


```

EEEEEEEEEE XX      XX  TTTTTTTTTT RRRRRRRR      AAAAAA      CCCCCCCC      TTTTTTTTTT
EEEEEEEEEE XX      XX  TTTTTTTTTT RRRRRRRR      AAAAAA      CCCCCCCC      TTTTTTTTTT
EE          XX      XX  TT          RR          RR      AA          AA      CC          TT
EE          XX      XX  TT          RR          RR      AA          AA      CC          TT
EE          XX      XX  TT          RR          RR      AA          AA      CC          TT
EE          XX      XX  TT          RR          RR      AA          AA      CC          TT
EEEEEEEEEE      XX      XX  TT          RRRRRRRR      AA          AA      CC          TT
EEEEEEEEEE      XX      XX  TT          RRRRRRRR      AA          AA      CC          TT
EE          XX      XX  TT          RR      RR      AAAAAAAAAA      CC          TT
EE          XX      XX  TT          RR      RR      AAAAAAAAAA      CC          TT
EE          XX      XX  TT          RR          RR      AA          AA      CC          TT
EEEEEEEEEE XX      XX  TT          RR          RR      AA          AA      CC          TT
EEEEEEEEEE XX      XX  TT          RR          RR      AA          AA      CC          TT

```

```

LL          IIIIII      SSSSSSSS
LL          IIIIII      SSSSSSSS
LL          II          SS
LL          II          SS
LL          II          SS
LL          II          SS
LL          II          SSSSSS
LL          II          SSSSSS
LL          II          SS
LL          II          SS
LL          II          SS
LL          II          SS
LLLLLLLLLLL IIIIII      SSSSSSSS
LLLLLLLLLLL IIIIII      SSSSSSSS

```



58
59
60
61
62
63
64
65
66
67
68
69

0058 1
0059 1
0060 1
0061 1
0062 1
0063 1
0064 1
0065 1
0066 1
0067 1
0068 1
0069 1

lib\$gl_ctlmsk now a quadword

V02-003 BLS0029 Benn Schreiber 23-Dec-1980
Convert messages to message compiler

V02-002 RPG0003 Bob Grosso 3-Sep-1980
Exit read loop and continue extracting modules
if read error encountered during extract.


```
116 1174 1 GLOBAL ROUTINE lib_extract_mods =
117 1175 2 BEGIN
118 1176 2 +-
119 1177 2     Extract modules from the library
120 1178 2
121 1179 2 Inputs:
122 1180 2
123 1181 2     NONE
124 1182 2
125 1183 2 Implicit inputs:
126 1184 2
127 1185 2     lib$gl_modxtrl is the queue listhead containing the names of the
128 1186 2     modules to extract.
129 1187 2
130 1188 2 Outputs:
131 1189 2
132 1190 2     the specified modules are extracted and written to the output file.
133 1191 2
134 1192 2 --
135 1193 2
136 1194 2 LOCAL
137 1195 2     nmblk : REF BBLOCK,
138 1196 2     keydesc : BBLOCK [dsc$_s_bln];      !Descriptor for key returned
139 1197 2
140 1198 2 BIND
141 1199 2     outdesc = lib$gl_outfdb [fdb$_namdesc] : BBLOCK,
142 1200 2     libdesc = lib$gl_libfdb [fdb$_namdesc] : BBLOCK;
143 1201 2
144 1202 2 BUILTIN
145 1203 2     REMQUE;
146 1204 2
147 1205 2     Open the output file
148 1206 2
149 1207 2     extracted1 = false;
150 1208 2     perform (lib_open_out (.lib$gl_outfdb,                !Open the file
151 1209 2         lib$gl_libfdb [fdb$_nam],                        !using the library NAM block as the related NAM blo
152 1210 2         (IF .lib$gl_type EQL lbr$_typ_mlb                !with carriage control
153 1211 2         OR .lib$gl_type EQL lbr$_typ_hlp                !if macro or help
154 1212 2         OR .lib$gl_type EQL lbr$_typ_txt                !or text library
155 1213 2         THEN true
156 1214 2         ELSE false));
157 1215 2
158 1216 2     Now lookup each module on the extract list, and if found
159 1217 2     copy it to the output file. Issue warning message if
160 1218 2     module is not found
161 1219 2
162 1220 2     WHILE NOT REMQUE (.lib$gl_modxtrl, nmblk)           !Get next one off the list
163 1221 2     DO BEGIN
164 1222 2         LOCAL
165 1223 2         status;
166 1224 2         keydesc [dsc$_length] = .nmblk [lnb$_namlng];   !Set descriptor for module name
167 1225 2         keydesc [dsc$_pointer] = nmblk [lnb$_name];
168 1226 2         IF NOT CH$FAIL (CH$FIND_CH (.keydesc [dsc$_length], !Check if any wild cards
169 1227 2             .keydesc [dsc$_pointer], %ASCII 'X'))
170 1228 2             OR NOT CH$FAIL (CH$FIND_CH (.keydesc [dsc$_length],
171 1229 2                 .keydesc [dsc$_pointer], %ASCII '*f'))
172 1230 2         THEN BEGIN
```

```

173 1231 5 IF (status = lbr$get_index (lib$gl_libctl, lib$gl_modnamix,
174 1232 4 extractmodule keydesc) EQL (br$nomtchfou
175 1233 4 THEN SIGNAL (lib$nomtchfou, 1, keydesc)
176 1234 4 ELSE IF NOT .status
177 1235 4 THEN SIGNAL (lib$indexerr, 1,
178 1236 4 lib$gl_libfdb [fdb$l_namdesc], .status,
179 1237 4 .lbr$gl_rmsstv);
180 1238 4 END
181 1239 3 ELSE
182 1240 3 extractmodule ( keydesc ); !Extract the module
183 1241 3
184 1242 3 lib_free_mem (lnb$c_fixedsize+.nmblk [lnb$b_naming], .nmblk); !Deallocate the module name block
185 1243 2 END; !WHILE loop
186 1244 2
187 1245 2 ! Close the output file
188 1246 2
189 1247 2 lib_close_out (.lib$gl_outfdb, NOT .extracted1);
190 1248 2
191 1249 2 RETURN true
192 1250 1 END; ! Of lib_extrct_mods

```

```

.TITLE LIB_EXTRACT
.IDENT \V04-000\
.PSECT $OWNS,NOEXE,2
0000 EXTRACTED1:
.BLK 4
.EXTRN LBR$GL_RMSSTV, LIB$GL_MODXTRL
.EXTRN LIB$GL_CTLMSK, LIB$GL_LIBCTL
.EXTRN LIB$GL_TYPE, LIB$GL_MODNAMIX
.EXTRN LIB$AL_RAB, LIB$GL_LIBFDB
.EXTRN LIB$GL_OUTFDB, LBR$FIND
.EXTRN LBR$LOOKUP_KEY, LBR$GET_RECORD
.EXTRN LBR$GET_INDEX, LIB_OPEN_OUT
.EXTRN LIB_CLOSE_OUT, LIB_LOG_OP
.EXTRN LIB_GET_ZMEM, LIB_GET_MEM
.EXTRN LIB_FREE_MEM, LBR$NOMTCHFOU
.EXTRN LIB$NOMTCHFOU, LIB$INDEXERR
.EXTRN LIB$LOOKUPERR, LIB$EXTRACTED
.PSECT $CODE$,NOWRT,2

```

```

54 00000000G 00 001C 00000
SE 0000' 08 9E 00002
0000G 00 08 C2 00009
0000G 00 0A D4 0000C
50 0000G 00 0A D0 00010
02 0000G 00 50 D1 00015
0000G 00 0A 13 00018
03 0000G 00 50 D1 0001A
0000G 00 05 13 0001D
04 0000G 00 50 D1 0001F
0000G 00 04 12 00022
0000G 00 01 DD 00024 1$:

```

```

.ENTRY LIB_EXTRCT_MODS, Save R2,R3,R4
MOVAB LIB$SIGNAL, R4
SUBL2 #8, SP
CLRL EXTRACTED1
MOVL LIB$GL_TYPE, R0
CMPL R0, #2
BEQL 1$
CMPL R0, #3
BEQL 1$
CMPL R0, #4
BNEQ 2$
PUSHL #1

```

```

: 1174
:
: 1207
: 1214
:
:
:

```

7E	0000G	CF	00000040	02	11	00026	BRB	3\$:	
			0000G	7E	D4	00028	CLRL	-(SP)	:	
				8F	C1	0002A	ADDL3	#64, LIB\$GL_LIBFDB, -(SP)	:	
	0000G	CF		CF	DD	00034	PUSHL	LIB\$GL_OUTFDB	:	
		01		03	FB	00038	CALLS	#3, LIB_OPEN_OUT	:	
				50	EB	0003D	BLBS	STATUS, 4\$:	
				04		00040	RET		:	
		53	0000G	DF	0F	00041	REMOUE	@LIB\$GL_MODXTRL, NMBLK	:	1220
				03	1C	00046	BVC	5\$:	
				0089	31	00048	BRW	12\$:	
	6E	09		A3	9B	0004B	MOVZBW	9(NMBLK), KEYDESC	:	1224
04	BE	04		AE	0A	0004F	MOVAB	10(R3), KEYDESC+4	:	1225
				6E		00054	LOCC	#37, KEYDESC, @KEYDESC+4	:	1226
				02	12	00059	BNEQ	6\$:	
				51	D4	0005B	CLRL	R1	:	
				51	D5	0005D	TSTL	R1	:	1227
				0D	12	0005F	BNEQ	8\$:	
04	BE		6E	2A	3A	00061	LOCC	#42, KEYDESC, @KEYDESC+4	:	1228
				02	12	00066	BNEQ	7\$:	
				51	D4	00068	CLRL	R1	:	
				51	D5	0006A	TSTL	R1	:	1229
				4E	13	0006C	BEQL	10\$:	
				5E	DD	0006E	PUSHL	SP	:	1231
			0000V	CF	9F	00070	PUSHAB	EXTRACTMODULE	:	
			0000G	CF	9F	00074	PUSHAB	LIB\$GL_MODNAMIX	:	
			0000G	CF	9F	00078	PUSHAB	LIB\$GL_LIBCTL	:	
	00000000G	00		04	FB	0007C	CALLS	#4, LBR\$GET_INDEX	:	
		52		50	D0	00083	MOVL	R0, STATUS	:	
	00000000G	8F		52	D1	00086	CMLP	STATUS, #LBR\$_NOMTCHFOU	:	1232
				0F	12	0008D	BNEQ	9\$:	
				5E	DD	0008F	PUSHL	SP	:	1233
				01	DD	00091	PUSHL	#1	:	
			00000000G	8F	DD	00093	PUSHL	#LIB\$_NOMTCHFOU	:	
			64	03	FB	00099	CALLS	#3, LIB\$SIGNAL	:	
				25	11	0009C	BRB	11\$:	
			22	52	EB	0009E	BLBS	STATUS, 11\$:	1234
			00000000G	00	DD	000A1	PUSHL	LBR\$GL_RMSSTV	:	1237
				52	DD	000A7	PUSHL	STATUS	:	1236
7E	0000G	CF		10	C1	000A9	ADDL3	#16, LIB\$GL_LIBFDB, -(SP)	:	
				01	DD	000AF	PUSHL	#1	:	
			00000000G	8F	DD	000B1	PUSHL	#LIB\$ INDEXERR	:	
			64	05	FB	000B7	CALLS	#5, LIB\$SIGNAL	:	
				07	11	000BA	BRB	11\$:	1226
				5E	DD	000BC	PUSHL	SP	:	1240
	0000V	CF		01	FB	000BE	CALLS	#1, EXTRACTMODULE	:	
				53	DD	000C3	PUSHL	NMBLK	:	1242
	7E	09		A3	9A	000C5	MOVZBL	9(NMBLK), -(SP)	:	
	6E			0A	C0	000C9	ADDL2	#10, (SP)	:	
	0000G	CF		02	FB	000CC	CALLS	#2, LIB_FREE_MEM	:	
				FF6D	31	000D1	BRW	4\$:	1220
	7E	0000V	0000G	CF	D2	000D4	MCOML	EXTRACTED1, -(SP)	:	1247
				CF	DD	000D9	PUSHL	LIB\$GL_OUTFDB	:	
	0000G	CF		02	FB	000DD	CALLS	#2, LIB_CLOSE_OUT	:	
				50	D0	000E2	MOVL	#1, R0	:	1249
				04		000E5	RET		:	1250

; Routine Size: 230 bytes, Routine Base: \$CODE\$ + 0000

LIB_EXTRACT
V04=000

G 16
16-Sep-1984 01:51:18
14-Sep-1984 12:38:01

VAX-11 Bliss-32 V4.0-742
[LIBRAR.SRC]EXTRACT.B32;1

Page 7
(3)

```
194 1251 1 ROUTINE extractmodule (keydesc, modrfa) =
195 1252 2 BEGIN
196 1253 2 :++
197 1254 2 : Routine to extract one module from library
198 1255 2 :
199 1256 2 : Inputs:
200 1257 2 :
201 1258 2 :     keydesc      Address of string descriptor for module to extract
202 1259 2 :     modrfa       (optional) Address of RFA for module
203 1260 2 :
204 1261 2 : Outputs:
205 1262 2 :
206 1263 2 :     The module is extracted from the library
207 1264 2 :
208 1265 2 :--
209 1266 2
210 1267 2 MAP
211 1268 2     keydesc : REF BBLOCK;
212 1269 2
213 1270 2 LOCAL
214 1271 2     recordbuffer : BBLOCK [lbr$c_maxrecsiz], !Record buffer
215 1272 2     recdesc : BBLOCK [dsc$c_s_bln], !String descriptor for recordbuffer
216 1273 2     status,
217 1274 2     txtrfa : BBLOCK [rfa$c_length];
218 1275 2
219 1276 2 BUILTIN
220 1277 2     NULLPARAMETER;
221 1278 2
222 1279 2     recdesc [dsc$w_length] = lbr$c_maxrecsiz; !set up buffer string descriptor
223 1280 2     recdesc [dsc$a_pointer] = recordbuffer;
224 1281 2     IF NOT NULLPARAMETER (2)
225 1282 2     THEN status = lbr$find (lib$gl_libctl, .modrfa)
226 1283 2     ELSE status = lbr$lookup_key (lib$gl_libctl, .keydesc, txtrfa);
227 1284 2     IF NOT .status
228 1285 2     THEN BEGIN
229 1286 2         SIGNAL (lib$lookuperr, 2, .keydesc,
230 1287 2             lib$gl_libfdb [fdb$l_namdesc], .status, .lbr$gl_rmsstv);
231 1288 2         RETURN true; !Continue the search
232 1289 2     END
233 1290 2 :
234 1291 2 : Process module after successful lookup/find
235 1292 2 :
236 1293 2     ELSE WHILE true !found--copy to output file
237 1294 2     DO IF (
238 1295 2         recdesc [dsc$w_length] = lbr$c_maxrecsiz;
239 1296 2         status = lbr$get_record (lib$gl_libctl, recdesc, recdesc) !Read a record
240 1297 2     )
241 1298 2     THEN BEGIN
242 1299 2         lib$al_rab [rab$w_rsz] = .recdesc [dsc$w_length]; !copy length to RAB
243 1300 2         lib$al_rab [rab$l_rbf] = .recdesc [dsc$a_pointer]; !and its address
244 1301 2         status = $PUT (RAB = lib$al_rab); !Write the record
245 1302 2         IF NOT .status
246 1303 2         THEN BEGIN
247 1304 2             SIGNAL (lib$writeerr,
248 1305 2                 1, lib$gl_outfdb [fdb$l_namdesc],
249 1306 2                 .status, .lib$al_rab [rab$l_stv]);
250 1307 2         END
250 1307 2     EXITLOOP; ! but continue to process other modules
```

```

: 251 1308 4
: 252 1309 3
: 253 1310 3
: 254 1311 3
: 255 1312 3
: 256 1313 3
: 257 1314 3
: 258 1315 3
: 259 1316 3
: 260 1317 3
: 261 1318 3
: 262 1319 3
: 263 1320 3
: 264 1321 2
: 265 1322 2 RETURN true
: 266 1323 1 END;

```

```

END
ELSE IF .status EQL rms$_eof !If end of text
THEN BEGIN !Then we are done
lib_log_op (lib$extracted, .keydesc, ! so log it if logging
.lib$gl_libfdb);
extracted1 = true;
RETURN true;
END
ELSE BEGIN
SIGNAL (lib$readerr, 1, lib$gl_libfdb [fdb$_namdesc],
.status, .lbr$gl_rmsstv);
EXITLOOP; ! but continue to process other modules
END;
! Of extractmodule

```

.EXTRN SYSSPUT

007C 00000 EXTRACTMODULE:						
	56	0000G	CF 9E 00002	.WORD	Save R2,R3,R4,R5,R6	1251
	55	0000G	CF 9E 00007	MOVAB	LIB\$GL_LIBCTL, R6	
	54	00000000G	00 9E 0000C	MOVAB	LIB\$GL_LIBFDB, R5	
	53	00000000G	00 9E 00013	MOVAB	LIB\$SIGNAL, R4	
	5E	F7F0	CE 9E 0001A	MOVAB	LBR\$GL_RMSSTV, R3	
08	AE	0800	8F 80 0001F	MOVW	-2064(SP), SP	
0C	AE	10	AE 9E 00025	MOVAB	#2048, RECDESC	1279
	02		6C 91 0002A	MOVAB	RECORDBUFFER, RECDESC+4	1280
			13 1F 0002D	(MPB	(AP), #2	1281
		08	AC D5 0002F	BLSSU	1\$	
			0E 13 00032	TSTL	8(AP)	
		08	AC DD 00034	BEQL	1\$	
			56 DD 00037	PUSHL	MODRFA	1282
00000000G	00		02 FB 00039	PUSHL	R6	
			0E 11 00040	CALLS	#2, LBR\$FIND	
			5E DD 00042	BRB	2\$	
		04	AC DD 00044	PUSHL	SP	1283
			56 DD 00047	PUSHL	KEYDESC	
00000000G	00		03 FB 00049	PUSHL	R6	
	52		50 DD 00050	CALLS	#3, LBR\$LOOKUP_KEY	
	18		52 EB 00053	2\$:	RO, STATUS	
			63 DD 00056	BLBS	STATUS, 3\$	1284
			52 DD 00058	PUSHL	LBR\$GL_RMSSTV	1287
7E	65		10 C1 0005A	PUSHL	STATUS	
		04	AC DD 0005E	ADDL3	#16, LIB\$GL_LIBFDB, -(SP)	
			02 DD 00061	PUSHL	KEYDESC	
		00000000G	8F DD 00063	PUSHL	#2	
	64		06 FB 00069	PUSHL	#LIB\$LOOKUPERR	
			6C 11 0006C	CALLS	#6, LIB\$SIGNAL	
			8F 80 0006E	BRB	5\$	1288
08	AE	0800	8F 80 0006E	3\$:	MOVW #2048, RECDESC	1295
		08	AE 9F 00074	PUSHAB	RECDESC	1296
		0C	AE 9F 00077	PUSHAB	RECDESC	
			56 DD 0007A	PUSHL	R6	
00000000G	00		03 FB 0007C	CALLS	#3, LBR\$GET_RECORD	

	52		50	DO	00083	MOVL	R0, STATUS			
	33		52	E9	00086	BLBC	STATUS, 4\$			
	C000G	CF	08	AE	B0	00089	MOVW	RECDISC, LIB\$AL_RAB+34	1299	
	0000G	CF	0C	AE	D0	0008F	MOVL	RECDISC+4, LIB\$AL_RAB+40	130J	
			0000G	CF	9F	00095	PUSHAB	LIB\$AL_RAB	1301	
	00000000G	00		01	FB	00099	CALLS	#1, SYS\$PUT		
		52		50	D0	000A0	MOVL	R0, STATUS		
		C8		52	E8	000A3	BLBS	STATUS, 3\$	1302	
			0000G	CF	DD	000A6	PUSHL	LIB\$AL_RAB+12	1306	
				52	DD	000AA	PUSHL	STATUS		
7E	0000G	CF		10	C1	000AC	ADDL3	#16, LIB\$GL_OUTFDB, -(SP)	1305	
			008610D2	01	DD	000B2	PUSHL	#1		
				8F	DD	000B4	PUSHL	#8786130		
	0001827A	8F		30	11	000BA	BRB	7\$		
				52	D1	000BC	4\$:	CMPL	STATUS, #98938	1310
				17	12	000C3	BNEQ	6\$		
			04	65	DD	000C5	PUSHL	LIB\$GL_LIBFDB	1313	
			00000000G	AC	DD	000C7	PUSHL	KEYDESC	1312	
	0000G	CF		8F	DD	000CA	PUSHL	#LIB\$EXTRACTED		
	0000'	CF		03	FB	000D0	CALLS	#3, LIB LOG OP		
				01	D0	000D5	MOVL	#1, EXTRACTED1	1314	
				13	11	000DA	5\$:	BRB	8\$	1315
				63	DD	000DC	6\$:	PUSHL	LIB\$GL_RMSSTV	1319
				52	DD	000DE	PUSHL	STATUS		
7E		65		10	C1	000E0	ADDL3	#16, LIB\$GL_LIBFDB, -(SP)	1318	
			008610B2	01	DD	000E4	PUSHL	#1		
				8F	DD	000E6	PUSHL	#8786098		
		64		05	FB	000EC	7\$:	CALLS	#5, LIB\$SIGNAL	
		50		01	D0	000EF	8\$:	MOVL	#1, R0	1322
				04	000F2	RET			1323	

: Routine Size: 243 bytes, Routine Base: \$CODE\$ + 00E6

: 267 1324 1 END ! Of module
: 268 1325 0 ELUDOM

.EXTRN LIB\$SIGNAL

PSECT SUMMARY

Name	Bytes	Attributes
\$OWNS	4	NOVEC, WRT, RD, NOEXE, NOSHR, LCL, REL, CON, NOPIC, ALIGN(2)
\$CODE\$	473	NOVEC, NOWRT, RD, EXE, NOSHR, LCL, REL, CON, NOPIC, ALIGN(2)

Library Statistics

File	----- Total	Symbols Loaded	----- Percent	Pages Mapped	Processing Time
------	----------------	-------------------	------------------	-----------------	--------------------

LIB_EXTRACT
V04=000

K 16
16-Sep-1984 01:51:18
14-Sep-1984 12:38:01

VAX-11 Bliss-32 V4.0-742
[LIBRAR.SRC]EXTRACT.B32;1

Page 11
(4)

: _\$255\$DUA28:[SYSLIB]STARLET.L32;1 9776 35 0 581 00:01.0

COMMAND QUALIFIERS

: BLISS/CHECK=(FIELD,INITIAL,OPTIMIZE)/LIS=LIS\$:EXTRACT/OBJ=OBJ\$:EXTRACT MSRCS\$:EXTRACT/UPDATE=(ENHS\$:EXTRACT)

: Size: 473 code + 4 data bytes
: Run Time: 00:18.6
: Elapsed Time: 00:39.9
: Lines/CPU Min: 4269
: Lexemes/CPU-Min: 46685
: Memory Used: 173 pages
: Compilation Complete

The image displays a grid of 160 small terminal window screenshots, arranged in 10 rows and 16 columns. Each window shows a different library system command or report. The visible titles for some of the windows include:

- TRANSFER LIS
- PUTCACHE LIS
- LIBRAR
- PREFIX REQ
- LIBRARIAN MAP
- CROSS LIS
- SUBS LIS
- FILETO LIS
- EXTRACT LIS
- DELETE LIS
- COMPRESS LIS
- LIB MDL
- PADL BR LIS
- DATABASE LIS

The screenshots show various data tables, command prompts, and system messages, illustrating the functionality of the library system.