


```

RRRRRRR      NN      NN      000000      DDDDDDD      AAAAAA      TTTTTTTTT
RRRRRRR      NN      NN      000000      DDDDDDD      AAAAAA      TTTTTTTTT
RR      RR      NN      NN      00      00      DD      DD      AA      AA      TT
RR      RR      NN      NN      00      00      DD      DD      AA      AA      TT
RR      RR      NNNN     NN      00      00      DD      DD      AA      AA      TT
RR      RR      NNNN     NN      00      00      DD      DD      AA      AA      TT
RRRRRRR      NN      NN      00      00      DD      DD      AA      AA      TT
RRRRRRR      NN      NN      00      00      DD      DD      AA      AA      TT
RR      RR      NN      NNNN     00      00      DD      DD      AAAAAAAAAA  TT
RR      RR      NN      NNNN     00      00      DD      DD      AAAAAAAAAA  TT
RR      RR      NN      NN      00      00      DD      DD      AA      AA      TT
RR      RR      NN      NN      00      00      DD      DD      AA      AA      TT
RR      RR      NN      NN      000000     DDDDDDD      AA      AA      TT
RR      RR      NN      NN      000000     DDDDDDD      AA      AA      TT

```

```

LL      IIIIII     SSSSSSS
LL      IIIIII     SSSSSSS
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
LLLLLLLLLL IIIIII     SSSSSSS
LLLLLLLLLL IIIIII     SSSSSSS

```



```

1 0001 0 MODULE RNODAT ( !
2 0002 0 IDENT = 'V04-000'
3 P 0003 0 %BLISS32[
4 P 0004 0 ADDRESSING_MODE(EXTERNAL=LONG_RELATIVE, NONEXTERNAL=LONG_RELATIVE)
5 0005 0 ]
6 0006 0 ) =
7 0007 1 BEGIN
8 0008 1
9 0009 1
10 0010 1 *****
11 0011 1 *
12 0012 1 * COPYRIGHT (c) 1978, 1980, 1982, 1984 BY *
13 0013 1 * DIGITAL EQUIPMENT CORPORATION, MAYNARD, MASSACHUSETTS. *
14 0014 1 * ALL RIGHTS RESERVED. *
15 0015 1 *
16 0016 1 * THIS SOFTWARE IS FURNISHED UNDER A LICENSE AND MAY BE USED AND COPIED *
17 0017 1 * ONLY IN ACCORDANCE WITH THE TERMS OF SUCH LICENSE AND WITH THE *
18 0018 1 * INCLUSION OF THE ABOVE COPYRIGHT NOTICE. THIS SOFTWARE OR ANY OTHER *
19 0019 1 * COPIES THEREOF MAY NOT BE PROVIDED OR OTHERWISE MADE AVAILABLE TO ANY *
20 0020 1 * OTHER PERSON. NO TITLE TO AND OWNERSHIP OF THE SOFTWARE IS HEREBY *
21 0021 1 * TRANSFERRED. *
22 0022 1 *
23 0023 1 * THE INFORMATION IN THIS SOFTWARE IS SUBJECT TO CHANGE WITHOUT NOTICE *
24 0024 1 * AND SHOULD NOT BE CONSTRUED AS A COMMITMENT BY DIGITAL EQUIPMENT *
25 0025 1 * CORPORATION. *
26 0026 1 *
27 0027 1 * DIGITAL ASSUMES NO RESPONSIBILITY FOR THE USE OR RELIABILITY OF ITS *
28 0028 1 * SOFTWARE ON EQUIPMENT WHICH IS NOT SUPPLIED BY DIGITAL. *
29 0029 1 *
30 0030 1 *
31 0031 1 *****
32 0032 1
33 0033 1 **
34 0034 1 FACILITY: DSR (Digital Standard RUNOFF) / DSRPLUS
35 0035 1
36 0036 1 ABSTRACT: Obtains the system date and time in a standard format.
37 0037 1
38 0038 1
39 0039 1 ENVIRONMENT: Specific code for each of: TOPS-10, VMS, TOPS-20, and RSX-11M
40 0040 1
41 0041 1 AUTHOR: R.W.Friday CREATION DATE: February, 1979
42 0042 1

```

RNODAT
V04-000

N 2
16-Sep-1984 01:35:58
14-Sep-1984 13:07:52

VAX-11 Bliss-32 V4.0-742
[RUNOFF.SRC]RNODAT.BLI;1

Page 2
(2)

RN
VC

Revision History

:	44	0043	1	%SBTTL 'Revision History'
:	45	0044	1	
:	46	0045	1	MODIFIED BY:
:	47	0046	1	
:	48	0047	1	008 KAD00008 Keith Dawson 07-Mar-1983
:	49	0048	1	Global edit of all modules. Updated module names, idents,
:	50	0049	1	copyright dates. Changed require files to BLISS library.
:	51	0050	1	
:	52	0051	1	--

Module Level Declarations

```
54 0052 1 %SBTTL 'Module Level Declarations'
55 0053 1
56 0054 1 : TABLE OF CONTENTS:
57 0055 1 :
58 0056 1 :
59 0057 1 :
60 0058 1 : INCLUDE FILES:
61 0059 1 :
62 U 0060 1 %IF %BLISS(BLISS36) %THEN
63 U 0061 1 %IF %SWITCHES(TOPS20) %THEN
64 U 0062 1 LIBRARY 'SYS:MONSYM'; ! TOPS-20 system symbol definitions
65 U 0063 1 REQUIRE 'REQ:JSYSDEF';
66 U 0064 1 %ELSE
67 U 0065 1 LIBRARY 'BLI:UUOSYM';
68 U 0066 1 %FI
69 0067 1 %FI
70 0068 1
71 U 0069 1 %IF %BLISS(BLISS16) %THEN
72 U 0070 1 LIBRARY 'RSX:RSX11M';
73 0071 1 %FI
74 0072 1
75 0073 1 : MACROS:
76 0074 1 :
77 0075 1 :
78 0076 1 :
79 0077 1 : EQUATED SYMBOLS:
80 0078 1 :
81 0079 1 :
82 0080 1 :
83 0081 1 : OWN STORAGE:
84 0082 1 :
85 0083 1 :
86 0084 1 :
87 0085 1 : EXTERNAL REFERENCES:
88 0086 1 :
89 0087 1 %IF %BLISS(BLISS32) %THEN
90 0088 1 EXTERNAL ROUTINE
91 0089 1 SYS$NUMTIM;
92 0090 1 %FI
93 0091 1
94 0092 1 GLOBAL ROUTINE rnodat (pieces) : NOVALUE =
95 0093 1
96 0094 1 !++
97 0095 1 : FUNCTIONAL DESCRIPTION:
98 0096 1 :
99 0097 1 : This routine obtains the system date and time, breaks it
100 0098 1 : up into its constituents, and returns the results.
101 0099 1 :
102 0100 1 : FORMAL PARAMETERS:
103 0101 1 :
104 0102 1 : PIECES is a vector in which the results are returned.
105 0103 1 :
106 0104 1 : IMPLICIT INPUTS: None
107 0105 1 :
108 0106 1 : IMPLICIT OUTPUTS: None
109 0107 1 :
110 0108 1 : ROUTINE VALUE:
```

Module Level Declarations

```

111      0109 1 | COMPLETION CODES:      None
112      0110 1 |
113      0111 1 | SIDE EFFECTS: None
114      0112 1 |
115      0113 1 | --
116      0114 1 |
117      0115 2 | BEGIN
118      0116 2 |
119      0117 2 | %IF %BLISS(BLISS32) %THEN
120      0118 2 | LOCAL
121      0119 2 |     time_32 : VECTOR [7,2];
122      0120 2 | %FI
123      0121 2 |
124      U 0122 2 | %IF %BLISS(BLISS16) %THEN
125      U 0123 2 | LOCAL
126      U 0124 2 |     time_16 : VECTOR [8];
127      U 0125 2 | %FI
128      0126 2 |
129      0127 2 | MAP
130      0128 2 |     pieces : REF VECTOR [6];
131      0129 2 |
132      0130 2 | BIND                                !Map PIECES into its constituents.
133      0131 2 |     year    = pieces [0],
134      0132 2 |     month   = pieces [1],
135      0133 2 |     monthday= pieces [2],
136      0134 2 |     hours   = pieces [3],
137      0135 2 |     minutes = pieces [4],
138      0136 2 |     seconds = pieces [5];
139      0137 2 |
140      U 0138 2 | %IF %BLISS(BLISS36) %THEN
141      U 0139 2 | %IF %SWITCHES(TOPS20)
142      U 0140 2 | %THEN
143      U 0141 2 | MACRO
144      U 0142 2 |     lh = 18,18 %,
145      U 0143 2 |     rh = 0,18 %;
146      U 0144 2 |
147      U 0145 2 | LOCAL
148      U 0146 2 |     year_month,      ! Year,,month # (month 0 = January)
149      U 0147 2 |     monthday_weekday, ! Day of month,,day of week (day 0 = Monday)
150      U 0148 2 |     status_time,    ! status,,time (time in seconds since 0 hrs.)
151      U 0149 2 |     temp;
152      U 0150 2 |
153      U 0151 2 |     jsys_odcnv(-1,0 ; year_month,monthday_weekday,status_time );
154      U 0152 2 |     year      = .(year_month)<lh>;
155      U 0153 2 |     month     = .(year_month)<rh> + 1;
156      U 0154 2 |     monthday  = .(monthday_weekday)<lh> + 1;
157      U 0155 2 |     temp      = .(status_time)<rh>;
158      U 0156 2 |     hours     = .temp/3600;
159      U 0157 2 |     temp      = .temp - (.hours * 3600);
160      U 0158 2 |     minutes   = .temp/60;
161      U 0159 2 |     seconds   = .temp - (.minutes * 60);
162      U 0160 2 | %ELSE
163      U 0161 2 | LOCAL
164      U 0162 2 |     system_date,
165      U 0163 2 |     system_mstime;
166      U 0164 2 | MACRO
167      U 0165 2 |     t10_mstime =

```

Module Level Declarations

```

168 U 0166 2 BEGIN
169 UU 0167 2 BUILTIN uuo;
170 UU 0168 2 REGISTER milliseconds;
171 UU 0169 2 uuo (0, MTIME (milliseconds));
172 UU 0170 2 .milliseconds
173 UU 0171 2 END X;
174 UU 0172 2 MACRO
175 UU 0173 2 t10_date =
176 UU 0174 2 BEGIN
177 UU 0175 2 BUILTIN uuo;
178 UU 0176 2 REGISTER current_date;
179 UU 0177 2 uuo (0, DATE (current_date));
180 UU 0178 2 .current_date
181 UU 0179 2 END X;
182 U 0180 2 %FI
183 0181 2 %FI
184 0182 2
185 U 0183 2 %IF %BLISS(BLISS36) %THEN
186 UU 0184 2 %IF %SWITCHES(TOPS20)
187 UU 0185 2 %THEN
188 UU 0186 2 %ELSE
189 UU 0187 2 system_date = t10_date; !Fetch system date.
190 UU 0188 2 system_mstime = t10_mstime; !Fetch system time.
191 UU 0189 2
192 UU 0190 2 seconds = .system_mstime/1000; !Convert to seconds,
193 UU 0191 2 seconds = .seconds MOD 60; !and compute seconds into current minute.
194 UU 0192 2
195 UU 0193 2 system_mstime = .system_mstime/(1000*60); !Toss away odd milliseconds and seconds.
196 UU 0194 2
197 UU 0195 2 MINUTES = .system_mstime MOD 60; !Minutes into current hour.
198 UU 0196 2
199 UU 0197 2 hours = .system_mstime/60; !Current hour.
200 UU 0198 2
201 UU 0199 2 monthday = 1 + (.system_date MOD 31); !Day of current month.
202 UU 0200 2
203 UU 0201 2 system_date = .system_date/31; !Drop days.
204 UU 0202 2
205 UU 0203 2 month = 1 + (.system_date MOD 12); !Current month.
206 UU 0204 2
207 UU 0205 2 year = 1964 + .system_date/12; !Current year.
208 U 0206 2 %FI
209 0207 2 %FI
210 0208 2
211 U 0209 2 %IF %BLISS(BLISS16) %THEN
212 UU 0210 2 GTIMSS (time_16); !Get binary date as an 8-word vector.
213 UU 0211 2
214 UU 0212 2 INCR i FROM 0 TO 5 DO
215 U 0213 2 pieces[i] = .time_16[i]; !Copy it to PIECES.
216 0214 2 %FI
217 0215 2
218 0216 2 %IF %BLISS(BLISS32) %THEN
219 0217 2 SYSSNUMTIM (time_32, 0); !Get binary date as a short-word vector.
220 0218 2
221 0219 2 INCR i FROM 0 TO 5 DO
222 0220 2 pieces[i] = .time_32[i]; !Convert from short-word to long word.
223 0221 2 %FI
224 0222 2

```

RNODAT
V04-000

Module Level Declarations

E 3
16-Sep-1984 01:35:58
14-Sep-1984 13:07:52

VAX-11 Bliss-32 V4.0-742
[RUNOFF.SRC]RNODAT.BLI;1

: 225 0223 2 RETURN;
: 226 0224 2
: 227 0225 1 END; !End of RNODAT

.TITLE RNODAT
.IDENT \V04-000\
.EXTRN SYSSNUMTIM
.PSECT \$CODE\$,NOWRT,2

SE 04 10 C2 00002
52 04 AC D0 00005
04 7E D4 00009
00000000G EF 04 AE 9F 0000B
02 FB 0000E
50 D4 00015
F7 6240 6E40 3C 00017 1\$:
05 F3 0001C
04 00020

.ENTRY RNODAT, Save R2
SUBL2 #16, SP
MOVL PIECES, R2
CLRL -(SP)
PUSHAB TIME 32
CALLS #2, SYSSNUMTIM
CLRL I
MOVZWL TIME 32[I], (R2)[I]
AOBLEQ #5, I, 1\$
RET

: 0092
: 0131
: 0217
: 0219
: 0220
: 0225

: Routine Size: 33 bytes, Routine Base: \$CODE\$ + 0000

: 228 0226 1
: 229 0227 1 END !End of module
: 230 0228 0 ELUDOM

PSECT SUMMARY

Name Bytes Attributes
\$CODE\$ 33 NOVEC,NOWRT, RD, EXE,NOSHR, LCL, REL, CON,NOPI,ALIGN(2)

COMMAND QUALIFIERS

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

: Size: 33 code + 0 data bytes
: Run Time: 00:02.3
: Elapsed Time: 00:06.0
: Lines/CPU Min: 6026
: Lexemes/CPU-Min: 21806
: Memory Used: 23 pages

RNODAT
V04-000

Module Level Declarations

; Compilation Complete

F 3
16-Sep-1984 01:35:58

VAX-11 Bliss-32 V4.0-742

Page 7

RN
VO

.....

0348 AH-BT13A-SE
VAX/VMS V4.0

DIGITAL EQUIPMENT CORPORATION CONFIDENTIAL AND PROPRIETARY

```
...
...
RNODEF
LIS
...
RNODEAT
LIS
...
RNOUMS
LIS
...
RNFERM
LIS
...
RNSKIPS
LIS
...
RNOURS
LIS
...
RSDERM
LIS
...
RTERM
LIS
...
RUIROFF
LIS
...
SAURES
LIS
...
...
```