

OPTIONS NODECK,LIST,XREF,NOREL,OBJ(P)

THE LIST OF OPTIONS USED DURING THIS ASSEMBLY IS-- NODECK,LIST,XREF,NOREL,OBJ

0000	1	#KLOGO	START	0
	2		PRINT	ON,NODATA
	3	*	@SYS	EXP-N
	214+		PRINT	ON
	215	*	@FXD	EXP-N
	620+		PRINT	ON
	621	*	@CAN	EXP-N
	724+		PRINT	ON
	725	*	@CY0	EXP-N
	798+		PRINT	ON
	799	*	@WKA	EXP-N
	869+		PRINT	ON
	870	*	@DIR	EXP-N
	990+		PRINT	ON
	991	*	@SPF	EXP-N
	1454+		PRINT	ON
	1455	*	@ERM	EXP-N
	2077+		PRINT	ON

#KLOGO -- LOGON COMMAND PROCESSOR

ERR LOC	OBJECT CODE	ADDR	STMT	SOURCE STATEMENT	VER 15, MOD 00 14/05/20 PAGE 3
		2079		*****	
		2080	*	5703-XM1 COPYRIGHT IBM CORP. 1970	*
		2081	*	REFER TO INSTRUCTIONS ON COPY RIGHT NOTICE, 120-2083	*
		2082	*		*
		2083		*****	
		2084	*	*STATUS	*
		2085	*	VERSION 1 MODIFICATION 0	*
		2086	*		*
		2087	*	*FUNCTION	*
		2088	*	KLOGOF WILL DETERMINE IF THE LOGON OR THE OFF COMMAND WAS ISSUED	*
		2089	*	AND THUS PERFORM THE APPROPRIATE FUNCTION.	*
		2090	*	IF THE LOGON COMMAND IS ISSUED. KLOGOF WILL DEFINE THE CURRENT	*
		2091	*	PASSWORD (NEW OR OLD) AND VOLUME TO BE IN EFFECT FOR SUBSEQUENT	*
		2092	*	OPERATIONS. IF THE OPTIONAL 'NEW' PARAMETER IS SPECIFIED, A	*
		2093	*	NEW PASSWORD ENTRY IS CREATED AND ADDED TO THE PASSWORD DIRECTORY.	*
		2094	*	(IE. FOR A MAXIMUM OF 83 NEW PASSWORDS). IF A VOLUME IS SPECIFIED,	*
		2095	*	IT MUST BE ON THE SYSTEM. THE DEFAULT IS TO THE VOLUME ON R1.	*
		2096	*	IF THE OFF COMMAND IS ISSUED, KLOGOF WILL CANCEL THE CURRENT	*
		2097	*	PASSWORD AND VOLUME IN EFFECT AND IF THE PRINTER IS THE SYSTEM	*
		2098	*	OUTPUT DEVICE, THE FORMS WILL BE EJECTED APPROXIMATELY 110 SPACES	*
		2099	*	SO THAT THE FORMS CAN BE REMOVED.	*
		2100	*	WHEN EITHER COMMAND IS ISSUED, THE BAD LINE WILL BE CLEARED	*
		2101	*	AND WRITTEN TO DISK, THE WORK FILE WILL BE DELETED, THE ERROR	*
		2102	*	DATA TABLES WILL BE UPDATED ON RESPECTIVE DISKS, AND IF THE	*
		2103	*	CRT IS AVAILABLE IT WILL BE CLEARED.	*
		2104	*		*
		2105	*	*ENTRY POINTS	*
		2106	*	THE FIRST EXECUTABLE INSTRUCTION FOLLOWING THE PROGRAM HEADER	*
		2107	*	INDEX REGISTER 2 (@XR) IS ADDRESSING THE FIRST BYTE IN THE	*
		2108	*	COMMAND LINE FOLLOWING THE KEYWORD.	*
		2109	*		*
		2110	*	*INPUT	*
		2111	*	INPUT TO THE KEYWORD IS THE ADDRESS WITHIN THE INPUT LINE BUFFER	*
		2112	*	OF THE COMMAND LINE TO BE SYNTAX CHECKED-MAVED IN SXRSV.	*
		2113	*		*
		2114	*	*OUTPUT	*
		2115	*	N/A	*
		2116	*		*
		2117	*	*EXTERNAL REFERENCES	*
		2118	*	DL2ICS - TWO TRACK LOGICAL DISK IOCS	*
		2119	*	SALPHA - FILENAME, PASSWORD,VOL-ID ALPHAMERIC SYNTAX CHECKER	*
		2120	*	SALPH8 - ENTRY TO SALPHA-SYNTAX CHECK FILENAME OR PASSWORD	*
		2121	*	SALPH6 - ENTRY TO SALPHA-SYNTAX CHECK VOLUME	*
		2122	*	SALPHR - SAVE AREA IN SALPHA-SYNTAX CHECKED PARAMETER	*
		2123	*	SCANIT - DELIMITER SCAN ROUTINE	*
		2124	*	SCAMMA - SWITCH IN SCANI1 - SET FOR DELIMITER SCAN	*
		2125	*	SCACOM - MASK TO BYPASS COMMA IN SCANIT	*
		2126	*	SGETDB - PASSWORD DIRECTORY SEARCH; USER BLOCK ACCESS	*
		2127	*	SUPDAT - UPDATE DISK READ/WRITE TABLES	*
		2128	*	SURCHN - SEARCHES NULL DITECTORY	*
		2129	*	SVOLID - RESOLVES SPECIFIED VOL-ID PHYSICAL LOCATION	*
		2130	*	TSMLES - DATA MANAGEMENT COMMUNICATION REGIONS	*
		2131	*	SSPYCD - ENTRY POINT TO CLEAR CRT	*
		2132	*	\$XRSV - ADDR IN SYSTEM NUCLEUS-SAVE INDEX REGISTER 2 (@XR)	*
		2133	*	\$CAERR - ADDR IN SYSTEM NUCLEUS-ERROR CODE SAVE AREA	*
		2134	*	\$CAERK - ADDR IN SYSTEM NUCLEUS-ERROR EXIT ROUTINE	*

#KLOGO -- LOGON COMMAND PROCESSOR

ERR LOC	OBJECT CODE	ADDR	STMT	SOURCE	STATEMENT	VER 15, MOD 00	14/05/20	PAGE	4
		2135	*		\$CARPL - ADDR IN SYSTEM NUCLEUS-NORMAL EXIT ROUTINE				*
		2136	*		\$VOLID - ADDR IN SYSTEM NUCLEUS-VOLUME ID TABLE				*
		2137	*		\$CIMSK - ADDR IN SYSTEM NUCLEUS-IR INTERRUPT MASK ROUTINE				*
		2138	*		\$DISKN - ADDR IN SYSTEM NUCLEUS-PHYSICAL DISK IOCS				*
		2139	*		\$WAITF - ADDR IN SYSTEM NUCLEUS-DISK WAIT DPL				*
		2140	*		\$PASWD - ADDR IN SYSTEM NUCLEUS-CURRENT USER PASSWORD				*
		2141	*		\$FILIB - ADDR IN SYSTEM NUCLEUS-LIBRARY ADDR FOR CURRENT USER				*
		2142	*		\$USRDR - ADDR IN SYSTEM NUCLEUS-REL DISP TO 1ST USER BLOCK A				*
		2143	*		\$IOIND - ADDR IN SYSTEM NUCLEUS-I/O STATUS INDRS				*
		2144	*		\$CRTAV - MASK IN \$IOIND - CRT AVAILABILITY				*
		2145	*		\$EXFTR - ADDR IN SYSTEM NUCLEUS-CORE EXPANSION FACTOR				*
		2146	*		\$INDR2 - ADDR IN SYSTEM NUCLEUS-SYSTEM INDRS				*
		2147	*		\$CMODE - MASK IN \$INDR2 - CONVERSATIONAL MODE INDR				*
		2148	*		\$WFNME - ADDR IN SYSTEM NUCLEUS-CURRENT WORK FILE NAME				*
		2149	*		\$WFDEF - MASK IN SYSTEM - WORK FILE DEFINED INDR				*
		2150	*		\$XINDI - ADDR IN SYSTEM NUCLEUS-EXECUTION INDR				*
		2151	*		\$SPRNT - ADDR IN SYSTEM NUCLEUS-SYSTEM PRINTER IOCR INTERFACE				*
		2152	*		\$UNMSK - ADDR IN SYSTEM NUCLEUS-IR UNMASK ROUTINE				*
		2153	*						*
		2154	*	EXITS, NORMAL					*
		2155	*		\$CARPL - NORMAL EXIT ADDRESS IN SYSTEM NUCLEUS				*
		2156	*						*
		2157	*	EXITS, ERROR					*
		2158	*		\$CAERK - ERROR EXIT ADDRESS IN SYSTEM NUCLEUS				*
		2159	*		(NOTE ERROR PROCEDURES)				*
		2160	*						*
		2161	*	TABLES/WORK AREAS					*
		2162	*		ALL CHARACTER CONSTANTS & PPL'S USED TO PRINT MESSAGES FOR THE				*
		2163	*		INTERACTION WITH THE USER ARE LOCATED AT THE BEGINNING OF THE				*
		2164	*		MODULE TO ENABLE THEM TO BE MODIFIED FOR WORLD TRADE CONSIDERATION				*
		2165	*		KLOGOF'S OTHER CONSTANTS, DPL'S, AND WORK AREAS ARE LOCATED				*
		2166	*		BETWEEN THE 2 MAIN BLOCKS OF CODE FOR BASE ADDRESSABILITY.				*
		2167	*		(NOTE: CHARACTER CODE DEPENDENCY)				*
		2168	*						*
		2169	*	ATTRIBUTES					*
		2170	*		RELOCATABLE				*
		2171	*						*
		2172	*	CHARACTER CODE DEPENDENCY					*
		2173	*		CHARACTER CODE DEPENDENCY CLASS - C				*
		2174	*		THE OPERATION OF THIS MODULE DEPENDS UPON AN INTERNAL REPRESENTA-				*
		2175	*		TION OF THE EXTERNAL CHARACTER SET WHICH IS EQUIVALENT TO THE ONE				*
		2176	*		USED AT ASSEMBLY TIME. THE CODING HAS BEEN ARRANGED SO THAT RE-				*
		2177	*		DEFINITION OF CHARACTER CONSTANTS, BY REASSEMBLY, WILL RESULT IN				*
		2178	*		A CORRECT MODULE FOR THE NEW DEFINITIONS. THE FOLLOWING ARE THE				*
		2179	*		SPECIAL CONSIDERATIONS FOR THIS MODULE:				*
		2180	*		* CHARACTER CONSTANT STRINGS WHICH ARE USED AS INFORMATIVE				*
		2181	*		MESSAGES OR ERROR MESSAGES FOR THE USER ARE LOCATED IN A				*
		2182	*		GROUP AT THE BEGINNING OF THE MODULE WITH ADEQUATE EXPANSION				*
		2183	*		AREA INCLUDED RU WORLD TRADE CONSIDERATIONS FOR TRANSLATION				*
		2184	*		TO FOREIGN LANGLAGES				*
		2185	*		* PPL'S USED TO PRINT THE ABOVE MENTIONED CHARACTER CONSTANTS				*
		2186	*		ARE LOCATED ADJACENT TO THEM FOR LENGTH REVISION				*
		2187	*		* THE FOLLOWING ARE INTERNAL CHARACTER CONSTANTS TO CONSIDER				*
		2188	*		* KLOOLD - DC CONSTANT OF PARAMETER 'OLD'				*
		2189	*		* KLONEH - DC CONSTANT OF PARAMETER 'NEW'				*
		2190	*		* KLO100 - LOCATION WHERE CHECK IS MADE TO DETERMINE IF				*

#KLOGO -- LOGON COMMAND PROCESSOR

ERR LOC	OBJECT CODE	ADDR	STMT	SOURCE STATEMENT	VER 15, MOD 00 14/05/20 PAGE 5
		2191	*	COMMAND WAS 'LOGON' OR 'OFF'.	*
		2192	*	* @SYSEQ TO CONSIDER - USED FOR IMMEDIATE COMPARES ETC.	*
		2193	*	* @EOS	*
		2194	*	* @ZERO	*
		2195	*	* @B1	*
		2196	*	* @COMMA	*
		2197	*	* @SLASH	*
		2198	*		*
		2199	*	*NOTES	*
		2200	*	ERROR PROCEDURES	*
		2201	*	THE FOLLOWING CONDITIONS WILL CAUSE AN ERROR CODE TO BE SAVED	*
		2202	*	IN \$CAERR, AND AN ERROR EXIT TO BE MADE TO \$CAERK IN THE	*
		2203	*	SYSTEM NUCLEUS:	*
		2204	*	* SYNTAX ERROR IN THE COMMAND LINE DETECTED VIA \$ALPHA,	*
		2205	*	\$SCANIT, OR KLOGOF.	*
		2206	*	* A 'NEW' PASSWORD IS REQUESTED AND THE SPECIFIED NAME	*
		2207	*	ALREADY EXISTS.	*
		2208	*	* AN 'OLD' PASSWORD IS SPECIFIED OR DEFAULTED TO AND IT	*
		2209	*	DOES NOT EXIST.	*
		2210	*	* A 'NEW' PASSWORD IS REQUESTED AND THE PASSWORD DIRECTORY	*
		2211	*	IS ALREADY FULL.	*
		2212	*	* A 'NEW' PASSWORD IS REQUESTED AND THE LIBRARY SPACE IS	*
		2213	*	NOT AVAILABLE FOR THE USER BLOCK.	*
		2214	*	* THERE IS NO LIBRARY DEFINED ON THE SPECIFIED OR DEFAULTED	*
		2215	*	TO DISK.	*
		2216	*		*
		2217	*	REGISTER USAGE	*
		2218	*	INITIALLY, INDEX REGISTER 1 (@BR) USED AS A BASE REGISTER,	*
		2219	*	WHILE INDEX REGISTER 2 (@XR) ADDRESSES THE INPUT LINE BUFFER	*
		2220	*	DURING THE SYNTAX CHECK.	*
		2221	*	SUBSEQUENTLY, INDEX REGISTER 2 (@BR) IS USED AS A POINTER INTO	*
		2222	*	THE DIRECTORY BLOCKS IN CORE FOR THE LOGON OPERATION.	*
		2223	*		*
		2224	*	SAVED/RESTORED AREAS	*
		2225	*	N/A	*
		2226	*		*
		2227	*	MODIFICATION CONSIDERATIONS	*
		2228	*	* NOTE THAT THE ISMLES COMMUNICATIONS REGION HAS BEEN BROKEN	*
		2229	*	UP (IE. PART OF THE FIELDS OVERLAY EXECUTABLE CODE) SO	*
		2230	*	THAT A BASE REGISTER MAY BE USED TO ADDRESS THE FIELDS OR	*
		2231	*	SO THAT OPTIMUM USE OF BUFFER SPACE COULD BE MADE.	*
		2232	*		*
		2233	*	REQUIRED MODULES	*
		2234	*	@SYSEQ - COMMON SYSTEM SOFTWARE EQUATES	*
		2235	*	@FXDEQ - FIXED ADDRESSES IN SYSTEM NUCLEUS	*
		2236	*	@CANEQ - FIXED ADDRESSES OUTSIDE SYSTEM NUCLEUS	*
		2237	*	@CY0EQ - CYLINDER ZERO EQUATES	*
		2238	*	@WKAEQ - WORK AREA EQUATES	*
		2239	*	@DIREQ - SYSTEM LIBRARY DIRECTORY EQUATES	*
		2240	*	@ERMEQ - ERROR MESSAGE EQUATES	*
		2241	*	DL2ICS - TWO TRACK LOGICAL DISK IOCS	*
		2242	*	SALPHA - FILENAME, PASSWORD, VOL-ID ALPHAMERIC SYNTAX CHECKER	*
		2243	*	SCANTY - DELIMITER SCAN ROUTINE	*
		2244	*	SGETDB - PASSWORD DIRECTORY SEARCH; USER BLOCK ACCESS	*
		2245	*	SUPDAT - UPDATE DISK READ/WRITE TABLES	*
		2246	*	SURCHN - SEARCHES NULL DIRECTORY	*

#KLOGO -- LOGON COMMAND PROCESSOR

ERR	LOC	OBJECT	CODE	ADDR	STMT	SOURCE	STATEMENT	VER 15, MOD 00	14/05/20	PAGE	6
				2247	*		SVOLID - RESOLVES SPECIFIED VOL-ID PHYSICAL LOCATION				*
				2248	*		TSMLES - DATA MANAGEMENT COMMON AREAS				*
				2249	*						*
				2250	*	OTHER					*
				2251	*		SPECIAL NOTES:				*
				2252	*		* THE I/O ROUTINES ARE REQUIRED TO BE CORE RESIDENT FOR				*
				2253	*		EXECUTION.				*
				2254	*		* THE COMMAND MAY BE ABORTED VIA INQUIRY REQUEST UNTIL				*
				2255	*		PHYSICAL DISK WRITES ARE STARTED.				*
				2256	*		*****				*

#KLOGO KLOGOF - LOG ON/OFF KEYWORDS

ERR	LOC	OBJECT CODE	ADDR	STMT	SOURCE	STATEMENT	VER 15, MOD 00 14/05/20 PAGE 7
			2258		*****		
			2259	*			*
			2260	*	KLOGO PROGRAM EQUATES		*
			2261	*			*
			2262		*****		
		0002	2263	KLODS2 EQU	2	DISPLACEMENT	
		0003	2264	KLODS3 EQU	3	DISPLACEMENT	
		0005	2265	KLODS5 EQU	5	DISPLACEMENT	
		0007	2266	KLODS7 EQU	7	DISPLACEMENT	
		00FF	2267	KLOXFF EQU	X'FF'	DISPLACEMENT	
			2268	*			
		0003	2269	KLOLN3 EQU	3	LENGTH CODE	
		00FF	2270	KLO255 EQU	255	LENGTH CODE AND DISP	
			2272	*	HDR #KLOGO		
			2273		*****		
			2274	*	PROGRAM HEADER FOR DISK LOAD		
			2275		*****		
			2276	*#\$KLOG EQU	X'0444'	DISK ADDR OF #KLOGO	
			2277	*#\$KLO EQU	X'0C00'	CORE LOAD ADDRESS OF #KLOGO	
			2278	*#\$@KLO EQU	008	SECTOR CNT OF #KLOGO	
0C00			2279		ORG #\$\$\$KLO	CORE LOAD ADDRESS	
		0C00	2280	\$\$\$\$\$ EQU	*	FIRST LOCATION IN PROGRAM	
0C00	7BD2D3D6C7D6		0C05	2281	DC CL6'#KLOGO'	PROGRAM NAME	
0C06	1E		0C06	2282	DC IL1'030'	PROGRAM NUMBER OF 0KLOGO	
		0C07	2283	#KLOG EQU	*	ENTRY POINT TO PROGRAM	
			2284	***	END OF EXPANSION ***		
			2285	*			
0C07	C0 87 0C55		2286	KLOGOF B	KLO050	BYPASS MESSAGE TEXT	
			2287	*			
			2288	*	MTEXT @@M300-@PRETR,PATCH-015		
			2289		*****		
			2290	*	PPL'S AND TEXT FOR MESSAGE		
			2291		*****		
0C0B	C0		0C0B	2292	@M300 DC AL1(@PRETR)	PRINT CONTROL FUNCTION	
0C0C	37		0C0C	2293	DC IL1'55'	LENGTH OF MESSAGE	
0C0D	0C0F		0C0E	2294	DC AL(@CADDR)(@T300)	ADDR OF MESSAGE	
			2295	*			
		0C0F	2296	@T300 EQU	*	LEFT BYTE OF MESSAGE	
0C0F	C5D9D9D6D940F5F8		0C41	2297	DC CL051'ERROR 580 DUPLICATE	DISK LABELS - SPECIFY DISK LOCA'	
0C42	E3C9D6D5		0C45	2298	DC CL004'TION'		
			2299	*			
			2300	*	PATCH AREA FOR MESSAGES		
			2301	*			
0C46			0C54	2302	\$\$\$001 DS CL015	MSG EXPANSION PATCH AREA	
			2303	***	END OF EXPANSION ***		

#KLOGO KLOGOF - LOG ON/OFF KEYWORDS

ERR	LOC	OBJECT	CODE	ADDR	STMT	SOURCE	STATEMENT	VER 15, MOD 00	14/05/20	PAGE	8
					2305		*****				
					2306	*					*
					2307	*	PROGRAM INITIALIZATION				*
					2308	*					*
					2309		*****				
					2310	*					
				0C5A	2311		USING SMVOID,@BR				BASE ADDR
0C55	C2	01	0C5A		2312	KLO050	LA SMVOID,@BR				LOAD BASE ADDR
0C59	35	02	03C7		2313		L \$XRSV,@XR				RESTORE XR
0C5D	74	02	0D		2314		ST KLO100+@OP1(,@BR),@XR				SAVE ADDR IN COMPARE INSTR
					2316		*****				
					2317	*					*
					2318	*	DETERMINE KEYWORD TYPE				*
					2319	*					*
					2320		*****				
					2321	*					
0C60	5F	01	0D D3		2322		SLC KLO100+@OP1(@CADDR,@BR),KLOZR1(,@BR)				DECREMENT INDEX
0C64	3D	C6	0000		2323	KLO100	CLI *-*,C'F'				IS IT THE LOG OFF COMMAND ?
0C68	F2	01	1D		2324		JNE KLO300				NO, PROCESS LOG ON
					2326		*****				
					2327	*					*
					2328	*	PROCESS LOG OFF COMMAND				*
					2329	*					*
					2330		*****				
					2331	*					
0C6B	C0	87	1160		2332	KLO200	B SCANIT				SCAN TO NON-BLANK
0C6F	3C	18	03CD		2333		MVI \$CAERR,@E139				INVALID DELIMITER
0C73	F2	81	04		2334		JZ KLO210				SEE IF EOS
0C76	3C	12	03CD		2335		MVI \$CAERR,@E133				TOO MANY PARAMETERS
0C7A	BD	1E	00		2336	KLO210	CLI @ZERO(,@XR),@EOS				AT EOS ?
0C7D	F2	01	A6		2337		JNE KLO490				NO, ERROR EXIT
0C80	3C	80	0E5E		2338		MVI KLO950+@Q,@NOP				SET SWITCH TO CLEAR PRINTER
0C84	C0	87	0E1B		2339	KLO275	B KLO720				SET UP THE NUCLEUS
					2341		*****				
					2342	*					*
					2343	*	PROCESS LOG ON COMMAND				*
					2344	*					*
					2345		*****				
					2346	*					
0C88	BD	1E	00		2347	KLO300	CLI @ZERO(,@XR),@EOS				EOS SPECIFIED ?
0C8B	3C	10	03CD		2348		MVI \$CAERR,@E130				REQUIRED PARAMETER MISSING
0C8F	F2	81	94		2349		JE KLO490				YES, ERROR EXIT
0C92	C0	87	1160		2350		B SCANIT				SCAN BLANKS
0C96	3C	18	03CD		2351		MVI \$CAERR,@E139				INVALID DELIMITER
0C9A	F2	81	89		2352		JZ KLO490				TAKE ERROR EXIT
0C9D	74	02	C7		2353		ST KLO475+@OP1(,@BR),@XR				SAVE ERROR POINTER
0CA0	C0	87	11A1		2354		B SALPH8				SYNTAX CHECK PASSWORD
0CA4	F2	82	7F		2355		JL KLO490				TAKE ERROR EXIT
0CA7	4C	07	F5 1267		2356		MVC SMPSWD(##LPEN,@BR),SALPHR+##DPEN				SAVE PASSWORD
0CAC	BD	1E	00		2357		CLI @ZERO(,@XR),@EOS				AT EOS ?
0CAF	F2	81	A6		2358		JE KLO500				YES CHECK FOR VOL-ID

#KLOGO KLOGOF - LOG ON/OFF KEYWORDS

ERR	LOC	OBJECT	CODE	ADDR	STMT	SOURCE	STATEMENT	VER 15, MOD 00	14/05/20	PAGE	9
	0CB2	BD	6B 00	2359		CLI	@ZERO(, @XR), @COMMA				IS IT A COMMA ?
	0CB5	F2	81 2B	2360		JE	KLO420				YES, BYPASS IT
				2362			*****				
				2363		*					*
				2364		*	CHECK FOR VOL-ID				*
				2365		*					*
				2366			*****				
				2367		*					
	0CB8	BD	61 00	2368	KLO350	CLI	@ZERO(, @XR), @SLASH				IS VALID PARM PRESENT ?
	0CBB	F2	01 33	2369		JNE	KLO440				NO, CHECK NEW/OLD
	0CBE	E2	02 01	2370		LA	@B1(, @XR), @XR				INDEX XR
	0CC1	C0	87 1160	2371		B	SCANIT				BYPASS BLANKS
	0CC5	74	02 C7	2372		ST	KLO475+@OP1(, @BR), @XR				SAVE ERROR POINTER
	0CC8	C0	87 11A5	2373		B	SALPH6				SYNTAX CHECK VOL-ID
	0CCC	F2	82 57	2374		JL	KLO490				TAKE ERROR EXIT
	0CCF	7A	08 ED	2375		SBN	KLOIDR(, @BR), KLOVOL				SET VOL-ID SPECIFIED
	0CD2	4C	05 00 1265	2376		MVC	SMVOID(@VOLID, @BR), SALPHR+KLODS5				SAVE VALID
	0CD7	BD	1E 00	2377		CLI	@ZERO(, @XR), @EOS				AT EOS ?
	0CDA	F2	81 7B	2378		JE	KLO500				YES, PROCESS
	0CDD	BD	6B 00	2379		CLI	@ZERO(, @XR), @COMMA				IS IT A COMMA ?
	0CE0	F2	01 0B	2380		JNE	KLO430				NO, CHECK NEXT PARAMETER
				2382			*****				
				2383		*					*
				2384		*	CHECK FOR NEW OR OLD PASSWORD				*
				2385		*					*
				2386			*****				
				2387		*					
	0CE3	3C	01 117D	2388	KLO420	MVI	SCAMMA, SCACOM				MODIFY SCANIT
	0CE7	C0	87 1160	2389		B	SCANIT				BYPASS BLANKS AND I COMMA
	0CEB	F2	82 38	2390		JL	KLO490				TAKE ERROR EXIT
	0CEE	74	02 C7	2391	KLO430	ST	KLO475+@OP1(, @BR), @XR				SAVE INDEX
	0CF1	9D	02 02 E6	2392	KLO440	CLC	KLODS2(KLOLN3, @XR), KLOOLD(, @BR)				IS IT OLD ?
	0CF5	F2	81 0A	2393		JE	KLO450				YES, CONTINUE ON
	0CF8	9D	02 02 E9	2394		CLC	KLODS2(KLOLN3, @XR), KLONEW(, @BR)				IS IT NEW ?
	0CFC	F2	01 23	2395		JNE	KLO480				NO, ERROR EXIT
	0CFF	7A	80 ED	2396		SBN	KLOIDR(, @BR), KLOTYP				SET ON NEW INDR
	0D02	74	02 C7	2397	KLO450	ST	KLO475+@OP1(, @BR), @XR				SAVE POINTER
	0D05	E2	02 03	2398		LA	KLODS3(, @XR), @XR				INDEX PAST OLD/NEW
	0D08	C0	87 1160	2399		B	SCANIT				DELEMITER SCAN
				2400		*					
	0D0C	F2	82 17	2401		JL	KLO490				ERROR EXIT
	0D0F	F2	81 06	2402		JZ	KLO470				CHECK FOR EOS
	0D12	74	02 C7	2403		ST	KLO475+@OP1(, @BR), @XR				RESAVE XR
	0D15	7C	12 C9	2404		MVI	KLO480+@Q(, @BR), @@E133				TOO MANY PARAMETERS
	0D18	BD	1E 00	2405	KLO470	CLI	@ZERO(, @XR), @EOS				AT EOS ?
	0D1B	F2	81 3A	2406		JE	KLO500				YES, PROCESS LOG ON
	0D1E	C2	02 0000	2407	KLO475	LA	*-*, @XR				RESTORE XR
	0D22	3C	00 03CD	2408	KLO480	MVI	\$CAERR, *-*				INVALID PARAMETER
	0D22			2409		ORG	KLO480				INITIALIZE INSTRUCTION
	0D22	3C	11 03CD	2410		MVI	\$CAERR, @@E131				INVALID PARAMETER
	0D26	C0	87 0469	2411	KLO490	B	\$CAERK				ERROR EXIT
				2412		*					*

[illegible]

#KLOGO KLOGOF - LOG ON/OFF KEYWORDS

ERR	LOC	OBJECT	CODE	ADDR	STMT	SOURCE	STATEMENT	VER 15, MOD 00 14/05/20 PAGE 11
					2415	*****	*****	
					2416	*		*
					2417	*	DATA CONSTANTS, BUFFERS, WORK AREAS	*
					2418	*		*
					2419	*****	*****	
					2420	*		
					2421	*LONUL \$DPL	FUNC-@DGET,DADDR-##RN,CNT-##LN,CADDR-KLOBUF	
				0D2A	2422+	KLONUL EQU	*	DISK PARAMETER LIST
	0D2A	01		0D2A	2423+		DC AL1(@DGET)	REQUESTED FUNCTION
	0D2B	0000		0D2C	2424+		DC AL2(##RN)	DISK ADDRESS
	0D2D	01		0D2D	2425+		DC AL1(##LN)	SECTOR COUNT
	0D2E	10D4		0D2F	2426+		DC AL2(KLOBUF)	BUFFER ADDRESS
					2427+	***	END OF EXPANSION ***	
					2428	*		
					2429	*LOPAS \$DPL	FUNC-@DPUT,DADDR-##RP,CNT-##LP,CADDR-SMUDB1	
				0D30	2430+	KLOPAS EQU	*	DISK PARAMETER LIST
	0D30	02		0D30	2431+		DC AL1(@DPUT)	REQUESTED FUNCTION
	0D31	0001		0D32	2432+		DC AL2(##RP)	DISK ADDRESS
	0D33	04		0D33	2433+		DC AL1(##LP)	SECTOR COUNT
	0D34	11D4		0D35	2434+		DC AL2(SMUDB1)	BUFFER ADDRESS
					2435+	***	END OF EXPANSION ***	
					2436	*		
					2437	*LOUSE \$DPL	FUNC-@DPUT,DADDR-##RN,CNT-##LU,CADDR-SMUDB1	
				0D36	2438+	KLOUSE EQU	*	DISK PARAMETER LIST
	0D36	02		0D36	2439+		DC AL1(@DPUT)	REQUESTED FUNCTION
	0D37	0000		0D38	2440+		DC AL2(##RN)	DISK ADDRESS
	0D39	02		0D39	2441+		DC AL1(##LU)	SECTOR COUNT
	0D3A	11D4		0D3B	2442+		DC AL2(SMUDB1)	BUFFER ADDRESS
					2443+	***	END OF EXPANSION ***	
					2444	*		
					2445	*LOPP1 \$PPL	FUNC-@RETRN,CNT-@RTRNC	
				0D3C	2446+	KLOPP1 EQU	*	PRINTER PARAMETER LIST
	0D3C	80		0D3C	2447+		DC AL1(@RETRN)	REQUESTED FUNCTION
	0D3D	80		0D3D	2448+		DC AL1(@RTRNC)	SECTOR COUNT
	0D3E	0000		0D3F	2449+		DC AL2(*-*)	DATA ADDRESS
					2450+	***	END OF EXPANSION ***	
	0D3E				2452	ORG	KLOPP1+@PDATA-@B1	

#KLOGO KLOGOF - LOG ON/OFF KEYWORDS

ERR	LOC	OBJECT	CODE	ADDR	STMT	SOURCE	STATEMENT	VER 15, MOD 00	14/05/20	PAGE 12
0D3E	D6D3C4			0D40	2454	KLOOLD	DC	CL3 'OLD'		'OLD' CONSTANT FOR SYNTAX CHECK
0D41	D5C5E6			0D43	2455	KLONEW	DC	CL3 'NEW'		'NEW' CONSTANT FOR SYNTAX CHECK
0D44	0002			0D45	2456	KLOZR2	DC	XL2 '0002'		SECTOR COUNT REQUIRED FROM NULL
0D46				0D46	2457	KLOSKP	DS	XL1		COUNTER FOR BLANK LINE SKIP
0D46					2458		ORG	KLOSKP		RESET LOCATION COUNTER
0D46	70			0D46	2459		DC	XL1 '70'		SKIP COUNTER
0D47				0D47	2460	KLOIDR	DS	XL1		BYTE OF INDICATORS
0D47					2461		ORG	KLOIDR		RESET LOCATION COUNTER
0D47	00			0D47	2462		DC	XL1 '00'		INITIALIZED TO ZERO
				0080	2463	KLOTYP	EQU	X '80'		OLD/NEW INDR
					2464	*				* 0 - OLD
					2465	*				* 1 - NEW
				0008	2466	KLOVOL	EQU	X '08'		VOLUME SPECIFIED INDR
					2467	*				* 0 - VOLUME NOT SPECIFIED
					2468	*				* 1 - VOLUME SPECIFIED
0D48	4040404040404040			0D4F	2469	KLOSMP	DC	CL8 ' '		INITIALIZE SMPSWD
0D50	0000			0D51	2470	KLOSMB	DC	XL2 '0000'		INITIALIZE SMBFDA
				0D38	2471	KLOSMN	EQU	KLOUSE+@DSAD		INITIALIZE SMNDEA
				0D2C	2472	KLOZER	EQU	KLONUL+@DSAD		ZERO CONSTANT
				0D2D	2473	KLOZR1	EQU	KLONUL+@DCNT		INCREMENT - DECREMENT
					2474	*LOBAD	\$DPL	FUNC-@DPUT, DADDR-##BAD, CNT-##BA, CADDR-KLOBUF		
				0D52	2475+	KLOBAD	EQU	*		DISK PARAMETER LIST
0D52	02			0D52	2476+		DC	AL1 (@DPUT)		REQUESTED FUNCTION
0D53	0455			0D54	2477+		DC	AL2 (##BAD)		DISK ADDRESS
0D55	01			0D55	2478+		DC	AL1 (##BA)		SECTOR COUNT
0D56	10D4			0D57	2479+		DC	AL2 (KLOBUF)		BUFFER ADDRESS
					2480+	***		END OF EXPANSION ***		

#KLOGO KLOGOF - LOG ON/OFF KEYWORDS

ERR	LOC	OBJECT	CODE	ADDR	STMT	SOURCE	STATEMENT	VER 15, MOD 00	14/05/20	PAGE 13
				2482			*****			
				2483		*				*
				2484		*	SEARCH PASSWORD DIRECTORY			*
				2485		*				*
				2486			*****			
				2487		*				
0D58	78	08	ED	2488	KLO500	TBN	KLOIDR(,@BR),KLOVOL			WAS VOLID PARM SPECIFIED ?
0D5B	F2	90	07	2489		JF	KLO525			NO, SET UP FOR VOLR1
0D5E	C0	87	126C	2490		B	SVOLID			CHECK VOLID
0D62	F2	87	16	2491		J	KLO550			CONTINUE
0D65	3D	00	03FC	2492	KLO525	CLI	\$VOLR1+KLODS7-@B1,@ZERO			LIBRARY DEFINED ?
0D69	3C	54	03CD	2493		MVI	\$CAERR,@E351			NO LIBRARY
0D6D	F2	81	A4	2494		JE	KLO710			NO, ERROT EXIT
0D70	0C	01	0D51 03FD	2495		MVC	SMBFDA(@CADDR),\$VOLR1+KLODS7			OTHERWISE GET CURRENT
0D76	4C	05	00 03FB	2496		MVC	SMVOID(@VOLID,@BR),\$VOLR1+KLODS5			* VOLID ON R1
0D7B	7C	00	09	2497	KLO550	MVI	SMIND1(,@BR),@ZERO			INIT SMALES INDR
0D7E	7A	10	09	2498		SBN	SMIND1(,@BR),SM1PDS			SET PASSWORD SEARCH ONLY
0D81	3C	80	0476	2499		MVI	\$CIMSK,@NOP			MASK INTERRUPTS
0D85	C0	87	10D4	2500		B	SGETDB			SEARCH FOR PASSWORD
0D89	79	08	09	2501		TBF	SMIND1(,@BR),SM1PNF			WAS PASSWORD FOUND
0D8C	F2	10	7B	2502		JT	KLO700			YES, TEST FOR LOG ON
0D8F	78	80	ED	2503		TBN	KLOIDR(,@BR),KLOTYP			IS THIS A 'NEW' REQUEST ?
0D92	F2	10	07	2504		JT	KLO600			YES, CONTINUE PROCESSING
0D95	3C	23	03CD	2505		MVI	\$CAERR,@E210			PASSWORD NOT ON DISK
0D99	F2	87	78	2506		J	KLO710			NO, ERROR EXIT

#KLOGO KLOGOF - LOG ON/OFF KEYWORDS

ERR LOC	OBJECT CODE	ADDR	STMT	SOURCE	STATEMENT	VER 15, MOD 00 14/05/20 PAGE 14
		2508			*****	
		2509	*			*
		2510	*		SEEK AVAILABLE PASSWORD SPACE	*
		2511	*			*
		2512			*****	
		2513	*			
0D9C 3D 55 11D4		2514	KLO600	CLI	SMUDB1+##DPHC,##MPHM	MAX # PASSWORDS DEFINED ?
0DA0 3C 53 03CD		2515		MVI	\$CAERR,@E350	SET ERROR CODE
0DA4 F2 81 6D		2516		JE	KLO710	YES, ERROR EXIT
		2517	*		DSKL2 KLONUL, WAIT	READ NULL DIRECTORY
0DA7 C0 87 0ED0		2518		B	DL2ICS	PERFORM RELATIVE DISK OP
0DAB 0D2A	0DAC	2519		DC	AL2(KLONUL)	DPL ADDRESS
0DAD C0 87 0025		2520		B	\$DISKN	WAIT AND CHECK DISK ERRORS
0DB1 057F	0DB2	2521		DC	AL2(\$WAITF)	WAIT DPL ADDRESS
		2522	***		END OF EXPANSION ***	
0DB3 5C 01 11 EB		2524		MVC	SMNSCT(##LNEF,@BR),KLOZR2(,@BR)	SET SECTOR COUNT REQUIRED
0DB7 C0 87 1032		2525		B	SURCHN	SEARCH FOR DISK SPACE
0DBB 5D 01 DE D2		2526		CLC	SMNDEA(@DADDR,@BR),KLOZER(,@BR)	SPACE AVAILABLE ?
0DBF F2 81 52		2527		JE	KLO710	NO, TAKE ERROR EXIT

#KLOGO KLOGOF - LOG ON/OFF KEYWORDS

ERR	LOC	OBJECT	CODE	ADDR	STMT	SOURCE	STATEMENT	VER 15, MOD 00	14/05/20	PAGE 15
				2529		*****				
				2530	*					*
				2531	*	SET UP NEW PASSWORD ENTRY				*
				2532	*					*
				2533	*****					
				2534	*					
0DC2	1E	00	11D4 D3	2535	ALC	SMUDB1+##DPHC(##LAHC),KLOZR1(,@BR)	ADD TO PASSWORD COUNT			
0DC7	75	02	17	2536	L	SMPEAD(,@BR),@XR	LOAD POINT TO AVAIL SPACE			
0DCA	9C	07	07 F5	2537	MVC	##DPEN(##LPEN,@XR),SMPSWD(,@BR)	MOVE PASSWORD			
0DCE	9C	01	09 DE	2538	MVC	##DPEA(@DADDR,@XR),SMNDEA(,@BR)	MOVE RELATIVE DADDR			
0DD2	9C	01	0B D2	2539	MVC	##DPER(##LPEZ,@XR),KLOZER(,@BR)	ZERO RESERVED AREA			
0DD6	7C	02	D0	2540	MVI	KLONUL+@DCTRL(,@BR),@DPUT	CHANGE FUNCTION CODE			
				2541	*					
				2542	*	DSKL2 KLONUL	WRITE NULL DIRECTORY			
0DD9	C0	87	0ED0	2543	B	DL2ICS	PERFORM RELATIVE DISK OP			
0DDD	0D2A			0DDE 2544	DC	AL2(KLONUL)	DPL ADDRESS			
				2545	***	END OF EXPANSION ***				
				2546	*					
				2547	*	DSKL2 KLOPAS, WAIT	WRITE PASSWORD DIRECTORY			
0DDF	C0	87	0ED0	2548	B	DL2ICS	PERFORM RELATIVE DISK OP			
0DE3	0D30			0DE4 2549	DC	AL2(KLOPAS)	DPL ADDRESS			
0DE5	C0	87	0025	2550	B	\$DISKN	WAIT AND CHECK DISK ERRORS			
0DE9	057F			0DEA 2551	DC	AL2(\$WAITF)	WAIT DPL ADDRESS			
				2552	***	END OF EXPANSION ***				

#KLOGO KLOGOF - LOG ON/OFF KEYWORDS

ERR	LOC	OBJECT	CODE	ADDR	STMT	SOURCE	STATEMENT	VER 15, MOD 00	14/05/20	PAGE	16
				2554		*****					
				2555		*					*
				2556		*	BUILD USER BLOCK HEADER				*
				2557		*					*
				2558		*****					
				2559		*					
0DEB	C2	02	11D4	2560		LA	SMUDB1,@XR			LOAD	POINTER TO USER HEADER
0DEF	9C	01	01 DE	2561		MVC	##DUHA(@DADDR,@XR),SMNDEA(,@BR)			MOVE	REL DADDR
				2562		*					
0DF3	9C	01	03 D2	2563		MVC	##DUHB(@DADDR,@XR),KLOZER(,@BR)			ZERO	FORWARD LINK
0DF7	BC	00	04	2564		MVI	##DUHC(,@XR),@ZERO			ZERO	ENTRY COUNT
0DFA	BC	00	0B	2565		MVI	##DUHR(,@XR),@ZERO			ZERO	RESERVE
0DFD	AC	06	0A 0B	2566		MVC	##DUHR-@B1(##LUHZ,@XR),##DUHR(,@XR)			ZERO	RESERVE
				2567		*					
				2568		*	DSKL2 KLOUSE			WRITE	USER BLOCK
0E01	C0	87	0ED0	2569		B	DL2ICS			PERFORM	RELATIVE DISK OP
0E05	0D36			0E06 2570		DC	AL2(KLOUSE)			DPL	ADDRESS
				2571	***	END OF EXPANSION	***				
0E07	F2	87	11	2572		J	KLO720			ESTABLISH	NUCLEUS STATUS

#KLOGO KLOGOF - LOG ON/OFF KEYWORDS

ERR	LOC	OBJECT	CODE	ADDR	STMT	SOURCE	STATEMENT	VER 15, MOD 00 14/05/20 PAGE 17
					2574	*****	*****	
					2575	*		*
					2576	*	SET UP LOG ON INFORMATION	*
					2577	*		*
					2578	*****	*****	
					2579	*		
0E0A	78	80	ED		2580	KLO700 TBN	KLOIDR(,@BR),KLOTYP	IS THIS A 'NEW' REQUEST ?
0E0D	3C	5A	03CD		2581	MVI	\$CAERR,@E380	PASSWORD ALREADY DEFINED
0E11	F2	90	07		2582	JF	KLO720	NO, SET UP NUCLEUS
0E14	E2	02	FF		2583	KLO710 LA	KLOXFF(,@XR),@XR	GET XR OUT OF INPUT BUFFER
				0E14	2584	SVOERR EQU	KLO710	\$VOLID ERROR EXIT
0E17	C0	87	0469		2585	B	\$CAERK	TAKE ERROR EXIT
0E1B	1C	07	042D F5		2587	KLO720 MVC	\$PASWD(##LPEN),SMPSWD(,@BR)	SET UP PASSWORD
0E20	0C	01	03DA 0D51		2588	MVC	\$FILIB(@DADDR),SMBFDA	GET FILE LIBRARY ADDR
0E26	1C	01	03DC DE		2589	MVC	\$USRDR(@DADDR),SMNDEA(,@BR)	GET REL ADDR OF USER BLOCK
0E2B	3C	80	0476		2590	MVI	\$CIMSK,@NOP	MASK INTERRUPTS
0E2F	38	02	03D2		2591	TBN	\$IOIND,\$CRTAV	IS THE CRT AVAILABLE ?
0E33	F2	90	0A		2592	JF	KLO800	NO, CONTINUE PROCESSING
0E36	0E	00	0E3E 043B		2593	ALC	KLO750+@OP1-1(@B1),\$EXFTR	GET ADDR OF CRT CLEAR
0E3C	C0	87	2200		2594	KLO750 B	\$PYCD	CLEAR CRT
					2595	*****	*****	
					2596	*		*
					2597	*	CLEAR BAD LINE AND WRITE ERROR RATE TABLES	*
					2598	*		*
					2599	*****	*****	
					2600	*		
0E40	3C	1E	10D4		2601	KLO800 MVI	KLOBUF,@EOS	SET BAD LINE EOS INDR
0E44	38	02	03D5		2602	TBN	\$INDR2,\$CMODE	CONVERSATIONAL MODE ?
0E48	F2	90	06		2603	JF	KLO900	NO, DON'T WRITE BAD LINE
					2604	*	DISK KLOBAD	WRITE BLANK BAD LINE
0E4B	C0	87	0025		2605	B	\$DISKN	PERFORM PHYSICAL DISK OP
0E4F	0D52			0E50	2606	DC	AL2(KLOBAD)	DPL ADDRESS
					2607	***	END OF EXPANSION ***	
0E51	3B	40	0443		2608	KLO900 SBF	\$WFNME,\$WFDEF	SET WKFILE DELETED INDR
0E55	3C	00	03D0		2609	MVI	\$XIND1,@ZERO	ZERO EXECUTION INDR
0E59	C0	87	0F69		2610	B	SUPDAT	UPDATE ERROR TABLES
0E5D	F2	87	12		2611	KLO950 JC	KLO990,@UCB	JUMP IF LOGON
					2612	*KLO970	SPRNT KLOPP1	SKIP A LINE
0E60	C0	87	0465		2613	KLO970 B	\$SPRNT	PRINT ON SYSTEM PRINTER
0E64	0D3C			0E65	2614	DC	AL2(KLOPP1)	PPL ADDRESS
					2615	***	END OF EXPANSION ***	
0E66	C0	87	048D		2616	B	\$UNMSK	ENABLE INTERRUPTS
0E6A	5F	00	EC D3		2617	SLC	KLOSKP(@B1,@BR),KLOZR1(,@BR)	DECREMENT COUNT - IF NOT
0E6E	C0	02	0E60		2618	BNL	KLO970	* ZERO SKIP AGAIN
0E72	C0	87	04A1		2619	KLO990 B	\$CARPL	EXIT
					2620	*		
					2621	*****	*****	
					2622	*	PATCH AREA 1	
					2623	*****	*****	
0E76				0ECF	2624	\$\$\$\$\$1 DS	CL90	PATCH AREA FOR PROGRAM
					2625	*****	*****	
					2626	*	\$DL2P	

DL2ICS - TWO TRACK LOGICAL IOCR

ERR LOC	OBJECT CODE	ADDR	STMT	SOURCE STATEMENT	VER 15, MOD 00	14/05/20	PAGE 18
		2628+	*****				
		2629+	*	5703-XM1 COPYRIGHT IBM CORP 1970			*
		2630+	*	REFER TO INSTRUCTIONS ON COPYRIGHT NOTICE. 120-2083			*
		2631+	*				*
		2632+	*****				*
		2633+	*	STATUS -			*
		2634+	*	VERSION 1 MODIFICATION 0			*
		2635+	*				*
		2636+	*	FUNCTION			*
		2637+	*	DL2ICS CONVERTS A RELATIVE DISK ADDRESS TO A PHYSICAL DISK			*
		2638+	*	ADDRESS AND COMBINES IT WITH A BASE ADDRESS PLACED IN DL2RAD			*
		2639+	*	BY THE CALLER.			*
		2640+	*	THE RELATIVE DISK ADDRESS IS A TWO BYTE CYLINDER SECTOR COUNT			*
		2641+	*	IN THE CALLERS DISK PARAMETER LIST (DPL).			*
		2642+	*	THE COUNT IS A CYLINDER SECTOR DISPLACEMENT FROM THE BASE			*
		2643+	*	ADDRESS PLACED IN DL2RAD			*
		2644+	*	DL2ICS IS USED TO PROCESS DATA ON THE FIXED OR REMOVABLE DISK			*
		2645+	*	ON EITHER DRIVE AND PROVIDES THE INTERFACE TO \$DISKN.			*
		2646+	*	THE PHYSICAL DISK ADDRESS IS PLACED IN A COPY OF THE USERS DPL			*
		2647+	*	IN DL2ICS AND A CALL IS MADE TO \$DISKN TO PERFORM THE REQUESTED			*
		2648+	*	OPERATION.			*
		2649+	*				*
		2650+	*	ENTRY POINTS			*
		2651+	*	THE ENTRY IS DL2ICS. THE BASE REGISTER IS SAVED AND RESTORED			*
		2652+	*	ON RETURN. THE INDEX REGISTER IS NOT USED.			*
		2653+	*	THE FORMAT OF THE CALLING SEQUENCE IS AS FOLLOWS:			*
		2654+	*	B DL2ICS			*
		2655+	*	DC AL2(PARMLT)			*
		2656+	*	WHERE PARMLT IS THE ADDR OF THE PARAMETER LIST TO BE PROCESSED.			*
		2657+	*				*
		2658+	*	INPUT			*
		2659+	*	THE INPUT IS A TWO BYTE BASE DISK ADDRESS PLACED IN			*
		2660+	*	DL2RAD AND A SIX BYTE DPL. THE SAME FORMAT AS THE DPL FOR			*
		2661+	*	\$DISKN EXCEPT FOR THE DISK ADDRESS WHICH IS A RELATIVE CYLINDER			*
		2662+	*	AND SECTOR DISPLACEMENT FROM THE BASE ADDRESS IN DL2RAD.			*
		2663+	*				*
		2664+	*	OUTPUT			*
		2665+	*	NONE.			*
		2666+	*				*
		2667+	*	EXTERNAL REFERENCES			*
		2668+	*	\$DISKN - ENTRY TO PHYSICAL DISK ROUTINE IS THE SYSTEM NUCLEUS.			*
		2669+	*				*
		2670+	*	EXITS, NORMAL			*
		2671+	*	NORMAL - EXIT IS TO THE FIRST INSTRUCTION FOLLOWING THE POINTER			*
		2672+	*	TO THE DPL. THE BASE REGISTER IS RESTORED. THE RETURN ADDRESS			*
		2673+	*	IS THE ADDRESS RECALL REGISTER (ARR) +2.			*
		2674+	*				*
		2675+	*	EXITS, ERROR			*
		2676+	*	NONE			*
		2677+	*				*
		2678+	*	TABLES/WORK AREAS			*
		2679+	*	THE CONSTANTS AND WORK AREAS RESIDE AT THE END OF THE EXECUTABLE			*
		2680+	*	CODE AND ARE REFERENCED BY A DISPLACEMENT RELATIVE TO THE VALUE			*
		2681+	*	IN INDEX REGISTER 1 (@BR).			*
		2682+	*	DL2SEC AND DL2SAD ARE EQUATED TO OPERAND LOCATIONS IN THE			*
		2683+	*	EXECUTABLE CODE TO ELIMINATE EXCESS WORKING STORAGE.			*

DL2ICS - TWO TRACK LOGICAL IOCR

ERR LOC	OBJECT CODE	ADDR	STMT	SOURCE	STATEMENT	VER 15, MOD 00 14/05/20 PAGE 19
			2684+	*		*
			2685+	*	ATTRIBUTES	*
			2686+	*	* DL2ICS IS REUSABLE	*
			2687+	*		*
			2688+	*	CHARACTER CODE DEPENDENCY	*
			2689+	*	THE OPERATION OF THIS MODULE DOES NOT DEPEND UPON A PARTICULAR	*
			2690+	*	INTERNAL REPRESENTATION OF THE EXTERNAL CHARACTER SET.	*
			2691+	*		*
			2692+	*	NOTES	*
			2693+	*	ERROR PROCEDURES	*
			2694+	*	NONE	*
			2695+	*		*
			2696+	*	REGISTER USAGE	*
			2697+	*	INDEX REGISTER 1 (@BR) IS SAVED AND RESTORED. THIS REGISTER IS	*
			2698+	*	USED DURING EXECUTION. REGISTER 2 (@BR) IS NOT USED.	*
			2699+	*		*
			2700+	*	SAVED/RESTORED AREAS	*
			2701+	*	NONE	*
			2702+	*		*
			2703+	*	MODIFICATION CONSIDERATIONS	*
			2704+	*	NONE	*
			2705+	*		*
			2706+	*	REQUIRED MODULES	*
			2707+	*	@SYSEQ - COMMON SYSTEM EQUATES.	*
			2708+	*	@FXDEQ - SYSTEM NUCLEUS ADDRESSES AND INDICATORS VALUES EQUATES	*
			2709+	*		*
			2710+	*	OTHER	*
			2711+	*	DL2ICS MAY BE USED TO CONVERT THE DISK ADDRESS ONLY AND NOT TO	*
			2712+	*	CALL \$DISKN IF THE USER MOVES A UCB CODE TO DL2SWH.	*
			2713+	*	THIS OPTION IS NOT STANDARD USAGE.	*
			2714+	*	*****	*
		0ED4	2715+		USING DL2000,@BR ESTABLISH ADDRESSABILITY	
			2716+			
		0001	2717+	DL2E01 EQU	X'01'	FIELD LENGTH OF 1
		0002	2718+	DL2E02 EQU	X'02'	FIELD LENGTH OF 2
		0018	2719+	DL2E18 EQU	X'18'	HEX TRACK SECTOR COUNT
		0060	2720+	DL2E60 EQU	X'60'	PHYSICAL SECTOR COUNT
		0083	2721+	DL2TSD EQU	X'83'	MASK OFF TRACK SPINDLE DISK
		007C	2722+	DL2E7C EQU	X'7C'	MASK OUT SECTOR COUNT
		0ED0	2723+	DL2ICS EQU	*	ENTRY POINT
	0ED0 34 01 0F51		2724+	ST	DL2900+@OP1,@BR	SAVE OLD BASE
		0ED4	2725+	DL2000 EQU	*	START PROCESSING
	0ED4 C2 01 0ED4		2726+	LA	DL2000,@BR	SET BASE ADDRESS
	0ED8 76 08 8A		2727+	A	DL2C01(,@BR),@ARR	BUMP TO RIGHT BYTE OF ADDR
	0EDB 74 08 14		2728+	ST	DL2001+@DOP2(,@BR),@ARR	ADDR OF PARAM
	0EDE 76 08 8A		2729+	A	DL2C01(,@BR),@ARR	BUMP TO RETURN ADDR
	0EE1 74 08 81		2730+	ST	DL2910+@OP1(,@BR),@ARR	SAVE RETURN ADDR
			2731+	*		
	0EE4 4C 01 1D 0000		2732+	DL2001 MVC	DL2002+@DOP2(@DADDR,@BR),*-*	SETUP ADDR OF DPL
	0EE9 5E 01 1D 8C		2733+	ALC	DL2002+@DOP2(@CADDR,@BR),DL2C05(,@BR)	DUMP TO RIGHT END
	0EED 4C 05 92 0000		2734+	DL2002 MVC	DL2DPL(@DPLNG,@BR),*-*	MOVE USER DPL TO WORK AREA
	0EF2 5F 00 8F 86		2735+	DL2005 SLC	DL2LST+@DSAD(DL2E01,@BR),DL2C48(,@BR)	ADJUST SCTR/CYL
	0EF6 F2 82 07		2736+	JM	DL2006	GO TO RESTORE TO CONTINUE
	0EF9 5E 00 8E 8A		2737+	ALC	DL2LST+@DCYL(DL2E01,@BR),DL2C01(,@BR)	BUMP CYLINDER COUNT
	0EFD D0 87 1E		2738+	B	DL2005(,@BR)	BACK FOR NEXT CYLINDER
	0F00 5E 00 8F 86		2739+	DL2006 ALC	DL2LST+@DSAD(DL2E01,@BR),DL2C48(,@BR)	RESTORE POSITIVE

DL2ICS - TWO TRACK LOGICAL IOCR

ERR	LOC	OBJECT	CODE	ADDR	STMT	SOURCE	STATEMENT	VER	15,	MOD	00	14/05/20	PAGE	20
					2740+*									
					2741+*		GET THE LOGICAL SECTOR FROM THE DPL. THE NUMBER IS LEFT ADJUSTED							
					2742+*		TO COMAE IT MTN THE POINTER ESTABLISHED PRIOR TO AN ENTRY.							
0F04	5C	00	1D 8F		2743+	MVC	DL2SEC(DL2E01,@BR),DL2LST+@DSAD(,@BR) GET SECTOR NUMBER							
0F08	7C	00	8F		2744+	MVI	DL2LST+@DSAD(,@BR),@ZERO CLEAR SECTOR BYTE							
					2745+*									
					2746+*		MOVE THE RELATIVE START TO THE DFL							
					2747+*									
0F0B	5E	01	8F 94		2748+	ALC	DL2LST+@DSAD(DL2E02,@BR),DL2RAD(,@BR) DL2RAD TO DPL							
0F0F	7D	18	1D		2749+	CLI	DL2SEC(,@BR),DL2E18 IS COUNT OVER A TRACK							
0F12	F2	82	08		2750+	JL	DL2008 NO GO CHANGE A PHYSICAL ADOR							
0F15	5E	01	8F 85		2751+	ALC	DL2LST+@DSAD(DL2E02,@BR),DL2K80(,@BR) BUMP TRACK VALUE							
0F19	5F	00	1D 88		2752+	SLC	DL2SEC(1,@BR),DL2K18(,@BR) DECR BY TRACK VALUE							
0F1D	5E	00	1D 1D		2753+DL2008	ALC	DL2SEC(1,@BR),DL2SEC(,@BR) SHIFT LEFT 1							
0F21	5E	00	1D 1D		2754+	ALC	DL2SEC(1,@BR),DL2SEC(,@BR) SHIFT LEFT							
0F25	5C	00	14 8F		2755+	MVC	DL2SAD(DL2E01,@BR),DL2LST+@DSAD(,@BR) GET SECTOR ADDRESS							
					2756+*									
					2757+*		ZERO OUT THE SECTOR COUNT AND LEAVE THE DISK. SPINDLE AND							
					2758+*		TRACK BITS AS IS TO BE RE INSERTED AFTER THE SECTOR HAS BEEN							
					2759+*		LOCATES.							
					2760+*									
0F29	7B	7C	8F		2761+	SBF	DL2LST+@DSAD(,@BR),DL2E7C TURN OFF							
0F2C	7B	83	14		2762+	SBF	DL2SAD(,@BR),DL2TSD OFF TRACK SPINDLE DISK							
0F2F	5E	00	14 1D		2763+	ALC	DL2SAD(DL2E01,@BR),DL2SEC(,@BR) COMBINE SECTOR COUNTS							
0F33	7D	60	14		2764+DL2010	CLI	DL2SAD(,@BR),DL2E60 TEST IF TRACK CROSSED							
0F36	F2	82	08		2765+	JL	DL2100							
					2766+*									
					2767+*		INCREMENT TRACK BIT. OVERFLOW INTO THE CYLINDER COUNT.							
					2768+*									
0F39	5E	01	8F 85		2769+	ALC	DL2LST+@DSAD(DL2E02,@BR),DL2K80(,@BR)							
0F3D	5F	00	14 83		2770+	SLC	DL2SAD(1,@BR),DL2K60(,@BR) DECR BY TRACK VALUE							
					2771+*									
0F41	5E	00	8F 14		2772+DL2100	ALC	DL2LST+@DSAD(1,@BR),DL2SAD(,@BR) INSERT SECTOR COUNT							
					2773+*									
0F45	F2	80	06		2774+DL2110	JC	DL2900,@NOP CONVERSION SWITCH							
				0F46	2775+DL2SWH	EQU	DL2110+@Q ADDR OF Q CODE FOR SWITCH							
0F48	C0	87	0025		2776+	B	\$DISKN GO PROCESS I/O							
0F4C	0F61			0F4D	2777+	DC	AL2(DL2LST) ADDRESS OF DPL							
0F4E	C2	01	0000		2778+DL2900	LA	*-*,@BR RESTORE CALLERS BASE							
0F52	C0	87	0000		2779+DL2910	B	*-*							
					2780+*****									
					2781+*		CONSTANTS							
					2782+*****									
0F56	0060			0F57	2783+DL2K60	DC	XL2'0060' SECTOR COUNT OF 24 LEFT ADJUSTD							
0F58	0080			0F59	2784+DL2K80	DC	XL2'0080' BIT FOR INCREMENTING TRACK							
0F5A	30			0F5A	2785+DL2C48	DC	IL1'48' CYLINDER VALUE FOR 1 DISK							
0F5B	0018			0F5C	2786+DL2K18	DC	XL2'18' HEX SECTORS PER TRACK							
0F5D	0001			0F5E	2787+DL2C01	DC	IL2'1' CONSTANT FOR REGISTER MODE							
0F5F	0005			0F60	2788+DL2C05	DC	IL2'5' DISP TO RIGHT END OF DPL							
					2789+*****									
					2790+*		WORK AREA							
					2791+*****									
				0F61	2792+DL2LST	EQU	* LIST HIGH END							
0F61				0F66	2793+DL2DPL	DS	CL(@DPLNG) WORKING DPL							
				0F63	2794+DL2PHY	EQU	DL2LST+@DSAD POINTER TO PHYSICAL DADDR							
				0EE8	2795+DL2SAD	EQU	DL2001+@DOP2 SAVE SECTOR BYTE FROM DPI							

DL2ICS - TWO TRACK LOGICAL IOCR

ERR LOC		OBJECT CODE	ADDR	STMT	SOURCE	STATEMENT	VER 15, MOD 00		14/05/20	PAGE	21
0F67			0EF1	2796+	DL2SEC	EQU	DL2002+	@DOP2		WORKING SECTOR ADDRESS FIELD	
			0F68	2797+	DL2RAD	DS	CL(@DADDR)			USER RELATIVE STARTING ADDR.	
			0F69	2798+	DL2END	EQU	*			END OF DL2ICS	
				2799+	***				END OF DL2ICS	***	

UPDATE DISK VOLUME ERROR RATE COUNTERS

ERR LOC	OBJECT CODE	ADDR	STMT	SOURCE STATEMENT	VER 15, MOD 00 14/05/20 PAGE 22
		2801		*****	
		2802	*	5703-XM1 COPYRIGHT IBM CORP. 1970	*
		2803	*	REFER TO INSTRUCTIONS ON COPY RIGHT NOTICE, 120-2083	*
		2804	*		*
		2805		*****	
		2806	*	*STATUS	*
		2807	*	VERSION 1 MODIFICATION 0	*
		2808	*		*
		2809	*	*FUNCTION	*
		2810	*	SUPDAT UPDATES THE INDIVIDUAL AND SYSTEM ERROR RATE COUNTERS	*
		2811	*	ON EACH VOLUME MOUNTED ON THE SYSTEM. THIS IS DONE BY ADDING	*
		2812	*	THE READ/WRITE COUNTERS STORED IN THE NUCLEUS TO THE COUNTERS	*
		2813	*	MAINTAINED ON THE DISKS. THE NUCLEUS COUNTERS ARE THEN SET	*
		2814	*	TO ZERO.	*
		2815	*		*
		2816	*	*ENTRY POINTS	*
		2817	*	ENTRY IS AT LOCATION SUPDAT. THE CALLING SEQUENCE IS:	*
		2818	*	B SUPDAT	*
		2819	*	A ONE SECTOR BUFFER MUST BE ALLOCATED FOR DISK I/O BY THE	*
		2820	*	CALLING PROGRAM AT LOCATION SUPBUF.	*
		2821	*		*
		2822	*	*INPUT	*
		2823	*	N/A	*
		2824	*		*
		2825	*	*OUTPUT	*
		2826	*	THE GENERAL REGISTERS ARE RESTORED TO ENTRY VALUES.	*
		2827	*		*
		2828	*	*EXTERNAL REFERENCES	*
		2829	*	\$PKERT - LOCATION OF ERROR RATE COUNTERS IN THE NUCLEUS.	*
		2830	*	\$DISKN - ENTRY TO DISK IOCS . DKDISK.	*
		2831	*	\$WAITF - ADDRESS OF DISK WAIT DPL.	*
		2832	*	SUPBUF - LOCATION OF DISK I/O BUFFER.	*
		2833	*		*
		2834	*	*EXITS, NORMAL	*
		2835	*	EXIT IS TO THE NEXT SEQUENTIAL INSTRUCTION IN THE CALLING PROG.	*
		2836	*		*
		2837	*	*EXITS, ERROR	*
		2838	*	N/A	*
		2839	*		*
		2840	*	*TABLES/WORK AREAS	*
		2841	*	N/A	*
		2842	*		*
		2843	*	*ATTRIBUTES	*
		2844	*	RELOCATABLE	*
		2845	*		*
		2846	*	*CHARACTER CODE DEPENDENCY	*
		2847	*	N/A	*
		2848	*		*
		2849	*	*NOTES	*
		2850	*	ERROR PROCEDURES	*
		2851	*	N/A	*
		2852	*	REGISTER USAGE	*
		2853	*	REGISTER 1 IS USED FOR BASE ADDRESSING. REGISTER 2 IS USED	*
		2854	*	FOR INDEXING THE ERROR RATE TABLES.	*
		2855	*	SAVED RESTORED AREAS	*
		2856	*	N/A	*

UPDATE DISK VOLUME ERROR RATE COUNTERS								
ERR LOC	OBJECT CODE	ADDR	STMT	SOURCE	STATEMENT	VER 15,	MOD 00	14/05/20 PAGE 23
		2857	*		MODIFICATION CONSIDERATIONS			*
		2858	*		N/A			*
		2859	*		REQUIRED MODULES			*
		2860	*		@SYSEQ - GENERAL SYSTEM EQUATES			*
		2861	*		@FXDEQ - NUCLEUS LOCATION EQUATES			*
		2862	*		@CY0EQ - CYLINDER 0 EQUATES			*
		2863	*		NOTES			*
		2864	*		N/A			*
		2865	*					*
		2866	*		*****			*

UPDATE DISK VOLUME ERROR RATE COUNTERS

ERR LOC	OBJECT CODE	ADDR	STMT	SOURCE STATEMENT	VER 15, MOD 00 14/05/20 PAGE 24
			2868	*****	
			2869	* THIS ROUTINE UPDATES THE TOTAL READ-WRITE COUNTERS ON ALL DISKS *	
			2870	* 'MOUNTED' ON THE SYSTEM. THE MASTER READ/WRITE COUNTERS ON THE *	
			2871	* FIXED DISK WILL ALSO BE UPDATED. *	
			2872	*****	
			2873	*	
			2874	*SUPDAT ENTER BASE-SUPBSE,EXIT-SUP50,@BR,@XR,@ARR	
		0F7B	2875	USING SUPBSE,@BR	BASE ADDRESS SPECIFICATION
		0F69	2876	SUPDAT EQU *	MODULE ENTRY POINT
0F69	34 01 0FEF		2877	ST SUP500+@OP1,@BR	SAVE @BR
0F6D	C2 01 0F7B		2878	LA SUPBSE,@BR	LOAD BASE REGISTER
0F71	74 02 78		2879	ST SUP501+@OP1(,@BR),@XR	SAVE @XR
0F74	74 08 7C		2880	ST SUP502+@OP1(,@BR),@ARR	SAVE RETURN ADDRESS
			2881	*** END OF EXPANSION ***	
0F77	C2 02 0416		2882	LA \$PKERT-#PKRTD,@XR	POINT XR TO START OF COUNTERS
0F7B	9D 03 03 80		2883	SUP020 CLC #PKRTD(#PKRTL,@XR),SUPZER(,@BR)	IS THERE SOMETHING TO
			2884	*	* UPDATE ?
0F7F	F2 81 2B		2885	JE SUP100	SKIP UPDATE IF NOT
0F82	6C 01 85 01		2886	MVC SUPWTC(#PKCNT,@BR),#PKWTD(,@XR)	SET WRT CNTR TO 4 BYTES
0F86	6C 01 89 03		2887	MVC SUPRDC(#PKCNT,@BR),#PKRDD(,@XR)	SET READ CNTR TO 4 BYTES
0F8A	5C 07 9E 89		2888	SUP040 MVC SUPMST+SUPDSP(2*#RDWTL,@BR),SUPRDC(,@BR)	SET MASTER ENTRY
			2889	* DISK SUPDPL,WAIT	READ IN VOLUME SDR SCTR
0F8E	C0 87 0025		2890	B \$DISKN	PERFORM PHYSICAL DISK OP
0F92	1005	0F93	2891	DC AL2(SUPDPL)	DPL ADDRESS
0F94	C0 87 0025		2892	B \$DISKN	WAIT AND CHECK DISK ERRORS
0F98	057F	0F99	2893	DC AL2(\$WAITF)	WAIT DPL ADDRESS
			2894	*** END OF EXPANSION ***	
0F9A	1E 03 10DB 85		2895	ALC SUPBUF+#PKVWD(#RDWTL),SUPWTC(,@BR)	ADD NEW WRITES TO SDR
0F9F	1E 03 10DF 89		2896	ALC SUPBUF+#PKVRD(#RDWTL),SUPRDC(,@BR)	ADD NEW READS TO SDR
0FA4	7C 02 8A		2897	MVI SUPDPL+@DCTRL(,@BR),@DPUT	SET DPL FOR WRITE
			2898	* DISK SUPDPL	WRITE VOLUME SDR SCTR
0FA7	C0 87 0025		2899	B \$DISKN	PERFORM PHYSICAL DISK OP
0FAB	1005	0FAC	2900	DC AL2(SUPDPL)	DPL ADDRESS
			2901	*** END OF EXPANSION ***	
0FAD	78 03 8C		2902	SUP100 TBN SUPDPL+@DSAD(,@BR),SUPEND	ARE ALL DISKS FINISHED ?
0FB0	F2 10 11		2903	JT SUP200	GO UPDATE SDR TOTAL CNTRS IF YES
0FB3	5E 00 8C 81		2904	ALC SUPDPL+@DSAD(1,@BR),SUPONE(,@BR)	SET NEXT DISK ADDRESS
0FB7	7C 01 8A		2905	MVI SUPDPL+@DCTRL(,@BR),@DGET	SET DPL TO READ
0FBA	E2 02 04		2906	LA #PKRTL(,@XR),@XR	POINT TO NEXT INCORE ENTRY
0FBD	5E 00 11 96		2907	ALC SUP040+@D1(1,@BR),SUPMDP(,@BR)	UPDATE NSTR TBI POINTER
0FC1	D0 87 00		2908	B SUP020(,@BR)	GO UPDATE NEXT DISK
			2910	*SUP200 DISK SUPDP2,WAIT	READ TOTAL RD/WT SDR SCTR
0FC4	C0 87 0025		2911	SUP200 B \$DISKN	PERFORM PHYSICAL DISK OP
0FC8	100B	0FC9	2912	DC AL2(SUPDP2)	DPL ADDRESS
0FCA	C0 87 0025		2913	B \$DISKN	WAIT AND CHECK DISK ERRORS
0FCE	057F	0FCF	2914	DC AL2(\$WAITF)	WAIT DPL ADDRESS
			2915	*** END OF EXPANSION ***	
0FD0	0E 1F 10FF 1031		2916	ALC SUPBUF+#PKMRW(8*#RDWTL),SUPMST+8*#RDWTL-1	ADD NEW RD/WT
0FD6	7C 02 90		2917	MVI SUPDP2+@DCTRL(,@BR),@DPUT	SET, WRITE FUNC CODE
			2918	* DISK SUPDP2,WAIT	WRITE MASTER RD/WT CNTR SCTR
0FD9	C0 87 0025		2919	B \$DISKN	PERFORM PHYSICAL DISK OP
0FDD	100B	0FDE	2920	DC AL2(SUPDP2)	DPL ADDRESS
0FDF	C0 87 0025		2921	B \$DISKN	WAIT AND CHECK DISK ERRORS
0FE3	057F	0FE4	2922	DC AL2(\$WAITF)	WAIT DPI ADDRESS
			2923	*** END OF EXPANSION **	

UPDATE DISK VOLUME ERROR RATE COUNTERS

ERR LOC OBJECT CODE ADDR STMT SOURCE STATEMENT VER 15, MOD 00 14/05/20 PAGE 25

0FE5 BC 00 03 2924 MVI #PKRTD(, @XR), @ZERO PREPARE CLEAR OF PK ER/RATE TBL
0FE8 AC 0E 02 03 2925 MVC #PKRTD-1(4*#PKRTL-1, @XR), #PKRTD(, @XR) ZERO OUT TABLE
2926 *SUP50 EXIT @BR, @XR, RETURN
0FEC C2 01 0000 2927 SUP500 LA *-*, @BR RESTORE @BR
0FF0 C2 02 0000 2928 SUP501 LA *-*, @XR RESTORE @XR
0FF4 C0 87 0000 2929 SUP502 B *-* RETURN TO CALLING PROGRAM
2930 *** END OF EXPANSION ***
2932 *****
2933 * CONSTANTS AND WORK AREAS
2934 *****
0FF8 00000000 0FFB 2935 SUPZER DC XL(#RDWTL) '00' ZERO
0FFC 01 0FFC 2936 SUPONE DC IL1 '1' ONE
0FFD 00000000 1000 2937 SUPWTC DC 2AL2(*-*) VOLUME WRITE CNTR
1001 00000000 1004 2938 SUPRDC DC 2AL2(*-*) VOLUME READ CNTR
2939 *UPDPL \$DPL FUNC-@DGET, DADDR-#VLSDR, CNT-#@VLSD, CADDR-SUPBUF
1005 01 1005 2940+SUPDPL EQU * DISK PARAMETER LIST
1006 000C 1005 2941+ DC AL1(@DGET) REQUESTED FUNCTION
1008 01 1007 2942+ DC AL2(#VLSDR) DISK ADDRESS
1009 10D4 1008 2943+ DC AL1(#@VLSD) SECTOR COUNT
100A 2944+ DC AL2(SUPBUF) BUFFER ADDRESS
2945+*** END OF EXPANSION ***
2946 *
2947 *UPDP2 \$DPL FUNC-@DGET, DADDR-#MVSDR, CNT-#@MVSD, CADDR-SUPBUF
100B 01 100B 2948+SUPDP2 EQU * DISK PARAMETER LIST
100C 000D 100B 2949+ DC AL1(@DGET) REQUESTED FUNCTION
100E 01 100D 2950+ DC AL2(#MVSDR) DISK ADDRESS
100F 10D4 100E 2951+ DC AL1(#@MVSD) SECTOR COUNT
1010 2952+ DC AL2(SUPBUF) BUFFER ADDRESS
2953+*** END OF EXPANSION ***
2954 *
1011 08 1011 2955 SUPMDP DC AL1(2*#RDWTL) MASTER TABLE POINTER INCREMENT
1012 00000000000000000000 1012 2956 SUPMST EQU * START OF MASTER UPDATE AREA
1031 2957 DC 32AL1(*-*) MASTER UPDATE AREA
0003 2958 SUPEND EQU X'03' F2 SCTR ADDR BITS
0F7B 2959 SUPBSE EQU SUP020 BASE VALUE
0007 2960 SUPDSP EQU 2*#RDWTL-1 DISP TO RI RD/WT MASTER COUNTER
2961 *****

#KLOGO -- COMMAND KEY PROCESSOR

ERR LOC	OBJECT CODE	ADDR	STMT	SOURCE STATEMENT	VER 15, MOD 00 14/05/20 PAGE 26
		2963		*****	
		2964	*	5703-XM1 COPYRIGHT IBM CORP. 1970	*
		2965	*	REFER TO INSTRUCTIONS ON COPY RIGHT NOTICE, 120-2083	*
		2966	*		*
		2967		*****	
		2968	*	*STATUS	*
		2969	*	VERSION 1 MODIFICATION 0	*
		2970	*		*
		2971	*	*FUNCTION	*
		2972	*	* SURCHN WILL SEARCH THE NULL DIRECTORY FOR AN ENTRY OF AT LEAST	*
		2973	*	N SECTORS WHERE N IS THE NUMBER OF SECTORS REQUIRED. IF THE	*
		2974	*	SPACE IS FOUND THE STARTING ADDRESS IS PLACED IN SMNDEA. IF IT	*
		2975	*	IS NOT FOUND SMNDEA IS SET TO ZERO, AND SMNULT CONTAINS THE	*
		2976	*	TOTAL OF ALL NULL SECTORS IN THE LIBRARY.	*
		2977	*		*
		2978	*	*ENTRY POINTS	*
		2979	*	SURCHN - ENTRY TO SEARCH FOR NULL SPACE. THE CALLING	*
		2980	*	SEQUENCE IS AS FOLLOWS:	*
		2981	*	B SURCHN	*
		2982	*		*
		2983	*	*INPUT	*
		2984	*	* THE INPUT TO SURCHN IS VIA TSMLES. SMNSCT MUST CONTAIN THE	*
		2985	*	NUMBER OF SECTORS REQUIRED. SMNDBA MUST CONTAIN THE ADDRESS OF	*
		2986	*	THE NULL DIRECTORY IN CORE.	*
		2987	*		*
		2988	*	*OUTPUT	*
		2989	*	* SMNDEA WILL CONTAIN THE RELATIVE DISK ADDRESS OF THE NULL AREA	*
		2990	*	SMNDEA WILL BE ZERO IF THE SPACE IS NOT FOUND.	*
		2991	*	* IF THE SPACE REQUIRED IS NOT FOUND SMNULT WILL CONTAIN THE	*
		2992	*	TOTAL OF NULL SECTORS IN THE LIBRARY.	*
		2993	*		*
		2994	*	*EXTERNAL REFERENCES	*
		2995	*	\$CAERR - LOCATION OF SYSTEM ERROR CODE INDICATOR	*
		2996	*	SMNDBA - LOCATION OF NULL DIRECTORY BUFFER ADDRESS	*
		2997	*	SMNULT - LOCATION OF NULL TOTAL COUNT	*
		2998	*	SMNSCT - LOCATION OF REQUIRED SECTOR COUNT	*
		2999	*	SMNDEA - LOCATION OF THE NULL DIRCTY ENTRY ADDRESS.	*
		3000	*		*
		3001	*	*EXITS, NORMAL	*
		3002	*	* NORMAL RETURN IS TO THE FIRST INSTRUCTION FOLLOWING THE BRANCH	*
		3003	*	TO SURCHN.	*
		3004	*		*
		3005	*	*EXITS, ERROR	*
		3006	*	* N/A	*
		3007	*		*
		3008	*	*TABLES/WORKAREAS	*
		3009	*	* N/A	*
		3010	*		*
		3011	*	*ATTRIBUTES	*
		3012	*	* RELOCATABLE	*
		3013	*	* REUSEABLE	*
		3014	*		*
		3015	*	*CHARACTER CODE DEPENDENCY	*
		3016	*	* THE OPERATION OF THIS MODULE DOES NOT DEPEND ON A PARTICULAR	*
		3017	*	INTERNAL REPRESENTATION OF THE EXTERNAL CHARACTER SET.	*
		3018	*		*

#KLOGO -- COMMAND KEY PROCESSOR

ERR LOC	OBJECT CODE	ADDR	STMT	SOURCE STATEMENT	VER 15, MOD 00	14/05/20	PAGE 27	
		3019	*	NOTES				*
		3020	*	ERROR PROCEDURES				*
		3021	*	N/A				*
		3022	*	REGISTER USAGE				*
		3023	*	@BR AND @XR ARE SAVED AND RESTORED ON EXIT. @BR IS USED AS A				*
		3024	*	BASE REGISTER AND @XR IS USED TO POINT TO THE NULL DIRECTORY.				*
		3025	*	SAVED/RESTORED AREAS				*
		3026	*	N/A				*
		3027	*	MODIFICATION CONSIDERATIONS				*
		3028	*	N/A				*
		3029	*	REQUIRED MODULES				*
		3030	*	@SYSE0 - SYSTEM SOFTNART EQUATES.				*
		3031	*	@DIRE0 - LIBRARY DIRECTORY EQUATES				*
		3032	*	@FXDE0 - SYSTEM NUCLEUS EQUATES				*
		3033	*	OTHER				*
		3034	*	N/A				*
		3035	*	*****				*

#KLOGO -- COMMAND KEY PROCESSOR

ERR	LOC	OBJECT	CODE	ADDR	STMT	SOURCE	STATEMENT	VER 15, MOD 00 14/05/20 PAGE 28
					3037		*****	
					3038	*	SURCHN WILL SEARCH THE NULL DIRECTORY FOR THE NUMBER OF SECTORS	*
					3039	*	SPECIFIED IN SMNSCT. THE ADDR OF THE SPACE FOUND WILL BE PLACED	*
					3040	*	IN SMNDEA. IF NO SPACE IS FOUND SMNDEA IS SET TO ZERO.	*
					3041		*****	
				1032	3042	SURCHN EQU *	ENTRY TO SURCHN	
				0001	3043	SURE01 EQU 1	VALUE TO TEST COUNTERS	
				1036	3044	USING SUR000,@BR	SPECIFY BASE REGISTER	
1032	34	01	1095		3045	ST SUR900+@OP1,@BR	SAVE BASE OF CALLER	
1036	C2	01	1036		3046	SUR000 LA SUR000,@BR	ESTABLISH BASE ADDR	
103A	74	02	63		3047	ST SUR910+@OP1(,@BR),@XR	SAVE INDEX	
103D	74	08	67		3048	ST SUR920+@OP1(,@BR),@ARR	SET RETURN ADDR	
1040	3C	43	03CD		3049	MVI \$CAERR,@E300	LIBRARY SPACE NOT AVAILABLE	
					3050	*		
1044	35	02	0D2F		3051	L SMNDBA,@XR	GET ADDR TO NULL DIRCTY	
1048	1C	01	0C69 9A		3052	MVC SMNULT(SURE02),SURC00(,@BR)	CLEAR TOTAL FIELD	
					3053	*		
104D	6C	00	1F 00		3054	MVC SURCNT(SURE01,@BR),##DNHC(,@XR)	ENTRY COUNT FROM HEADER	
1051	E2	02	04		3055	LA ##DNE1(,@XR),@XR	BUMP POINTER TO FIRST ENTRY	
1054	7D	00	9A		3056	SUR010 CLI SURC00(,@BR),*-*		
				1055	3057	SURCNT EQU SUR010+@Q		
1057	F2	81	44		3058	JE SUR0G2	NO ENTRIES	
					3059	*		
					3060	*	SEARCH ENTRIES FOR ONE WITH ENOUGH SPACE	
					3061	*		
105A	8D	01	03 0C6B		3062	CLC ##DNEF(##LNEF,@XR),SMNSCT	LOOK FOR LARGE ENOUGH COUNT	
105F	F2	02	0F		3063	JNL SUR0A2	ENTRY GREATER OR EQUAL	
					3064	*		
					3065	*	ENTRY IS LESS THAN SPECIFIED COUNT. ADD ENTRY COUNT TO	
					3066	*	SMNULT AND TOTAL AVAILABLE SPACE.	
					3067	*		
1062	2E	01	0C69 03		3068	ALC SMNULT,##DNEF(##LNEF,@XR)	ADD COUNT TO NULL TOTAL	
1067	E2	02	06		3069	LA ##LNE(,@XR),@XR	BUMP TO NEXT ENTRY	
106A	5F	00	1F 9B		3070	SLC SURCNT(SURE01,@BR),SURC01(,@BR)	DECR WORKING COUNT	
106E	D0	87	1E		3071	B SUR010(,@BR)	GO LOOK AT NEXT ENTRY	
					3072	*		
					3073	*	LARGE ENOUGH SPACE HAS BEEN FOUND. TAKE THE REQUIRED	
					3074	*	NUMBER OF SECTORS AND MODIFY OR DELETE THE ENTRY. SAVE	
					3075	*	DIRECTORY ENTRY ADDR.	
					3076	*		
1071	2C	01	0D38 01		3077	SUR0A2 MVC SMNDEA,##DNEA(@DADDR,@XR)	SAVE DADDR OF SPACE FOUND	
					3078	*		
					3079	*	TEST IF ENTRY IS OF EQUAL SIZE OF REQUIRED SPACE.	
					3080	*		
1076	F2	01	2D		3081	JNE SUR0A3	ENTRY NOT THE SAME SIZE JUMPS	
					3082	*		
					3083	*	ENTRY IS OF EQUAL SIZE SO DELETE IT FROM THE DIRECTORY.	
					3084	*		
					3085	*	MOVE EACH ENTRY OF DIRECTORY UP ONE POSITION	
					3086	*		
1079	AC	05	05 0B		3087	SUR020 MVC ##DNER(,@XR),##DNER+##LNE(##LNE,@XR)	MOVE ENTRY	
107D	5F	00	1F 9B		3088	SLC SURCNT(SURE01,@BR),SURC01(,@BR)	DECR ENTRY COUNT	
1081	F2	81	06		3089	JE SUR024	ZERO COUNT JUMP	
					3090	*		
1084	E2	02	06		3091	LA ##LNE(,@XR),@XR	BUMP POINTER TO NEXT *TRY	
1087	D0	87	43		3092	B SUR020(,@BR)	BACK TO MOVE NEXT ENTRY	

#KLOGO -- COMMAND KEY PROCESSOR

ERR	LOC	OBJECT	CODE	ADDR	STMT	SOURCE	STATEMENT	VER 15, MOD 00 14/05/20 PAGE 29
108A	35	02	0D2F		3094	SUR024 L	SMNDBA,@XR	RESTORE POINTER TO START OF BUF
108E	9F	01	00 9B		3095	SLC	##DNHC(SURE02,@XR),SURC01(,@BR)	DECR HEADER COUNT
					3096	*		
					3097	*	RETURN ACTION	
					3098	*		
1092	C2	01	0000		3099	SUR900 LA	*-*,@BR	RESTORE BASE
1096	C2	02	0000		3100	SUR910 LA	*-*,@XR	RESTORE INDEX
109A	C0	87	0000		3101	SUR920 B	*-*	RETURN ADDR
					3102	*		
					3103	*	NO ENTRY FOUND. CLEAR SMNDEA AND RETURN	
					3104	*		
109E	1C	01	0D38 9A		3105	SUR0G2 MVC	SMNDEA(@CADDR),SURC00(,@BR)	CLEAR DADDR POINTER
10A3	D0	87	5C		3106	B	SUR900(,@BR)	
					3107	*		
					3108	*	REDUCE ENTRY BY REQUIRED SECTORS. MODIFY THE RELATIVE	
					3109	*	ADDRESS OF ENTRY TO NEW STARTING LOCATION OF THE NULL	
					3110	*	AREA WHICH IS THE REQUIRED SPACE+1.	
					3111	*		
10A6	8F	01	03 0C6B		3112	SUR0A3 SLC	##DNEF(##LNEF,@XR),SMNSCT	DECR ENTRY BY REQUIRED COUNT
10AB	6C	00	94 00		3113	MVC	SURSWK(1,@BR),##DNEA-1(,@XR)	GET CYL COUNT
10AF	BC	00	00		3114	MVI	##DNEA-1(,@XR),@ZERO	CLEAR CYL IN ENTRY
10B2	8E	01	01 0C6B		3115	ALC	##DNEA(SURE02,@XR),SMNSCT	BUMP SECTOR BY SPACE USED
10B7	9F	01	01 9D		3116	SUR034 SLC	##DNEA(SURE02,@XR),SURC48(,@BR)	DECR BY 1 CYL VALUE
10BB	F2	82	07		3117	JL	SUR033	JUMP LEIS THAN A SECTOR
10BE	5E	00	94 9B		3118	ALC	SURSWK(1,@BR),SURC01(,@BR)	BUMP CYL COUNT
10C2	D0	87	81		3119	B	SUR034(,@BR)	BACK FOR NEXT CYL
10C5	9E	01	01 9D		3120	SUR033 ALC	##DNEA(SURE02,@XR),SURC48(,@BR)	RESTORE REMAINDER
10C9	BC	00	00		3121	SUR03C MVI	##DNEA-1(,@XR),*-*	PLUG CYLINDER BACK INTO DADOR
				10CA	3122	SURSWK EQU	SUR03C+@Q	ADDR OF CYL IN INSTR
10CC	D0	87	5C		3123	B	SUR900(,@BR)	GO TO RETURN
					3124	*		
					3125	*	CONSTANTS AND WORK AREA	
					3126	*		
				0002	3127	SURE02 EQU	2	VALUE FOR MOVES
10CF	0000			10D0	3128	SURC00 DC	IL2'0'	ZERO FOR COUNT TEST
10D1	01			10D1	3129	SURC01 DC	IL1'1'	VALUE TO INCR COUNTS
10D2	0030			10D3	3130	SURC48 DC	IL2'48'	CYL VALUE

#KLOGO SGETDB - GET USER DIRECTORY BLOCK ROUTINE

ERR LOC	OBJECT CODE	ADDR	STMT	SOURCE STATEMENT	VER 15, MOD 00 14/05/20 PAGE 30
		3132		*****	
		3133	*	5703-XM1 COPYRIGHT IBM CORP. 1970	*
		3134	*	REFER TO INSTRUCTIONS ON COPY RIGHT NOTICE, 120-2083	*
		3135	*		*
		3136		*****	
		3137	*	*STATUS	*
		3138	*	VERSION 1 MODIFICATION 0	*
		3139	*		*
		3140	*	*FUNCTION	*
		3141	*	* SGETDB PROVIDES TWO PRIMARY FUNCTIONS. IT WILL SEARCH THE	*
		3142	*	PASSWORD DIRECTORY FOR A SPECIFIED PASSWORD ONLY, OR IF	*
		3143	*	INDICATED WILL GO AND READ IN THE FIRST USER BLOCK ASSOCIATED	*
		3144	*	WITH THAT PASSWORD.	*
		3145	*	* IF THE PASSWORD SEARCH ONLY IS REQUESTED A SWITCH IS SET TO	*
		3146	*	INHIBIT READING THE DIRECTORY ON SUBSEQUENT ENTRIES.	*
		3147	*	* THE ERROR CODE FOR PASSWORD NOT FOUND IS ALWAYS SET IN \$CAERR.	*
		3148	*	IF THE PASSWORD IS OR IS NOT FOUND THE INDICATOR IN SMIND1 IS	*
		3149	*	SET APPROPRIATELY.	*
		3150	*		*
		3151	*	*ENTRY POINTS	*
		3152	*	SGETDB - ENTRY TO SEARCH PASSWORD DIRECTORY AND GET	*
		3153	*	ASSOCIATED USER DIRECTORY. THE CALLING SEQUENCE IS	*
		3154	*	AS FOLLOWS:	*
		3155	*	B SGETDB	*
		3156	*		*
		3157	*	*INPUT	*
		3158	*	* THE BASE ADDRESS OF THE LIBRARY MUST BE IN SMIFDA IN TSMLES.	*
		3159	*	* THE PASSWORD MUST BE IN SMPSWD.	*
		3160	*	* IF THE PASSWORD DIRECTORY IS TO BE SEARCHED ONLY, THEN SMIPDS	*
		3161	*	IN SMIND1 MUST BE SET TO 1. IF THE FIRST USER DIRECTORY BLOCK	*
		3162	*	ASSOCIATED WITH THE SPECIFIED PASSWORD IS TO BE READ IN THEN	*
		3163	*	THEN SMIPDS MUST BE SET TO 0.	*
		3164	*		*
		3165	*	*OUTPUT	*
		3166	*	* IF THE SPECIFIED PASSWORD IS FOUND THE ADDRESS OF THE LEFT BYTE	*
		3167	*	OF THE ENTRY IS PLACED IN SMPEAD, SM1PNF IN SMIND1 IS SET TO 0.	*
		3168	*	AND THE USER DIRECTORY RDADDR IS PLACED IN SMFUDA.	*
		3169	*	* IF THE USER DIRECTORY WAS REQUESTED, THE READ OPERATION IS	*
		3170	*	STARTED BUT NO WAIT IS PERFORMED. THE USER DIRECTORIES OVERLAY	*
		3171	*	THE PASSWORD DIRECTORIES IN CORE.	*
		3172	*	* IF THE SPECIFIED PASSWORD WAS NOT FOUND SMIPN, IS SET TO 1. AND	*
		3173	*	THE ADDRESS FOR THE NEXT AVAILABLE ENTRY IS IN SMPEAD.	*
		3174	*		*
		3175	*	*EXTERNAL REFERENCES	*
		3176	*	\$CAERR - LOCATION FOR SYSTEM ERROR CODE	*
		3177	*	SMIND1 - DATA MANAGEMENT INDICATOR	*
		3178	*	DL2RAD - LOCATION OF FILE PHYSICAL BASE ADDRESS	*
		3179	*	SMBFDA - LOCATION OF LIBRARY BASE ADDRESS	*
		3180	*	DL2ICS - ENTRY TO DISK I/O ROUTINE	*
		3181	*	\$DISKN - ENTRY TO SYSTEM DISK IOCS	*
		3182	*	\$WAITF - LOCATION OF COMMON I/O WAIT FUNCTION	*
		3183	*	SMPSWD - LOCATION PASSWORD ARGUMENT	*
		3184	*	SMPEAD - LOCATION OF PASSWORD ENTRY ADDRESS	*
		3185	*	SMFUDA - LOCATION OF USER DIRECTORY RDADDR	*
		3186	*		*
		3187	*	*EXITS, NORMAL	*

#KLOGO SGETDB - GET USER DIRECTORY BLOCK ROUTINE

ERR LOC OBJECT CODE ADDR STMT SOURCE STATEMENT VER 15, MOD 00 14/05/20 PAGE 31

```

3188 *      * NORMAL EXIT IS TO THE FIRST INSTRUCTION FOLLOWING THE BRANCH TO *
3189 *      SGETDB *
3190 * *
3191 *EXITS, ERROR *
3192 *      * NONE *
3193 * *
3194 *TABLES/WORKAREAS *
3195 *      * NONE *
3196 * *
3197 *ATTRIBUTES *
3198 *      * RELOCATABLE *
3199 *      * REUSABLE *
3200 * *
3201 *CHARACTER CODE DEPENDENCY *
3202 *      * THE OPERATION OF THIS MODULE DOES NOT DEPEND UPON A PARTICULAR *
3203 *      INTERNAL REPRESENTATION OF THE EXTERNAL CHARACTER SET. *
3204 * *
3205 *NOTES *
3206 *      ERROR PROCEDURES *
3207 *      THE ERROR CODE FOR PASSWORD NOT FOUND IS ALWAYS SET BUT SGETDB *
3208 *      DETECTS NO PARTICULAR ERROR. THE CONDITION AS TO IF THE *
3209 *      PASSWORD WAS OR WAS NOT FOUND IS INDICATED HOWEVER. *
3210 *      REGISTER USAGE *
3211 *      @BR AND @XR1 ARS SAVED AND RESTORED. @BR IS USED AS A BASE *
3212 *      REGISTER AND @XR IS USED AS AN INDEX TO THE PASSWORD DIRCTY. *
3213 *      @ARR IS USED TO PROVIDE THE RETURN ADDRESS. *
3214 *      SAVED/RESTORIED AREAS *
3215 *      N/A *
3216 *      MODIFICATION CONSIDERATIONS *
3217 *      IN USING SGETDB THE USER MUST TAKE INTO CONSIDERATION THAT *
3218 *      SGETDB DOES NOT WAIT FOR THE USER DIRECTORY BLOCK TO BE IN *
3219 *      CORE BEFORE RETURNING. *
3220 *      REQUIRED MODULES *
3221 *      @SYSEQ - SYSTEM SOFTWARE EQUATES *
3222 *      @FXDEQ - NUCLEUS EQUATES *
3223 *      @DIREQ - LIBRARY DIRECTORY EQUATES *
3224 *      DL2ICS - DISK IOCS *
3225 *      TSMLES - DATA MANAGEMENT COMMUNICATIONS AREA *
3226 *      OTHER *
3227 *      N/A *
3228 *****
3229 *SGETDB ENTER BASE,SGETDB,EXIT,SGE90,81R,@XRJARR
10D4 3230 USING SGETDB,@BR BASE ADDRESS SPECIFICATION
10D4 3231 SGETDB EQU * MODULE ENTRY POINT
10D4 34 01 114C 3232 ST SGE900+@OP1,@BR SAVE @BR
10D8 C2 01 10D4 3233 LA SGETDB,@BR LOAD BASE REGISTER
10DC 74 02 7C 3234 ST SGE901+@OP1(,@BR),@XR SAVE XR
10DF 74 08 80 3235 ST SGE902+@OP1(,@BR),@ARR SAVE RETURN ADDRESS
3236 *** END OF EXPANSION ***
10E2 3C 23 03CD 3237 MVI $CAERR,@E210 PASSWORD NOT ON DISK
10E6 3B 08 0C63 3238 SBF SMIND1,SM1PNF INITIALIZE INDICATOR TO FOUND
10EA F2 80 15 3239 SGE050 JC SGE055,@NOP SET SWITCH FOR 2ND ENTRY
10ED 7C 87 17 3240 MVI SGE050+@Q(,@BR),@UCB TURN SWITCH ON FOR NEXT ENTRY
10F0 0C 01 0F68 0D51 3241 MVC DL2RAD,SMBFDA STUFF IN THE BASE ADDR
10F6 C0 87 0ED0 3242 B DL2ICS CALL DISK I/O ROUTINE
10FA 1155 10FB 3243 DC AL2(SGEDPL) POINTER TO PARAMETER LIST

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#KLOGO SGETDB - GET USER DIRECTORY BLOCK ROUTINE

ERR LOC OBJECT CODE ADDR STMT SOURCE STATEMENT VER 15, MOD 00 14/05/20 PAGE 32

10FC	C0 87 0025		3244	B	\$DISKN	WAIT FOR DIRCTY TO LOAD
1100	057F	1101	3245	DC	AL2(\$WAITF)	WAIT FOR DIRCTY
1102	75 02 86		3247	SGE055 L	SGEDPL+@DBFR2(,@BR),@XR	PASSWORD BUFFER CADDR
1105	6C 00 89 00		3248	MVC	SGECNT(1,@BR),##DPHC(,@XR)	ENTRY COUNT TO WORK
1109	E2 02 04		3249	LA	##DPE1(,@XR),@XR	BUMP TO FIRST PASSWORD
			3250	*		
110C	2D 07 0D4F 07		3251	SGE060 CLC	SMPSWD(##LPEN),##DPEN(,@XR)	LOOK AT PSWD ENTRY
1111	F2 81 0E		3252	JE	SGE070	FOUND THE PSWD
1114	E2 02 0C		3253	LA	##LPE(,@XR),@XR	BUMP TO LOOK AT NEXT ENTRY
1117	5F 00 89 8B		3254	SLC	SGECNT(1,@BR),SGEC01(,@BR)	DECR ENTRY COUNT
111B	D0 01 38		3255	BNE	SGE060(,@BR)	BACK FOR LOOK AT ENTRY
111E	3A 08 0C63		3256	SBN	SMIND1,SM1PNF	NOT FOUND INDICATOR
			3257	*		
			3258	*		
			3259	*	THE PASSWORD OR THE END OF THE DIRCTY HAS BEEN FOUND,	
			3260	*	SAVE THE POINTERS.	
1122	34 02 0C71		3261	SGE070 ST	SMPEAD,@XR	SAVE ENTRY ADDRESS
1126	2C 01 0D38 09		3262	MVC	SMFUDA(@DADDR),##DPEA(,@XR)	POSSIBLE USER DADDR OF BLK
112B	38 10 0C63		3263	TBN	SMIND1,SM1PDS	TEST SEARCH BIT ONLY ON
112F	F2 10 17		3264	JT	SGE900	SEARCH ONLY SO EXIT
1132	7D 00 89		3265	CLI	SGECNT(,@BR),@ZERO	TEST COUNT IF ENTRY FOUND
1135	F2 81 11		3266	JE	SGE900	JUMP IF NOT FOUND
1138	6C 01 83 09		3267	SGE080 MVC	SGEDPL+@DSAD(@DADDR,@BR),##DPEA(,@XR)	BLK ADDR TO DPL
113C	C0 87 0ED0		3268	B	DL2ICS	CALL TO READ USER DIRCTY
1140	1155	1141	3269	DC	AL2(SGEDPL)	POINTER TO PARAMETER LIST
			3270	*		
1142	7C 80 17		3271	MVI	SGE050+@Q(,@BR),@NOP	TURN OFF SKIP INSTR
1145	5C 01 83 88		3272	MVC	SGEDPL+@DSAD(@DADDR,@BR),SGERAD(,@BR)	RESTORE DSAD PSWD
			3273	*		
			3274	*SGE90	EXIT @BR,@XR,,RETURN	
1149	C2 01 0000		3275	SGE900 LA	*-*,@BR	RESTORE OBR
114D	C2 02 0000		3276	SGE901 LA	*-*,@XR	RESTORE OXR
1151	C0 87 0000		3277	SGE902 B	*-*	RETURN TO CALLING PROGRAM
			3278	***	END OF EXPANSION ***	
			3279	*		
			3280	*	DPL TO READ IN THE PASSWORD DIRCTY	
			3281	*GEDPL \$DPL	FUNC-@DGET,DADDR-##RP,CNT-##LP,CADDR-SMPDB1	
		1155	3282+SGEDPL EQU	*		DISK PARAMETER LIST
1155	01	1155	3283+	DC	AL1(@DGET)	REQUESTED FUNCTION
1156	0001	1157	3284+	DC	AL2(##RP)	DISK ADDRESS
1158	04	1158	3285+	DC	AL1(##LP)	SECTOR COUNT
1159	11D4	115A	3286+	DC	AL2(SMPDB1)	BUFFER ADDRESS
			3287+***	***	END OF EXPANSION ***	
			3288	*		
115B	0001	115C	3289	SGERAD DC	AL2(##RP)	RELATIVE DADDR OF DIRCTY
115D		115D	3290	SGECNT DS	CL1	SAVE AREA FOR ENTRY COUNT
115E	0001	115F	3291	SGEC01 DC	IL2'1'	CONSTANT 1 FOR ADDR MODIFCATION
		1160	3293	SGEEND EQU	*	END ADDR OF SGETDB
			3294	*	\$CANI	

SCANIT - DELIMETER SCAN MODULE

ERR LOC	OBJECT CODE	ADDR	STMT	SOURCE STATEMENT	VER 15, MOD 00	14/05/20	PAGE 33
		3296+		*****			
		3297+*	5703-XM1	COPYRIGHT IBM CORP. 1970			*
		3298+*		REFER TO INSTRUCTIONS ON COPYRIGHT NOTICE, 120-2083			*
		3299+*					*
		3300+		*****			*
		3301+*		STATUS			*
		3302+*		VERSION 1 MODIFICATION 0			*
		3303+*					*
		3304+*		FUNCTION			*
		3305+*		THE FUNCTION OF SCANIT IS TO SCAN PAST VALID DELIMITERS AND			*
		3306+*		RETURN A POINTER TO THE FIRST CHARACTER THAT'S NOT A DELIMITER.			*
		3307+*					*
		3308+*		ENTRY POINTS			*
		3309+*		* THE ENTRY POINT IS SCANIT.			*
		3310+*		* THE CALLING SEQUENCE IS AS FOLLOWS:			*
		3311+*		B SCANIT			*
		3312+*		WITH REGISTER 2 (@XR) POINTING TO THE FIRST CHARACTER TO BE			*
		3313+*		EXAMINED.			*
		3314+*					*
		3315+*		INPUT			*
		3316+*		NONE			*
		3317+*					*
		3318+*		OUTPUT			*
		3319+*		NONE			*
		3320+*					*
		3321+*		EXTERNAL REFERENCES			*
		3322+*		\$CAERR - ERROR CODE SAVE AREA			*
		3323+*					*
		3324+*		EXITS, NORMAL			*
		3325+*		NORMAL EXIT FROM SCANIT IS TO THE BYTE FOLLOWING THE BRANCH TO			*
		3326+*		SCANIT IN THE CALLING ROUTINE. THE PSR (REGISTER 4) WILL CONTAIN			*
		3327+*		A ZERO IF NO DELIMITERS WERE FOUND OR A HIGH CONDITION IF ONE OR			*
		3328+*		MORE DELIMITERS WERE SCANNED.			*
		3329+*					*
		3330+*		EXITS, ERROR			*
		3331+*		ERROR EXIT FROM SCANIT IS TO THE BYTE FOLLOWING THE BRANCH TO			*
		3332+*		SCANIT IN THE CALLING ROUTINE. THE PSR WILL CONTAIN A LOW			*
		3333+*		CONDITION.			*
		3334+*					*
		3335+*		TABLES/WORKAREAS			*
		3336+*		* SCACNT - AREA CONTAINING NUMBERS OF DELIMITERS SCANNED			*
		3337+*		* SCAMMA - LOC WHERE SCACOM MAY BE MOVED IF ONE COMMA IS ALSO			*
		3338+*		TO BE CONSIDERED A DELIMITER. MOVING SCACOF BACK INTO SCAMMA			*
		3339+*		INDICATES THAT ONLY BLANKS SHOULD BE CONSIDERED DELIMITERS.			*
		3340+*					*
		3341+*		ATTRIBUTES			*
		3342+*		RELOCATABLE AND RE-USABLE			*
		3343+*					*
		3344+*		CHARACTER CODE DEPENDENCY			*
		3345+*		THE OPERATION OF THIS MODULE DOES NOT DEPEND UPON A PARTICULAR			*
		3346+*		INTERNAL REPRESENTATION OF THE EXTERNAL CHARACTER SET.			*
		3347+*					*
		3348+*		NOTES			*
		3349+*		ERROR PROCEDURES			*
		3350+*		THE ONLY ERROR CONDITION DETECTED BY SCANIT IS THE CASE WHERE			*
		3351+*		A CARRIAGE-RETURN CODE FOLLOWS A COMMA. UPON RETURN TO THE			*

SCANIT - DELIMETER SCAN MODULE

ERR	LOC	OBJECT	CODE	ADDR	STMT	SOURCE	STATEMENT	VER 15, MOD 00 14/05/20 PAGE 34
				3352+	*		CALLING ROUTINE, @PSR WILL BE SET TO A LOW CONDITION, THE	*
				3353+	*		ERROR CODE IS SET IN \$CAERR, AND MG WILU BE POINTING TO THE	*
				3354+	*		CARRIAGE-RETURN CHARACTER.	*
				3355+	*			*
				3356+	*		REGISTER USAGE	*
				3357+	*		REGISTER 2 (@XR) IS USED AS A POINTER ACROSS THE AREA BEING	*
				3358+	*		SCANNED FOR DELIMITERS.	*
				3359+	*			*
				3360+	*		SAVED/RESTORED AREAS	*
				3361+	*		UPON ENTRY TO SCANIT, REGISTER 8 (@ARR) IS SAVED AND USED AS	*
				3362+	*		THE RETURN ADDRESS.	*
				3363+	*			*
				3364+	*		MODIFICATION CONSIDERATIONS	*
				3365+	*		NONE	*
				3366+	*			*
				3367+	*		REQUIRED MODULES	*
				3368+	*		* @SYSEQ - COMMON SYSTEM EQUATES	*
				3369+	*		* @FXDEQ - FIXED NUCLEUS ADDRESSES EQUATES	*
				3370+	*			*
				3371+	*		OTHER	*
				3372+	*		SCANIT IS INITIALIZED TO BYPASS BLANKS ONLY. IF SCACOM IS	*
				3373+	*		MOVED TO SCAMMA, ONE COMMA WILL BE SCANNED ALONG WITH BLANKS.	*
				3374+	*		THE INSTRUCTION TO DO THIS IS AS FOLLOWS:	*
				3375+	*		MVI SCAMMA,SCACOM	*
				3376+	*			*
				3377+	*		TO DROP THE COMMA FROM ITS DELIMITER STATUS, SCACOF SHOULD BE	*
				3378+	*		MOVED TO SCAMMA, USING THE FOLLOWING INSTRUCTION:	*
				3379+	*		MVI SCAMMA,SCACOF	*
				3380+	*			*
				3381+	*		*****	*
				3383+	*			*
				3384+	*		EQUATES USED IN THIS SUBROUTINE	*
				3385+	*			*
				0001		3386+	SCAINC EQU 1	TO INCREMENT POINTER
				0001		3387+	SCACOM EQU @BNE	SWITCH TO ALLOW SCANNING COMMA
				0087		3388+	SCACOF EQU @UCB	SWITCH TO SET OFF THE INDICATON
				3389+	*			* FOR SCANNING A COMMA
				1160		3390+	SCANIT EQU *	ENTRY POINT TO THIS SUBROUTINE
1160	34	08	119C	3391+		ST	SCA500+@OP1,@ARR	SAVE RETURN ADDRESS
1164	34	02	119E	3392+		ST	SCASVE,@XR	SAVE POINTER VALUE
1168	3C	04	03CD	3393+		MVI	\$CAERR,@E110	SET ERROR CODE
116C	F2	87	03	3394+		J	SCA200	GO TO PROCESS
116F	E2	02	01	3395+		SCA100	LA SCAINC(,@XR),@XR	INCREMENT POINTER TO NEXT CHAR
1172	BD	40	00	3396+		SCA200	CLI 0(,@XR),@BLANK	IS THIS CHAR BLANK ?
1175	C0	81	116F	3397+		BE	SCA100	YES, FETCH NEXT ONE
1179	BD	6B	00	3398+		CLI	0(,@XR),@COMMA	IS IT A COMMA ?
117C	F2	87	10	3399+		SCA250	JC SCA400,@UCB	UCS TO RETURN -- OR NOP IF
				3400+	*			* SCAMMA IS ACTIVE AND CHAR
117F	E2	02	01	3401+		SCA300	LA SCAINC(,@XR),@XR	INCREMENT POINTER TO NEXT CHAR
1182	BD	40	00	3402+		CLI	0(,@XR),@BLANK	IS THIS CHAR A BLANK ?
1185	C0	81	117F	3403+		BE	SCA300	YES, FETCH NEXT ONE
1189	BD	1F	00	3404+		CLI	0(,@XR),@EOS+1	IS THIS EOS ?
118C	F2	82	0A	3405+		JL	SCA500	IF NOT, SKIP ERROR ROUTINE
118F	34	02	11A0	3406+		SCA400	ST SCACNT,@XR	SAVE NEW POINTER VALUE

SCANIT - DELIMETER SCAN MODULE

ERR LOC		OBJECT CODE	ADDR	STMT	SOURCE	STATEMENT	VER 15, MOD 00		14/05/20	PAGE	35
1193	0F 01 11A0 119E			3407+	SLC	SCACNT(2),SCASVE			SET PSR TO EQUAL IF POINTER		
				3408+*					* NOT ADVANCED		
1199	C0 87 0000			3409+SCA500	B	*-*			YES, RETURN		
			117D	3410+SCAMMA	EQU	SCA250+@Q			TO SET SCAN COMMA INDICATOR		
				3411+*							
				3412+*		SAVE AREA					
				3413+*							
			119D	3414+SCASV1	EQU	*			FIRST BYTE OF SCASVE		
119D			119E	3415+SCASVE	DS	CL2			ORIGINAL POINTER VALUE SAVE		
119F			11A0	3416+SCACNT	DS	CL2			SAVE AREA FOR TOTAL CHAR SCAN		
				3417+***				END OF SCANIT		***	
				3418 *							
				3419 *		\$ALPH					

SALPHA - SYNTAX CHECKER MODULE

ERR LOC	OBJECT CODE	ADDR	STMT	SOURCE STATEMENT	VER 15, MOD 00	14/05/20	PAGE 36
3421+				*****			
3422+	*	5703-XM1		COPYRIGHT IBM CORP. 1970			*
3423+	*			REFER TO INSTRUCTIONS ON COPYRIGHT NOTICE, 120-2083			*
3424+	*						*
3425+	*			*****			*
3426+	*			STATUS			*
3427+	*			VERSION 1 MODIFICATION 0			*
3428+	*						*
3429+	*			FUNCTION			*
3430+	*			THE FUNCTION OF SALPHA IS TO SYNTAX CHECK AN 8 CHARACTER OR 6			*
3431+	*			CHARACTER ALPHAMERIC PARAMETER DETERMINED BY THE ENTRY POINT,			*
3432+	*			SALPH8 OR SALPH6 RESPECTIVELY. ENTRY AT SALPHA IMPLIES A REQUEST			*
3433+	*			THAT THE FIRST CHARACTER BE ALPHABETIC. A SYNTACTICALLY CORRECT			*
3434+	*			PARAMETER WILL BE SAVED AT SALPHR (LEFTMOST BYTE ADDRESS), THE			*
3435+	*			COUNT OF THE NUMBER OF VALID CMARACTERS, IF NEEDED, IS FOOD IN			*
3436+	*			SALCNT. UPON ENTRY, SALPHA REQUIRES INDEX RESISTER 2 (OM TO BE			*
3437+	*			ADDRESSING THE FIRST CHARACTER 0, THE PARAMETER TO BE SYNTAX			*
3438+	*			CHECKED. UPON NORMAL RETURN INDEX REGISTER 2 (@XR) WILL BE			*
3439+	*			ADDRESSING THE FIRST NON-DELIMITER FOLLOWING THE PARAMETER (NOTE			*
3440+	*			INPUT),			*
3441+	*						*
3442+	*			ENTRY POINTS			*
3443+	*			* SALPH8 - ENTRY POINT TO SYNTAX CHECK AN EIGHT CHARACTER			*
3444+	*			ALPHAMERIC PARAMETER WHOSE FIRST CHARACTER MUST BE			*
3445+	*			ALPHABETIC.			*
3446+	*			* SALPH6 - ENTRY POINT TO SYNTAX CHECK A SIX CHARACTER			*
3447+	*			ALPHAMERIC PARAMETER WHICH HAS NO RESTRICTIONS ON			*
3448+	*			THE TYPE OF THE FIRST CHARACTER. (NOTE MODIFICA-			*
3449+	*			TION CONSIDERATIONS)			*
3450+	*						*
3451+	*			INPUT			*
3452+	*			UPON ENTRY TO SALPHA, AT EITHER ENTRY POINT, INDEX REGISTER 2			*
3453+	*			(@XR) SHOULD BE ADDRESSING THE LEFTMOST CHARACTER OF THE PARAMETER*			*
3454+	*			TO BE SYNTAX CHECKED. ALSO, THE SWITCH 'SCAMMA' IN SCANIT SHOULD			*
3455+	*			BE SET FOR THE TYPE OF DELIMITER SCAN REQUESTED AFTER THE SYNTAX			*
3456+	*			CHECK. (IE. BLANKS ONLY OR BLANKS WITH 1 COMMA).			*
3457+	*						*
3458+	*			OUTPUT			*
3459+	*			OUTPUT FROM SALPHA INCLUDES THE SYNTAX CHECKED PARAMETER AT SALPHR*			*
3460+	*			(LEFTMOST BYTE OF SAVE AREA) AND THE COUNT OF VALID CHARACTERS			*
3461+	*			IN SALCNT, AND INDEX REGISTER 2 (@XR) WILL BE POINTING AT THE			*
3462+	*			FIRST NON-DELIMITER AFTER THE PARAMETER. THE ONLY EXCEPTION TO			*
3463+	*			THIS IS UPON DETECTION OF AN ERROR (SEE ERROR EXITS AND PROC.)			*
3464+	*						*
3465+	*			EXTERNAL REFERENCES			*
3466+	*			SCANIT - DELIMITER SCAN MODULE			*
3467+	*			\$CAERR - ADDR IN SYSTEM NUCLEUS-ERROR CODE SAVE AREA			*
3468+	*						*
3469+	*			EXITS, NORMAL			*
3470+	*			NEXT SEQUENTIAL INSTRUCTION IN CALL ROUTINE WITH INDEX			*
3471+	*			REGISTER 2 (@XR) POINTING TO THE NEXT NON-DELIMITER			*
3472+	*			FOLLOWING THE PARAMETER AND WITH A NON-LOW CONDITION CODE			*
3473+	*			IN THE PROGRAM STATUS RESISTER (@PSR),			*
3474+	*						*
3475+	*			EXITS, ERROR			*
3476+	*			NEXT SEQUENTIAL INSTRUCTION IN CALL ROUTINE WILH INDEX			*

SALPHA - SYNTAX CHECKER MODULE

ERR LOC	OBJECT CODE	ADDR	STMT	SOURCE STATEMENT	VER 15, MOD 00 14/05/20 PAGE 37
		3477+	*	REGISTER 2 (@XR) POINTING TO THE LEFTMOST CHARACTER OF THE	*
		3478+	*	INVALID PARAMETER AND WITH A LOW CONDITION CODE IN THE	*
		3479+	*	PROGRAM STATUS REGISTER (@PSR),	*
		3480+	*		*
		3481+	*	TABLES/WORK AREAS	*
		3482+	*	ALL OF THE CONSTANTS AND WORK AREAS IN SALPHA ARE LOCATED AT THE	*
		3483+	*	END OF THE MODULE AND ARE ADDRESSED BY INDEX REGISTER 1 (RBR).	*
		3484+	*		*
		3485+	*	ATTRIBUTES	*
		3486+	*	REUSABLE, RELOCATABLE	*
		3487+	*		*
		3488+	*	CHARACTER CODE DEPENDENCY	*
		3489+	*	CHARACTER CODE DEPENDENCY CLASS - E	*
		3490+	*	THE OPERATION OF THIS MODULE DEPENDS UPON THE FOLLOWING PROPERTIES	*
		3491+	*	OF THE INTERNAL REPRESENTATION OF THE EXTERNAL CHARACTER SET:	*
		3492+	*	* THE FOLLOWING SPECIAL ALPHABETIC CHARACTERS ARE PART OF	*
		3493+	*	@SYSEQ AND ARE SPECIFICALLY COMPARED FOR:	*
		3494+	*	* @DOLAR	*
		3495+	*	* @NUMBR	*
		3496+	*	* @ASIGN	*
		3497+	*	* THE REMAINING-ALPHABETIC CHARACTERS ARE DEFINED TO BE	*
		3498+	*	INCLUSIVELY IN THE RANGE DEFINED BY THE FOLLOWING IN @SYSEQ:	*
		3499+	*	* @CHARA	*
		3500+	*	* @CHARZ	*
		3501+	*		*
		3502+	*	THE DECIMAL NUMBERS FALL INTO THE CATEGORY OF BEING GREATER	*
		3503+	*	THAN AN @CHARZ (IE. THIS IS DEFAULTED TO BY CHECKING METHOD)	*
		3504+	*	THE SPECIFIC INSTRUCTIONS WHICH REQUIRE MODIFICATION IF THESE	*
		3505+	*	PROPERTIES OF THE CHARACTER SET ARE CHANGED MAY BE IDENTIFIED BY:	*
		3506+	*	* SAL200 - FOR THE THREE SPECIAL CHARACTERS	*
		3507+	*	* SAL250 - FOR THE REMAINING ALPHABETIC RANGE	*
		3508+	*	* SAL425 - BRANCHES 'TO' THIS LOCATION IMPLY DEFAULT TO NUMERIC	*
		3509+	*		*
		3510+	*	NOTES	*
		3511+	*	ERROR PROCEDURES	*
		3512+	*	THE FOLLOWING ERROR CONDITIONS WILL RESULT IN AN ERROR CODE	*
		3513+	*	BEING SET IN \$CAERR AND AN ERROR EXIT BEING MADE (SEE EDITS,	*
		3514+	*	ERROR):	*
		3515+	*	* A NON-ALPHABETIC FIRST CHARACTER WHEN ENTRY WAS AT	*
		3516+	*	SALPH8.	*
		3517+	*	* A NON-ALPHAMERIC CHARACTER EMBEDDED IN A PARAMETER WHICH	*
		3518+	*	SALPH8 WAS CALLED TO CHECK.	*
		3519+	*	* A NON-ALPHAMERIC CHARACTER BEING FIRST OR EMBEDDED IN A	*
		3520+	*	PARAMETER WHICH SALPH6 WAS CALLED TO CHECK.	*
		3521+	*	* A PARAMETER OF GREATER THAN EIGHT CHARACTERS WHEN ENTRY	*
		3522+	*	WAS AT SALPH8.	*
		3523+	*	* A PARAMETER OF GREATER THAN SIX CHARACTERS WHEN ENTRY	*
		3524+	*	WAS AT SALPH6.	*
		3525+	*		*
		3526+	*	REGISTER USAGE	*
		3527+	*	INDEX REGISTER 1 (@BR) IS USED AS A BASE REGISTER THROUGHOUT	*
		3528+	*	THE EXECUTION OF THE MODULE. IT IS SAVED FOR THE CALL PROGRAM	*
		3529+	*	UPON ENTRY AND RESTORED UPON EXIT.	*
		3530+	*	INDEX REGISTER 2 (@XR) IS USED AS A PARAMETER PASSING REGISTER.	*
		3531+	*	UPON ENTRY IT CONTAINS THE ADDRESS OF THE LEFTMOST BYTE OF	*
		3532+	*	PARAMETER TO BE SYNTAX CHECKED AND UPON EXIT IT CONTAINS THE	*

SALPHA - SYNTAX CHECKER MODULE

ERR LOC	OBJECT CODE	ADDR	STMT	SOURCE STATEMENT	VER 15, MOD 00 14/05/20 PAGE 38
		3533+*		ADDRESS OR THE FIRST NON-DELIMITER FOLLOWING THE PARAMETEP.	*
		3534+*		(NOTE ERROR EXITS AND PROCEDURES),	*
		3535+*			*
		3536+*		SAVED/RESTORED AREAS	*
		3537+*		NONE	*
		3538+*			*
		3539+*		MODIFICATION CONSIDERATIONS	*
		3540+*		BECAUSE OF ITS CHARACTER CODE DEPENDENCY AND PARAMETER LENGTH	*
		3541+*		QUALIFICATIONS, ONE MUST TAKE SPECIAL CARE IN MODIFYING SALPHA,	*
		3542+*		ESPECIALLY THE CONSTANTS AND WORK AREAS AND THEIR RE-INITIAL,	*
		3543+*		IZATION. SALPHA IS MOST COMMONLY USED TO SYNTAX FILENAMES,	*
		3544+*		PASSWORDS, AND VOL-IDS AND IS THEREFORE USED BY THE MODULE	*
		3545+*		SUFFER (FILE SPECIFICATION SYNTAX CHECKER). THEREFORE, ANY	*
		3546+*		SIGNIFICANT CHANGE IN SALPHA WILL REQUIRE AN INVESTIGATION	*
		3547+*		into ITS USE AND IMPACT ON SUFFER.	*
		3548+*		SPECIAL NOTE: AN IRREGULAR USE OF SALPHA WHICH CAN BE	*
		3549+*		EFFECTED IS THE SYNTAY CHECK OF A PARAMETER WITH A MAXIMUM	*
		3550+*		OF 10 CHARACTERS. THIS IS DONE BY MODIFYING THE Q-CODE OF	*
		3551+*		THE INSTRUCTION AT SAL450 PRIOR TO ENTRANCE AT SALPH6, WITH	*
		3552+*		X'0A' OR ITS EQUIVALENT. (NOTE: ONE SUCH MODULE WHICH	*
		3553+*		USES THIS OPTION IS UINITL)	*
		3554+*			*
		3555+*		REQUIRED MODULES	*
		3556+*		SCANIT - DELIMITER SCAN ROUTINE	*
		3557+*		@DIREQ - SYSTEM LIBRARY DIRECTORY EQUATES	*
		3558+*		@ERMEQ - ERROR MESSAGE EQUATES	*
		3559+*		@FXDEQ - COMMON CORE LOCATIONS WITHIN THE SYSTEM NUCLEUS	*
		3560+*		@SYSEQ - COMMON SYSTEM SOFTWARE EQUATES	*
		3561+*			*
		3562+*		OTHER	*
		3563+*		N/A	*
		3564+*		*****	*
		3566+*		*****	*
		3567+*			*
		3568+*		SALPHA MODULE EQUATES	*
		3569+*			*
		3570+*		*****	*
		0008 3571+	SALCT8 EQU	##LUEN	COUNT COMPARE FIELD
		3572+*			
		0006 3573+	SALCT6 EQU	@VOLID	COUNT COMPARE FIELD
		3575+*		*****	*
		3576+*			*
		3577+*		INITIALIZATION OF MODULE	*
		3578+*			*
		3579+*		*****	*
		3581+*	SALPH8 ENTER CHECK		FILENAME OR PASSWORD
11A1		3582+*	SALPH8 EQU	*	MODULE ENTRY POINT
		3583+*	***	END OF EXPANSION ***	
11A1 3A 80 125C		3585+	SBN	SALIDR,SAL008	SET ON SALPH8 INDR
		3586+*			
		3587+*	SALPH6 ENTER BASE-SALBSE,	EXIT-SALND,@BR,,@ARR	VOL-ID CHECK

SALPHA - SYNTAX CHECKER MODULE

ERR	LOC	OBJECT	CODE	ADDR	STMT	SOURCE	STATEMENT	VER 15, MOD 00	14/05/20	PAGE	39
				11C1	3588+		USING SALBSE,@BR				BASE ADDRESS SPECIFICATION
				11A5	3589+	SALPH6	EQU *				MODULE ENTRY POINT
11A5	34	01	1257		3590+		ST SALND0+@OP1,@BR				SAVE ABA
11A9	C2	01	11C1		3591+		LA SALBSE,@BR				LOAD BASE RESISTER
11AD	74	08	9A		3592+		ST SALND2+@OP1(,@BR),@ARR				SAVE RETURN ADDRESS
					3593+	***	END OF EXPANSION ***				
11B0	74	02	34		3595+		ST SAL375+@OP1(,@BR),@XR				SAVE ERROR POINTER
					3597+	*****					
					3598+	*					*
					3599+	*	INITIALIZE WORK AREAS AND VARIABLE INSTRUCTIONS				*
					3600+	*					*
					3601+	*****					
11B3	7C	40	A8		3602+	SAL100	MVI SALPR7(,@BR),@BLANK				BLANK OUT SALPAR FOR PROCESSING
11B6	5C	08	A7 A8		3603+		MVC SALPR6(##LPEN+@B1,@BR),SALPR7(,@BR)				
11BA	7C	00	9C		3604+		MVI SALCNT(,@BR),@ZERO				ZERO OUT COUNTER
11BD	5C	01	63 AA		3605+		MVC SAL525+@OP1(2,@BR),SALPHS(,@BR)				MODIFY MOVE OF CHARACTER
					3607+	*****					
					3608+	*					*
					3609+	*	CHECK EBCDIC CHARACTERS				*
					3610+	*					*
					3611+	*****					
					3612+	*					
				11C1	3613+	SALBSE	EQU *				MODULE BASE ADDR
11C1	BD	5B	00		3614+	SAL200	CLI @ZERO(,@XR),@DOLAR				IS IT A '\$' ?
11C4	F2	81	32		3615+		JE SAL400				YES, PROCESS CHARACTER
11C7	BD	7B	00		3616+		CLI @ZERO(,@XR),@NUMBR				IS IT A '#' ?
11CA	F2	81	2C		3617+		JE SAL400				YES, PROCESS CHARACTER
11CD	BD	7C	00		3618+		CLI @ZERO(,@XR),@ASIGN				IS IT A '@' ?
11D0	F2	81	26		3619+		JE SAL400				YES, PROCESS CHARACTER
					3620+	*					
11D3	BD	C1	00		3621+		CLI @ZERO(,@XR),@CHARA				IS IT AN ALPHA (A-Z) ?
11D6	F2	82	53		3622+	SAL250	JL SAL750				NO, CHECK FOR DELIMITERS
11D9	BD	E9	00		3623+		CLI @ZERO(,@XR),@CHARZ				IS IT AN ALPHA (A-Z) ?
11DC	F2	04	1A		3624+		JNH SAL400				YES, PROCESS CHARACTER
11DF	78	80	9B		3625+		TBN SALIDR(,@BR),SAL008				ENTERED AT SALPH8 ?
11E2	F2	90	17		3626+		JF SAL425				NO, CHECK IF NUMERIC
					3627+	*					
11E5	78	01	9B		3628+		TBN SALIDR(,@BR),SALFST				WAS FIRST CHAR FOUND ALPHA ?
11E8	3C	00	03CD		3629+		MVI \$CAERR,@@E100				ALPHA CHAR REQUIRED--ERROR
11EC	F2	10	0D		3630+		JT SAL425				YES, CONTINUE
11EF	75	04	16		3631+	SAL350	L SALERR(,@BR),@PSR				LOAD ERROR CODE - LOW
11F2	C2	02	0000		3632+	SAL375	LA *-*,@XR				RESTORE ERROR POINTER
11F6	F2	87	58		3633+		J SAL800				TAKE ERROR FAIT
					3635+	*****					
					3636+	*					*
					3637+	*	PROCESS ALPHAMERIC CHARACTER				*
					3638+	*					*
					3639+	*****					
11F9	7A	01	9B		3640+	SAL400	SBN SALIDR(,@BR),SALFST				SET ON ALPHA :NOR
					3641+	*					
11FC	5E	00	9C 9E		3642+	SAL425	ALC SALCNT(1,@BR),SAL001(,@BR)				ADD 1 TO CHARACTER COUNTER
1200	78	80	9B		3643+		TBN SALIDR(,@BR),SAL008				WAS ENTRY AT SALPH8 ?

SALPHA - SYNTAX CHECKER MODULE

ERR	LOC	OBJECT	CODE	ADDR	STMT	SOURCE	STATEMENT	VER 15, MOD 00 14/05/20 PAGE 40
1203	D0	90	52	3644+	BF		SAL450(,@BR)	NO, CHECK COUNT FOR VALUE OF SIX
1206	7D	08	9C	3645+	CLI		SALCNT(,@BR),##LPEN	HAS COUNT EXCEEDED 8 ?
1209	3C	02	03CD	3646+	MVI		\$CAERR,@E102	PASSWORD/FILENAME LENGTH ERROR
120D	D0	84	2E	3647+	BH		SAL350(,@BR)	YES, TAKE ERROR EXIT
1210	F2	87	0A	3648+	J		SAL500	NO, CONTINUE PROCESSING
1213	7D	06	9C	3649+	CLI	SAL450	SALCNT(,@BR),@VOLID	HAS COUNT EXCEEDED 6 ?
1216	3C	03	03CD	3650+	MVI		\$CAERR,@E103	INVALID VOL-ID LENGTH
121A	D0	84	2E	3651+	BH		SAL350(,@BR)	YES, TAKE ERROR EXIT
				3653+*				
				3654+*			MODIFY MOVE OF CHARACTER	
				3655+*				
121D	5E	01	63 9E	3656+	ALC	SAL500	SAL525+@OP1(2,@BR),SAL001(,@BR)	
1221	2C	00	0000 00	3657+	MVC	SAL525	*-*,@ZERO(1,@XR)	MOVE CHARACTER TO OUTPUT AREA
1226	E2	02	01	3658+	LA		@B1(,@XR),@XR	INCREMENT XR BY I
1229	D0	87	00	3659+	B		SAL200(,@BR)	CHECK NEXT CHARACTER
				3661+*****				
				3662+*				*
				3663+*			CHECK ERRORS AND BYPASS DELIMITERS	*
				3664+*				*
				3665+*****				
122C	7D	00	9C	3666+	CLI	SAL750	SALCNT(,@BR),@ZERO	ANY VALID CHARACTERS ?
122F	3C	10	03CD	3667+	MVI	SAL755	\$CAERR,@E130	REQUIRED PARAM MISSING
1233	F2	01	17	3668+	JNE		SAL775	YES, BYPASS DELIMITERS, EYIT
1236	BD	1E	00	3669+	CLI		@ZERO(,@XR),@EOS	IS IT EOS ?
1239	F2	81	0E	3670+	JE		SAL760	YES, ERROR EVIL
123C	78	80	9B	3671+	TBN		SALIDR(,@BR),SAL008	ENTERED AT SALPH8 ?
123F	3C	00	03CD	3672+	MVI		\$CAERR,@E100	ALPHABETIC CHAR REQUIRED
1243	F2	10	04	3673+	JT		SAL760	ERROR EYIT
1246	3C	01	03CD	3674+	MVI		\$CAERR,@E101	ALPHAMERIC CHAR REQUIRED
124A	D0	87	2E	3675+	B	SAL760	SAL350(,@BR)	ERROR EYIT
124D	C0	87	1160	3676+	B	SAL775	SCANIT	BYPASS DELIMITERS
				3678+*****				
				3679+*				*
				3680+*			SET OFF INDICATORS FOR POSSIBLE SALDHA RE-ENTRY	*
				3681+*				*
				3682+*****				
1251	7C	00	9B	3683+	MVI	SAL800	SALIDR(,@BR),@ZERO	
				3685+*****				
				3686+*				*
				3687+*			END OF MODULE PROCESSING	*
				3688+*				*
				3689+*****				
				3690+*	EXIT	@BR	,RETURN	EXIT
1254	C2	01	0000	3691+	LA	SALND0	*-*,@BR	RESTORE @BR
1258	C0	87	0000	3692+	B	SALND2	*-*	RETURN TO CALLING PROGRAM
				3693+***			END OF EXPANSION ***	
				3695+*****				
				3696+*				*
				3697+*			DATA CONSTANTS, BUFFERS, AND WORK AREAS	*
				3698+*				*
				3699+*****				

SALPHA - SYNTAX CHECKER MODULE

ERR	LOC	OBJECT	CODE	ADDR	STMT	SOURCE	STATEMENT	VER 15, MOD 00	14/05/20	PAGE	41
125C				125C	3700+	SALIDR DS	CL1				1 BYTE OF FLAGS
125C					3701+	ORG	*-1				
125C	00			125C	3702+	DC	XL1'00'				INITIALIZED TO ZERO
				0080	3704+	SAL008 EQU	X'80'				ENTRY POINT INDICATOR
					3705+	*					* 0 - ENTERED AT SALPH6
					3706+	*					* 1 - ENTERED AT SALPH8
				0001	3707+	SALFST EQU	X'01'				FIRST CHARACTER IS ALPHA / INDR
					3708+	*					* 0 - CHARACTER IS NOT ALPHA
					3709+	*					* 1 - CHARACTER IS ALPHA
125D				125D	3710+	SALCNT DS	CL1				BYTE CHARACTER COUNTER
125D					3711+	ORG	*-1				
125D	00			125D	3712+	DC	XL1'00'				INITIALIZED TO ZERO
125E	0001			125F	3713+	SAL001 DC	XL2'0001'				COUNTER INCREMENT
				1260	3714+	SALPHR EQU	*				
1260				1269	3715+	DS	CL(##LUEN+2*@B1)				SYNTAX SAVE UNIT
126A	125F			126B	3716+	SALPHS DC	AL2(SALPHR-1)				ADDR FOR MODIFYING MOVE
				1269	3717+	SALPR7 EQU	SALPHR+##DPEN+2*@B1				ADDR IN SALPHR FOR CLANKINS
				1268	3718+	SALPR6 EQU	SALPHR+##DPEN+@B1				* OUT THE FIELD
				11D7	3719+	SALERR EQU	SAL250+@Q				ADDR ERROR CODE FOR LOAD
					3720+	***					END OF SALPHA
					3721	*					***
					3722	*	\$VOLI				

SVOLID - RESOLVE SPECIFIED VOLUME-ID

ERR LOC	OBJECT CODE	ADDR STMT	SOURCE STATEMENT	VER 15, MOD 00	14/05/20	PAGE 42
		3724+	*****			*
		3725+	* 5703-XM1 COPYRIGHT IBM CORP. 1970			*
		3726+	* REFER TO INSTRUCTIONS ON COPYRIGHT NOTICE 120-2083			*
		3727+	*			*
		3728+	*****			*
		3729+	*STATUS			*
		3730+	* VERSION 1 MODIFICATION 0			*
		3731+	*			*
		3732+	*FUNCTION			*
		3733+	* THE FUNCTION OF SVOLID IS TO SEARCH THE CORE RESIDENT TABLE OF			*
		3734+	* VOLUME ID'S ON THE SYSTEM FOR A SPECIFIED VOLUME ID. IF THE			*
		3735+	* VOLUME IS NOT FOUND, AN ERROR CODE WILL BE PUT IN \$CAERR AND AN			*
		3736+	* EXIT TO \$VOERR IN THE CALLING ROUTINE WILL BE TAKEN. IF MORE			*
		3737+	* THAN ONE VOLUME WITH THE SAME VOL-ID IS FOUND ON THE SYSTEM, THE			*
		3738+	* USER OF THE SYSTEM IS REQUESTED TO INDICATE WHICH DRIVE AND DISK			*
		3739+	* IS TO BE USED. IF THE USER IS UNABLE TO RESOLVE THE CONFLICT,			*
		3740+	* THE COMMAND IS REJECTED. IF THE INPUT SOURCE IS NOT THE KEYBOARD,			*
		3741+	* THE COMMAND IS REJECTED. OTHERWISE THE FILE LIBRARY ADDRESS OF			*
		3742+	* THE RESOLVED VOLUME IS PLACED IN SMBFDA IN THE TSMLES COMMUNICA-			*
		3743+	* TIONS REGION, AND A NORMAL RETURN IS TAKEN.			*
		3744+	*			*
		3745+	*ENTRY POINTS			*
		3746+	* \$VOLID - THE FIRST EXECUTABLE INSTRUCTION. IT IS ASSUMED THAT			*
		3747+	* SMVOID IN TSMLES HAS BEEN PRIMER. ALSO, IF THE VM OPTION OF			*
		3748+	* SVOLID HAS BEEN ASSEMBLED FOR EXECUTION TIME USAGE.			*
		3749+	* THE FIELDS SVOIOF AND SVODSK SHOULD BE PRIMED WITH THE GET/PUT			*
		3750+	* GET/PUT FILENAME AND DISK FILENAME, RESPETIVELY.			*
		3751+	*			*
		3752+	*INPUT			*
		3753+	* INPUT TO SVOLID IS THE SPECIFIED VOL-ID IN THE TSMLES REGION -			*
		3754+	* SMVOID.			*
		3755+	*			*
		3756+	*OUTPUT			*
		3757+	* OUTPUT FROM SVOLID IS THE FILE LIBRARY ADDRESS OF THE RESOLVED			*
		3758+	* SPECIFIED VOL-ID - PLACED IN SMBFDA.			*
		3759+	*			*
		3760+	*EXTERNAL REFERENCES			*
		3761+	* SVOBUF - TEMPORARY SECTOR BUFFER SAVE AREA - USER SUPPLIED			*
		3762+	* SVOERR - ERROR EXIT ADDR FROM SVOLID			*
		3763+	* TSMLES - DATA MANAGEMENT COMMUNICATIONS REGION			*
		3764+	* \$\$ILHD - FIRST BYTE OF INPUT LINE HEADER			*
		3765+	* \$\$XIND - EXECUTION INDR PASS AREA			*
		3766+	* \$\$INND - LAST CHARACTER OF INPUT LINE BUFFER			*
		3767+	* \$\$INLN - FIRST CHARACTER OF INPUT LINE BUFFER			*
		3768+	* \$\$PRES - ENTRY TO ENABLE KEYBOARD			*
		3769+	* \$VOLID - ADDR IN SYSTEM NUCLEUS - VOLUME ID TABLE			*
		3770+	* \$CAERR - ADDR IN SYSTEM NUCLEUS - ERROR CODE SAVE AREA			*
		3771+	* \$KEYCD - INDR BYTE CONTAINING KEYBOARD INDR IN SYSTEM NUCLEUS			*
		3772+	* \$CARDI - MASK IN \$KEYCD - CARD INPUT MODE			*
		3773+	* \$SPRNT - ADDR IN SYSTEM NUCLEUS-SYSTEM PRINTER IOCR INTERFACE			*
		3774+	* \$CIMSK - ADDR IN SYSTEM NUCLEUS-IR MASK ROUTINE INDR			*
		3775+	* \$WAITF - ADDR IN SYSTEM NUCLEUS-DISK WAITS DPL			*
		3776+	* \$KYBSY - MASK IN \$KEYCD - KEYBOARD BUSY			*
		3777+	* \$TRUNK - MASK IN \$KEYCD - TRUNCATED LINE INDR			*
		3778+	* \$UNHSK - ADDR IN SYSTEM NUCLEUS-ENTRY TO UNMASK IR			*
		3779+	*			*

SVOLID - RESOLVE SPECIFIED VOLUME-ID

ERR LOC	OBJECT CODE	ADDR STMT	SOURCE STATEMENT	VER 15, MOD 00	14/05/20	PAGE 43
		3780+	*EXITS, NORMAL			*
		3781+	* NEXT SEQUENTIAL INSTRUCTION IN CALL ROUTINE.			*
		3782+	*			*
		3783+	*EXITS, ERROR			*
		3784+	* \$VOERR - ERROR EXIT ROUTINE IN CALL ROUTINE.			*
		3785+	* (NOTE: ERROR PROCEDURES).			*
		3786+	*			*
		3787+	*TABLES/WORK AREAS			*
		3788+	* CONSTANTS, PPL'S. AND WORK AREAS WHICH ARE ADDRESSED BY THE BASE			*
		3789+	* REGISTER (@BR) ARE LOCATED TO BE REFERENCED AS SUCH. THOSE			*
		3790+	* WHICH ARE NOT ADDRESSED BY A BASE REGISTER ARE LOCATED AT THE			*
		3791+	* END OF THE MODULE.			*
		3792+	*			*
		3793+	*ATTRIBUTES			*
		3794+	* RELOCATABLE, CONDITIONALLY REUSABLE (SEE OTHER).			*
		3795+	*			*
		3796+	*CHARACTER CODE DEPENDENCY			*
		3797+	* CHARACTER CODE DEPENDENCY CLASS - C			*
		3798+	* THE OPERATION OF THIS MODULE DEPENDS UPON AN INTERNAL REPRESENTA-			*
		3799+	* TION OF THE EXTERNAL CHARACTER SET WHICH IS EQUIVALENT TO THE ONE			*
		3800+	* USED AT ASSEMBLY TIME. THE CODING HAS BEEN ARRANGED SO THAT RE			*
		3801+	* DEFINITION OF CHARACTER CONSTANTS, BY REASSEMBLY, WILL RESULT IN			*
		3802+	* A CORRECT MODULE FOR THE NEW DEFINITIONS. THE FOLLOWING ARE THE			*
		3803+	* SPECIAL CONSIDERATIONS FOR THIS MODULE:			*
		3804+	* * CHARACTER CONSTANT FOR DECIMAL L(ONE) INTERNAL EQUATE			*
		3805+	* * CHARACTER CONSTANT FOR DECIMAL 2(TWO) INTERNAL EQUATE			*
		3806+	* * @BLANK - PART OF @SYSEQ - FOR SYNTAX CHECK			*
		3807+	* * @CHARR - PART OF @SYSEQ - FOR SYNTAX CHECK			*
		3808+	* * @CHARF - PART OF @SYSEQ - FOR SYNTAX CHECK			*
		3809+	* * @EOS - PART OF @SYSEQ - FOR SYNTAX CHECK			*
		3810+	*			*
		3811+	*NOTES			*
		3812+	* ERROR PROCEDURES			*
		3813+	* THE FOLLOWING CONDITIONS WILL CAUSE AN ERROR CODE TO BE PLACED			*
		3814+	* IN SCAERR AND AN EXIT BRANCH TO BE TAKEN TO SVOERR:			*
		3815+	* * THE SPECIFIED VOLUME ID IS NOT ON THE SYSTEM.			*
		3816+	* * DUPLICATE VOLUME ID'S ARE RTLADO. AND INPUT IS NOT FROM			*
		3817+	* THE KEYBOARD.			*
		3818+	* * THE SPECIFIED PHYSICAL ID FROM THE KEYBOARD DOES NOT CONTAIN			*
		3819+	* ONE OF THE MULTIPLY DEFINED VOLUME ID'S.			*
		3820+	* * THE SPECIFIEC OR RESOLVED VOLUME DOES NOT CONTAIN A LIBRARY			*
		3821+	* AREA.			*
		3822+	*			*
		3823+	* REGISTER USAGE			*
		3824+	* INDEX REGISTER 1 (@BR) IS USED PRIMARILY AS A BASE REGISTER			*
		3825+	* AND SECONDLY AS AN INDEX IN THE VOL ID TABLE.			*
		3826+	* INDEX REGISTER 2 (@XR) IS USED PRIMARILY AS AN INDEX REGISTER			*
		3827+	* IN THE VOL-ID TABLE AND SECONDLY AS AN INDEX TO SYNTAX CHECK			*
		3828+	* KEYBOARD INPUT WHEN VOLUMES ARE MULTIPLY DEFINED.			*
		3829+	*			*
		3830+	* SAVED/RESTORED AREAS			*
		3831+	* NOBE			*
		3832+	*			*
		3833+	* MODIFICATION CONSIDERATIONS			*
		3834+	* VOLID'S SEARCH OF THE VOL-ID TABLE (SVOLID) IS TOTALLY			*
		3835+	* DEPENDENT ON THE FORMAT OF THE TABLE AS IT EXISTS; ESPECIALLY			*

SVOLID - RESOLVE SPECIFIED VOLUME-ID

ERR LOC	OBJECT CODE	ADDR	STMT	SOURCE STATEMENT	VER 15, MOD 00 14/05/20 PAGE 44
		3836+*		THE NUMBER OF ENTRIES WHICH NOW EXIST (IE. FOUR).	*
		3837+*			*
		3838+*		REQUIRED MODULES	*
		3839+*		@CANEQ - COMMON CORE LOCATIONS OUTSIDE SYSTEM NUCLEUS	*
		3840+*		@DIREQ - SYSTEM LIBRARY DIRECTORY EQUATES	*
		3841+*		@ERMEQ - ERROR MESSAGE EQUATES	*
		3842+*		@FXDEQ - COMMON CORE LOCATIONS WITHIN THE SYSTEM NUCLEUS	*
		3843+*		@SYSEQ - COMMON SYSTEM SOFTWARE EQUATES	*
		3844+*		TSMLES - DATA MANAGEMENT COMMUNICATION REGIONS	*
		3845+*			*
		3846+*		OTHER	*
		3847+*		SVOLID MAY BE RE-USED IF THE CALL ROUTINE WILL PRIME 'SVOCT1'	*
		3848+*		WITH A '4', AND 'SVOCT2' WITH A '0' BEFORE EACH RE-ENTRY.	*
		3849+*		BOTH OF THESE FIELDS ARE 1 BYTE LONG AND CONTIGUOUS, RESPEC-	*
		3850+*		TIVELY. (IE. CAN BE INITIALIZED WITH 'MVC' OF X'0400').	*
		3851+*		*****	*

SVOLID - RESOLVE SPECIFIED VOLUME-ID

ERR	LOC	OBJECT	CODE	ADDR	STMT	SOURCE	STATEMENT	VER 15, MOD 00	14/05/20	PAGE	45
					3853+	*****					
					3854+	*					
					3855+		SVOLID MODULE EQUATES				
					3856+	*					
					3857+	*****					
					3858+	*					
				0001	3859+	SVOLN1 EQU	1				LENGTH CODE OF ONE
				00F1	3860+	SVO001 EQU	X'F1'				CONSTANT OF 1 FOR COMPARE
				00F2	3861+	SVO002 EQU	X'F2'				CONSTANT OF 2 FOR COMPARE
				0100	3862+	SVOINP EQU	\$\$XIND-\$\$ILHD+@B1				LENGTH INPUT BUFFER
				00FF	3863+	SVOEND EQU	\$\$XIND-\$\$ILHD				DISP TO END OF SVOBUF
					3865+	*****					
					3866+	*					
					3867+		INITIALIZATION OF MODULE				
					3868+	*					
					3869+	*****					
					3870+	*					
				126C	3871+	SVOLID EQU	*				ENTRY POINT
				127E	3872+		USING SVOBSE,@BR				BASE ADDRESS
126C	34	01	12B8		3873+		ST SVO274+@OP1,@BR				SAVE BASE CONTENTS
1270	C2	01	127E		3874+		LA SVOBSE,@BR				LOAD BASE ADDRESS
1274	74	02	3E		3875+		ST SVO276+@OP1(,@BR),@XR				SAVE INDEX REGISTER
1277	74	08	46		3876+		ST SVO290+@OP1(,@BR),@ARR				SAVE RETURN ADDR
					3878+	*****					
					3879+	*					
					3880+		SEARCH VOL-ID TABLE				
					3881+	*					
					3882+	*****					
					3883+	*					
127A	C2	02	03FB		3884+		LA \$VOLID+@VOLID-@B1,@XR				LOAD XR AS POINTER INTO NUCLEUS
				127E	3885+	SVOBSE EQU	*				
127E	8D	05	00 0C5A		3886+	SVO100 CLC	@ZERO(@VOLID,@XR),SMVOID				IS THIS THE VOL-ID ?
1283	D0	01	11		3887+		BNE SVO200(,@BR)				NO, CHECK NEXT ENTRY
1286	2C	01	0D51 02		3888+		MVC SMBFDA(@DADDR),@DADDR(,@XR)				SAVE DADDR-DUPLICATE CHECK
128B	5E	00	48 49		3889+		ALC SVOCT2(SVOLN1,@BR),SVOONE(,@BR)				INCREMENT COUNT
128F	E2	02	08		3890+	SVO200 LA	@VOLID+@DADDR(,@XR),@XR				INCREMENT XR
1292	5F	00	47 49		3891+		SLC SVOCT1(SVOLN1,@BR),SVOONE(,@BR)				IS THE LAST ENTRY ?
1296	D0	01	00		3892+		BNZ SVO100(,@BR)				NO, CHECK NEXT ONE

SVOLID - RESOLVE SPECIFIED VOLUME-ID

ERR	LOC	OBJECT	CODE	ADDR	STMT	SOURCE	STATEMENT	VER 15, MOD 00	14/05/20	PAGE	46
				3894+			*****				
				3895+			*				
				3896+		PROCESS ENTRY IF FOUND	*				
				3897+			*				
				3898+			*****				
				3899+			*				
1299	7D	02	48	3900+	CLI	SVOCT2(,@BR),@D1	WAS AN ID FOUND ?				
129C	3C	29	03CD	3901+	MVI	\$CAERR,@E217	ERROR - NO ID FOUND				
12A0	D0	82	33	3902+	BL	SVO270(,@BR)	NO, ERROR EXIT				
12A3	D0	84	4A	3903+	BH	SVO300(,@BR)	MORE THAN 1 ID				
				3905+			*****				
				3906+			*				
				3907+		CHECK DISK ADDR OF LIBRARY	*				
				3908+			*				
				3909+			*****				
				3910+			*				
12A6	3D	00	0D50	3911+SVO260	CLI	SMBFDA-@B1,@ZERO	IS THERE A LIBRARY ?				
12AA	F2	01	08	3912+	JNE	SVO274	YES, RETURN				
12AD	3C	54	03CD	3913+	MVI	\$CAERR,@E351	ERROR - NO LIBRARY				
12B1	3C	87	12BE	3914+SVO270	MVI	SVO280+@Q,@UCB	SET ERROR EXIT				
				3916+			*****				
				3917+			*				
				3918+		END OF MODULE PROCESSING	*				
				3919+			*				
				3920+			*****				
				3921+			*				
12B5	C2	01	0000	3922+SVO274	LA	*-*,@BR	RESTORE BASE REGISTER				
12B9	C2	02	0000	3923+SVO276	LA	*-*,@XR	RESTORE INDEX REGISTER				
				3924+			*				
12BD	C0	80	0E14	3925+SVO280	BC	SVOERR,@NOP	ERROR EXIT				
12C1	C0	87	0000	3926+SVO290	B	*-*	RETURN				

SVOLID - RESOLVE SPECIFIED VOLUME-ID

ERR LOC	OBJECT CODE	ADDR	STMT	SOURCE	STATEMENT	VER 15, MOD 00 14/05/20 PAGE 47
			3928+	*****	*****	
			3929+	*		
			3930+		DATA CONSTANTS, BUFFERS, WORK AREAS AND SAVE AREAS	*
			3931+	*		
			3932+	*****	*****	
			3933+	*		
12C5		12C5	3934+	SVOCT1 DS	CL1 COUNTER - NUMBER OF DISKS - 4	
12C5			3935+	ORG	SVOCT1 RESET FOR INITIALIZATION	
12C5 04		12C5	3936+	DC	XL1'04' INITIALIZED TO 4	
			3937+	*		
12C6		12C6	3938+	SVOCT2 DS	CL1 COUNTER - DUPLICATE DISK LABELS	
12C6			3939+	ORG	SVOCT2 RESET FOR INITIALIZATION	
12C6 00		12C6	3940+	DC	XL1'00' INITIALIZED TO 0	
12C7 01		12C7	3941+	SVOONE DC	XL1'01' INITIALIZED TO 1 FOR COUNTER	
			3943+	*****	*****	
			3944+	*		
			3945+		PROCESS MULTIPLE ENTRIES	*
			3946+	*		
			3947+	*****	*****	
			3948+	*		
12C8 38 01 03C3			3949+	SVO300 TBN	\$KEYCD,\$CARDI IS KEYBOARD INPUT MODE ?	
12CC 3C 25 03CD			3950+	SVO310 MVI	\$CAERR,@E212 KEYBOARD NOT INPUT MODE	
12D0 D0 10 33			3951+	SVO315 BT	SVO270(,@BR) NO ERROR EXIT	

SVOLID - RESOLVE SPECIFIED VOLUME-ID

ERR LOC	OBJECT CODE	ADDR	STMT	SOURCE	STATEMENT	VER 15, MOD 00 14/05/20 PAGE 48
			3953+	*****	*****	
			3954+	*		*
			3955+		ASK USER FOR DRIVE CLARIFICATION	*
			3956+	*		*
			3957+	*****	*****	
			3958+	*		
12D3 C0 87 0465		12D3	3959+	SVO320 EQU *	PRINT MESSAGES	
12D7 0C0B			3960+	B \$SPRNT	PRINT MESSAGE	
		12D8	3961+	DC AL2(@M300)	ERROR MESSAGE PPL	
			3962+	*		
12D9 0C 00 12FC 0476			3963+	MVC SVO335+@VQ(@B1),\$CIMSK	OBTAIN CURRENT MASK STATUS	
12DF C0 87 0465			3964+	B \$SPRNT	WAIT FOR PRINT	
12E3 057F		12E4	3965+	DC AL2(\$WAITF)	ADDR OF PPL	
			3967+	*****	*****	
			3968+	*		*
			3969+		MODIFY INPUT BUFFER FOR ACCEPTANCE OF INPUT ANSWER	*
			3970+	*		*
			3971+	*****	*****	
			3972+	*		
		12E5	3973+	SVO330 EQU *	ENABLE INPUT ROUTINE	
			3974+	* SET FOR JUMP AFTER INITIAL SAVE OF INPUT BUFFER		
12E5 F2 80 09			3975+	JC SVO333,@NOP	SAVE SWITCH	
12E8 0C FF 15D3 06FF			3976+	MVC SVOBUF+SVOEND(SVOINP),\$XIND	SAVE INPUT BUFFER	
12EE 7C 87 68			3977+	MVI SVO330+@Q(, @BR), @UCB	SET SWITCH TO BYPASS SAVE	
			3978+	*		
12F1 3C 40 06FA			3979+	SVO333 MVI \$\$INND, @BLANK	CLEAR INPUT BUFFER	
12F5 0C F2 06F9 06FA			3980+	MVC \$\$INND-@B1(\$\$INND-\$\$INLN), \$\$INND		
			3981+	*		
12FB C0 01 048D			3982+	SVO335 BC \$UNMSK, @VQ	BRANCH IF UNMASKED	
12FF C0 87 0890			3983+	B \$\$PRES	GET USER'S RESRONSE	
1303 38 10 03C3			3984+	SVO350 TBN \$KEYCD, \$KYBSY	IS KEYBOARD BUSY ?	
1307 C0 10 1303			3985+	BT SVO350	YES, WAIT	
130B C0 87 0465			3986+	B \$SPRNT	WAIT FOR PRINTER RETURN	
130F 057F		1310	3987+	DC AL2(\$WAITF)	ADDR OF PPL	

SVOLID - RESOLVE SPECIFIED VOLUME-ID

ERR	LOC	OBJECT	CODE	ADDR	STMT	SOURCE	STATEMENT	VER 15, MOD 00 14/05/20 PAGE 49
				3989+	*****			
				3990+	*			
				3991+	*			
				3992+	*			
				3993+	*****			
				3994+	*			
1311	C2	02	0606	3995+	LA	\$\$INLN-@B1,@XR	ADDR FIRST RESPONSE BYTE	
1315	C2	01	03FB	3996+	LA	\$VOLID+@VOLID-@B1,@BR	REFERENCE POINT FOR THE VOLID	
				3997+	*			
1319	E2	02	01	3998+	SVO360 LA	@B1(,@XR),@XR	INDEX BY BLANK	
131C	BD	40	00	3999+	CLI	@ZERO(,@XR),@BLANK	IS IT A BLANK ?	
131F	C0	81	1319	4000+	BE	SVO360	YES, CHECK NEXT BYTE	
				4001+	*			
1323	BD	F1	01	4002+	CLI	@B1(,@XR),SVO001	IS IT DRIVE 1 ?	
1326	F2	81	0A	4003+	JE	SVO400	YES, CHECK DISK TYPE	
				4004+	*			
1329	BD	F2	01	4005+	CLI	@B1(,@XR),SVO002	IS IT DRIVE 2 ?	
132C	C0	01	12D3	4006+	BNE	SVO320	NO, ASK USER AGAIN	
1330	D2	01	10	4007+	LA	2*@VOLID+2*@DADDR(,@BR),@BR	SET INDEX FOR DRIVE 2	
1333	BD	D9	00	4008+	SVO400 CLI	@ZERO(,@XR),@CHARR	IS IT REMOVABLE ?	
1336	F2	81	0A	4009+	JE	SVO440		
				4010+	*			
1339	BD	C6	00	4011+	CLI	@ZERO(,@XR),@CHARF	IS IT FIXED ?	
133C	C0	01	12D3	4012+	BNE	SVO320	ASK AGAIN	
1340	D2	01	08	4013+	LA	@VOLID+@DADDR(,@BR),@BR	SET INDEX FOR FIXED	
1343	E2	02	01	4014+	SVO440 LA	@B1(,@XR),@XR	INCREMENT TO NEXT BYTE	
1346	E2	02	01	4015+	SVO445 LA	@B1(,@XR),@XR	INCREMENT TO NEXT BYTE	
1349	BD	40	00	4016+	CLI	@ZERO(,@XR),@BLANK	IS IT A BLANK ?	
134C	C0	81	1346	4017+	BE	SVO445	YES, CHECK NEXT BYTE	
				4018+	*			
1350	BD	1E	00	4019+	CLI	@ZERO(,@XR),@EOS	AT EOS ?	
1353	C0	01	12D3	4020+	BNE	SVO320	ASK AGAIN	
				4021+	*			
1357	0C	FF	06FF 15D3	4022+	MVC	\$\$XIND(SVOINP),SVOBUF+SVOEND	RESTORE INPUT	
135D	4D	05	00 0C5A	4023+	SVO450 CLC	@ZERO(@VOLID,@BR),SMVOID	IS IT THE VOLID ?	
1362	3C	28	03CD	4024+	MVI	\$CAERR,@E216	VOLUME NOT ON THAT DRIVE	
1366	C0	01	12B1	4025+	BNE	SVO270	NO, ERROR EXIT	

SVOLID - RESOLVE SPECIFIED VOLUME-ID

ERR LOC	OBJECT CODE	ADDR	STMT	SOURCE	STATEMENT	VER 15, MOD 00 14/05/20 PAGE 50
			4027+	*****		
			4028+	*		
			4029+		SAVE VOL-ID LIBRARY ADDR	*
			4030+	*		
			4031+	*****		
			4032+	*		
136A	1C 01 0D51 02		4033+	MVC	SMBFDA(@DADDR),@DADDR(,@BR) SAVE LIBRARY ADDR	
136F	3B 80 03C3		4034+	SBF	\$KEYCD,\$TRUNK SET OFF RM EXCEEDED INDR	
1373	C0 87 12A6		4035+	B	SVO260 NORMAL EXIT	
			4036+	***	END OF SVOLID	***
			4037	*		
		10D4	4038	KLOBUF EQU	SGETDB CORE ADDR NULL DIRECTORY	
		10D4	4039	SUPBUF EQU	KLOBUF ERROR UPDATE BUFFER	
			4041	*****		
			4042	*	SMALES- SYSTEM DATA MANAGEMENT COMMON SAVE AREAS AND EQUATES	*
			4043	*	USED TO PROVIDE COMMUNICATION BETWEEN SUBROUTINES USED	*
			4044	*	BY THE VARIOUS KEYWORDS INVOLVED WITH FILE MANIPULATION	*
			4045	*****		
			4046	*		
		0C55	4047	SMALES EQU	KLO050 START OF MANAGEMENT AREA	
		0C5A	4048	SMVOID EQU	SMALES+5 SPECIFIED VOLUME ID SAVE AREA	
		0C62	4049	SMFNAM EQU	SMVOID+8 SPECIFIED FILENAME SAVE AREA	
		0C63	4050	SMIND1 EQU	SMFNAM+1 INDICATOR BYTE 1	
		0C65	4051	SMUDEA EQU	SMIND1+2 FILENAME DIRCTY ENTRY ADDR	
		0C67	4052	SMUDBA EQU	SMUDEA+2 CADDR OF ACTIVE BUFFER ADDR	
		0C69	4053	SMNULT EQU	SMUDBA+2 TOTAL OF NULL SECTORS AVAILABLE	
		0C6B	4054	SMNSCT EQU	SMNULT+2 COUNT OF NULL SECTORS REQUIRED	
		0C6D	4055	SMNETD EQU	SMNSCT+2 CADDR NEW ENTRY TO NULL DIRCTY	
		0C6F	4056	SMUPEN EQU	SMNETD+2 CADDR NEW USER DIRCTY ENTRY	
		0C71	4057	SMPEAD EQU	SMUPEN+2 CADDR PASSWORD ENTRY	
		0080	4058	SM1FNE EQU	X'80' SRCHFND INDR NAME NOT FOUND	
		0040	4059	SM1NPD EQU	X'40' PACK INDR NULL DIRCTY FULL	
		0020	4060	SM1STN EQU	X'20' STORIN PACK INDICATOR BIT	
		0010	4061	SM1PDS EQU	X'10' SGETDB SEARCH ONLY FLAG	
		0008	4062	SM1PNF EQU	X'08' SGETDB PASSWORD NOT FOUND	
		0D4F	4063	SMPSWD EQU	KLOSMP SPECIFIED PASSWORD SAVE AREA	
		0D51	4064	SMBFDA EQU	KLOSMB DADDR OF FILE LIBRARY	
		0D38	4065	SMNDEA EQU	KLOSMN NULL DIRCTY ENTRY ADDR	
		0D38	4066	SMFUDA EQU	SMNDEA REL DADDR FIRST USER DIRCTY BLK	
		0D2F	4067	SMNDBA EQU	KLONUL+@DBFR2 NULL DIRCTY BUFFER CORE ADOR	
		11D4	4068	SMPDB1 EQU	SGETDB+256 USER DIRCTY BLOCK 1 BUFFER	
		11D4	4069	SMUDB1 EQU	SMPDB1 USER DIRCTY BLOCK 1 BUFFER	
		13D4	4070	SMUDB2 EQU	SMUDB1+512 USER DIRCTY BLOCK 2 BUFFER	
		14D4	4071	SVOBUF EQU	SMUDB2+256 SVOLID TEMPORARY BUFFER	
		15D4	4072	SMAEND EQU	SMUDB2+512 END OF SMALLS AREA	
		FFFF	4073	END		

TOTAL STATEMENTS IN ERROR IN THIS ASSEMBLY = 0

CROSS REFERENCE

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SYMBOL	LEN	VALUE	DEFN	REFERENCES
\$\$\$\$\$	001	0C00	2280	
\$\$\$\$\$1	090	0ECF	2624	
\$\$\$CMD	001	0020	0659	
\$\$\$DAT	001	0040	0658	
\$\$\$EPL	001	0091	0655	
\$\$\$ERN	001	0080	0709	
\$\$\$FUN	001	0010	0660	
\$\$\$NLN	001	00A0	0705	
\$\$\$STD	001	0081	0654	
\$\$\$001	015	0C54	2302	
\$\$BNLN	001	0605	0635	0637
\$\$CDBS	001	08C0	0685	
\$\$CDND	001	0666	0644	
\$\$CDRD	001	0890	0683	0685
\$\$CKEY	001	0603	0633	
\$\$CKFF	001	0B3D	0665	
\$\$COFF	001	0B44	0664	
\$\$CSNS	001	209C	0694	
\$\$DATB	001	0BBF	0666	
\$\$EOSA	001	0AFE	0663	
\$\$ERSK	001	1C00	0704	
\$\$FITS	001	1D00	0712	
\$\$FLIB	001	06FF	0711	
\$\$ILEN	001	0601	0629	0631 0635
\$\$ILHD	001	0600	0627	0629 3862 3863
\$\$INLN	001	0607	0642	0644 0646 3980 3995
\$\$INND	001	06FA	0646	3979* 3980 3980 3980*
\$\$KBDT	001	09E1	0653	0657
\$\$KBSN	001	09E2	0657	0662
\$\$KLD1	001	0600	0717	
\$\$KLD2	001	0700	0719	
\$\$KLD3	001	0C00	0721	
\$\$LPOS	001	09EB	0662	
\$\$PCNT	001	07E9	0678	
\$\$PLYN	001	2004	0692	
\$\$PRES	001	0890	0651	0653 0663 0664 0665 0666 0683 3983
\$\$PRFL	001	2143	0696	
\$\$PRNT	001	0707	0672	0673 0677 0678
\$\$PRTN	001	0782	0673	
\$\$PSIO	001	07CE	0677	
\$\$PYCD	001	2200	0698	2594
\$\$PYMP	001	2000	0690	0692 0694 0696 0698
\$\$SLIB	001	1C00	0707	
\$\$TPCD	001	0606	0637	0642
\$\$UPAR	001	0602	0631	0633
\$\$WSPB	001	1E00	0710	
\$\$XIND	001	06FF	0708	0711 3862 3863 3976 4022*
\$\$ZERO	001	0000	0223	0224 0226 0227 0228 0232 0690
\$ABORT	001	0010	0336	
\$BASIC	001	0080	0394	
\$BIGCD	001	0080	0470	
\$BLDPL	001	0579	0603	0605
\$BLNOE	001	0569	0593	
\$BLOAD	001	0522	0584	0586 0589 0602 0603
\$BLRTN	001	0550	0592	0593
\$BRSAV	001	03C5	0281	0282

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SYMBOL	LEN	VALUE	DEFN	REFERENCES
\$BSADR	001	0587	0608	0610
\$BUFPT	001	03E3	0489	0490
\$CABLD	001	04B4	0562	0563
\$CAERK	001	0469	0539	0542 2411 2585
\$CAERR	001	03CD	0287	0289 2333* 2335* 2348* 2351* 2408* 2410* 2493* 2505* 2515* 2581* 3049* 3237* 3393* 3629* 3646* 3650* 3667* 3672* 3674* 3901* 3913* 3950* 4024*
\$CAIPL	001	049D	0558	0560
\$CALLI	001	0008	0479	
\$CARDI	001	0001	0250	3949
\$CARPL	001	04A1	0560	0562 2619
\$CIENT	001	0483	0549	0550
\$CIEXT	001	0480	0548	0549
\$CIMSK	001	0476	0545	0548 2499* 2590* 3963
\$CISUS	001	0496	0553	0558
\$CLBFR	001	0010	0437	
\$CMDKY	001	0008	0349	
\$CMODE	001	0002	0399	2602
\$CONFG	001	03DD	0462	0472
\$CRPOS	001	03E2	0488	0489
\$CRTAD	001	044D	0527	0528
\$CRTAV	001	0002	0343	2591
\$CRTDN	001	0002	0367	
\$CRTIN	001	03D3	0364	0371
\$CRTNO	001	0004	0346	
\$CRTPU	001	0004	0368	
\$CRTSP	001	0008	0369	
\$CRTUP	001	0001	0366	
\$CRUSH	001	0080	0475	
\$CSDPL	001	050E	0574	0575
\$C0001	001	0464	0531	0537
\$DATE	001	043A	0512	0513
\$DBGUF	001	03E0	0474	0483
\$DBLOK	001	0001	0424	
\$DFDET	001	03E8	0495	0496
\$DISKN	001	0025	0226	2520 2550 2605 2776 2890 2892 2899 2911 2913 2919 2921 3244
\$DKERR	001	0008	0405	
\$DKSIZ	001	03D7	0449	0457 0498
\$DK100	001	0001	0451	
\$DK200	001	0002	0452	
\$DK400	001	0004	0453	
\$DK600	001	0008	0454	
\$DK800	001	0010	0455	
\$DPLSV	001	0449	0523	0525
\$DTNMB	001	0040	0270	
\$DTRDR	001	0040	0358	
\$ENDNU	001	0600	0617	0627 0651 0672 0708 0717 0719 0721
\$ERDPL	001	046F	0542	0544
\$ERFIL	001	0040	0297	
\$ERHRD	001	0004	0429	
\$ERKEY	001	0080	0301	
\$ERLOG	001	0345	0231	
\$ERMAD	001	0472	0544	0545
\$ERPND	001	0004	0402	
\$ERRCT	001	03CF	0303	
\$ERRPG	001	03CE	0291	
\$ERSFL	001	0035	0296	

CROSS REFERENCE

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SYMBOL	LEN	VALUE	DEFN	REFERENCES
\$ERSTK	001	0030	0294	
\$ER050	001	0363	0232	
\$ER1N2	001	0050	0299	
\$EXADR	001	0517	0577	0579
\$EXCMD	001	0001	0331	
\$EXFTR	001	043B	0513	0518 2593
\$FCIND	001	0010	0409	
\$FDIND	001	0040	0416	
\$FEARR	001	0004	0224	
\$FEMAP	001	0588	0610	0611
\$FILIB	001	03DA	0460	0461 2588*
\$FITIN	001	0010	0385	
\$FUIND	001	0020	0414	
\$GUFIO	001	0583	0607	0608
\$GUFIR	001	0008	0259	
\$HISTE	001	042E	0510	0511
\$HIST1	001	0435	0511	0512
\$HRDER	001	0020	0355	
\$INDR1	001	03D4	0371	0397
\$INDR2	001	03D5	0397	0422 2602
\$INDR3	001	03D6	0422	0449
\$INLNO	001	03CF	0289	0291 0303 0310
\$INRPT	001	0020	0267	
\$IOIND	001	03D2	0338	0364 2591
\$IOPGS	001	0010	0478	
\$IOYES	001	0002	0253	
\$IPLDV	001	05FF	0614	0617
\$IRKEY	001	0020	0477	
\$KEYBD	001	03E1	0483	0488
\$KEYCD	001	03C3	0247	0281 3949 3984 4034*
\$KEYDT	001	0040	0391	
\$KE090	001	00DE	0227	
\$KE130	001	01D5	0228	
\$KYBSY	001	0010	0264	3984
\$LDRTN	001	0571	0602	
\$LEVEL	001	03DF	0472	0474
\$LIST	001	0002	0426	
\$LMRGN	001	03C1	0242	0244
\$LNPTR	001	0080	0361	
\$LOADB	001	054A	0586	
\$LOADR	001	051A	0579	0582
\$LPRIO	001	03EA	0496	
\$LPROS	001	03E5	0491	0493
\$LPRP3	001	03E4	0490	0491
\$MOUNT	001	0020	0440	
\$MPDWN	001	0001	0340	
\$NEXTB	001	03E6	0493	0494
\$NEXTL	001	03E7	0494	0495
\$NOENB	001	0008	0432	
\$NOLST	001	0004	0256	
\$NUCBS	001	03C0	0239	0240
\$NWRKF	001	0080	0445	
\$NWRKR	001	0040	0442	
\$PASWD	001	042D	0509	0510 2587*
\$PAUSD	001	04BA	0563	0565
\$PAUSE	001	0002	0333	

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SYMBOL	LEN	VALUE	DEFN	REFERENCES
\$PGMDT	001	0020	0388	
\$PGMST	001	0010	0352	
\$PKERT	001	0419	0507	0509 2882
\$PLST1	001	0454	0528	0529
\$PLST2	001	045B	0529	0530
\$PLST3	001	0462	0530	0531
\$PRDEV	001	044B	0525	0527
\$PRESN	001	0002	0376	
\$PROCI	001	0001	0373	
\$PRPOS	001	03C2	0244	0247
\$PSDBR	001	04FA	0568	
\$PSDXR	001	04F2	0567	0568
\$PSTEP	001	0004	0334	
\$PSTMT	001	0008	0335	
\$PTCH1	001	03F5	0498	0502
\$READY	001	0080	0418	
\$REORD	001	0040	0476	
\$RLOAD	001	051E	0582	0584
\$RMGRN	001	03C0	0240	0242
\$RSTR	001	04D6	0565	0567 0569 0574
\$RUNIT	001	0001	0312	
\$SFAID	001	050D	0570	
\$SPRNT	001	0465	0537	0539 2613 3960 3964 3986
\$SRTRN	001	04FE	0569	0570
\$STEPT	001	0002	0313	
\$SWPCR	001	0511	0575	0577
\$TABLN	001	03CB	0284	0287
\$TFLOW	001	0008	0319	
\$TRACE	001	0004	0314	
\$TRALL	001	0010	0320	
\$TROVR	001	054E	0589	0592
\$TRUNK	001	0080	0272	4034
\$TRVAR	001	0020	0321	
\$UNMSK	001	048D	0550	0553 2616 3982
\$USRDR	001	03DC	0461	0462 2589*
\$VMDEF	001	0080	0325	
\$VOLF1	001	03FE	0504	0505
\$VOLF2	001	040E	0506	
\$VOLID	001	03F6	0502	0503 0507 3884 3996
\$VOLR1	001	03F6	0503	0504 2492 2495 2496
\$VOLR2	001	0406	0505	0506
\$WAITF	001	057F	0605	0607 2521 2551 2893 2914 2922 3245 3965 3987
\$WFDEF	001	0040	0519	2608
\$WFLOK	001	0008	0382	
\$WFNME	001	0443	0518	0523 2608*
\$WSIND	001	0004	0379	
\$XIND1	001	03D0	0310	0329 2609*
\$XIND2	001	03D1	0329	0338
\$XIND3	001	03D8	0457	0460
\$XPREC	001	0040	0322	
\$XRSAB	001	03C7	0282	0284 2313
\$ZTRAD	001	05A2	0611	
\$12K	001	0004	0466	
\$16CKY	001	0008	0468	
\$16K	001	0002	0465	
\$22IMP	001	0001	0463	

CROSS REFERENCE

SYMBOL LEN VALUE DEFN REFERENCES VER 15, MOD 00 14/05/20 PAGE 55

###BL 001 0000 1315
###CK 001 0000 1443
###CN 001 0000 1411
###CO 001 0000 1203
###CS 001 0000 1263
###DR 001 0000 1007
###ER 001 0000 1207
###FS 001 0000 1303
###IN 001 0000 1447
###PW 001 0000 1451
###RS 001 0000 1283
###SA 001 0000 1271
###SS 001 0000 1267
###VU 001 0600 1227
###0T 001 0700 0999
###1T 001 0000 1003
###BCO 001 0600 1015
###BOV 001 0800 1287
###DPR 001 0700 1023
###DRE 001 0889 1039
###DSP 001 2800 1059
###ECM 001 0C00 1319
###EFK 001 0C00 1339
###ERR 001 0C00 1311
###EXM 001 0C00 1199
###FIL 001 0E00 1279
###FIS 001 0E00 1275
###FML 001 0200 1407
###FMS 001 0200 1247
###GRA 001 0889 1171
###GUF 001 0C00 1307
###INL 001 0600 1387
###INS 001 0600 1011
###KAL 001 0C00 1175
###KCA 001 0C00 1391
###KCH 001 0C00 1143
###KCN 001 0C00 1259
###KCT 001 0C00 1111
###KDE 001 0C00 1107
###KDI 001 0D00 1187
###KDN 001 0C00 1095
###KDO 001 0E00 1191
###KED 001 0C00 1031
###KEN 001 0C00 1035
###KEX 001 0C00 1055
###KGO 001 0C00 1027
###KHE 001 0C00 1211
###KKE 001 0C00 1439
###KLI 001 0C00 1115
###KLL 001 0920 1415
###KLO 001 0C00 1119
###KME 001 0D00 1099
###KMO 001 0C00 1043
###KNA 001 0C00 1155
###KOV 001 0E00 1075
###KPA 001 0C00 1051

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SYMBOL LEN VALUE DEFN REFERENCES VER 15, MOD 00 14/05/20 PAGE 56

\$\$\$KPO	001	0C00	1139	
\$\$\$KPR	001	0C00	1163	
\$\$\$KRE	001	0C00	1083	
\$\$\$KRL	001	0700	1179	
\$\$\$KRM	001	0C00	1047	
\$\$\$KRN	001	0700	1067	
\$\$\$KRO	001	0D00	1071	
\$\$\$KRS	001	0C00	1395	
\$\$\$KRU	001	0C00	1091	
\$\$\$KRV	001	0800	1183	
\$\$\$KSA	001	0C00	1127	
\$\$\$KSE	001	0E00	1167	
\$\$\$KSO	001	0C20	1219	
\$\$\$KSS	001	0C00	1151	
\$\$\$KSV	001	0980	1147	
\$\$\$KSY	001	0C00	1159	
\$\$\$KWI	001	0C00	1087	
\$\$\$KWR	001	0C00	1079	
\$\$\$LOA	001	0600	1019	
\$\$\$MIP	001	0C00	1215	
\$\$\$SDS	001	0C00	1327	
\$\$\$SFF	001	0E00	1331	
\$\$\$SFL	001	0F00	1323	
\$\$\$SFO	001	1500	1295	
\$\$\$SFS	001	0C00	1291	
\$\$\$SPA	001	0C00	1131	
\$\$\$SPO	001	0806	1135	
\$\$\$SPS	001	0C00	1123	
\$\$\$STR	001	1600	1299	
\$\$\$TDC	001	1000	1103	
\$\$\$TSY	001	1000	1063	
\$\$\$TVK	001	0FC0	1239	
\$\$\$UAL	001	0C00	1255	
\$\$\$UAT	001	0900	1351	
\$\$\$UCD	001	0900	1359	
\$\$\$UCN	001	0C00	1343	
\$\$\$UCP	001	0700	1347	
\$\$\$UDE	001	0C00	1363	
\$\$\$UDI	001	0C00	1367	
\$\$\$UEX	001	0C00	1251	
\$\$\$UIN	001	0C00	1355	
\$\$\$UPA	001	0C00	1335	
\$\$\$UPO	001	0C00	1403	
\$\$\$UPT	001	0C00	1399	
\$\$\$VCR	001	2000	1195	
\$\$\$VLO	001	0600	1231	
\$\$\$VOD	001	0600	1235	
\$\$\$VVM	001	0000	1243	
\$\$\$VXI	001	0600	1223	
\$\$\$ZDU	001	1100	1375	
\$\$\$ZLB	001	1100	1419	
\$\$\$ZLO	001	1100	1379	
\$\$\$ZLV	001	0F00	1435	
\$\$\$ZL1	001	0F00	1423	
\$\$\$ZL2	001	0F00	1427	
\$\$\$ZL3	001	0C00	1431	

CROSS REFERENCE

SYMBOL LEN VALUE DEFN REFERENCES VER 15, MOD 00 14/05/20 PAGE 57

###ZTR	001	1000	1371	
###ZUT	001	0C00	1383	
##BLN	001	18D4	1314	
##CKT	001	2118	1442	
##CNF	001	2000	1410	
##COR	001	0800	1202	
##CSA	001	1000	1262	
##DRT	001	0000	1006	
##ERM	001	0928	1206	
##FSP	001	1880	1302	
##INV	001	212C	1446	
##PWR	001	2300	1450	
##RSP	001	1780	1282	
##SAV	001	1180	1270	
##SSA	001	1128	1266	
##VUF	001	0B08	1226	
##0TR	001	0000	0998	
##1TR	001	0080	1002	
##@BL	001	0001	1316	
##@CK	001	0004	1444	
##@CN	001	0001	1412	
##@CO	001	003A	1204	
##@CS	001	003A	1264	
##@DR	001	0008	1008	
##@ER	001	0032	1208	
##@FS	001	0030	1304	
##@IN	001	003A	1448	
##@PW	001	00C0	1452	
##@RS	001	0030	1284	
##@SA	001	0108	1272	
##@SS	001	0001	1268	
##@VU	001	0002	1228	
##@0T	001	0018	1000	
##@1T	001	0018	1004	
##@BCO	001	0018	1016	
##@BOV	001	0018	1288	
##@DPR	001	0005	1024	
##@DRE	001	0001	1040	
##@DSP	001	0004	1060	
##@ECM	001	0006	1320	
##@EFK	001	0002	1340	
##@ERR	001	0003	1312	
##@EXM	001	0003	1200	
##@FIL	001	0009	1280	
##@FIS	001	0009	1276	
##@FML	001	0052	1408	
##@FMS	001	0052	1248	
##@GRA	001	0003	1172	
##@GUF	001	0010	1308	
##@INL	001	0010	1388	
##@INS	001	0010	1012	
##@KAL	001	000F	1176	
##@KCA	001	000C	1392	
##@KCH	001	000C	1144	
##@KCN	001	0010	1260	
##@KCT	001	0009	1112	

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#\$@KDE	001	0010	1108	
#\$@KDI	001	0005	1188	
#\$@KDN	001	0010	1096	
#\$@KDO	001	000C	1192	
#\$@KED	001	000E	1032	
#\$@KEN	001	0006	1036	
#\$@KEX	001	0003	1056	
#\$@KGO	001	0002	1028	
#\$@KHE	001	000C	1212	
#\$@KKE	001	0006	1440	
#\$@KLI	001	0011	1116	
#\$@KLL	001	0001	1416	
#\$@KLO	001	0008	1120	
#\$@KME	001	0003	1100	
#\$@KMO	001	0004	1044	
#\$@KNA	001	0008	1156	
#\$@KOV	001	0009	1076	
#\$@KPA	001	0005	1052	
#\$@KPO	001	000D	1140	
#\$@KPR	001	0009	1164	
#\$@KRE	001	0002	1084	
#\$@KRL	001	0004	1180	
#\$@KRM	001	0003	1048	
#\$@KRN	001	0003	1068	
#\$@KRO	001	000A	1072	
#\$@KRS	001	000A	1396	
#\$@KRU	001	0003	1092	
#\$@KRV	001	000D	1184	
#\$@KSA	001	0011	1128	
#\$@KSE	001	0004	1168	
#\$@KSO	001	0005	1220	
#\$@KSS	001	000B	1152	
#\$@KSV	001	0002	1148	
#\$@KSY	001	000F	1160	
#\$@KWI	001	0002	1088	
#\$@KWR	001	0002	1080	
#\$@LOA	001	0013	1020	
#\$@MIP	001	000D	1216	
#\$@SDS	001	0004	1328	
#\$@SFF	001	0008	1332	
#\$@SFL	001	0005	1324	
#\$@SFO	001	0003	1296	
#\$@SFS	001	0011	1292	
#\$@SPA	001	0004	1132	
#\$@SPO	001	0003	1136	
#\$@SPS	001	0001	1124	
#\$@STR	001	0002	1300	
#\$@TDC	001	0003	1104	
#\$@TSY	001	0003	1064	
#\$@TVK	001	0001	1240	
#\$@UAL	001	0011	1256	
#\$@UAT	001	000C	1352	
#\$@UCD	001	000B	1360	
#\$@UCN	001	0009	1344	
#\$@UCP	001	000F	1348	
#\$@UDE	001	000E	1364	

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#\$@UDI	001	0008	1368	
#\$@UEX	001	000E	1252	
#\$@UIN	001	000F	1356	
#\$@UPA	001	0004	1336	
#\$@UPO	001	0005	1404	
#\$@UPT	001	0012	1400	
#\$@VCR	001	0008	1196	
#\$@VLO	001	0002	1232	
#\$@VOD	001	0016	1236	
#\$@VVM	001	0030	1244	
#\$@VXI	001	0002	1224	
#\$@ZDU	001	0008	1376	
#\$@ZLB	001	0002	1420	
#\$@ZLO	001	000C	1380	
#\$@ZLV	001	0006	1436	
#\$@ZL1	001	0007	1424	
#\$@ZL2	001	000D	1428	
#\$@ZL3	001	000A	1432	
#\$@ZTR	001	0001	1372	
#\$@ZUT	001	0014	1384	
#\$BCOM	001	0080	1014	
#\$BOLV	001	1780	1286	
#\$DPRI	001	014C	1022	
#\$DREA	001	0200	1038	
#\$DSPL	001	0240	1058	
#\$ECMA	001	1900	1318	
#\$EFKE	001	1990	1338	
#\$ERRP	001	18C0	1310	
#\$EXMS	001	07D4	1198	
#\$FILN	001	1724	1278	
#\$FIST	001	1700	1274	
#\$FMLN	001	1E00	1406	
#\$FMST	001	0D00	1246	
#\$GRAP	001	0690	1170	
#\$GUFU	001	1880	1306	
#\$INLN	001	1C84	1386	
#\$INST	001	0020	1010	
#\$KALL	001	06A4	1174	
#\$KCAL	001	1CC4	1390	
#\$KCHA	001	053C	1142	
#\$KCND	001	0F80	1258	
#\$KCTL	001	03BC	1110	
#\$KDEL	001	035C	1106	
#\$KDIS	001	0744	1186	
#\$KDNT	001	0300	1094	
#\$KDOV	001	0780	1190	
#\$KEDI	001	0188	1030	
#\$KENA	001	01C4	1034	
#\$KEXT	001	0234	1054	
#\$KGOS	001	0180	1026	
#\$KHEL	001	0A30	1210	
#\$KKEY	001	2100	1438	
#\$KLIS	001	0400	1114	
#\$KLLA	001	2004	1414	
#\$KLOG	001	0444	1118	
#\$KMER	001	030C	1098	

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#\$KMOU	001	0204	1042	
#\$KNAM	001	05C0	1154	
#\$KOVN	001	0290	1074	
#\$KPAS	001	0220	1050	
#\$KPOO	001	0508	1138	
#\$KPRT	001	063C	1162	
#\$KREA	001	02BC	1082	
#\$KRLA	001	0700	1178	
#\$KRMO	001	0214	1046	
#\$KRNU	001	0280	1066	
#\$KROV	001	028C	1070	
#\$KRSU	001	1D24	1394	
#\$KRUN	001	02CC	1090	
#\$KRVL	001	0710	1182	
#\$KSAV	001	0488	1126	
#\$KSET	001	0680	1166	
#\$KSOV	001	0AC8	1218	
#\$KSSP	001	0594	1150	
#\$KSVL	001	058C	1146	
#\$KSYM	001	0600	1158	
#\$KWID	001	02C4	1086	
#\$KWRI	001	02B4	1078	
#\$LOAD	001	0100	1018	
#\$MIPP	001	0A80	1214	
#\$SDSY	001	192C	1326	
#\$SFFI	001	193C	1330	
#\$SFLO	001	1918	1322	
#\$SFOV	001	1844	1294	
#\$SFSY	001	1800	1290	
#\$SPAC	001	04CC	1130	
#\$SPOV	001	04DC	1134	
#\$SPSY	001	0484	1122	
#\$STRO	001	1850	1298	
#\$TDCK	001	0350	1102	
#\$TSYK	001	0250	1062	
#\$TVKB	001	0BAC	1238	
#\$UALL	001	0F00	1254	
#\$UATR	001	1A38	1350	
#\$UCDI	001	1AD8	1358	
#\$UCNF	001	19B8	1342	
#\$UCPL	001	19DC	1346	
#\$UDEL	001	1B24	1362	
#\$UDIS	001	1B5C	1366	
#\$UEXL	001	0EA8	1250	
#\$UINI	001	1A88	1354	
#\$UPAC	001	1980	1334	
#\$UPOV	001	1D24	1402	
#\$UPTF	001	1D5C	1398	
#\$VCRT	001	07B4	1194	
#\$VLOA	001	0B80	1230	
#\$VODK	001	0B88	1234	
#\$VVMR	001	0C00	1242	
#\$VXIT	001	0B00	1222	
#\$ZDUM	001	1BA4	1374	
#\$ZLBM	001	2008	1418	
#\$ZLOA	001	1BC4	1378	

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SYMBOL	LEN	VALUE	DEFN	REFERENCES
#\$ZLVR	001	20B0	1434	
#\$ZL1M	001	2010	1422	
#\$ZL2M	001	2030	1426	
#\$ZL3M	001	2088	1430	
#\$ZTRA	001	1B9C	1370	
#\$ZUTM	001	1C14	1382	
##DNEA	001	0001	0920	3077 3113 3114* 3115* 3116* 3120* 3121*
##DNEF	001	0003	0921	3062 3068 3112*
##DNER	001	0005	0922	3087 3087*
##DNE1	001	0004	0919	3055
##DNHC	001	0000	0916	3054 3095*
##DNHR	001	0003	0918	
##DNHY	001	0001	0917	
##DPEA	001	0009	0894	2538* 3262 3267
##DPEN	001	0007	0893	2356 2537* 3251 3717 3718
##DPER	001	000B	0895	2539*
##DPE1	001	0004	0892	3249
##DPHC	001	0000	0890	2514 2535* 3248
##DPHR	001	0003	0891	
##DUEA	001	0009	0905	
##DUED	001	0012	0910	
##DUEF	001	000B	0906	
##DUEH	001	002B	0911	
##DUEI	001	000C	0907	
##DUEL	001	000F	0909	
##DUEN	001	0007	0904	
##DUER	001	0031	0912	
##DUES	001	000D	0908	
##DUE1	001	000C	0903	
##DUHA	001	0001	0899	2561*
##DUHB	001	0003	0900	2563*
##DUHC	001	0004	0901	2564*
##DUHR	001	000B	0902	2565* 2566 2566*
##LAAA	001	0002	0931	
##LAHC	001	0001	0930	2535
##LN	001	0001	0959	2425
##LNE	001	0006	0965	3069 3087 3087 3091
##LNEF	001	0002	0963	2524 3062 3068 3112
##LNEZ	001	0002	0964	
##LNH	001	0004	0962	
##LNHY	001	0001	0960	
##LNHZ	001	0002	0961	
##LP	001	0004	0935	2433 3285
##LPE	001	000C	0940	3253
##LPEN	001	0008	0937	2356 2537 2587 3251 3603 3645
##LPEZ	001	0002	0938	2539
##LPH	001	0004	0939	
##LPHZ	001	0003	0936	
##LU	001	0002	0944	2441
##LUE	001	0032	0955	
##LUED	001	0003	0952	
##LUEF	001	0002	0948	
##LUEH	001	0019	0953	
##LUEI	001	0001	0949	
##LUEL	001	0002	0951	
##LUEN	001	0008	0947	3571 3715

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SYMBOL	LEN	VALUE	DEFN	REFERENCES
##LUES	001	0001	0950	
##LUEZ	001	0006	0954	
##LUH	001	000C	0946	
##LUHZ	001	0007	0945	2566
##MNHM	001	002A	0988	
##MPHM	001	0055	0973	2514
##MUEG	001	0020	0980	
##MUEK	001	0040	0979	
##MUEO	001	0004	0983	
##MUEP	001	0080	0978	
##MUER	001	0008	0982	
##MUEV	001	0002	0984	
##MUEX	001	0010	0981	
##MUHM	001	000A	0977	
##RN	001	0000	0879	2424 2440
##RP	001	0001	0880	2432 3284 3289
##R1	001	0007	0882	
##R2	001	0005	0881	
##BAD	001	0455	0823	2477
##IO1	001	0459	0831	
##IO2	001	045D	0832	
##TAT	001	0941	0859	
##TBA	001	09A1	0863	
##TFS	001	0941	0857	
##TSY	001	0941	0861	
##VFP	001	0700	0849	
##VLP	001	093D	0852	
##WDB	001	050C	0844	
##WFT	001	0500	0842	
##BA	001	0001	0824	2478
##IO	001	0001	0836	
##SC	001	0002	0833	
##TA	001	0010	0860	
##TB	001	0010	0864	
##TS	001	0005	0862	
##TW	001	0020	0858	
##VM	001	0100	0853	
##WD	001	00BD	0845	
##WF	001	0003	0843	
##04	001	0004	0835	
##08	001	0008	0834	
##BOV	001	0018	0812	
##ECM	001	0006	0826	
##ERR	001	0003	0820	
##GUF	001	0010	0816	
##LDS	001	0002	0822	
##SDS	001	0004	0818	
##SFF	001	0008	0830	
##SFL	001	0005	0828	
##SFO	001	0005	0838	
##SFS	001	0011	0814	
##VSF	001	0010	0866	
##VSL	001	000F	0867	
##VTR	001	0001	0851	
##BOVL	001	0400	0811	
##CORS	001	0005	0773	

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SYMBOL	LEN	VALUE	DEFN	REFERENCES
#@ECMA	001	0481	0825	
#@ERRP	001	0441	0819	
#@GUFU	001	0401	0815	
#@LDSV	001	044D	0821	
#@MVSD	001	0001	0781	2951
#@NERO	001	0003	0775	
#@OBRA	001	0002	0777	
#@PTFL	001	0006	0796	
#@PTFS	001	0001	0795	
#@SDSY	001	04AD	0817	
#@SFFI	001	04BD	0829	
#@SFLO	001	0499	0827	
#@SFOV	001	04C4	0837	
#@SFSY	001	0480	0813	
#@VCNT	001	0002	0793	
#@VLAB	001	0001	0788	
#@VLSD	001	0001	0779	2943
#@VSFI	001	09A1	0865	
#@VTRL	001	0708	0850	
#@WAF1	001	0401	0810	
#@WAR1	001	0400	0809	
#CNDIS	001	0001	0748	
#CNFIG	001	0005	0784	
#CORSV	001	0010	0772	
#DKEXT	001	0002	0755	
#FIGSC	001	0001	0785	
#HISCT	001	0006	0762	
#HISDX	001	0003	0757	
#HISLN	001	0008	0754	0755
#HISN1	001	0003	0760	
#HISN2	001	0005	0761	
#HISTC	001	0007	0764	
#HISTN	001	0009	0766	
#HISTQ	001	0000	0758	
#HISTR	001	0001	0759	
#HISTS	001	0008	0765	
#HISTV	001	000F	0767	
#HSEND	001	0007	0763	
#HSENT	001	0001	0756	
#IOSDR	001	0019	0783	
#KLOG	001	0C07	2283	
#KLOGO	001	0000	0001	
#MVSDR	001	000D	0780	2950
#NEROV	001	009C	0774	
#OBRAD	001	001D	0776	
#PKCNT	001	0002	0741	2886 2887
#PKMRW	001	002B	0742	2916*
#PKRDD	001	0003	0739	2887
#PKRTD	001	0003	0738	2882 2883 2924* 2925 2925*
#PKRTL	001	0004	0745	2883 2906 2925
#PKVRD	001	000B	0743	2896*
#PKVWD	001	0007	0744	2895*
#PKWTD	001	0001	0740	2886
#PTFDA	001	00DC	0794	
#RDWTL	001	0004	0746	2888 2895 2896 2916 2916 2935 2955 2960
#SDRDK	001	0011	0782	

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SYMBOL	LEN	VALUE	DEFN	REFERENCES
#VLSDR	001	000C	0778	2942
#VLTBE	001	0008	0733	
#VOLF1	001	0009	0786	
#VOLNG	001	0006	0731	0733 0755
#VOLOC	001	0005	0732	
#VOLR1	001	0008	0787	
#VTCF1	001	0025	0790	
#VTCF2	001	0027	0792	
#VTCR1	001	0024	0789	
#VTCR2	001	0026	0791	
@@E001	001	0000	1989	1991
@@E003	001	0001	1991	1993
@@E004	001	0002	1993	1995
@@E005	001	0003	1995	1997
@@E006	001	0004	1997	1999
@@E007	001	0005	1999	2001
@@E008	001	0006	2001	2003
@@E009	001	0007	2003	2005
@@E010	001	0008	2005	2007
@@E011	001	0009	2007	2009
@@E012	001	000A	2009	2011
@@E013	001	000B	2011	2013
@@E014	001	000C	2013	2015
@@E015	001	000D	2015	2017
@@E016	001	000E	2017	2019
@@E017	001	000F	2019	2021
@@E018	001	0010	2021	2023
@@E019	001	0011	2023	2025
@@E020	001	0012	2025	2027
@@E021	001	0013	2027	2029
@@E023	001	0014	2029	2031
@@E024	001	0015	2031	2033
@@E025	001	0016	2033	2035
@@E026	001	0017	2035	2037
@@E027	001	0018	2037	2039
@@E028	001	0019	2039	2041
@@E029	001	001A	2041	2043
@@E030	001	001B	2043	2045
@@E031	001	001C	2045	2047
@@E032	001	001D	2047	2049
@@E035	001	001E	2049	2051
@@E036	001	001F	2051	2053
@@E037	001	0020	2053	2055
@@E038	001	0021	2055	2057
@@E039	001	0022	2057	2059
@@E040	001	0023	2059	2061
@@E041	001	0024	2061	2063
@@E042	001	0025	2063	2065
@@E043	001	0026	2065	2067
@@E044	001	0027	2067	2069
@@E045	001	0028	2069	2071
@@E046	001	0029	2071	2073
@@E060	001	002A	2073	2075
@@E080	001	002B	2075	
@@E100	001	0000	1461	1463 3629 3672
@@E101	001	0001	1463	1465 3674

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SYMBOL	LEN	VALUE	DEFN	REFERENCES
@@E102	001	0002	1465	1467 3646
@@E103	001	0003	1467	1469 3650
@@E110	001	0004	1469	1471 3393
@@E112	001	0005	1471	1473
@@E113	001	0006	1473	1475
@@E114	001	0007	1475	1477
@@E115	001	0008	1477	1479
@@E116	001	0009	1479	1481
@@E117	001	000A	1481	1483
@@E120	001	000B	1483	1485
@@E122	001	000C	1485	1487
@@E123	001	000D	1487	1489
@@E124	001	000E	1489	1491
@@E129	001	000F	1491	1493
@@E130	001	0010	1493	1495 2348 3667
@@E131	001	0011	1495	1497 2410
@@E133	001	0012	1497	1499 2335 2404
@@E134	001	0013	1499	1501
@@E135	001	0014	1501	1503
@@E136	001	0015	1503	1505
@@E137	001	0016	1505	1507
@@E138	001	0017	1507	1509
@@E139	001	0018	1509	1511 2333 2351
@@E142	001	0019	1511	1513
@@E143	001	001A	1513	1515
@@E150	001	001B	1515	1517
@@E151	001	001C	1517	1519
@@E160	001	001D	1519	1521
@@E162	001	001E	1521	1523
@@E163	001	001F	1523	1525
@@E164	001	0020	1525	1527
@@E200	001	0021	1527	1529
@@E205	001	0022	1529	1531
@@E210	001	0023	1531	1533 2505 3237
@@E211	001	0024	1533	1535
@@E212	001	0025	1535	1537 3950
@@E213	001	0026	1537	1539
@@E215	001	0027	1539	1541
@@E216	001	0028	1541	1543 4024
@@E217	001	0029	1543	1545 3901
@@E220	001	002A	1545	1547
@@E221	001	002B	1547	1549
@@E222	001	002C	1549	1551
@@E223	001	002D	1551	1553
@@E225	001	002E	1553	1555
@@E226	001	002F	1555	1557
@@E227	001	0030	1557	1559
@@E228	001	0031	1559	1561
@@E229	001	0032	1561	1563
@@E230	001	0033	1563	1565
@@E232	001	0034	1565	1567
@@E234	001	0035	1567	1569
@@E237	001	0036	1569	1571
@@E240	001	0037	1571	1573
@@E241	001	0038	1573	1575
@@E242	001	0039	1575	1577

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SYMBOL	LEN	VALUE	DEFN	REFERENCES
@@E248	001	003A	1577	1579
@@E249	001	003B	1579	1581
@@E250	001	003C	1581	1583
@@E251	001	003D	1583	1585
@@E252	001	003E	1585	1587
@@E253	001	003F	1587	1589
@@E254	001	0040	1589	1591
@@E255	001	0041	1591	1593
@@E256	001	0042	1593	1595
@@E300	001	0043	1595	1597 3049
@@E301	001	0044	1597	1599
@@E302	001	0045	1599	1601
@@E303	001	0046	1601	1603
@@E304	001	0047	1603	1605
@@E305	001	0048	1605	1607
@@E308	001	0049	1607	1609
@@E310	001	004A	1609	1611
@@E315	001	004B	1611	1613
@@E316	001	004C	1613	1615
@@E320	001	004D	1615	1617
@@E325	001	004E	1617	1619
@@E330	001	004F	1619	1621
@@E335	001	0050	1621	1623
@@E338	001	0051	1623	1625
@@E340	001	0052	1625	1627
@@E350	001	0053	1627	1629 2515
@@E351	001	0054	1629	1631 2493 3913
@@E352	001	0055	1631	1633
@@E360	001	0056	1633	1635
@@E361	001	0057	1635	1637
@@E362	001	0058	1637	1639
@@E371	001	0059	1639	1641
@@E380	001	005A	1641	1643 2581
@@E390	001	005B	1643	1645
@@E400	001	005C	1645	1647
@@E410	001	005D	1647	1649
@@E415	001	005E	1649	1651
@@E417	001	005F	1651	1653
@@E420	001	0060	1653	1655
@@E430	001	0061	1655	1657
@@E432	001	0062	1657	1659
@@E433	001	0063	1659	1661
@@E450	001	0064	1661	1663
@@E451	001	0065	1663	1665
@@E460	001	0066	1665	1667
@@E461	001	0067	1667	1669
@@E464	001	0068	1669	1671
@@E465	001	0069	1671	1673
@@E466	001	006A	1673	1675
@@E467	001	006B	1675	1677
@@E469	001	006C	1677	1679
@@E470	001	006D	1679	1681
@@E471	001	006E	1681	1683
@@E473	001	006F	1683	1685
@@E474	001	0070	1685	1687
@@E475	001	0071	1687	1689

CROSS REFERENCE

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SYMBOL	LEN	VALUE	DEFN	REFERENCES
@@E476	001	0072	1689	1691
@@E477	001	0073	1691	1693
@@E478	001	0074	1693	1695
@@E479	001	0075	1695	1697
@@E480	001	0076	1697	1699
@@E481	001	0077	1699	1701
@@E482	001	0078	1701	1703
@@E483	001	0079	1703	1705
@@E484	001	007A	1705	1707
@@E485	001	007B	1707	1709
@@E486	001	007C	1709	1711
@@E487	001	007D	1711	1713
@@E488	001	007E	1713	1715
@@E489	001	007F	1715	1717
@@E490	001	0080	1717	1719
@@E491	001	0081	1719	1721
@@E492	001	0082	1721	1723
@@E493	001	0083	1723	1725
@@E494	001	0084	1725	1727
@@E495	001	0085	1727	1729
@@E496	001	0086	1729	1731
@@E497	001	0087	1731	1733
@@E498	001	0088	1733	1735
@@E500	001	0089	1735	1737
@@E501	001	008A	1737	1739
@@E530	001	008B	1739	1741
@@E531	001	008C	1741	1743
@@E535	001	008D	1743	1745
@@E540	001	008E	1745	1747
@@E541	001	008F	1747	1749
@@E542	001	0090	1749	1751
@@E543	001	0091	1751	1753
@@E544	001	0092	1753	1755
@@E545	001	0093	1755	1757
@@E546	001	0094	1757	1759
@@E547	001	0095	1759	1761
@@E548	001	FFFF	1965	
@@E549	001	0096	1761	1763
@@E550	001	0097	1763	1765
@@E551	001	0098	1765	1767
@@E552	001	0099	1767	1769
@@E553	001	009A	1769	1771
@@E554	001	009B	1771	1773
@@E555	001	009C	1773	1775
@@E556	001	009D	1775	1777
@@E558	001	009E	1777	1779
@@E570	001	009F	1779	1781
@@E571	001	00A0	1781	1783
@@E572	001	00A1	1783	1785
@@E573	001	00A2	1785	1787
@@E574	001	00A3	1787	1789
@@E575	001	FFFF	1967	
@@E578	001	00A4	1789	1791
@@E579	001	FFFF	1969	
@@E580	001	FFFF	1971	
@@E585	001	00A5	1791	1793

CROSS REFERENCE

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SYMBOL	LEN	VALUE	DEFN	REFERENCES
@@E595	001	FFFF	1973	
@@E597	001	FFFF	1975	
@@E598	001	FFFF	1977	
@@E600	001	00A6	1793	1795
@@E601	001	00A7	1795	1797
@@E602	001	00A8	1797	1799
@@E603	001	00A9	1799	1801
@@E604	001	00AA	1801	1803
@@E606	001	00AB	1803	1805
@@E607	001	00AC	1805	1807
@@E608	001	00AD	1807	1809
@@E609	001	00AE	1809	1811
@@E610	001	00AF	1811	1813
@@E611	001	00B0	1813	1815
@@E612	001	00B1	1815	1817
@@E613	001	00B2	1817	1819
@@E614	001	00B3	1819	1821
@@E700	001	00B4	1821	1823
@@E701	001	00B5	1823	1825
@@E710	001	00B6	1825	1827
@@E712	001	00B7	1827	1829
@@E713	001	00B8	1829	1831
@@E714	001	00B9	1831	1833
@@E715	001	00BA	1833	1835
@@E716	001	00BB	1835	1837
@@E717	001	00BC	1837	1839
@@E718	001	00BD	1839	1841
@@E720	001	00BE	1841	1843
@@E721	001	00BF	1843	1845
@@E723	001	00C0	1845	1847
@@E724	001	00C1	1847	1849
@@E725	001	00C2	1849	1851
@@E726	001	00C3	1851	1853
@@E727	001	00C4	1853	1855
@@E728	001	00C5	1855	1857
@@E729	001	00C6	1857	1859
@@E730	001	00C7	1859	1861
@@E732	001	00C8	1861	1863
@@E752	001	00C9	1863	1865
@@E753	001	00CA	1865	1867
@@E754	001	00CB	1867	1869
@@E755	001	00CC	1869	1871
@@E756	001	00CD	1871	1873
@@E757	001	00CE	1873	1875
@@E758	001	00CF	1875	1877
@@E759	001	00D0	1877	1879
@@E760	001	00D1	1879	1881
@@E761	001	00D2	1881	1883
@@E762	001	00D3	1883	1885
@@E763	001	00D4	1885	1887
@@E764	001	00D5	1887	1889
@@E765	001	00D6	1889	1891
@@E766	001	00D7	1891	1893
@@E767	001	00D8	1893	1895
@@E768	001	00D9	1895	1897
@@E769	001	00DA	1897	1899

CROSS REFERENCE

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SYMBOL	LEN	VALUE	DEFN	REFERENCES
@@E770	001	00DB	1899	1901
@@E771	001	00DC	1901	1903
@@E772	001	00DD	1903	1905
@@E773	001	00DE	1905	1907
@@E774	001	00DF	1907	1909
@@E775	001	00E0	1909	1911
@@E776	001	00E1	1911	1913
@@E777	001	00E2	1913	1915
@@E778	001	00E3	1915	1917
@@E779	001	00E4	1917	1919
@@E780	001	00E5	1919	1921
@@E781	001	00E6	1921	1923
@@E782	001	00E7	1923	1925
@@E783	001	00E8	1925	1927
@@E784	001	00E9	1927	1929
@@E785	001	00EA	1929	1931
@@E786	001	00EB	1931	1933
@@E790	001	00EC	1933	1935
@@E791	001	00ED	1935	1937
@@E792	001	00EE	1937	1939
@@E793	001	00EF	1939	1941
@@E794	001	00F0	1941	1943
@@E795	001	00F1	1943	1945
@@E796	001	00F2	1945	1947
@@E797	001	00F3	1947	1949
@@E798	001	00F4	1949	1951
@@E800	001	FFFF	1979	
@@E801	001	FFFF	1981	
@@E802	001	FFFF	1983	
@@E803	001	FFFF	1985	
@@E804	001	FFFF	1987	
@@E900	001	00F5	1951	1953
@@E901	001	00F6	1953	1955
@@E902	001	00F7	1955	1957
@@E903	001	00F8	1957	1959
@@E905	001	00F9	1959	1961
@@E906	001	00FA	1961	1963
@@E910	001	00FB	1963	
@@M300	001	0C0B	2292	3961
@@T300	001	0C0F	2296	2294
@ARR	001	0008	0016	2727* 2728 2729* 2730 2880 3048 3235 3391 3592 3876
@ASIGN	001	007C	0071	3618
@ASTER	001	005C	0069	
@BCRDL	001	0050	0088	
@BE	001	0081	0043	
@BF	001	0090	0052	
@BH	001	0084	0041	
@BL	001	0082	0042	
@BLANK	001	0040	0065	3396 3402 3602 3979 3999 4016
@BM	001	0082	0054	
@BNE	001	0001	0046	3387
@BNH	001	0004	0044	
@BNL	001	0002	0045	
@BNM	001	0002	0057	
@BNOL	001	0020	0050	
@BNOZ	001	0008	0049	

CROSS REFERENCE

SYMBOL LEN VALUE DEFN REFERENCES VER 15, MOD 00 14/05/20 PAGE 70

@BNP	001	0004	0056												
@BNZ	001	0001	0058												
@BOL	001	00A0	0048												
@BOZ	001	0088	0047												
@BP	001	0084	0053												
@BR	001	0001	0013	2311	2312*	2314	2322	2322	2353	2356	2372	2375	2376	2391	2392
				2394	2396	2397	2403	2404	2488	2496	2497	2498	2501	2503	2524
				2524	2526	2526	2535	2536	2537	2538	2539	2540	2561	2563	2580
				2587	2589	2617	2617	2715	2724	2726*	2727	2728	2729	2730	2732
				2733	2733	2734	2735	2735	2737	2737	2738	2739	2739	2743	2743
				2744	2748	2748	2749	2751	2751	2752	2752	2753	2753	2754	2754
				2755	2755	2761	2762	2763	2763	2764	2769	2769	2770	2770	2772
				2772	2778*	2875	2877	2878*	2879	2880	2883	2886	2887	2888	2888
				2895	2896	2897	2902	2904	2904	2905	2907	2907	2908	2917	2927*
				3044	3045	3046*	3047	3048	3052	3054	3056	3070	3070	3071	3088
				3088	3092	3095	3099*	3105	3106	3113	3116	3118	3118	3119	3120
				3123	3230	3232	3233*	3234	3235	3240	3247	3248	3254	3254	3255
				3265	3267	3271	3272	3272	3275*	3588	3590	3591*	3592	3595	3602
				3603	3603	3604	3605	3605	3625	3628	3631	3640	3642	3642	3643
				3644	3645	3647	3649	3651	3656	3656	3659	3666	3671	3675	3683
				3691*	3872	3873	3874*	3875	3876	3887	3889	3889	3891	3891	3892
				3900	3902	3903	3922*	3951	3977	3996*	4007	4007*	4013	4013*	4023
				4033											
@BT	001	0010	0051												
@BZ	001	0081	0055												
@B1	001	0001	0063	2370	2452	2492	2566*	2593	2617	3603	3658	3715	3717	3718	3862
				3884	3911	3963	3980*	3995	3996	3998	4002	4005	4014	4015	
@CADDR	001	0002	0142	2294	2322	2495	2733	3105							
@CARDL	001	0060	0087	0644											
@CHARA	001	00C1	0072	3621											
@CHARF	001	00C6	0073	4011											
@CHARR	001	00D9	0074	4008											
@CHARZ	001	00E9	0075	3623											
@CLOFF	001	0010	0094												
@CLON	001	0011	0093												
@COMMA	001	006B	0066	2359	2379	3398									
@CPLUS	001	004E	0079												
@DADDR	001	0002	0140	2526	2538	2561	2563	2588	2589	2732	2797	3077	3262	3267	3272
				3888	3888	3890	4007	4013	4033	4033					
@DBFR1	001	0004	0129												
@DBFR2	001	0005	0130	3247	4067										
@DCALK	001	0001	0081												
@DCBCY	001	0009	0115												
@DCBT1	001	0050	0117												
@DCNT	001	0003	0128	2473											
@DCST1	001	0040	0116												
@DCTRL	001	0000	0125	2540*	2897*	2905*	2917*								
@DCYL	001	0001	0126	2737*											
@DD2	001	0003	0030												
@DGET	001	0001	0134	2423	2905	2941	2949	3283							
@DOLAR	001	005B	0068	3614											
@DOP2	001	0004	0028	2728*	2732*	2733*	2795	2796							
@DPLNG	001	0006	0132	2734	2793										
@DPOS	001	0000	0133												
@DPUT	001	0002	0135	2431	2439	2476	2540	2897	2917						
@DSAD	001	0002	0127	2471	2472	2735*	2739*	2743	2744*	2748*	2751*	2755	2761*	2769*	2772*

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SYMBOL LEN VALUE DEFN REFERENCES VER 15, MOD 00 14/05/20 PAGE 71

				2794 2902 2904* 3267* 3272*
@DSBCY	001	0004	0106	
@DSCS1	001	0000	0107	
@DSIVF	001	0003	0138	
@DSPIN	001	0002	0131	
@DTRSZ	001	0018	0085	
@DVBCY	001	0007	0108	
@DVRFY	001	0031	0136	
@DWAIT	001	00FF	0137	
@DWBCY	001	0005	0103	
@DWSIZ	001	00C0	0105	
@DWTB1	001	0003	0104	
@DZERO	001	00F0	0064	
@D1	001	0002	0026	2907* 3900
@EOF	001	001C	0077	
@EOFTC	001	0075	0162	
@EOS	001	001E	0076	2336 2347 2357 2377 2405 2601 3404 3669 4019
@FDDBC	001	0000	0195	
@FDE1	001	000C	0200	
@FDFNA	001	000B	0198	
@FDHLN	001	0002	0208	
@FDLNC	001	0002	0193	
@FDNSC	001	0003	0210	
@FDSD	001	0000	0206	
@FLACE	001	0009	0197	
@FLDBC	001	0001	0196	
@FLENT	001	0004	0201	
@FLFNA	001	0002	0199	
@FLHLN	001	0002	0209	
@FLLNC	001	0002	0194	
@FLNSC	001	0001	0211	
@FLSD	001	0001	0207	
@HDRLN	001	0007	0092	0672
@IAR	001	0010	0017	
@INDEX	001	0001	0156	0157
@INST3	001	0003	0032	
@INST4	001	0004	0033	
@INST5	001	0005	0034	
@INST6	001	0006	0035	
@I1IAR	001	00C0	0020	
@LINSZ	001	00F4	0084	0646
@MAPEN	001	0005	0089	
@MINCR	001	2000	0083	
@MINUS	001	0060	0080	
@NOP	001	0080	0040	2338 2499 2590 2774 3239 3271 3925 3975
@NUMBR	001	007B	0070	3616
@OPD2	001	0004	0029	
@OP1	001	0003	0027	2314* 2322* 2353* 2372* 2391* 2397* 2403* 2593* 2724* 2730* 2877* 2879* 2880* 3045* 3047* 3048* 3232* 3234* 3235* 3391* 3590* 3592* 3595* 3605* 3656* 3873* 3875* 3876*
@OP2	001	0005	0031	
@PCTRL	001	0000	0149	
@PDATA	001	0003	0151	2452
@PGCSZ	001	0020	0082	0083
@PPLNG	001	0004	0148	
@PRCNT	001	0001	0150	

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SYMBOL	LEN	VALUE	DEFN	REFERENCES
@PRETR	001	00C0	0154	2292
@PRINT	001	0040	0152	0154
@PSR	001	0004	0015	3631*
@PWAIT	001	00FF	0158	
@P1IAR	001	0020	0018	
@P2IAR	001	0040	0019	
@Q	001	0001	0024	2338* 2404* 2775 3057 3122 3240* 3271* 3410 3719 3914* 3977*
@REGL	001	0002	0012	
@RETRN	001	0080	0153	0154 2447
@RLDWN	001	004F	0159	
@RTRNC	001	0080	0161	2448
@SBLN	001	0005	0170	
@SBLNL	001	0002	0184	
@SCTS	001	0100	0100	
@SDFLN	001	0007	0090	
@SDF0	001	0000	0166	
@SDF1	001	0001	0167	
@SDF2	001	0002	0168	
@SDF3	001	0003	0169	
@SECCY	001	0030	0086	
@SIST	001	0001	0181	
@SLASH	001	0061	0067	2368
@SLAST	001	0002	0183	
@SMIDL	001	0003	0182	
@SNULL	001	0080	0173	
@SONLY	001	0000	0180	
@STEXT	001	0007	0172	
@STYPE	001	0006	0171	
@TBCNT	001	0000	0160	
@TBLEF	001	0010	0155	0157
@TBLIX	001	0011	0157	
@UCB	001	0087	0039	2611 3240 3388 3399 3914 3977
@UPARW	001	005A	0078	
@VADDR	001	0002	0141	
@VENTA	001	0056	0113	
@VMDDV	001	00FE	0114	
@VMFD1	001	0000	0109	
@VMFD2	001	0001	0110	
@VMRS3	001	0002	0112	
@VMTRL	001	0001	0111	
@VOLID	001	0006	0091	2376 2496 3573 3649 3884 3886 3890 3996 4007 4013 4023
@VQ	001	0001	0025	3963* 3982
@WSFIT	001	0500	0101	
@WSTBL	001	0503	0102	
@XR	001	0002	0014	2313* 2314 2336 2347 2353 2357 2359 2368 2370 2370* 2372 2377
				2379 2391 2392 2394 2397 2398 2398* 2403 2405 2407* 2536* 2537
				2538 2539 2560* 2561 2563 2564 2565 2566 2566 2583 2583* 2879
				2882* 2883 2886 2887 2906 2906* 2924 2925 2925 2928* 3047 3051*
				3054 3055 3055* 3062 3068 3069 3069* 3077 3087 3087 3091 3091*
				3094* 3095 3100* 3112 3113 3114 3115 3116 3120 3121 3234 3247*
				3248 3249 3249* 3251 3253 3253* 3261 3262 3267 3276* 3392 3395
				3395* 3396 3398 3401 3401* 3402 3404 3406 3595 3614 3616 3618
				3621 3623 3632* 3657 3658 3658* 3669 3875 3884* 3886 3888 3890
				3890* 3923* 3995* 3998 3998* 3999 4002 4005 4008 4011 4014 4014*
				4015 4015* 4016 4019
@ZERO	001	0000	0062	2336 2347 2357 2359 2368 2377 2379 2405 2492 2497 2564 2565

CROSS REFERENCE

SYMBOL	LEN	VALUE	DEFN	REFERENCES	VER 15, MOD 00	14/05/20	PAGE	73
				2609 2744 2924 3114 3265 3604 3614 3616 3618 3621 3623 3657				
				3666 3669 3683 3886 3911 3999 4008 4011 4016 4019 4023				
DL2C01	002	0F5E	2787	2727 2729 2737				
DL2C05	002	0F60	2788	2733				
DL2C48	001	0F5A	2785	2735 2739				
DL2DPL	006	0F66	2793	2734*				
DL2END	001	0F69	2798					
DL2E01	001	0001	2717	2735 2737 2739 2743 2755 2763				
DL2E02	001	0002	2718	2748 2751 2769				
DL2E18	001	0018	2719	2749				
DL2E60	001	0060	2720	2764				
DL2E7C	001	007C	2722	2761				
DL2ICS	001	0ED0	2723	2518 2543 2548 2569 3242 3268				
DL2K18	002	0F5C	2786	2752				
DL2K60	002	0F57	2783	2770				
DL2K80	002	0F59	2784	2751 2769				
DL2LST	001	0F61	2792	2735* 2737* 2739* 2743 2744* 2748* 2751* 2755 2761* 2769* 2772* 2777				
				2794				
DL2PHY	001	0F63	2794					
DL2RAD	002	0F68	2797	2748 3241*				
DL2SAD	005	0EE8	2795	2755* 2762* 2763* 2764 2770* 2772				
DL2SEC	005	0EF1	2796	2743* 2749 2752* 2753 2753* 2754 2754* 2763				
DL2SWH	003	0F46	2775					
DL2TSD	001	0083	2721	2762				
DL2000	001	0ED4	2725	2715 2726				
DL2001	005	0EE4	2732	2728* 2795				
DL2002	005	0EED	2734	2732* 2733* 2796				
DL2005	004	0EF2	2735	2738				
DL2006	004	0F00	2739	2736				
DL2008	004	0F1D	2753	2750				
DL2010	003	0F33	2764					
DL2100	004	0F41	2772	2765				
DL2110	003	0F45	2774	2775				
DL2900	004	0F4E	2778	2724* 2774				
DL2910	004	0F52	2779	2730*				
KLOBAD	001	0D52	2475	2606				
KLOBUF	001	10D4	4038	2426 2479 2601* 4039				
KLODS2	001	0002	2263	2392 2394				
KLODS3	001	0003	2264	2398				
KLODS5	001	0005	2265	2376 2496				
KLODS7	001	0007	2266	2492 2495				
KLOGOF	004	0C07	2286					
KLOIDR	001	0D47	2460	2375* 2396* 2461 2488 2503 2580				
KLOLN3	001	0003	2269	2392 2394				
KLONEW	003	0D43	2455	2394				
KLONUL	001	0D2A	2422	2472 2473 2519 2540* 2544 4067				
KLOOLD	003	0D40	2454	2392				
KLOPAS	001	0D30	2430	2549				
KLOPP1	001	0D3C	2446	2452 2614				
KLOSKP	001	0D46	2457	2458 2617*				
KLOSMB	002	0D51	2470	4064				
KLOSMN	001	0D38	2471	4065				
KLOSMP	008	0D4F	2469	4063				
KLOTYP	001	0080	2463	2396 2503 2580				
KLOUSE	001	0D36	2438	2471 2570				
KLOVOL	001	0008	2466	2375 2488				

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SYMBOL	LEN	VALUE	DEFN	REFERENCES
KLOXFF	001	00FF	2267	2583
KLOZER	001	0D2C	2472	2526 2539 2563
KLOZR1	001	0D2D	2473	2322 2535 2617
KLOZR2	002	0D45	2456	2524
KLO050	004	0C55	2312	2286 4047
KLO100	004	0C64	2323	2314* 2322*
KLO200	004	0C6B	2332	
KLO210	003	0C7A	2336	2334
KLO255	001	00FF	2270	
KLO275	004	0C84	2339	
KLO300	003	0C88	2347	2324
KLO350	003	0CB8	2368	
KLO420	004	0CE3	2388	2360
KLO430	003	0CEE	2391	2380
KLO440	004	0CF1	2392	2369
KLO450	003	0D02	2397	2393
KLO470	003	0D18	2405	2402
KLO475	004	0D1E	2407	2353* 2372* 2391* 2397* 2403*
KLO480	004	0D22	2408	2395 2404* 2409
KLO490	004	0D26	2411	2337 2349 2352 2355 2374 2390 2401
KLO500	003	0D58	2488	2358 2378 2406
KLO525	004	0D65	2492	2489
KLO550	003	0D7B	2497	2491
KLO600	004	0D9C	2514	2504
KLO700	003	0E0A	2580	2502
KLO710	003	0E14	2583	2494 2506 2516 2527 2584
KLO720	005	0E1B	2587	2339 2572 2582
KLO750	004	0E3C	2594	2593*
KLO800	004	0E40	2601	2592
KLO900	004	0E51	2608	2603
KLO950	003	0E5D	2611	2338*
KLO970	004	0E60	2613	2618
KLO990	004	0E72	2619	2611
SALBSE	001	11C1	3613	3588 3591
SALCNT	001	125D	3710	3604* 3642* 3645 3649 3666
SALCT6	001	0006	3573	
SALCT8	001	0008	3571	
SALERR	003	11D7	3719	3631
SALFST	001	0001	3707	3628 3640
SALIDR	001	125C	3700	3585* 3625 3628 3640* 3643 3671 3683*
SALND0	004	1254	3691	3590*
SALND2	004	1258	3692	3592*
SALPHR	001	1260	3714	2356 2376 3716 3717 3718
SALPHS	002	126B	3716	3605
SALPH6	001	11A5	3589	2373
SALPH8	001	11A1	3582	2354
SALPR6	001	1268	3718	3603*
SALPR7	001	1269	3717	3602* 3603
SAL001	002	125F	3713	3642 3656
SAL008	001	0080	3704	3585 3625 3643 3671
SAL100	003	11B3	3602	
SAL200	003	11C1	3614	3659
SAL250	003	11D6	3622	3719
SAL350	003	11EF	3631	3647 3651 3675
SAL375	004	11F2	3632	3595*
SAL400	003	11F9	3640	3615 3617 3619 3624

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SYMBOL	LEN	VALUE	DEFN	REFERENCES
SAL425	004	11FC	3642	3626 3630
SAL450	003	1213	3649	3644
SAL500	004	121D	3656	3648
SAL525	005	1221	3657	3605* 3656*
SAL750	003	122C	3666	3622
SAL755	004	122F	3667	
SAL760	003	124A	3675	3670 3673
SAL775	004	124D	3676	3668
SAL800	003	1251	3683	3633
SCACNT	002	11A0	3416	3406* 3407*
SCACOF	001	0087	3388	
SCACOM	001	0001	3387	2388
SCAINC	001	0001	3386	3395 3401
SCAMMA	003	117D	3410	2388*
SCANIT	001	1160	3390	2332 2350 2371 2389 2399 3676
SCASVE	002	119E	3415	3392* 3407
SCASV1	001	119D	3414	
SCA100	003	116F	3395	3397
SCA200	003	1172	3396	3394
SCA250	003	117C	3399	3410
SCA300	003	117F	3401	3403
SCA400	004	118F	3406	3399
SCA500	004	1199	3409	3391* 3405
SGECNT	001	115D	3290	3248* 3254* 3265
SGEC01	002	115F	3291	3254
SGEDPL	001	1155	3282	3243 3247 3267* 3269 3272*
SGEEND	001	1160	3293	
SGERAD	002	115C	3289	3272
SGETDB	001	10D4	3231	2500 3230 3233 4038 4068
SGE050	003	10EA	3239	3240* 3271*
SGE055	003	1102	3247	3239
SGE060	005	110C	3251	3255
SGE070	004	1122	3261	3252
SGE080	004	1138	3267	
SGE900	004	1149	3275	3232* 3264 3266
SGE901	004	114D	3276	3234*
SGE902	004	1151	3277	3235*
SMAEND	001	15D4	4072	
SMALES	004	0C55	4047	4048
SMBFDA	002	0D51	4064	2495* 2588 3241 3888* 3911 4033*
SMFNAM	004	0C62	4049	4050
SMFUDA	001	0D38	4066	3262*
SMIND1	004	0C63	4050	2497* 2498* 2501 3238* 3256* 3263 4051
SMNDBA	001	0D2F	4067	3051 3094
SMNDEA	001	0D38	4065	2526 2538 2561 2589 3077* 3105* 4066
SMNETD	004	0C6D	4055	4056
SMNSCT	004	0C6B	4054	2524* 3062 3112 3115 4055
SMNULT	004	0C69	4053	3052* 3068* 4054
SMPDB1	001	11D4	4068	3286 4069
SMPEAD	004	0C71	4057	2536 3261*
SMPSWD	008	0D4F	4063	2356* 2537 2587 3251
SMUDBA	004	0C67	4052	4053
SMUDB1	001	11D4	4069	2434 2442 2514 2535* 2560 4070
SMUDB2	001	13D4	4070	4071 4072
SMUDEA	004	0C65	4051	4052
SMUPEN	004	0C6F	4056	4057

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SYMBOL	LEN	VALUE	DEFN	REFERENCES
SMVOID	004	0C5A	4048	2311 2312 2376* 2496* 3886 4023 4049
SM1FNE	001	0080	4058	
SM1NPD	001	0040	4059	
SM1PDS	001	0010	4061	2498 3263
SM1PNF	001	0008	4062	2501 3238 3256
SM1STN	001	0020	4060	
SUPBSE	004	0F7B	2959	2875 2878
SUPBUF	001	10D4	4039	2895* 2896* 2916* 2944 2952
SUPDAT	001	0F69	2876	2610
SUPDPL	001	1005	2940	2891 2897* 2900 2902 2904* 2905*
SUPDP2	001	100B	2948	2912 2917* 2920
SUPDSP	001	0007	2960	2888*
SUPEND	001	0003	2958	2902
SUPMDP	001	1011	2955	2907
SUPMST	001	1012	2956	2888* 2916
SUPONE	001	0FFC	2936	2904
SUPRDC	002	1004	2938	2887* 2888 2896
SUPWTC	002	1000	2937	2886* 2895
SUPZER	004	0FFB	2935	2883
SUP020	004	0F7B	2883	2908 2959
SUP040	004	0F8A	2888	2907*
SUP100	003	0FAD	2902	2885
SUP200	004	0FC4	2911	2903
SUP500	004	0FEC	2927	2877*
SUP501	004	0FF0	2928	2879*
SUP502	004	0FF4	2929	2880*
SURCHN	001	1032	3042	2525
SURCNT	003	1055	3057	3054* 3070* 3088*
SURC00	002	10D0	3128	3052 3056 3105
SURC01	001	10D1	3129	3070 3088 3095 3118
SURC48	002	10D3	3130	3116 3120
SURE01	001	0001	3043	3054 3070 3088
SURE02	001	0002	3127	3052 3095 3115 3116 3120
SURSWK	003	10CA	3122	3113* 3118*
SUR0A2	005	1071	3077	3063
SUR0A3	005	10A6	3112	3081
SUR0G2	005	109E	3105	3058
SUR000	004	1036	3046	3044 3046
SUR010	003	1054	3056	3057 3071
SUR020	004	1079	3087	3092
SUR024	004	108A	3094	3089
SUR03C	003	10C9	3121	3122
SUR033	004	10C5	3120	3117
SUR034	004	10B7	3116	3119
SUR900	004	1092	3099	3045* 3106 3123
SUR910	004	1096	3100	3047*
SUR920	004	109A	3101	3048*
SVOBSE	001	127E	3885	3872 3874
SVOBUF	001	14D4	4071	3976* 4022
SVOCT1	001	12C5	3934	3891* 3935
SVOCT2	001	12C6	3938	3889* 3900 3939
SVOEND	001	00FF	3863	3976* 4022
SVOERR	003	0E14	2584	3925
SVOINP	001	0100	3862	3976 4022
SVOLID	001	126C	3871	2490
SVOLN1	001	0001	3859	3889 3891

[illegible]

START ADDRESS	CATEGORY	NAME AND ENTRY	CODE LENGTH HEXADECIMAL	DECIMAL
0C00	0	#KLOGO	1377	4983
OL100	I	THE TOTAL CORE USED BY #KLOGO IS 4983 DECIMAL.		
OL101	I	THE START CONTROL ADDRESS OF THIS MODULE IS 0C00.		
OL104	I	TOTAL NUMBER OF LIBRARY SECTORS REQUIRED IS 20		
		NAME-#KLOGO,PACK-R1R1R1,UNIT-R1,RETAIN-P,LIBRARY-O		