog No. 300000) as specified in the program description;
- (3) Position the SYSTEMS 810A/B STANDARD LOAD/DUMP PACKAGE (Catalog No. 300001) in the desired input device;
- (4) If the input device is ASR-33 reader control switch 0 (zero) should be reset; if the input device is High Speed Paper Tape Reader, control switch 0 (zero) should be set;
- (5) Enter  $006007_8$  into the P-Counter ( $006006_8$  / 810B);
- (6) Enter the relocation base for the STANDARD LOAD/DUMP PACKAGE into the A-Accumulator; this is the load address for the package;
- (7) Depress START twice - the STANDARD LOAD/DUMP PACKAGE will be loaded as specified;
- (8) The following will be printed on the ASR-33 teletypewriter:

LC  
EJ  
XXXXX        00001

Indicating loading complete, end-of-job code processed, the memory high load address, and the next available map zero location.

## USE:

The SYSTEMS 810A/B STANDARD LOAD/DUMP PACKAGE may be used to load object programs in relocatable binary format; to dump selected areas of memory in absolute binary format; and to load object modules in absolute binary format.

## I - RELOCATABLE LOADER

The procedure required to use the relocatable loader portion of the STANDARD LOAD/DUMP PACKAGE includes:

- (1) Position the relocatable binary object program to be loaded in the desired input device;
- (2) Make the following manual entries:

- A-Accumulator = Relocation Base for program
- B-Accumulator = Map Zero Starting Location
- P-Counter = Relocatable Loader Starting Location  
(000007<sub>8</sub> + Loader Relocation Base/810A)  
(000006<sub>8</sub> + Loader Relocation Base/810B)

- (3) Set the appropriate control switches as follows:

- Control Switch 0 Set = Input from High Speed Paper Tape Reader
- Control Switch 0 Reset = Input from ASR-33 Reader
- Control Switch 1 Set = List all subroutines referenced by program
- Control Switch 2 Set = List all unloaded subroutines referenced by program
- Control Switch 3 Set = Input from magnetic tape
- Control Switch 4 Set = List all intermap references
- Control Switch 5 Set = Insert map bit on map zero references
- Control Switch 6 Set = 9-Track Magnetic Tape Input (If Switch 3 is set)
- Control Switch 6 Reset = 7-Track Magnetic Tape Input (If Switch 3 os set)
- Control Switch 7 Set = Binary Magnetic Tape Input (created under an 810B RTX System - If Switch 3 is set)
- Control Switch 10-15 = Used to specify which logical unit number designates magnetic tape. An entry must be made if magnetic tape input is desired. Example: Switches 13-15 would be set to designate logical Unit 7.

NOTE

For input from 7 or 9 track magnetic tape, the loader assumes BTC1. Thus, programs loaded from magnetic tape must not alter the contents of locations 1060<sub>8</sub> & 1061<sub>8</sub> (It is suggested that they be loaded above 1061<sub>8</sub>). If a different BTC is desired, the FWA BTC memory location may be manually loaded into relocation base + 1415<sub>8</sub> in the Load/Dump Program.

NOTE

In loading SYSTEMS 810A/B FORTRAN IV Complier generated object programs, the map zero starting location (B-Accumulator) must be greater than 10<sub>8</sub> if any library subroutines have been called by the source program.

- (4) Depress START twice - the program will be loaded;
- (5) If "EJ" only is printed on the ASR-33 teletypewriter, the relocatable loader is awaiting further input to satisfy external subroutines referenced by the loaded program. In this instance, position the unloaded external program(s) in the proper input device and depress START once;

NOTE

Do not MASTER CLEAR the computer prior to loading external subroutines.

- (6) When loading is complete, the following will be printed on the ASR-33 teletypewriter:

LC  
EJ  
XXXXX        YYYYYY , where

XXXXX - indicates the highest memory location used by the program;  
YYYYYY - indicated the next available map zero location

- (7) To execute the loaded program:
  - (a) MASTER CLEAR the computer;
  - (b) Enter the starting location of the program into the P-Counter;
  - (c) Depress START twice to begin program execution.

## II - ABSOLUTE DUMP

The procedure required to use the Absolute Dump portion of the STANDARD LOAD/DUMP PACKAGE includes:

- (1) Set the appropriate control switches as follows:

- Control Switch 0 Set = Dump to High Speed Paper Tape Punch
- Control Switch 0 Reset = Dump to ASR-33 Paper Tape Punch
- Control Switch 1 Set = Dump Intermap References after dumping program

- (2) Make the following manual entries:

<u>Location</u>	<u>Entry</u>
037776 + 001776 <sub>8</sub> + Loader Relocation Base	End of Dump Address
037777 + 001777 <sub>8</sub> + Loader Relocation Base	Start of Dump Address

- (3) Enter (001561<sub>8</sub> + Loader Relocation Base/810A) or (001560<sub>8</sub> + Loader Relocation Base/810B) into the P-Counter. This is the start address for the Absolut Dump portion of the STANDARD LOAD/DUMP PACKAGE;

- (4) Depress START once - a dump of the specified memory locations will be generated in absolute binary format acceptable to the Absolute Loader portion of this package (below).

### III - ABSOLUTE LOADER

The procedure required to use the Absolute Loader portion of the STANDARD LOAD/DUMP PACKAGE includes:

- (1) Position the absolute binary object module to be loaded in the the desired input device;
- (2) Set the appropriate control switches as follows:
  - Control Switch 0 Set = Input from High Speed Paper Tape Reader
  - Control Switch 0 Reset= Input from ASR-33 Reader
  - Control Switch 1 Set = Load intermap references after loading program
- (3) Enter (001673<sub>8</sub> + Loader Relocation Base/810A) or (001672<sub>8</sub> + Loader Relocation Base/810B) into the P-Counter.  
This is the start address for the Absolute Loader portion of the STANDARD LOAD/DUMP PACKAGE;
- (4) Depress START twice - the core-image contents of the absolute binary input module will be loaded into the same portion of memory from which originally dumped.

METHOD:

(1) RELOCATABLE LOADER

- (a) Tape format consists of blocks of 111 frames. Each block contains a start code, thirty-six 24-bit words, and a 16-bit check sum. A complete block is read by the loader before the first word in the block is processed;
- (b) If loader input is from magnetic tape, tape is read from Tape Transport Number 2/Binary Format (556 BPI, 3 characters/word for 7-track, and 800 BPI, 2 characters/word for 9-track).
- (c) If a parity error occurs during input, five attempts are made to read the record before the loader message "R" is printed on the ASR-33 teletypewriter, and the Computer HALTS. Clearing the HALT will cause the record to be accepted.
- (d) The following messages are output by the relocatable loader:
  - CK - Check sum Error
  - MO - Memory Overflow into Area of Core Used by Loader
  - CM - Common Request prior to Common Definition
  - LC - Loading Process Complete
  - EJ - End of Job

(2) ABSOLUTE DUMP

Tape format consists of a start code, a 16-bit starting address, and a 16-bit negative word count followed by blocks of 66 frames each. The last block may have less than 66 frames. Each block is terminated with a 16-bit check sum.

(3) ABSOLUTE LOADER

- (a) Tape format consists of a start code, a 16-bit starting address, and a 16-bit negative word count followed by blocks of 66 frames each. The last block may have less than 66 frames. Each block is terminated with a 16-bit check sum. Words are stored into core as they are read.
- (b) If a check sum error is encountered during the loading process, the loader message "K" will be printed on the ASR-33 teletypewriter, and the computer will HALT. Clearing the HALT will cause the record to be accepted.

0001 \* 300001F 810A/B STANDARD LOAD/DUMP PACKAGE 1  
0002 \* 2  
0003 \* 3  
0004 \* \*\*\*\* 4  
0005 \* SW 0- ON - INPUT FRØM HIGH SPEED READER 5  
0006 \* OFF - INPUT FRØM TELETYPE TAPE READER 6  
0007 \* SW 1- ON - LIST ALL SUBROUTINES 7  
0008 \* SW 2- ON - LIST ALL UNLOADED SUBROUTINES 8  
0009 \* SW 3- ON - INPUT FRØM MAGNETIC TAPE - TRANSPORT 2 9  
0010 \* SW 4- ON - LIST INTERMAP SOURCES 10  
0011 \* SW 5- ON - INSERT MAP BIT ON (MAP ZERO)-(MAP ZERO) REFERENCES 11  
0012 \* SW 6- ON - 9 TRACK MAGNETIC TAPE INPUT (WITH SW 3) 12  
0013 \* OFF - 7 TRACK MAGNETIC TAPE INPUT (WITH SW 3) 13  
0014 \* SW 7- ON - BINARY MANETIC TAPE INPUT CREATED UNDER RTX (WITH SW 3) 14  
0015 \* OFF - BINARY MANETIC TAPE INPUT NOT CREATED UNDER RTX 15  
0016 \* 16  
0017 \* SW 10-15 - MAGNETIC TAPE OCTAL UNIT NUMBER (MUST BE SPECIFIED IF 17  
0018 \* MAGNETIC TAPE INPUT). EXAMPLE: SET SWITCHES 13 AND 14 18  
0019 \* FOR UNIT SIX. 19  
0020 \* 20  
0021 \* 21  
0022 \* 22  
0023 \* 23  
0024 \* NOTE : 24  
0025 \* 25  
0026 \* IF RELOCATABLE INPUT IS FRØM MAGNETIC TAPE BTC 1 MUST NOT BE 26  
0027 \* ALTERED OR DESTROYED. THUS, IT IS SUGGESTED THAT MAGNETIC 27  
0028 \* TAPE INPUT BE LOADED ABOVE 1061. 28  
0029 \* 29  
0030 \* 30  
0031 \* 31  
0032 \* 32  
0033 \* 33  
0034 \* 34  
0035 \* \*\*\*\*\*NOTE\*\*\*\*\* 35  
0036 \* 36  
0037 \* -----TO LOAD COMPILER/ASSEMBLER OUTPUT----- 37  
0038 \* SET A=0 OR RELOCATION BASE 38  
0039 \* SET B= MAP 0 STARTING LOCATION <MUST 39  
0040 \* BE GREATER THAN '10 IF LIBRARY 40



300001F 04/01/71

0082	00045	00001215	RSL	10	STRIP TO DETERMINE OCTAL UNIT NO.	12/70	RLD	*E	82	
0083	00046	00000030	RBA			12/70	RLD	*E	83	
0084	00047	03300026	STA*	L0C2	CEU1	12/70	RLD	*E	84	
0085	00050	03300027	STA*	L0C3	CEU2	12/70	RLD	*E	85	
0086	00051	03300030	STA*	L0C4	BSPC	12/70	RLD	*E	86	
0087	00052	05100710	AMA	K9	'200 - CONVERT TO TEU INSTRUCTION	12/70	RLD	*E	87	
0088	00053	03300031	STA*	L0C5	TEU1	12/70	RLD	*E	88	
0089	00054	03300032	STA*	L0C6	TEU2	12/70	RLD	*E	89	
0090	00055	03300033	GØØN	STA*	L0C7	TRY3	12/70	RLD	*E	90
0091	*								91	
0092	*				ESTABLISH START OF COMMON PØBL				92	
0093	*								93	
0094	00056	01100744	LAA	RPL			DPC		94	
0095	00057	00000214	FRL	2	ISØLATE BANK BIT		DPC	8/69	95	
0096	00060	00001613	FLL	14	REPØSITION		DPC	8/69	96	
0097	00061	16100202	AMB	S374	CONVERT TO UPPERMØST CØMMØN POSSIBILITY	DPC	8/69		97	
0098	00062	04400000	STB	0,1	STØRE TO TEST MEMØRIES EXISTANCE		DPC	8/69	98	
0099	00063	01400000	LAA	0,1	RELØAD IT		DPC	8/69	99	
0100	00064	00000022	SAZ		TEST		DPC	8/69	100	
0101	00065	11100070	BRU	*+3	GØØD		DPC	8/69	101	
0102	00066	16100204	AMB	SM1	NØ=GØØD, TRY 4K LØWER		DPC	8/69	102	
0103	00067	11100062	BRU	*-5			DPC	8/69	103	
0104	*						DPC	8/69	104	
0105	00070	04100717	STB	CØMN	SAVE IN FINAL DESTINATION (TEMP, MAYBE)	DPC	8/69		105	
0106	00071	01100715	LAA	K25	NØRMAL CØMMØN START		DPC	8/69	106	
0107	00072	15100744	CMA	RPL	CHECK FOR LØADING ABØVE LØADER		DPC	8/69	107	
0108	00073	11100106	BRU	*+5	LØADING ABØVE LØADER, CØMN ØK		DPC	8/69	108	
0109	00074	00000033	NØP				DPC	8/69	109	
0110	*								110	
0111	00075	15100717	CMA	CØMN			DPC	8/69	111	
0112	00076	03100717	STA	CØMN	LØADING BELØW LØADER AND CØMN		DPC	8/69	112	
0113	00077	00000033	NØP				DPC	8/69	113	
0114	00100	01100717	LAA	CØMN					114	
0115	00101	03100720	STA	CØMI	SET INITIAL CØMMØN TO PRESENT CØMMØN				115	
0116	*								116	
0117	00102	02100716	LBA	BEGN	START ØF NAME TABLE				117	
0118	00103	04100721	STB	END	SET END ØF NAME TABLE				118	
0119	00104	00000003	CLA						119	
0120	00105	03100722	STA	LØDF	LØAD FLAG ØN				120	
0121	00106	03100723	STA	CALS	NØ. ØF UNDEFINED SUBR, CALLS = 0				121	
0122	00107	03400001	STA	1,1	INIT, FRST NAME TBL ENTRY				122	

0123	00110	01100712	LX10	LAA	K17	-1	123
0124	00111	03100726		STA	WCNT	INPUT WORD COUNT = -1	124
0125	00112	03100725		STA	FFSW	FLIP FLOP SWITCH <READ INPUT>	125
0126	00113	01100670	L10	LAA	A10		126
0127	00114	03100730		STA	J	SET SWITCH J TO ADDRESS L10	127
0128	00115	12300672		SPB*	I1	READ 24-BIT WORD	128
0129	00116	03100731		STA	T1	UPPER 8 BITS	129
0130	00117	04100732		STB	T2	LOWER 16 BITS	130
0131	00120	02100704		LBA	K2	='36	131
0132	00121	00000027		ABA			132
0133	00122	03100737		STA	ØP	OPERATOR <BITS 12-150	133
0134	00123	02100732		LBA	T2	ADDRESS <BITS 2-160	134
0135	00124	00001717		FLA	15	F.E.C. 8-30-66	135
0136	00125	03100740		STA	ADDR	ADDRESS <BITS I-160	136
0137	00126	01100731		LAA	T1		137
0138	00127	00001713		FLL	15		138
0139	00130	00001615		RSL	14		139
0140	00131	03100741		STA	XI	INDEX, INDIRECT BITS <15-160	140
0141	00132	12100410		SPB	XIDC	CONSTRUCT XIAD DPC 3/18/69	141
0142	00133	03100742		STA	XIAD	INDEX, INDIRECT, 14-BIT ADR	142
0143	00134	01100731		LAA	T1		143
0144	00135	00000610		RSA	6		144
0145	00136	00000005		TAB		SET CODE BITS INTO INDEX	145
0146	00137	11500140		BRU	*+1,1	BRANCH TO CODE PROCESSOR	146
0147	00140	11100207		BRU	L20	..., ABSOLUTE DATA	147
0148	00141	11100246		BRU	L40	..., MEMORY REFERENCE	148
0149	00142	11100426		BRU	L80	..., SUBROUTINE/COMMON	149
0150	00143	01100742	L60	LAA	XIAD	IF X = 1, THIS ENTRY IS A	150
0151	00144	00000023		SAN		LITERAL AND IS PROCESSED	151
0152	00145	11100172		BRU	L62	AS AMEMORY REF INST	152
0153	00146	00000003		CLA			153
0154	00147	03100735		STA	T5		154
0155	00150	01100732		LAA	T2	USE UNMODIFIED ADDR DPC 4/4/69	155
0156	00151	03100740		STA	ADDR	DPC 4/4/69	156
0157	00152	12300673		SPB*	I2	ADD BASE TO ADDR IF RELATIVE	157
0158	00153	12300674		SPB*	I3	CHECK LOAD FLAG DPC 4/4/69	158
0159	00154	01100740		LAA	ADDR	DPC 4/4/69	159
0160	00155	11100310		BRU	L43B	DPC 4/4/69	160
0161	*					DPC	161
0162	*					DPC	162
0163	*					DPC	163

INITIALIZE BASE MAP

0164	00156	25400000	MPZR	DAC	**		DPC	164
0165	00157	04100754		STB	LZ		DPC	165
0166	00160	04100755		STB	LZB		DPC	166
0167	00161	01100706		LAA	K5		DPC	167
0168	00162	00000027		ABA			DPC	168
0169	00163	03100667		STA	KCML	LOWER END OF NEW MAP ZERO	DPC	169
0170	00164	05100703		AMA	K1	MAP LENGTH = '1000	DPC	170
0171	00165	03100666		STA	KCMH	UPPER END OF NEW MAP ZERO	DPC	171
0172	00166	01100707		LAA	K7		DPC	172
0173	00167	03400000		STA	0,1	ESTABLISH FIRST MAP ZERO ENTRY	DPC	173
0174	00170	14100754		IMS	LZ		DPC	174
0175	00171	11300156		BRU*	MPZR	RETURN	DPC	175
0176	*							176
0177	00172	01100737	L62	LAA	ØP			177
0178	00173	00000115		RSL	1			178
0179	00174	00000005		TAB				179
0180	00175	11500176		BRU	*+1,1	BRANCH ON CODE BITS IN ØP		180
0181	00176	11100542		BRU	L100	....<000 LOAD POINT		181
0182	00177	11100614		BRU	L110	....<010 END JUMP		182
0183	00200	11100756		BRU	L120	....<020 9-BIT STRING		183
0184	00201	35401250	I6	DAC	TYPØ		DPC	184
0185	00202	00037774	S374	DATA	'37774		DPC	185
0186	00203	11100235		BRU	L170	NEW MAP ZWRØ	DPC	186
0187	00204	00170000	SM1	DATA	-'10000	4K	DPC 8/69	187
0188	00205	11100646		BRU	L190	....<070 SET LOAD FLAG ON		188
0189	00206	11300700		BRU*	I9	....<100 END-ØF-JØB		189
0190				*****	*****STORE ABSOLUTE DATA <000			190
0191	00207	01100732	L20	LAA	T2			191
0192	00210	02100744	L21	LBA	RPL			192
0193	00211	03400000		STA	0,1	*****		193
0194	00212	12300674	L22	SPB*	I3	CHECK LOAD FLAG		194
0195	00213	14100744		IMS	RPL	*****		195
0196	00214	01100744		LAA	RPL	*****		196
0197	00215	15300702		GMA*	ILH	IS THIS GREATER THAN CURRENT HIGH		197
0198	00216	00000033		NØP				198
0199	00217	11100221		BRU	*+2	NØ		199
0200	00220	03300702		STA*	ILH			200
0201	00221	15100720		CMA	CØMI	CHECK FOR OVERFLOW INTO CØMMØN		201
0202	00222	15100717		CMA	CØMN			202
0203	00223	11100226		BRU	*+3	ØK		203
0204	00224	11100226		BRU	*+2			204

0205	00225	11100232	BRU LMØ	STORAGE INTO COMMON	205
0206	00226	15100753	CMA IE41	EAC ENDJ	206
0207	00227	15100721	CMA END	START OF NAME TABLE	207
0208	00230	11300730	BRU* J		208
0209	00231	11300730	BRU* J		209
0210	00232	12300675	LMØ SPB* I4	-TYPE-	210
0211	00233	00146717	DATA ''MØ''		211
0212	00234	11300701	BRU* I10	TO HALT	212
0213		*			213
0214		*	MAP ZERO PROCESSOR		214
0215		*			215
0216	00235	12300674	L170 SPB* I3	CHECK LOAD FLAG	DP 216
0217	00236	12300675	SPB* I4		217
0218	00237	00146732	DATA ''MZ''		218
0219	00240	01100754	LAA LZ		219
0220	00241	12300201	SPB* I6		220
0221	00242	12300673	SPB* I2	RELOCATEAD FLAG	DP 221
0222	00243	00000005	TAB	SETUP FOR MPZR	DP 222
0223	00244	12100156	SPB MZCR		223
0224	00245	11100113	BRU L10		DP 224
0225		*			225
0226		*****	MEMORY REFERENCE PROCESSOR <010		226
0227	00246	01100737	L40 LAA ØP	EXTEND SIGN TO SIGN BIT	227
0228	00247	06100705	SMA K4	IF DAC <'130	228
0229	00250	00000022	SAZ		229
0230	00251	11300751	BRU* L40I		230
0231	00252	01100740	L40Z LAA ADDR		231
0232	00253	00000116	LSL 1		232
0233	00254	00000110	RSA 1		233
0234	00255	03100740	L40B STA ADDR		234
0235	00256	12300673	L40A SPB* I2	ADD BASE TO ADDR, IF RELATIVE	235
0236	00257	01100737	L41 LAA ØP		236
0237	00260	15100704	CMA K2	='36	237
0238	00261	11100263	BRU **2		238
0239	00262	11100417	BRU L50	BRANCH IF A 15-BIT DAC	239
0240	00263	15100705	CMA K4	='26	240
0241	00264	11100266	BRU **2		241
0242	00265	11100406	BRU L48	BRANCH IF A 14-BIT DAC	242
0243	00266	01100740	LAA ADDR		243
0244	00267	12100651	SPB MZCM	TEST TO SEE IF IN MAP ZERO	244
0245	00270	11100354	BRU L46	REFERENCE TO MAP ZERO	245

PAGE 7 810A/B STANDARD LOAD/DUMP PACKAGE

300001F 04/01/71

0246	00271	01100740	L42	LAA	ADDR		DPC	246
0247	00272	12100342		SPB	SMMP	SEE IF IN SAME MAP AS RPL =1	DPC 3/14/69	247
0248	00273	01100707		LAA	K7			248
0249	00274	03100735		STA	T5			249
0250	00275	12300674	L43	SPB*	I3	CHECK LOAD FLAG		250
0251	*							251
0252	00276	00130404		SNS	4	SENSE SWITCH 4 (LIST INTERMAP REF SOURCES)	DPC	252
0253	00277	11100301		BRU	*+2	LIST	DPC	253
0254	00300	11100307		BRU	*+7	BYPASS LIST	DPC 8/69	254
0255	00301	12300675		SPB*	I4	CARRIAGE RETURN, LINE FEED	DPC	255
0256	00302	00144715		DATA	''IM''			256
0257	00303	01100744		LAA	RPL	LIST LOCATION REQUIRING INTERMAP	DPC	257
0258	00304	12300201		SPB*	I6		DPC	258
0259	00305	01100740		LAA	ADDR		DPC 8/69	259
0260	00306	12300201		SPB*	I6	LIST LOCATION REFERED TO	DPC 8/69	260
0261	*							261
0262	00307	12100410		SPB	XIAD	CONSTRUCT XIAD	DPC 3/18/69	262
0263	00310	03100742	L43B	STA	XIAD	LITERAL ENTRY INTO MAP ZERO ENTRY	DPC 4	263
0264	00311	02100754	L43A	LBA	LZ	DPC 3/14/69		264
0265	00312	03400000		STA	0,1	DPC 3/14/69		265
0266	00313	02100755		LBA	LZB	FIRST ZERO MAP LOC.		266
0267	00314	01100742	L44	LAA	XIAD			267
0268	00315	15400000		CMA	0,1	TEST FOR = ENTRY MAP ZERO		268
0269	00316	11100320		BRU	*+2	NO MATCH		269
0270	00317	11100322		BRU	L45	MATCH FOUND		270
0271	00320	16100707		AMB	K7	=1		271
0272	00321	11100314		BRU	L44	TEST NEXT ENTRY		272
0273	00322	00000004	L45	TBA				273
0274	00323	03100733		STA	T3	T3 = ZERO MAP ENTRY		274
0275	00324	15100754		CMA	LZ			275
0276	00325	11100327		BRU	*+2			276
0277	00326	14100754	L45A	IMS	LZ	LZ = LZ + 1		277
0278	00327	03100740		STA	ADDR			278
0279	00330	03100732		STA	T2			279
0280	00331	01100711		LAA	K10			280
0281	00332	02100731		LBA	T1			281
0282	00333	00000030		ØBA		SET RELOCATABL		282
0283	00334	03100731		STA	T1			283
0284	00335	02100735		LBA	T5			284
0285	00336	04100741		STB	XI			285
0286	00337	01100754		LAA	LZ	CHECK FOR LZ OVERFLOW		286

0287	00340	12100651	SPB	MZCM	TEST TØ SEE ØF IN MAP ZERO	287
0288	00341	11100257	BRU	L41		288
0289	*					289
0290			*	CHECK FØR RPL SAME AS ADDR	DPC 3/14/69	290
0291	*					291
0292	00342	25400000	SMMP	DAC	** DPC	292
0293	00343	02100706	LBA	K5	DPC	293
0294	00344	00000027	ABA		DPC	294
0295	00345	03100733	STA	T3	DPC	295
0296	00346	01100744	LAA	RPL	*****	296
0297	00347	00000027	ABA			297
0298	00350	15100733	CMA	T3	DPC	298
0299	00351	11300342	BRU*	SMMP	DPC	299
0300	00352	11100424	BRU	L52	DPC	300
0301	00353	11300342	BRU*	SMMP	DPC	301
0302	*					302
0303			*	*****REFERENCE TØ MAP ZERO		303
0304	*					304
0305	00354	02100706	L46	LBA	K5 =177000	305
0306	00355	00000027		ABA	MASK FØR REAL MAP ZERO TEST	306
0307	00356	00000022		SAZ		307
0308	00357	11100365	BRU	L46B	NØT REAL MAP ZERO	308
0309	*				REAL MAP ZERO	309
0310	00360	01100707	LAA	K7	=1	310
0311	00361	15100741	CMA	XI	TEST FØR INDEXED	311
0312	00362	11100372	BRU	L47A	INDEXED MAP ZERO, NØ MAP BIT	312
0313	00363	00000033	NØP			313
0314	00364	00130405	SNS	5	TEST INTER MAP ZERO MAP BIT ØPTION	314
0315	*					315
0316	00365	12100342	L46B	SPB	TEST FØR SAME MAP (NEED FØR MAP BIT)	316
0317	00366	01100707	LAA	K7	=1	317
0318	00367	15100741	CMA	XI	TEST FØR INDEXED	318
0319	00370	11100274	BRU	L42+3		319
0320	00371	00000033	NØP			320
0321	*					321
0322	00372	00000003	L47A	CLA	RESET MAP BIT D.P.C. 3/6/69	322
0323	00373	02100740	L47	LBA	ADDR	323
0324	00374	00000613	FLL	6		324
0325	00375	00000615	RSL	6	MAP	325
0326	00376	00000112	FRA	1		326
0327	00377	01100741	LAA	XI	INDIRECT	327

PAGE 9 810A/B STANDARD LOAD/DUMP PACKAGE 300001F 04/01/71

0328	00400	00000212	FRA	2	328	
0329	00401	00000113	FLL	1	329	
0330	00402	01100737	LAA	ØP	330	
0331	00403	00000115	RSL	1	331	
0332	00404	00001413	FLL	12	332	
0333	00405	11100210	BRU	L21	333	
0334	*				334	
0335		*****14 BIT DAC			335	
0336	00406	12100410	L48	SPB XIDC	CONSTRUCT XIAD DPC 3/18/69	336
0337	00407	11100210	BRU	L21	STORE INTO RPL	337
0338	*				338	
0339	*	CONSTRUCT XIAD FROM ADDR AND XI			339	
0340	*				340	
0341	00410	25400000	XIDC	DAC **	DPC 3/18/69	341
0342	00411	01100740	LAA	ADDR	DPC 3/18/69	342
0343	00412	02100741	LBA	XI	DPC 3/18/69	343
0344	00413	00000216	LSL	2	DPC 3/18/69	344
0345	00414	00001614	FRL	14	DPC 3/18/69	345
0346	00415	00000004	TBA		DPC 3/18/69	346
0347	00416	11300410	BRU*	XIDC	DPC 3/18/69	347
0348	*				348	
0349	00417	02100740	L50	LBA ADDR		349
0350	00420	01100731	LAA	T1		350
0351	00421	00001716	LSL	15		351
0352	00422	00000030	QBA			352
0353	00423	11100210	BRU	L21	STORE INTO RPL	353
0354	*				354	
0355		*****REFERENCE TO CURRENT MAP			355	
0356	00424	01100707	L52	LAA K7	=1 <SET MAP BIT = U10	356
0357	00425	11100373	BRU	L47	MERGE WITH XI, ØP, ADDR AND STORE	357
0358	*				358	
0359		*****SUBROUTINE/COMMON REFERENCE			359	
0360	00426	12300672	L80	SPB* I1	READ 24-BIT WORD	360
0361	00427	03100743	STA	CD	COMMON FLAG, DEFINITION FLAG	361
0362	00430	01100740	LAA	ADDR		362
0363	00431	00000002	NEG			363
0364	00432	00000006	IAB		BIT 0 ØF A = N	364
0365	00433	00000024	SAP			365
0366	00434	04100740	STB	ADDR	ADDR=- ADDR IF N = 1	366
0367	00435	12300672	SPB*	I1	READ 24-BIT WORD	367
0368	00436	00001013	FLL	8		368

0369	00437	03100746	STA	S1S2	FIRST 2 CHAR. OF NAME	369
0370	00440	04100747	STB	S3S4		370
0371	00441	12300672	SPB*	I1	READ 24-BIT WORD	371
0372	00442	05100747	AMA	S3S4		372
0373	00443	03100747	STA	S3S4	SECOND 2 CHAR. OF NAME	373
0374	00444	04100750	STB	S5S6	LAST 2 CHAR. OF NAME	374
0375	00445	02100716	LBA	BEGN	INDEX=START OF SUBR. NAME TABLE	375
0376	00446	00000004	L83	TBA		376
0377	00447	15100721	CMA	END	DPC 4/7/69	377
0378	00450	11100452	BRU	*+2	DPC 4/7/69	378
0379	00451	11100550	BRU	LJ1		379
0380	00452	01400001	LAA	1,1	FIRST 2 CHAR OF NAME	380
0381	00453	06100746	SMA	S1S2		381
0382	00454	00000022	SAZ			382
0383	00455	11100546	BRU	L83A	NO MATCH	383
0384	00456	01400002	LAA	2,1	SECOND 2 CHAR OF NAME	384
0385	00457	06100747	SMA	S3S4		385
0386	00460	00000022	SAZ			386
0387	00461	11100546	BRU	L83A	NO MATCH	387
0388	00462	01400003	LAA	3,1	LAST 2 CHAR OF NAME	388
0389	00463	06100750	SMA	S5S6		389
0390	00464	00000022	SAZ			390
0391	00465	11100546	BRU	L83A	NO MATCH	391
0392	00466	01100743	L95	LAA	CD COMMON FLAG, DEFINITION FLAG	392
0393	00467	00000022	SAZ			393
0394	00470	11100525	BRU	L98		394
0395	*					395
0396		*****SUBROUTINE DEFINITION <CD=000				396
0397	00471	03100727	STA	NFLG	SET NAME FLAG ON	397
0398	00472	03100722	STA	L0DF		398
0399	00473	01400000	L97	LAA	0,1 CHECK DEFINITION FLAG	399
0400	00474	00000023		SAN		400
0401	00475	11100522	BRU	LL1	SUBROUTINE ALREADY LOADED	401
0402	00476	03100736	STA	TPY		402
0403	00477	01100740	LAA	ADDR		403
0404	00500	06100714	SMA	K24	'077777	404
0405	00501	00000022	SAZ			405
0406	00502	11100504	BRU	*+2		406
0407	00503	11100517	BRU	L97A		407
0408	00504	01100736	LAA	TPY		408
0409	00505	00000020		ASC		409

PAGE 11

810A/B STANDARD LØAD/DUMP PACKAGE

300001F 04/01/71

0410	00506	03400000	STA	0,1		410	
0411	00507	00001712	FRA	15	INDEX=ZERO MAP PØINTER ADDR.	411	
0412	00510	12300673	SPB*	I2	ADDR=RELATIVE ENTRY PØINT	412	
0413	00511	00000216	LSL	2		413	
0414	00512	00000215	RSL	2	DPC 3/20/69	414	
0415	00513	03400000	STA	0,1	SET RPL INTØ ZERO MAP PØINTER	415	
0416	00514	01100723	LAA	CALS		416	
0417	00515	06100707	SMA	K7	=1	417	
0418	00516	03100723	STA	CALS	CALS = CALS-1	418	
0419	00517	00000003	L97A	CLA		419	
0420	00520	03100722	STA	LØDF	SET LØAD FLAG ØN	420	
0421	00521	11100113	BRU	L10	READ NÆXT CØDE WØRD	421	
0422	00522	01100522	LL1	LAA	*	422	
0423	00523	03100722	STA	LØDF		423	
0424	00524	11100113	BRU	L10		424	
0425		*				425	
0426	00525	15100710	L98	CMA	K9	='200 <BRANCH ØN CØO	426
0427	00526	11100533	BRU	L99	<010 SUBR, CALL/ EXT. VAR, CALL	427	
0428	00527	11100113	BRU	L10	<100 CØMMØN DEFINITØN <IGNØREØ	428	
0429	00530	01400000	LAA	0,1	<110 CØMMØN REQUEST	429	
0430	00531	05100740	AMA	ADDR	ADD ANY DEFLECTION	430	
0431	00532	11100534	BRU	*+2		431	
0432	00533	01400000	L99	LAA	0,1	LØC. ØF ZERO MAP PØINTER	432
0433	00534	00000116	LSL	1	EXTRACT ØFF SIGN BIT	433	
0434	00535	00000115	RSL	1		434	
0435	00536	03100740	L99A	STA	ADDR	435	
0436	00537	01100737	LAA	ØP		436	
0437	00540	00000022	SAZ			437	
0438	00541	11100257	BRU	L41	STØRE INTØ MEMØRY	438	
0439		*****LØAD PØINT SET				439	
0440	00542	12300674	L100	SPB*	I3	CHECK LØAD FLAG	440
0441	00543	12300673		SPB*	I2	ADD BASE TØ ADDR, IF REQUESTED	441
0442	00544	03100744	STA	RPL	*****	442	
0443	00545	11100113	BRU	L10	DØNT UPDATE RPLH (DUE TØ EQU S)	443	
0444		*				444	
0445	00546	16100711	L83A	AMB	K10	445	
0446	00547	11100446	BRU	L83		446	
0447		*				447	
0448	00550	01100743	LJ1	LAA	CD	448	
0449	00551	00000022		SAZ		449	
0450	00552	11100563	BRU	LLF1		450	

0451		*****	PROCESS SUBR. NAME NOT PREVIOUSLY CALLED	451	
0452	00553	01100727	LAA NFLG	452	
0453	00554	00000022	SAZ	453	
0454	00555	11100557	BRU *+2	454	
0455	00556	11100113	BRU L10	455	
0456	00557	03100722	STA LØDF	SET LOAD FLAG NON ZERO	456
0457	00560	00000003	CLA	SET NAME FLAG ON	457
0458	00561	03100727	STA NFLG	SET NAME FLAG ON	458
0459	00562	11100113	BRU L10	CHECK LOAD FLAG	459
0460	00563	12300674	LLF1 SPB* I3	= '200	460
0461	00564	01100743	LAA CD	<010 INITIAL SUBROUTINE CALL	461
0462	00565	15100710	CMA K9	<100 INITIAL COMMON DEFINITION	462
0463	00566	11100602	BRU L90	<110 INITIAL COMMON REQUEST	463
0464	00567	11100574	BRU L86	CORE REQUEST BEFORE BEING DEFINED	464
0465	00570	12300675	SPB* I4	TO HALT	465
0466	00571	00141715	DATA '1CM'	DPC 3/18/69	466
0467	00572	11300701	BRU* I10	*	467
0468	*				468
0469	00573	11300410	BRU* XIDC	DPC 3/18/69	469
0470	*				470
0471		*****15 BIT DAC			471
0472	00574	01100717	L86 LAA CØMMN	...,INITIAL COMMON DEFINITION	472
0473	00575	06100740	SMA ADDR	INCREMENT ADDR	473
0474	00576	03100717	STA CØMMN	ENTER INTO NAME TABLE FLNT	474
0475	00577	03100740	STA ADDR	CORE DEFINITION	475
0476	00600	12300676	L88 SPB* I5		476
0477	00601	11100113	BRU L10	....INITIAL SUBR. CALL	477
0478	*				478
0479	00602	01100754	L90 LAA LZ	INCR. NO. OF CALLS	479
0480	00603	03100740	STA ADDR	SET BIT 1 TO 1	480
0481	00604	14100723	IMS CALS	ENTER INTO TABLE	481
0482	00605	00000020	ASC		482
0483	00606	12300676	SPB* I5		483
0484	00607	01100707	LAA K7		484
0485	00610	02100754	LBA LZ	DPC 3/14/69	485
0486	00611	03400000	STA 0,1	DPC 3/14/69	486
0487	00612	14100754	IMS LZ	ENTER CALL INTO MEMORY	487
0488	00613	11100257	BRU L41		488
0489	*				489
0490	*				490
0491		*****END JUMP			491

PAGE 13

810A/B STANDARD LOAD/DUMP PACKAGE

300001F 04/01/71

0492	*				492
0493	00614	12300674	L110	SPB* I3	493
0494	00615	01100740	LAA	ADDR	494
0495	00616	06100706	SMA	K5	495
0496	00617	000000216	LSL	2	496
0497	00620	000000022	SAZ		497
0498	00621	11100636	BRU	L114	498
0499	00622	01100622	L112	LAA *	499
0500	00623	03100727	STA	NFLG	500
0501	00624	00000003	CLA		501
0502	00625	03100722	STA	LDF	502
0503	00626	01100744	LAA	RPL	503
0504	00627	03100724	STA	BASE	504
0505	00630	01100723	LAA	CALS	505
0506	00631	000000022	SAZ		506
0507	00632	11100110	BRU	LX10	507
0508	00633	12300675	SPB* I4		508
0509	00634	00146303	DATA	''LC''	509
0510	00635	11100110	BRU	LX10	510
0511	00636	12300673	L114	SPB* I2	511
0512	00637	01100727	LAA	NFLG	512
0513	00640	000000022	SAZ		513
0514	00641	11100643	BRU	*+2	514
0515	00642	11100622	BRU	L112	515
0516	00643	01100740	LAA	ADDR	516
0517	00644	03300752	STA*	I141	517
0518	00645	11100622	BRU	L112	518
0519	*				519
0520	*			9-BIT ADD-T0 REMOVED	520
0521	*			14-BIT ADD-T0 REMOVED	521
0522	*			15-BIT ADD-T0 REMOVED	522
0523	*			MDL 1/10/69 *C	523
0524	*			MDL 1/10/69 *C	524
0525	*			MDL 1/10/69 *C	525
0526	*	SET LOAD FLAG			526
0527	00646	00000003	L190	CLA	527
0528	00647	03100722	STA	LDF	528
0529	00650	11100113	BRU	L10	529
0530	*			SET LOAD FLAG FOR LOADING <=00	530
0531	00651	000000000	MZCM	HLT	531
0532	00652	15100667	CMA	KCML	532
				TEST ADDRESS IN A ACCUM, F.E.C, 8-30-66	
				T0 SEE IF IN MAP ZERO F.E.C. 8-30-66	

IF ADDR NOT EQUAL T0  
'77000 GOT0 L114 DPC 3/20/69  
FOR '3M000 SUB CODE

PAGE 14

810A/B STANDARD LOAD/DUMP PACKAGE

300001F 04/01/71

0533	00653	11100662	BRU	ZCHK	BELOW VIRTUAL MAP ZERO, CHECK REAL MAP ZERO	D.	533	
0534	00654	11300651	BRU*	MZCM	F.E.C. 8-30-66		534	
0535	00655	15100666	CMA	KCMH	F.E.C. 8-30-66		535	
0536	00656	11300651	BRU*	MZCM	F.E.C. 8-30-66		536	
0537	00657	00000033		NOP	F.E.C. 8-30-66		537	
0538	00660	14100651	SKIP	IMS	F.E.C. 8-30-66		538	
0539	00661	11300651	BRU*	MZCM	F.E.C. 8-30-66		539	
0540	00662	15100703	ZCHK	CMA	CHECH FOR REAL MAP ZERO	DPC 3/6/6	540	
0541	00663	11300651	BRU*	MZCM	YES, IMMEDIATE RETURN	DPC 3/6/6	541	
0542	00664	11100660	BRU	SKIP	NØ, SKIP IMMEDIATE RETURN	DPC 3/6/6	542	
0543	00665	11100660	BRU	SKIP	NØ, SKIP IMMEDIATE RETURN	DPC 3/6/6	543	
0544	00666	00000000	KCMH	HLT		F.E.C. 8-30-66	544	
0545	00667	00000000	KCML	HLT		F.E.C. 8-30-66	545	
0546	***** ADDRESS CONSTANTS							546
0547	00670	35400113	A10	DAC	L10		547	
0548	00671	35401053	A11	DAC	L130		548	
0549	00672	35401261	I1	DAC	READ		549	
0550	00673	35401211	I2	DAC	RELF		550	
0551	00674	35401171	I3	DAC	CHEC		551	
0552	00675	35401224	I4	DAC	TYPE		552	
0553	00676	35401176	I5	DAC	FLNT		553	
0554	00677	35401013	I7	DAC	L123	12/70 RLD *F	554	
0555	00700	35401071	I9	DAC	L200		555	
0556	00701	35401073	I10	DAC	L300		556	
0557	00702	35401776	ILH	DAC	RPLH		557	
0558	*							558
0559	***** DATA CONSTANTS							559
0560	00703	00001000	K1	DATA	'1000		560	
0561	00704	00000036	K2	DATA	'36	DPC 3/29/69	561	
0562	00705	00000026	K4	DATA	'26		562	
0563	00706	00077000	K5	DATA	'77000	D.P.C. 3/6/69	563	
0564	00707	00000001	K7	DATA	'1		564	
0565	00710	00000200	K9	DATA	'200		565	
0566	00711	00177774	K10	DATA	'-4		566	
0567	00712	00177777	K17	DATA	'-1		567	
0568	00713	00001777	K21	DATA	'1777		568	
0569	00714	00077777	K24	DATA	'077777		569	
0570	00715	37400003	K25	EAC	LOAD-4		570	
0571	00716	37400000	BEGN	EAC	LOAD-7		571	
0572	*							572
0573	***** VARIABLES							573

B

DPC  
DPC 3/28/69

0574	00717	25400000	CØMN	DAC	0		574	
0575	00720	27400000	CØMI	EAC	**		575	
0576	00721	25400000	END	DAC	**	LØC. ØF LAST SUBR. NAME ENTRY	576	
0577	00722	25400000	LØDF	DAC	**	LØD FLAG <0=LØADØ	577	
0578	00723	25400000	CALS	DAC	**	NUMBER ØF UNDEFINED CALLS LEFT	578	
0579	00724	25400000	BASE	DAC	**	PROGRAM BASE	579	
0580	00725	25400000	FFSW	DAC	**	UNPACK FLIP FLØP SW	580	
0581	00726	25400000	WCNT	DAC	**	PØINTER <INPUT BUFFERØ	581	
0582	00727	25400000	NFLG	DAC	**	NAME FLAG	582	
0583	00730	25400000	J	DAC	**	ADDRESS SWITCH	583	
0584	00731	25400000	T1	DAC	**	TEMP. CELLS	584	
0585	00732	25400000	T2	DAC	**		585	
0586	00733	25400000	T3	DAC	**		586	
0587	00734	25400000	T4	DAC	**		587	
0588	00735	25400000	T5	DAC	**		588	
0589	00736	25400000	TPY	DAC	**		589	
0590	00737	25400000	ØP	DAC	**	ØPERATØR <BITS 12-150	590	
0591	00740	25400000	ADDR	DAC	**	ADDRESS <BITS 2-160	591	
0592	00741	25400000	XI	DAC	**	INDEX, INDIRECT <BITS 15,160	592	
0593	00742	25400000	XIAD	DAC	**	INDEX, INDIRECT, 14 BIT ADDR,	593	
0594	00743	25400000	CD	DAC	**	CØMMØN/DEFINED FLAG	594	
0595	00744	27400000	RPL	EAC	**	*****	595	
0596	00745	25400000	SIZE	DAC	**	CØMMØN BLOCK SIZE	596	
0597	00746	25400000	S1S2	DAC	**	SUBROUTINE NAME	597	
0598	00747	25400000	S3S4	DAC	**	SUBROUTINE NAME	598	
0599	00750	25400000	S5S6	DAC	**	SUBROUTINE NAME	599	
0600	00751	35401061	L40I	DAC	L40J		600	
0601	00752	35401777	II41	DAC	ENDJ		601	
0602	00753	37401777	IE41	EAC	ENDJ		602	
0603	00754	27400000	LZ	EAC	**, PERM MAP ZERO START	MAP ZERO PØINTER	603	
0604	00755	27400000	LZB	EAC	**		604	
0605				*****	9-BIT STRING		605	
0606	00756	12300674	L120	SPB*	I3	CHECK LØD FLAG	606	
0607	00757	01100671	LAA	A11		SET SWITCH J TØ L130	607	
0608	00760	03100730	STA	J			608	
0609	00761	01100744	LAA	RPL			609	
0610	00762	03100745	STA	SIZE			DPC	610
0611	00763	12300673	SPB*	I2		RELF	DPC	611
0612	00764	03100744	L132	STA	RPL		DPC	612
0613	00765	00000005		TAB		*****		613
0614	00766	01400000		LAA	0,1	*****		614

DPC 3/28/69

0615	00767	02100713	LBA	K21		615
0616	00770	00000027	ABA			616
0617	00771	03100734	STA	T4	12/70 RLD *E	617
0618	00772	02100745	LBA	SIZE	12/70 RLD *E	618
0619	00773	04100740	STB	ADDR	12/70 RLD *E	619
0620	00774	00000022	SAZ			620
0621	00775	11100777	BRU	*+2	12/70 RLD *F	621
0622	00776	11300677	BRU*	I7	12/70 RLD *F	622
0623	00777	01100734	LAA	T4	12/70 RLD *F	623
0624	01000	70001000	ORG	'1000	12/70 RLD *F	624
0625	01000	15301535	CMA*	II15		625
0626	01001	11101034	BRU	L126		626
0627	01002	00000033	NOP			627
0628	01003	01301540	L124	LAA* II17	T4 = RPL<3=70, T4<8=160	628
0629	01004	00000716	LSL	7		629
0630	01005	00000005	TAB			630
0631	01006	01301551	LAA*	IRPL	*****	631
0632	01007	00000116	LSL	1	DPC	632
0633	01010	00001215	RSL	10	DPC	633
0634	01011	00001113	FLL	9		634
0635	01012	03301540	STA*	II17		635
0636	01013	02301551	L123	LBA* IRPL	*****	636
0637	01014	01400000	LAA	0,1	*****	637
0638	01015	00000416	LSL	4		638
0639	01016	00001615	RSL	14		639
0640	01017	03301534	STA*	II14		640
0641	01020	02301551	L125	LBA* IRPL	*****	641
0642	01021	01400000	LAA	0,1	*****	642
0643	01022	00001415	RSL	12		643
0644	01023	00000116	LSL	1		644
0645	01024	03301533	STA*	II13		645
0646	01025	00000022	SAZ			646
0647	01026	11101030	BRU	*+2		647
0648	01027	11301555	BRU*	L48A		648
0649	01030	06101616	SMA	K4A		649
0650	01031	00000022	SAZ			650
0651	01032	11301556	BRU*	L42B		651
0652	01033	11301555	BRU*	L48A		652
0653	01034	01301551	L126	LAA* IRPL	*****	653
0654	01035	06301535	SMA*	II15		654
0655	01036	00000024	SAP			655

AGE 17

810A/B STANDARD LOAD/DUMP PACKAGE

300001F 04/01/71

0656	01037	11101003	BRU	L124		656	
0657	01040	02301540	LBA*	II17	DPC	657	
0658	01041	16301554	AMB*	ICML	DPC	658	
0659	01042	02400000	LBA	0,1	DPC	659	
0660	01043	00000003	CLA		DPC	660	
0661	01044	00000213	FLL	2	DPC	661	
0662	01045	03301534	STA*	II14	DPC	662	
0663	01046	01301551	LAA*	IRPL	DPC	663	
0664	01047	00001615	RSL	14	DPC	664	
0665	01050	00001613	FLL	14	DPC	665	
0666	01051	03301540	STA*	II17	DPC	666	
0667	01052	11101020	BRU	L125		667	
0668	01053	01301540	L130	LAA*	II17	668	
0669	01054	00000022	SAZ			669	
0670	01055	11301767	BRU*	I132	DPC	670	
0671	01056	01301557	LAA*	SIZF		671	
0672	01057	03301551	STA*	IRPL		672	
0673	01060	11301531	BRU*	II8		673	
0674		*				674	
0675		***** TEST FØR EAC ØPERATØR				675	
0676		*				676	
0677	01061	06101426	L40J	SMA	0C10	677	
0678	01062	00000022		SAZ		678	
0679	01063	11101065	BRU	*+2		679	
0680	01064	11301537	BRU*	L40L		680	
0681	01065	01301532	LAA*	II10		681	
0682	01066	00000111	LSA	1		682	
0683	01067	00000115	RSL	1		683	
0684	01070	11301536	BRU*	L40K		684	
0685		*				685	
0686		***** END ØF JOB CODE				686	
0687	01071	12101224	L200	SPB	TYPE	DPC	687
0688	01072	00142712		DATA	'EJ'		688
0689	01073	01301524	L300	LAA*	II2		689
0690	01074	15301527		CMA*	II39		690
0691	01075	11101077	BRU	*+2	PRINT MAP IF SENSE SWITCH 1 ØN		691
0692	01076	11101136	BRU	ØRRR			692
0693	01077	02301524	LBA*	II2	SET INDEX = BEGN		693
0694	01100	04301525	L310	STB*	II3		694
0695	01101	01400000	LAA	0,1	T3		695
0696	01102	00000023	SAN		SKUP IF NOT LOADED		696

PAGE 18 810A/B STANDARD LOAD/DUMP PACKAGE

300001F 04/01/71

0697	01103	11101106	BRU	*+3		697
0698	01104	00130402	SNS	2	LOADED ALREADY SKIP IF NOT SET	698
0699	01105	11101111	BRU	L315-1	PRINT NAME OF MISSING SUB	699
0700	01106	00130401	SNS	1		700
0701	01107	11101111	BRU	*+2		701
0702	01110	11101131	BRU	N0		702
0703	01111	12101224	SPB	TYPE	TYPE-OUT	703
0704	01112	00040000	L315	DATA '40000	NULL	704
0705	01113	01400000	LAA	0,1		705
0706	01114	00000021	SAS		MDL 1/10/69 *C	706
0707	01115	00000003	CLA		MDL 1/10/69 *C	707
0708	01116	11101121	BRU	L318		708
0709	01117	02400000	LBA	0,1		709
0710	01120	01400000	LAA	0,1		710
0711	01121	12101250	L318	SPB TYP0	TYPE IN OCTAL N0 IN A REG	711
0712	01122	02301525	LBA*	I13	T3	712
0713	01123	01400001	LAA	1,1	TYPE NAME	713
0714	01124	12101156	SPB	FIX		714
0715	01125	01400002	LAA	2,1		715
0716	01126	12101156	SPB	FIX		716
0717	01127	01400003	LAA	3,1		717
0718	01130	12101156	SPB	FIX		718
0719	01131	16301526	N0	AMB* I15	=-4	719
0720	01132	00000004	TBA		CHECK FOR END OF TABLE	720
0721	01133	06301527	SMA*	I16	END	721
0722	01134	00000022	SAZ		MORE NAMES REMAINING	722
0723	01135	11101100	BRU	L310		723
0724	01136	01101424	ØRRR	LAA CRLF		724
0725	01137	12101243	SPB	TYPA		725
0726	01140	01101776	LAA	RPLH	HIGHEST CORE LOCATION USED	726
0727	01141	12101250	SPB	TYP0		727
0728	01142	01301552	LAA*	ILZ	HIGHEST IN MAP ZERO	728
0729	01143	12101250	SPB	TYP0		729
0730	01144	00000000		HLT		730
0731	01145	01301530	L320	LAA* I17	CHECK IF SUBROUTINES REQUIRED	731
0732	01146	02101777		LBA ENDJ	SET INDEX TO START	732
0733	01147	00000021		SAS		733
0734	01150	00020000	IK1	DATA '20000		734
0735	01151	11400000		BRU 0,1	BRANCH TO LOADED PROGRAM	735
0736	01152	01101772		LAA IKM1		736
0737	01153	03301547		STA* I129	-1 TO WCNT	737

PAGE 19

810A/B STANDARD LOAD/DUMP PACKAGE

300001F 04/01/71

0738	01154	03301550	STA*	II33	738
0739	01155	11301531	BRU*	II8	739
0740	01156	25400000	FIX	DAC 0	740
0741	01157	12101163	SPB	FIX1	741
0742	01160	00001016	LSL	8	742
0743	01161	12101163	SPB	FIX1	743
0744	01162	11301156	BRU*	FIX	744
0745	01163	25400000	FIX1	DAC 0	745
0746	01164	15101150	CMA	IK1	746
0747	01165	05101112	AMA	IK2	747
0748	01166	00000033	NOP		748
0749	01167	00170101	AOP	1,W	749
0750	01170	11301163	BRU*	FIX1	750
0751	01171	00001112	IK2	EQU L315	751
0752	***** CHECK LOAD FLAG				752
0753	01171	25400000	CHEC	DAC **	753
0754	01172	01301541	LAA*	II21	754
0755	01173	00000022	SAZ		755
0756	01174	11301531	BRU*	II22	756
0757	01175	11301171	BRU*	CHEC	757
0758	*				758
0759	*				759
0760	***** SUBR. TO MAKE A NAME TABLE ENTRY				760
0761	01176	25400000	FLNT	DAC **	761
0762	01177	03400000	STA	0,1	762
0763	01200	01301542	LAA*	II23	763
0764	01201	03400001	STA	1,1	764
0765	01202	01301543	LAA*	II24	765
0766	01203	03400002	STA	2,1	766
0767	01204	01301544	LAA*	II25	767
0768	01205	03400003	STA	3,1	768
0769	01206	16301526	AMB*	II5	769
0770	01207	04301527	STB*	II6	770
0771	01210	11301176	BRU*	FLNT	771
0772	*			EXIT	772
0773	***** RELATIVISE SUBROUTINE				773
0774	01211	25400000	RELF	DAC **	774
0775	01212	01301545	LAA*	II26	775
0776	01213	00001216	LSL	10	776
0777	01214	00000024	SAP		777
0778	01215	11101220	BRU	*+3	778
			MDL	1/10/69 *C	
			MDL	1/10/69 *C	

PAGE 20

810A/B STANDARD LOAD/DUMP PACKAGE

300001F 04/01/71

0779	01216	01301532	LAA*	II10		MDL	1/10/69	*C	779
0780	01217	11301211	BRU*	RELF		MDL	1/10/69	*C	780
0781	01220	01301532	LAA*	II10	ADD BASE TO OPERAND	ADDR.	ADDR		781
0782	01221	05301546	AMA*	II27		BASE			782
0783	01222	03301532	STA*	II10		ADDR			783
0784	01223	11301211	BRU*	RELF	EXIT				784
0785	*								785
0786			*****	SUBROUTINE TO TYPE THE NEXT WORD					786
0787	01224	25400000	TYPE	DAC **					787
0788	01225	01101424	LAA	CRLF					788
0789	01226	12101243	SPB	TYPA					789
0790	01227	01301224	LAA*	TYPE					790
0791	01230	12101243	SPB	TYPA					791
0792	01231	14101224	IMS	TYPE	INCREMENT RETURN				792
0793	01232	11301224	BRU*	TYPE	EXIT				793
0794	*								794
0795			*****	SUBROUTINE TO SHIFT AND TYPE B REGISTER					795
0796	01233	25400000	TYPB	DAC **					796
0797	01234	00000003	CLA						797
0798	01235	00000317	FLA	3					798
0799	01236	00000516	LSL	5					799
0800	01237	00000317	FLA	3					800
0801	01240	05101427	AMA	K15	!!00!!				801
0802	01241	12101243	SPB	TYPA	TYPE ACCUMULATOR				802
0803	01242	11301233	BRU*	TYPB	EXIT				803
0804	*								804
0805			*****	SUBROUTINE TO TYPE CONTENTS OF ACC. REGISTER					805
0806	01243	25400000	TYPA	DAC **					806
0807	01244	00170101	AOP	1,W			CKA		807
0808	01245	00001016	LSL	8			WES		808
0809	01246	00170101	AOP	1,W			CKA		809
0810	01247	11301243	BRU*	TYPA	EXIT				810
0811	*								811
0812			* SUBROUTINE TYPES A REG IN OCTAL						812
0813	*								813
0814	01250	00000000	TYPØ	*** **					814
0815	01251	00000116	LSL	1					815
0816	01252	00000115	RSL	1					816
0817	01253	00001412	FRA	12					817
0818	01254	05101425	AMA	K12					818
0819	01255	12101243	SPB	TYPA					819

PAGE 21

810A/B STANDARD LOAD/DUMP PACKAGE

300001F 04/01/71

0820	01256	12101233	SPB	TYPE		820
0821	01257	12101233	SPB	TYPE		821
0822	01260	11301250	BRU*	TYPE		822
0823		*				823
0824		*****READ 24 BIT LOADER INPUT WØRD				824
0825		*				825
0826	01261	25400000	READ DAC	**		826
0827	01262	14301547	IMS*	II29	WCNT	827
0828	01263	11101321	BRU	RD20		828
0829	01264	00130403	SNS	3		829
0830	01265	11101341	BRU	MAGT	MAG TAPE INPUT	830
0831	01266	01101771	LAA	AIP1	AIP 1,W	831
0832	01267	00130400	SNS	0	TEST FØR H.S. INPUT	832
0833	01270	11101274	BRU	*+4		833
0834	01271	00130101	CÉU	1,W	SELECT ASR-33 FØR READER	834
0835	01272	00004000	DATA	'4000	MØDE	835
0836	01273	11101277	BRU	*+4		836
0837	01274	06101772	SMA	IKM1	INCREMENT UNIT NUMBER	837
0838	01275	00130102	CÉU	2,W	SELECT HIGH SPEED READER	838
0839	01276	00001000	DATA	'1000		839
0840	01277	03101303	STA	AA3		840
0841	01300	03101763	STA	A4		841
0842	01301	05101677	AMA	D1	ADD IN MERGE BIT	842
0843	01302	03101765	STA	A5		843
0844	01303	00000033	AA3	NØP	AIP UNIT, W	844
0845	01304	06101672	SMA	Ø377	SKIP TØ START	845
0846	01305	00000022	SAZ			846
0847	01306	11101303	BRU	*-3	NØT START CØDE	847
0848	01307	02101430	LBA	K16		848
0849	01310	12101762	AA4	SPB	READ ØNE WØRD FRØM UNIT	849
0850	01311	03501524	STA	IBUF*55,1		850
0851	01312	00000026	IBS		TEST FØR 1 BLOCK READ	851
0852	01313	11101310	BRU	AA4	NØT FINISHED	852
0853	01314	11101405	BRU	MAG1	GØ CØMPUTE CHECKSUM	853
0854	01315	00000022	TELI	SAZ	CHECKSUM ØK	854
0855	01316	11101416	BRU	TPCK	CHECKSUM BAD	855
0856	01317	02101431	LBA	K22	--54	856
0857	01320	04301547	STB*	II29		857
0858	01321	02301547	RD20	LBA*	WCNT	858
0859	01322	14301550	IMS*	II33	WCNT	859
0860	01323	11101332	BRU	RD30	IF FFSW GØES ZERØ, FETCH FFSW WØRD FRØM LEFT PØSITIONØ	860

0861	01324	01501524	LAA	IBUF+55,1		861
0862	01325	02501523	LBA	IBUF+54,1		862
0863	01326	00001014	FRL	8		863
0864	01327	00001016	RD25	LSL	8	864
0865	01330	00001015		RSL	8	865
0866	01331	11301261		BRU*	READ	866
0867	01332	01101772	RD30	LAA	IKM1	867
0868	01333	03301550		STA*	II33	868
0869	01334	01501523		LAA	IBUF+54,1	869
0870	01335	02501524		LBA	IBUF+55,1	870
0871	01336	14301547		IMS*	II29	871
0872	01337	00000033		NOP		872
0873	01340	11101327		BRU	RD25	873
0874	01341	01101413	MAGT	LAA	IND1	874
0875	01342	00130407		SNS	7	875
0876	01343	05101432		AMA	K3	876
0877	01344	02101415		LBA	FWA	877
0878	01345	03400000		STA	0,1	878
0879	01346	01101414		LAA	IND2	879
0880	01347	00130407		SNS	7	880
0881	01350	06101432		SMA	K3	881
0882	01351	03400001		STA	1,1	882
0883	01352	00130000	CEU1	CEU	0	883
0884	01353	00000000		DATA	0	884
0885	01354	11101352		BRU	*-2	885
0886	01355	00130200	TRY3	TEU	0	886
0887	01356	00100000		DATA	'100000	887
0888	01357	11101355		BRU	*-2	888
0889	01360	00130000	CEU2	CEU	0	889
0890	01361	00104400		DATA	'104400	890
0891	01362	11101360		BRU	*-2	891
0892	01363	00130200	TEU1	TEU	0	892
0893	01364	00100000		DATA	'100000	893
0894	01365	11101363		BRU	*-2	894
0895	01366	00130200	TEU2	TEU	0	895
0896	01367	00002100		DATA	'2100	896
0897	01370	11101372		BRU	*+2	897
0898	01371	11101405		BRU	MAG1	898
0899	01372	02301526		LBA*	II5	899
0900	01373	00000026		IBS		900
0901	01374	11101401		BRU	BSPC	901

RETURN EXIT

RESET FFSW

FFSW

WCNT

FEC

12/70 RLD \*F

12/70 RLD \*F

LOAD INDEX TO CURRENT ADDRESS REGISTER DPC 3/28/

DPC 3/28/69

FEC

12/70 RLD \*F

12/70 RLD \*F

DPC 3/28/69

12/70 RLD \*E

PAGE 23

810A/B STANDARD LOAD/DUMP PACKAGE

300001F 04/01/71

0902	01375	0J170501	MUP	1, W	902	
0903	01376	00151240	DATA	' 'R''	903	
0904	01377	00000000	HLT		904	
0905	01400	11101405	BRU	MAG1	905	
0906	01401	00130000	BSPC	CEU 0	12/70 RLD *E	
0907	01402	00004040	DATA	'4040	12/70 RLD *E	
0908	01403	11101401	BRU	*-2	12/70 RLD *E	
0909	01404	11101355	BRU	TRY3	908	
0910	01405	02101431	MAG1	LBA K22	909	
0911	01406	01101435	LAA	IBUF	FEC	
0912	01407	05501524	AMA	IBUF+55,1	FEC	
0913	01410	00000026	IBS		FEC	
0914	01411	11101407	BRU	*-2	FEC	
0915	01412	11101315	BRU	TELI	FEC	
0916	01413	37401435	IND1	EAC IBUF	10/70 RLD *E	
0917	01414	00100067	IND2	DATA '100067	55 WORDS	10/70 RLD *E
0918	01415	27401060	FWA	EAC BTC	918	
0919	*				919	
0920				***** TYPE CHECK <CK0 ON BAD CHECK SUM	920	
0921	01416	12101224	TPCK	SPB TYPE	921	
0922	01417	00141713	DATA	' 'CK''	922	
0923	01420	00000000	HLT		923	
0924	01421	00130403	SNS	3	924	
0925	01422	11101317	BRU	TELI+2	925	
0926	01423	11101264	BRU	READ+3	RETRY READ EXCEPT ON MTU	926
0927	*				927	
0928	01424	00106612	CRLF	DATA '106612	928	
0929	01425	00120260	K12	DATA '120260	929	
0930	01426	00000010	0C10	DATA '10	930	
0931	01427	00130260	K15	DATA '130260	931	
0932	01430	00177711	K16	DATA -55	932	
0933	01431	00177712	K22	DATA -54	933	
0934	01432	00177776	K3	DATA -2	12/70 RLD *F	
0935	01433	00000002	BSS	2	934	
0936	01435	00000067	IBUF	BSS 55	FØR START CODE ON MAG TAPE INPUT BUFFER	935
0937	*				936	
0938				***** ADDRESS CONSTANTS	937	
0939	01524	35400716	II2	DAC BEGN	938	
0940	01525	35400733	II3	DAC T3	939	
0941	01526	35400711	II5	DAC K10	940	
0942	01527	35400721	II6	DAC END	941	
					942	

0943	01530	35400723	II7	DAC	CALS	943
0944	01531	35400113	II8	DAC	L10	944
0945	01532	35400740	II10	DAC	ADDR	945
0946	01533	35400737	II13	DAC	ØP	946
0947	01534	35400741	II14	DAC	XI	947
0948	01535	35400703	II15	DAC	K1	948
0949	01536	35400255	L40K	DAC	L40B	949
0950	01537	35400252	L40L	DAC	L40Z	950
0951	01540	35400734	II17	DAC	T4	951
0952	01541	35400722	II21	DAC	L0DF	952
0953	01542	00001531	II22	EQU	II8	953
0954	01542	35400746	II23	DAC	S1S2	954
0955	01543	35400747	II24	DAC	S3S4	955
0956	01544	35400750	II25	DAC	S5S6	956
0957	01545	35400731	II26	DAC	T1	957
0958	01546	35400724	II27	DAC	BASE	958
0959	01547	35400726	II29	DAC	WCNT	959
0960	01550	35400725	II33	DAC	FFSW	960
0961	01551	35400744	IRPL	DAC	RPL	961
0962	01552	00001527	II39	EQU	II6	962
0963	01552	35400754	IL2	DAC	LZ	963
0964	01553	35400755	ILZB	DAC	LZB	964
0965	01554	35400667	ICML	DAC	KCML	965
0966	01555	35400406	L48A	DAC	L48	966
0967	01556	35400271	L42B	DAC	L42	967
0968	01557	35400745	SIZF	DAC	SIZE	968
0969	01561	70001561	ØRG	'1561	*****	969
0970	01561	01101671	G01	LAA	AØP1	970
0971	01562	00130400		SNS	0	971
0972	01563	11101565		BRU	*+2	972
0973	01564	11101570		BRU	*+4	973
0974	01565	06101772		SMA	IKM1	974
0975	01566	00130102		CEU	2rw	975
0976	01567	00004000		DATA	'4000	976
0977	01570	03101655		STA	A1	977
0978	01571	03101657		STA	A2	978
0979	01572	01101772		LAA	IKM1	979
0980	01573	03101770		STA	TIME	980
0981	01574	12101662		SPB	LDR	981
0982	01575	01101672	LAAØ	LAA	Ø377	982
0983	01576	12101653		SPB	WDØT	983

\*\*\*\*\*

Absolute Dens Start

DPC

PAGE 25

810A/B STANDARD LOAD/DUMP PACKAGE

300001F 04/01/71

0984	01577	01101777	LAA	ENDJ		984
0985	01600	12101653	SPB	WDØT		985
0986	01601	00000005	TAB			986
0987	01602	06101776	SMA	RPLH		987
0988	01603	05101772	AMA	IKM1		988
0989	01604	03101773	STA	NWCT		989
0990	01605	12101653	SPB	WDØT		990
0991	01606	01101732	ØNIT	LAA	M100	991
0992	01607	03101774	STA	WDCT		992
0993	01610	00000003	CLA			993
0994	01611	03101775	STA	MYCS		994
0995	01612	01400000	ØPUT	LAA	0,1	995
0996	01613	12101653	SPB	WDØT		996
0997	01614	05101775	AMA	MYCS		997
0998	01615	03101775	STA	MYCS		998
0999	01616	00000026	K4A	IBS		999
1000	01617	00000000	ZZZ1	HLT		1000
1001	01620	14101773	IMS	NWCT		1001
1002	01621	11101623	BRU	*+2		1002
1003	01622	11101625	BRU	CSUM		1003
1004	01623	14101774	IMS	WDCT		1004
1005	01624	11101612	BRU	ØPUT		1005
1006	01625	01101775	CSUM	LAA	MYCS	1006
1007	01626	12101653	SPB	WDØT		1007
1008	01627	01101773	LAA	NWCT		1008
1009	01630	00000024	SAP			1009
1010	01631	11101606	BRU	ØNIT		1010
1011	01632	12101662	ENDD	SPB	LDR	1011
1012	01633	14101770	IMS	TIME		1012
1013	01634	11101637	BRU	*+3		1013
1014	01635	00130401	SNS	1		1014
1015	01636	11101646	BRU	DMPØ		1015
1016	01637	00130400	SNS	0		1016
1017	01640	11101642	BRU	*+2		1017
1018	01641	11101644	BRU	*+3		1018
1019	01642	00130102	CEU	2,W		1019
1020	01643	00002000	DATA	'2000		1020
1021	01644	00000000	HLT			1021
1022	01645	11101561	BRU	GØ1		1022
1023	01646	01301553	DMPØ	LAA*	ILZB	1023
1024	01647	03101777	STA	ENDJ		1024

MDL 1/10/69 \*C

PAGE 26

## 810A/B STANDARD LOAD/DUMP PACKAGE

300001F 04/01/71

1025	01650	01301552	LAA#	IL2	1025
1026	01651	03101776	STA	RPLH	1026
1027	01652	11101575	BRU	LAA&	1027
1028	01653	00000000	WDOT	ZZZ **	1028
1029	01654	03101617	STA	ZZZ1	1029
1030	01655	00000033	A1	NOP	1030
1031	01656	00001016	LSL	8	1031
1032	01657	00000033	A2	NOP	1032
1033	01660	01101617	LAA	ZZZ1	1033
1034	01661	11301653	BRU*	WDOT	1034
1035	01662	00000000	LDR	ZZZ **	1035
1036	01663	02101732	LBA	M100	1036
1037	01664	00000003	CLA		1037
1038	01665	12101653	SPB	WDOT	1038
1039	01666	00000026	IBS		1039
1040	01667	11101665	BRU	**2	1040
1041	01670	11301662	BRU*	LDR	1041
1042	01671	00170101	AOP1	AOP 1,W	1042
1043	01672	00000377	0377	DATA '377	1043
1044	01673	01101771	CHAN	LAA AIP1	1044
1045	01674	00130400		SNS 0	1045
1046	01675	11101701		BRU **4	1046
1047	01676	00130101		CEU 1,W	1047
1048	01677	00004000	D1	DATA '4000	1048
1049	01700	11101704		BRU **4	1049
1050	01701	06101772		SMA IKM1	1050
1051	01702	00130102		CEU 2,W	1051
1052	01703	00001000	IK8	DATA '1000	1052
1053	01704	03101712		STA A3	1053
1054	01705	03101763		STA A4	1054
1055	01706	05101677		AMA D1	1055
1056	01707	03101765		STA A5	1056
1057	01710	01101772		LAA IKM1	1057
1058	01711	03101770		STA TIME	1058
1059	01712	00000033	A3	NOP	1059
1060	01713	00000022		SAZ	1060
1061	01714	11101716		BRU **2	1061
1062	01715	11101712		BRU **3	1062
1063	01716	12101762		SPB INWD	1063
1064	01717	03101777		STA ENDJ	1064
1065	01720	00000005		TAB	1065

ABSOLUTE Loader

PAGE 27

## 810A/B STANDARD LOAD/DUMP PACKAGE

300001F 04/01/71

1066	01721	12101762	SPB	INWD	1066
1067	01722	03101773	STA	NWCT	1067
1068	01723	01101732	INIT	LAA M100	1068
1069	01724	03101774	STA	WDCT	1069
1070	01725	00000003	CLA		1070
1071	01726	03101775	STA	MYCS	1071
1072	01727	12101762	INPT	SPB INWD	1072
1073	01730	03400000	STA	0,1	1073
1074	01731	00000026	IBS		1074
1075	01732	00177700	M100	DATA -64	1075
1076	01733	05101775	AMA	MYCS	1076
1077	01734	03101775	STA	MYCS	1077
1078	01735	14101773	IMS	NWCT	1078
1079	01736	11101740	BRU	*+2	1079
1080	01737	11101742	BRU	CSML	1080
1081	01740	14101774	IMS	WDCT	1081
1082	01741	11101727	BRU	INPT	1082
1083	01742	12101762	CSML	SPB INWD	1083
1084	01743	15101775	CMA	MYCS	1084
1085	01744	11101746	BRU	CK	1085
1086	01745	11101751	BRU	ØK	1086
1087	01746	00170501	CK	MØP 1,W	1087
1088	01747	00145640	DATA	''K''	1088
1089	01750	00004000	DATA	'004000	1089
1090	01751	01101773	ØK	LAA NWCT	1090
1091	01752	00000024	SAP		1091
1092	01753	11101723	BRU	INIT	1092
1093	01754	14101770	IMS	TIME	1093
1094	01755	11101760	BRU	*+3	1094
1095	01756	00130401	SNS	1	1095
1096	01757	11101712	BRU	A3	1096
1097	01760	00004000	DATA	'4000	1097
1098	01761	11101673	BRU	CHAN	1098
1099	01762	00004000	INWD	DATA '004000	1099
1100	01763	00000033	A4	NØP	1100
1101	01764	00001016	LSL	8	1101
1102	01765	00000033	A5	NØP	1102
1103	01766	11301762	BRU*	INWD	1103
1104	01767	35400764	I132	DAC L132	1104
1105	01770	00004000	TIME	DATA '004000	1105
1106	01771	00170301	AIP1	AIP 1,W	1106

DPC

PAGE 28

810A/B STANDARD LOAD/DUMP PACKAGE

300001F 04/01/71

1107	01772	00177777	IKM1	DATA	-1	1107
1108	01773	25400000	NWCT	DAC	0	1108
1109	01774	25400000	WDCT	DAC	0	1109
1110	01775	25400000	MYCS	DAC	0	1110
1111	01776	25400000	RPLH	DAC	0	1111
1112	01777	25400000	ENDJ	DAC	0	1112
1113	02000	70400007	END	LOAD		1113
ERRORS 0000 00000						

AGE 29 810A/B STANDARD LOAD/DUMP PACKAGE 300001F 04/01/71

...EXTERNAIS...

## ...SYMBOLICS...

A1	977	*	1030						
A10	126	*	547						
A11	* 548		607						
A2	978	*	1032						
A3	1053	*	1059	1096					
A4	841	1054	*	1100					
A5	843	1056	*	1102					
AA3	840	*	844						
AA4	* 849		852						
ADDR	136	156	159	231	234	243	246	259	278
	323	342	349	362	366	403	430	435	473
	475	480	494	516	*	591	619	945	
AIP1	831	1044	*	1106					
APP1	970	*	1042						
BASE	47	504	*	579	958				
BEGN	117	375	*	571	939				
BSPC	68	901	*	906					
BTC	*	43	918						
CALS	121	416	418	481	505	*	578	943	
CD	361	392	448	461	*	594			
CEU1	65	66	*	883					
CEU2	67	*	889						
CHAN	*	1044	1098						
CHEC	551	*	753	757					
CK	1085	*	1087						
C0MI	115	201	*	575					
C0MN	105	111	112	114	202	472	474	*	574
CRLF	724	788	*	928					
CSML	1080	*	1083						
CSUM	1003	*	1006						
D1	842	*	1048	1055					
DMP0	1015	*	1023						
END	118	207	377	*	576	942			
ENDD	*	1011							
ENDJ	601	602	732	984	1024	1064	*	1112	
FFSW	125	*	580	960					
FIX	714	716	718	*	740	744			
FIX1	741	743	*	745	750				
FLNT	553	*	761	771					

PAGE 31

## 810A/B STANDARD LOAD/DUMP PACKAGE

300001F 04/01/71

04/01/71

IKM1	736	837	867	* 974	979	988	1050	1057	* 1107
ILH	48	197	200	* 557					
ILZ	728	* 963	1025						
ILZB	* 964	1023							
IND1	874	* 916							
IND2	879	* 917							
INIT	* 1068	1092							
INPT	* 1072	1082							
INWD	849	1063	1066	1072	1083	* 1099	1103		
IRPL	631	636	641	653	663	672	* 961		
J	127	208	209	* 583	608				
K1	170	540	* 560	948					
K10	280	445	* 566	941					
K12	818	* 929							
K15	801	* 931							
K16	848	* 932							
K17	123	* 567							
K2	131	237	* 561						
K21	* 568	615							
K22	856	910	* 933						
K24	404	* 569							
K25	106	* 570							
K3	876	881	* 934						
K4	228	240	* 562						
K4A	649	* 999							
K5	167	293	305	495	* 563				
K7	172	248	271	310	317	356	417	484	* 564
K9	87	426	462	* 565					
KCMH	171	535	* 544						
KCML	169	532	* 545	965					
L10	* 126	224	421	424	428	443	455	459	477
	529	547	944						
L100	181	* 440							
L110	182	* 493							
L112	* 499	515	518						
L114	498	* 511							
L120	183	* 606							
L123	554	* 636							
L124	* 628	656							
L125	* 641	667							
L126	626	* 653							

PAGE 33

## 810A/B STANDARD LOAD/DUMP PACKAGE

300001F 04/01/71

L130	548	*	668	
L132	*	612		1104
L170	186	*	216	
L190	188	*	527	
L20	147	*	191	
L200	555	*	687	
L21	*	192	333	337
L22	*	194		353
L300	556	*	689	
L310	*	694		723
L315	699	*	704	751
L318	708	*	711	
L320	*	731		
L40	148	*	227	
L40A	*	235		
L40B	*	234		949
L40I	230	*	600	
L40J	600	*	677	
L40K	684	*	949	
L40L	680	*	950	
L40Z	*	231		950
L41	*	236	288	438
L42	*	246	319	967
L42B	651	*	967	
L43	*	250		
L43A	*	264		
L43B	160	*	263	
L44	*	267		272
L45	270	*	273	
L45A	*	277		
L46	245	*	305	
L46B	308	*	316	
L47	*	323		357
L47A	312	*	322	
L48	242	*	336	966
L48A	648	652	*	966
L50	239	*	349	
L52	300	*	356	
L60	*	150		
L62	152	*	177	
L80	149	*	360	

PAGE 34

## 810A/B STANDARD LOAD/DUMP PACKAGE

300001F 04/01/71

L83	*	376	446								
L83A		383	387	391	*	445					
L86		464	*	472							
L88	*	476									
L90		463	*	479							
L95	*	392									
L97	*	399									
L97A		407	*	419							
L98		394	*	426							
L99		427	*	432							
L99A	*	435									
LAA0	*	982	1027								
LDR		981	1011	*	1035	1041					
LJ1		379	*	448							
LL1		401	*	422							
LLF1		450	*	460							
LM0		205	*	210							
L0AD	*	47	570	571		1113					
L0C1	*	65	75								
L0C2	*	66	76	84							
L0C3	*	67	85								
L0C4	*	68	86								
L0C5	*	69	88								
L0C6	*	70	89								
L0C7	*	71	90								
L0DF		120	398	420	423	456	502	528	*	577	952
LX10	*	123	507	510							
LZ		165	174	219	264	275	277	286		479	485
		487	*	603	963						
LZB		166	266	*	604	964					
M100		991	1036	1068	*	1075					
MAG1		853	898	905	*	910					
MAGT		830	*	874							
MASK	*	72	77								
MPZR		50	*	164	175	223					
MYCS		994	997	998	1006	1071	1076	1077	1084	*	1110
MZCM		244	287	*	531	534	536	538	539		541
NFLG		51	397	452	458	500	512	*	582		
N0		702	*	719							
NTT	*	63	73								
NWCT		989	1001	1008	1067	1078	1090	*	1108		

PAGE 35

## 810A/B STANDARD LOAD/DUMP PACKAGE

300001F 04/01/71

B377	845	982	* 1043					
BC10	677	*	930					
BK	1086	*	1090					
BUNIT	* 991		1010					
BP	133		177	227	236	330	436	*
BPUT	*	995	1005					590
BRRR	692	*	724					
RD20	828	*	858					
RD25	* 864		873					
RD30	860	*	867					
READ	549	*	826	866	926			
RELF	550	*	774	780	784			
RPL	49		94	107	192	195	196	257
	503	*	595	609	612	961		
RPLH	557		726	987	1026	* 1111		
S1S2	369		381	*	597	954		
S374	97	*	185					
S3S4	370		372	373	385	*	598	955
S5S6	374		389	*	599	956		
SIZE	*	596		610	618	968		
SIZF	671	*	968					
SKIP	*	538		542	543			
SM1	102	*	187					
SMMP	247	*	292	299	301	316		
STT	60	*	64					
T1	129		137	143	281	283	350	*
T2	130		134	155	191	279	*	584
T3	274		295	298	*	586	940	957
T4	*	587		617	623	951		
T5	154		249	284	*	588		
TELI	*	854		915	925			
TEU1	69	*	892					
TEU2	70	*	895					
TIME	980		1012	1058	1093	* 1105		
TPCK	855	*	921					
TPY	402		408	*	589			
TRY3	71	*	886	909				
TYPA	725		789	791	802	*	806	810
TYPB	*	796		803	820	821		819
TYPE	552		687	703	*	787	790	792
TYPO	184		711	727	729	*	814	822

PAGE 36

810A/B STANDARD LOAD/DUMP PACKAGE

3000001F 04/01/71

W	749	807	809	834	838	902	975	1019	1042
	1047	1051	1087	1106					
WCNT	124	*	581	959					
WDCT	992	1004	1069	1081	*	1109			
WDOT	983	985	990	996	1007	*	1028	1034	1038
XI	140	285	311	318	327	343	*	592	947
XIAD	142	150	263	267	*	593			
XIDC	141	262	336	*	341	347	469		
ZCHK	533	*	540						
ZZZ1	*	1000	1029	1033					