

[illegible]

[illegible]

(1) 49

DECLARATIONS


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0000 1      .TITLE CNVCLINUM - CONVERT ASCII TO BINARY
0000 2      .IDENT 'V04-000'
0000 3
0000 4
0000 5 *****
0000 6 *****
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0000 24
0000 25 *****
0000 26 *****
0000 27
0000 28      ++
0000 29      FACILITY: RUN-DETACHED CLI UTILITY
0000 30
0000 31      ABSTRACT:
0000 32
0000 33      THIS ROUTINE CONVERTS AN ASCII NUMERIC STRING TO BINARY USING THE RADIX SPECI-
0000 34      FIED BY THE USER (OCTAL, DECIMAL OR HEXIDECIMAL).
0000 35
0000 36      ENVIRONMENT: USER MODE
0000 37
0000 38      AUTHOR: C. A. MONIA , CREATION DATE: 15-AUG-1977
0000 39
0000 40      MODIFIED BY:
0000 41
0000 42      : : VERSION
0000 43      01  -
0000 44
0000 45      101 T. Halvorsen 27-Jun-1979
0000 46      Change PSECT name to avoid conflicting psects with RTL
0000 47      --

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0000 49      .SBTTL  DECLARATIONS
0000 50
0000 51      :
0000 52      : INCLUDE FILES
0000 53      :
0000 54
0000 55      $CLMSGDEF      ; DEFINE CLI ERROR CODES
0000 56      $$$DEF      ; DEFINE SYSTEM STATUS CODES
0000 57
0000 58
0000 59      :
0000 60      : MACROS
0000 61      :
0000 62      : BUILD DISPATCH TABLE FOR CASE INSTRUCTION
0000 63      :
0000 64
0000 65      .MACRO CASE,SRC,DISPLIST,TYPE=W,BASE=#0,NMODE=S^#,?START,?MAX
0000 66      CASE'TYPE      SRC,BASE,NMODE'<<MAX-START>/2>-1
0000 67      START:
0000 68      .IRP      EP,<DISPLIST>
0000 69      .WORD      EP-START
0000 70      .ENDR
0000 71      MAX:
0000 72      .ENDM
0000 73
0000 74      :
0000 75      : DEFINE DATA STRUCTURE
0000 76      :
0000 77
0000 78      .MACRO SDSECT
0000 79      .PSECT  $AB$$,ABS
0000 80      .ENDM
0000 81
0000 82      :
0000 83      : EQUATED SYMBOLS:
0000 84      :
0000 85      : OFFSET TO LOCAL VARIABLE FOR NUMERIC RESULT
0000 86      :
0000 87
FFFFF7FC 0000 88      RESULT=-4      ;
0000 89
0000 90      :
0000 91      : ARGUMENT OFFSETS
0000 92      :
0000 93
0000 94      .SDSECT
0000 95      $$$=.
0000 96
00000004 0000 97      .BLKL  1      ; ARGUMENT COUNT
00000008 0004 98      STRNG: .BLKL  1      ; ADDRESS OF ASCII STRING DESCRIPTOR
0000000C 0008 99      VALUE: .BLKL  1      ; ADDRESS TO RECEIVE CONVERTED VALUE
000C 100
000C 101      :
000C 102      : OWN STORAGE:
000C 103      :
000C 104      : CONVERSION RADIX SPECIFIERS
000C 105      :
```



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000C 106
00000000 107 .PSECT CNVCLINUM,EXE,RD,NOWRT
0000 108
0000 109 CVRAD:
44 0000 110 .ASCII /D/ ; DECIMAL RADIX
4F 0001 111 .ASCII /O/ ; OCTAL RADIX
58 0002 112 .ASCII /X/ ; HEXADECIMAL RADIX
00000003 0003 113 CVRADSIZE=-CVRAD ; SIZE OF RADIX SPECIFIER TABLE
0003 114
0003 115 ;
0003 116 ; ASCII TO BINARY CONVERSION DISPATCH TABLE
0003 117 ;
0003 118
0003 119 TABL:
0000' 0003 120 .WORD LIB$CVTCLINTB-LIB$CVTCLIDTB ; CONVERT HEX TO BINARY
0000' 0005 121 .WORD LIB$CVTCLIOB-LIB$CVTCLIDTB ; CONVERT OCTAL TO BINARY
0000' 0007 122 .WORD LIB$CVTCLIDTB-LIB$CVTCLIDTB ; CONVERT DECIMAL TO BINARY
0009 123
0009 124 ;++
0009 125 ; LIB$CVT_DECBIN - CONVERT NUMERIC STRING TO BINARY (ASSUMES DECIMAL DEFAULT)
0009 126 ; LIB$CVT_OCTBIN - CONVERT NUMERIC STRING TO BINARY (ASSUMES OCTAL DEFAULT)
0009 127 ; LIB$CVT_HEXBIN CLI CONVERT NUMERIC STRING TO BINARY (ASSUMES HEX. DEFAULT)
0009 128
0009 129 ; THESE PROCEDURES ARE CALLED TO CONVERT AN ASCII NUMERIC STRING TO BINARY. THE
0009 130 ; CONVERSION RADIX IS IMPLIED OR CAN BE EXPLICITLY SPECIFIED IN THE STRING
0009 131 ; AS FOLLOWS:
0009 132 ;
0009 133 ; NO RADIX SPECIFICATION - AS DETERMINED BY ENTRY POINT
0009 134 ;
0009 135 ; STRING TERMINATED BY DECIMAL POINT = DECIMAL RADIX
0009 136 ;
0009 137 ; %D PREFIX = DECIMAL RADIX
0009 138 ;
0009 139 ; %O PREFIX = OCTAL RADIX
0009 140 ;
0009 141 ; %X PREFIX = HEXADECIMAL PREFIX
0009 142 ;
0009 143 ; THE DECIMAL POINT IS ILLEGAL IF USED IN CONJUNCTION WITH OTHER RADIX SPECI-
0009 144 ; FERS.
0009 145 ;
0009 146 ; CALLING SEQUENCE:
0009 147 ;
0009 148 ; CALL LIB$CVT_XXX (DESCR[,VALUE])
0009 149 ;
0009 150 ;
0009 151 ; INPUT PARAMETERS:
0009 152 ;
0009 153 ; DESCR = QUADWORD STRING DESCRIPTOR OF THE STRING TO BE CONVERTED
0009 154 ;
0009 155 ; VALUE = OPTIONAL LONGWORD TO RECEIVE THE RESULT
0009 156 ;
0009 157 ; OUTPUTS:
0009 158 ;
0009 159 ; R0 = CLIS_NORMAL, SUCCESS
0009 160 ;
0009 161 ; R1 = CONVERTED VALUE
0009 162 ;

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0009 163 : THE CONVERTED VALUE IS RETURNED TO THE RESULT ARGUMENT (IF
0009 164 : SPECIFIED).
0009 165 :
0009 166 : RO = CLIS_IVCHAR, INVALID CHARACTER IN NUMERIC STRING
0009 167 : RO = CLIS_NUMBER, INCORRECT NUMERIC FORMAT
0009 168 :
0009 169 : ONE OF THE FOLLOWING ERROR CONDITIONS HAS BEEN DETECTED:
0009 170 :
0009 171 : ILLEGAL RADIX SPECIFIER
0009 172 : ILLEGAL CHARACTER
0009 173 : DECIMAL POINT INCLUDED WITH RADIX SPECIFIER
0009 174 :
0009 175 : --
0009 176 :
0009 177 : .ENABL LSB
0009 178 :
0009 179 :
0009 180 LIB$CVT_DECBIN:: :
50 03 007C 0009 181 .WORD ^M<R2,R3,R4,R5,R6> : SAVE R2 - R6
OC 11 000B 182 MOVL #3,R0 : SET FOR DEFAULT DECIMAL CONVERSION
000E 183 BRB 5$ :
0010 184 :
0010 185 : CONVERT TO BINARY WITH OCTAL AS DEFAULT
0010 186 :
0010 187 :
0010 188 :
0010 189 LIB$CVT_OCTBIN:: :
50 02 007C 0010 190 .WORD ^M<R2,R3,R4,R5,R6> : SAVE R2 - R6
05 11 0012 191 MOVL #2,R0 : SET FOR DEFAULT OCTAL CONVERSION
0015 192 BRB 5$ :
0017 193 :
0017 194 : CONVERT TO BINARY WITH HEXADECIMAL AS DEFAULT
0017 195 :
0017 196 :
0017 197 :
0017 198 LIB$CVT_HEXBIN:: :
50 01 007C 0017 199 .WORD ^M<R2,R3,R4,R5,R6> : SAVE R2 - R6
0019 200 MOVL #1,R0 : SET FOR DEFAULT HEX CONVERSION
52 04 BC 7D 001C 201 5$: :
52 52 3E 13 001C 202 MOVQ @STRING(AP),R2 : GET COUNT AND ADDRESS OF STRING
3E 13 0020 203 MOVZWL R2,R2 : EXTEND BYTE COUNT
55 D4 0023 204 BEQL 20$ : IF EQL, NULL FIELD
2B 63 91 0025 205 CLRL R5 : ASSUME POSITIVE VALUE RETURNED
07 13 0027 206 CMPB (R3),#^A/+/ : PLUS SIGN SPECIFIED?
2D 63 91 002A 207 BEQL 7$ : IF EQL YES
08 12 002C 208 CMPB (R3),#^A/-/ : NEGATION SPECIFIED?
55 D7 002F 209 BNEQ 9$ : IF NEQ NO
0031 210 DECL R5 : SET SIGN SPECIFIER NEGATIVE
0033 211 7$: :
53 D6 0033 212 INCL R3 : STRIP SIGN FROM STRING
52 D7 0035 213 DECL R2 :
2A 13 0037 214 BEQL 20$ : IF EQL, NULL RESULT
0039 215 9$: :
25 63 91 0039 216 CMPB (R3),#^A/%/ : RADIX SPECIFIED?
0E 13 003C 217 BEQL 10$ : IF EQL YES
2E FF A342 91 003E 218 CMPB -1(R3)[R2],#^A/. : STRING TERMINATED IN DECIMAL POINT?
1E 12 0043 219 BNEQ 20$ : IF NEQ NO ASSUME DEFAULT

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50	03	D0	0045	220	MOVL	#3,R0	:	SET DECIMAL RADIX
	52	B7	0048	221	DECB	R2	:	TRUNCATE STRING TO REMOVE DECIMAL POINT
	17	11	004A	222	BRB	20\$	:	
			004C	223			:	
	53	D6	004C	224	INCL	R3	:	POINT PAST RADIX SPECIFIER
52	02	A2	004E	225	SUBW	#2,R2	:	STRIP RADIX SPECIFIER FROM STRING
	07	1F	0051	226	BLSSU	15\$	:	IF LSSU ERROR
A8 AF	03	83	0053	227	LOCC	(R3)+,#CVRADSI2,CVRAD	:	SCAN RADIX SPECIFIERS
	09	12	0058	228	BNEQ	20\$	:	IF NEQ HAVE MATCH
			005A	229			:	
50	000380E8	8F	005A	230	MOVL	#CLIS_NUMBER,R0	:	ASSUME SYNTAX ERROR
		23	0061	231	BRB	40\$	:	TAKE ERROR EXIT
			0063	232			:	
50	9A AF40	32	0063	233	CVTL	TABL-2[R0],R0	:	GET ADDRESS OF ENTRY POINT OFFSET
00000000	EF40	16	0068	234	JSB	LIB\$CVTCLIDTB[R0]	:	ENTER CONVERSION ROUTINE
	14 50	E9	006F	235	BLBC	R0,40\$	:	IF LBC, ERROR
			0072	236			:	
	55	D5	0072	237	TSTL	R5	:	TEST SIGN FLAG
	03	18	0074	238	BGEQ	35\$	:	IF GEQ, RETURN RESULT UNCHANGED
51	51	CE	0076	239	MNEGL	R1,R1	:	NEGATE RESULT
			0079	240			:	
	02	6C	0079	241	CMPB	(AP),#2	:	ENOUGH ARGUMENTS SUPPLIED?
		1F	007C	242	BLSSU	40\$	:	IF LSSU NO
	08 AC	DD	007E	243	PUSHL	VALUE(AP)	:	PUSH ADDRESS TO RECEIVE RESULT
		13	0081	244	BEQL	40\$	:	IF EQL NONE
9E	51	D0	0083	245	MOVL	R1,a(SP)+	:	RETURN RESULT
			0086	246			:	
		04	0086	247	RET		:	
			0087	248			:	
			0087	249	.END		:	

CVNCLINUM
Symbol table

- CONVERT ASCII TO BINARY

L 6

15-SEP-1984 23:39:02
4-SEP-1984 23:15:18

VAX/VMS Macro V04-00
[CLIUTL.SRC]CVNCLINUM.MAR;1

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```
$$$
CLIS NUMBER      = 00000000
CVRAD            = 000380E8
CVRADSIZ        = 00000000 R    02
LIBSCVTCLIDTB   ***** X    02
LIBSCVTCLINTB   ***** X    02
LIBSCVTCLIOTB   ***** X    02
LIBSCVT_DECBIN  00000009 RG    02
LIBSCVT_HEXBIN  00000017 RG    02
LIBSCVT_OCTBIN  00000010 RG    02
RESULT          = FFFFFFFC
STRNG           00000004
TABL            00000003 R    02
VALUE           00000008
```

+-----+
! Psect synopsis !
+-----+

PSECT name	Allocation	PSECT No.	Attributes														
. ABS .	00000000 (0.)	00 (0.)	NOPIC	USR	CON	ABS	LCL	NOSHR	NOEXE	NORD	NOWRT	NOVEC	BYTE				
\$AB\$\$	0000000C (12.)	01 (1.)	NOPIC	USR	CON	ABS	LCL	NOSHR	EXE	RD	WRT	NOVEC	BYTE				
CVNCLINUM	00000087 (135.)	02 (2.)	NOPIC	USR	CON	REL	LCL	NOSHR	EXE	RD	NOWRT	NOVEC	BYTE				

+-----+
! Performance indicators !
+-----+

Phase	Page faults	CPU Time	Elapsed Time
Initialization	10	00:00:00.07	00:00:00.73
Command processing	78	00:00:00.86	00:00:05.20
Pass 1	220	00:00:05.54	00:00:17.66
Symbol table sort	0	00:00:00.85	00:00:02.63
Pass 2	67	00:00:01.07	00:00:03.63
Symbol table output	2	00:00:00.03	00:00:00.06
Psect synopsis output	1	00:00:00.02	00:00:00.02
Cross-reference output	0	00:00:00.00	00:00:00.00
Assembler run totals	380	00:00:08.44	00:00:29.93

The working set limit was 900 pages.
28602 bytes (56 pages) of virtual memory were used to buffer the intermediate code.
There were 30 pages of symbol table space allocated to hold 573 non-local and 9 local symbols.
249 source lines were read in Pass 1, producing 13 object records in Pass 2.
11 pages of virtual memory were used to define 10 macros.

+-----+
! Macro library statistics !
+-----+

Macro library name

Macros defined

\$255\$DUA28:[CLIUTL.OBJ]CLIUTL.MLB;1
\$255\$DUA28:[SYS.OBJ]LIB.MLB;1
\$255\$DUA28:[SYSLIB]STARLET.MLB;2
TOTALS (all libraries)

0
0
5
5

631 GETS were required to define 5 macros.

There were no errors, warnings or information messages.

MACRO/LIS=LISS:CNVCLINUM/OBJ=OBJ\$:CNVCLINUM MSRC\$:CNVCLINUM/UPDATE=(ENH\$:CNVCLINUM)+EXECMLS/LIB+LIB\$:CLIUTL/LIB

0049

AH-BT13A-SE
VAX/VMS V4.0

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