DCL

```
IIIIII    FFFFFFFFFF
IIIIII    FFFFFFFFFF
  II      FF
  II      FF
  II      FF
  II      FFFFFFFF
  II      FFFFFFFF
  II      FF
  II      FF
  II      FF           ....
  II      FF           ....
IIIIII    FF           ....
IIIIII    FF           ....

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
LLLLLLLLLL  IIIIII      SSSSSSSS
LLLLLLLLLL  IIIIII      SSSSSSSS
```

C 11

IF   - IF COMMAND EXECUTION   15-SEP-1984 23:52:25   VAX/VMS Macro V04-00   Page 1
V04-000   4-SEP-1984 23:40:57   DISK$VMSMASTER:[DCL.SRC]IF.MAR;1 (1)

```
0000       1             .TITLE  IF - IF COMMAND EXECUTION
0000       2             .IDENT  'V04-000'
0000       3   ;
0000       4   ;************************************************************************
0000       5   ;*                                                                      *
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0000      23   ;*                                                                      *
0000      24   ;*                                                                      *
0000      25   ;************************************************************************
0000      26   ;
0000      27   ; IF COMMAND EXECUTION
0000      28   ;
0000      29   ; D. N. CUTLER 9-MAY-77
0000      30   ;
0000      31   ; MODIFIED BY:
0000      32   ;
0000      33   ;       V03-002 PCG0003         Peter George    27-May-1983
0000      34   ;               Add NOTHEN status.
0000      35   ;
0000      36   ;       V03-001 PCG0002         Peter George    24-Feb-1983
0000      37   ;               Remove SETBIT WRK_V_NOSTAT.
0000      38   ;---
```

```
        0000    40 ;
        0000    41 ; MACRO LIBRARY CALLS
        0000    42 ;
        0000    43
        0000    44          PRCDEF                              ;DEFINE PROCESS WORK AREA
        0000    45          WRKDEF                              ;DEFINE COMMAND WORK AREA
        0000    46
        0000    47          $CLIMSGDEF                          ;DEFINE ERROR/STATUS CODES
    00000000    48          .PSECT  DCL$ZCODE,BYTE,RD,NOWRT
```

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IF   - IF COMMAND EXECUTION   15-SEP-1984 23:52:25 VAX/VMS Macro V04-00   Page   3
V04-000   IF COMMAND   4-SEP-1984 23:40:57 DISK$VMSMASTER:[DCL.SRC]IF.MAR;1 (3)

```
                                      0000     50                      .SBTTL   IF COMMAND
                                      0000     51  ;+
                                      0000     52  ; DCL$IF - IF COMMAND
                                      0000     53  ;
                                      0000     54  ; THIS ROUTINE IS CALLED AS AN INTERNAL COMMAND TO EXECUTE THE IF DCLS COMMAND.
                                      0000     55  ;
                                      0000     56  ; INPUTS:
                                      0000     57  ;
                                      0000     58  ;       R10 = BASE ADDRESS OF COMMAND WORK AREA.
                                      0000     59  ;       R11 = BASE ADDRESS OF PROCESS WORK AREA.
                                      0000     60  ;
                                      0000     61  ; OUTPUTS:
                                      0000     62  ;
                                      0000     63  ;       THE IF CLAUSE IS EVALUATED AND IF THE RESULTANT VALUE IS TRUE, THE
                                      0000     64  ;       THEN CLAUSE IS EXECUTED BY RETURNING CONTROL TO THE COMMAND EXECUTION
                                      0000     65  ;       ENTRY POINT. OTHERWISE CONTROL IS RETURNED VIA THE RETURN ADDRESS.
                                      0000     66  ;
                                      0000     67  ;       RO LOW BIT CLEAR INDICATES EXPRESSION EVALUATION FAILURE.
                                      0000     68  ;
                                      0000     69  ;               RO = DCL$_COMPLX - EXPRESSION TOO COMPLEX.
                                      0000     70  ;               RO = DCL$_EXPSYN - EXPRESSION SYNTAX ERROR.
                                      0000     71  ;               RO = DCL$_IVCHAR - INVALID CHARACTER IN NUMERIC STRING.
                                      0000     72  ;               RO = DCL$_IVOPER - INVALID EXPRESSION OPERATOR.
                                      0000     73  ;               RO = DCL$_UNDSYM - UNDEFINED SYMBOL.
                                      0000     74  ;
                                      0000     75  ;               RO = DCL$_NOTHEN - THEN KEYWORD NOT IN EXPECTED LOCATION
                                      0000     76  ;
                                      0000     77  ;       RO LOW BIT SET INDICATES SUCCESSFUL COMPLETION.
                                      0000     78  ;
                                      0000     79  ;               RO = DCL$_NORMAL - NORMAL COMPLETION.
                                      0000     80  ;-
                                      0000     81
                                      0000     82  DCL$IF::                                           ;IF COMMAND
                        FFFD'  30     0000     83          BSBW     DCL$BINEXPR               ;EVALUATE ARITHMETIC EXPRESSION
                       1C 50  E9     0003     84          BLBC     RO,20$                    ;IF LBC EXPRESSION EVALUATION ERROR
       52  F486 CA   04  C3     0006     85          SUBL3    #4,WRK_L_EXPANDPTR(R10),R2     ;GET POINTER TO "THEN" STRING
       62  4E454854 8F   D1     000C     86          CMPL     #^A/THEN/,(R2)                ;"THEN" KEYWORD?
                        0E  12     0013     87          BNEQ     30$                       ;NO, THEN ERROR
                     03 51  E9     0015     88          BLBC     R1,10$                    ;IF LBC FALSE RESULT
                                      0018     89
                                      0018     90  ;
                                      0018     91  ; EXECUTE THEN CLAUSE OF IF COMMAND
                                      0018     92  ;
                                      0018     93
                        FFE5'  31     0018     94          BRW      DCL$CMDSTART
                                      001B     95
                                      001B     96  ;
                                      001B     97  ; BYPASS THEN CLAUSE OF IF COMMAND
                                      001B     98  ;
                                      001B     99
                                      001B    100  10$:    STATUS   NORMAL
                             05     0022    101  20$:    RSB
                                      0023    102
                                      0023    103  ;
                                      0023    104  ; COMMAND SYNTAX ERROR
                                      0023    105  ;
                                      0023    106
```

```
                     FFDA'  30  0023   107 30$:    BSBW    DCL$MARK
       50  00038210 8F    D0  0026   108          MOVL    #CLI$_NOTHEN,R0
                           05  002D   109          RSB
                               002E   110
                               002E   111          .END
```

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If   - IF COMMAND EXECUTION   15-SEP-1984 23:52:25 VAX/VMS Macro V04-00   Page   5
Symbol table   4-SEP-1984 23:40:57 DISK$VMSMASTER:[DCL.SRC]IF.MAR;1 (3)

CLI$_NORMAL	= 00030001			PRC_Q_COMMAND	000000E0
CLI$_NOTHEN	= 00038210			PRC_Q_FLUSHTIME	000000D0
DCL$BINEXPR	********	X	02	PRC_Q_GLOBAL	00000028
DCL$CMDSTART	********	X	02	PRC_Q_IMAGENAME	000000D8
DCL$IF	00000000 RG	X	02	PRC_Q_KEYPAD	00000040
DCL$MARK	********	X	02	PRC_Q_LABEL	00000030
PRC_B_CONTINUE	000000F3			PRC_Q_LOCAL	00000038
PRC_B_DEFRADIX	000000AE			PRC_Q_SAVEPRIV	000000E8
PRC_B_EXMDEPMOD	000000AD			PRC_T_OUTDVI	0000011C
PRC_B_EXMDEPWID	000000AC			PRC_W_ASTIOSB	000000C6
PRC_B_EXONLYL	0000012D			PRC_W_ASTRETN	000000C8
PRC_B_FLAGS2	000000AF			PRC_W_ASTSTATUS	000000C4
PRC_B_IMGFLAG	00000078			PRC_W_ATTMBX	0000007A
PRC_B_OUTFLAGS	0000012C			PRC_W_FLAGS	00000068
PRC_B_PROMPTLEN	000000F0			PRC_W_INPCHAN	00000064
PRC_C_LENGTH	00000534			PRC_W_ONLEVEL	0000006A
PRC_G_COMMANDS	00000133			PRC_W_OUTIFI	00000114
PRC_G_PROMPT	000000F4			PRC_W_OUTISI	00000116
PRC_K_LENGTH	00000534			PRC_W_OUTMBXCHN	000000CA
PRC_L_CURRKEY	00000048			PRC_W_OUTMBXREF	000000CE
PRC_L_EXMDEPADR	000000A8			PRC_W_OUTMBXSIZ	000000CC
PRC_L_EXTARG	00000094			PRC_W_PMPTCTRL	000000F1
PRC_L_EXTBLK	0000008C			PRC_W_WAITIOSB	00000066
PRC_L_EXTCOD	0000009C			WRK_B_CMDOPT	FFFFFFC3
PRC_L_EXTHND	00000090			WRK_B_MAXPARM	FFFFFFD0
PRC_L_EXTPRM	00000098			WRK_B_MINPARM	FFFFFFD1
PRC_L_IDFLNK	000000BC			WRK_B_PARMCNT	FFFFFFCE
PRC_L_IMGACTSTS	00000080			WRK_B_PARMSUM	FFFFFFCF
PRC_L_INDCLOCK	0000007C			WRK_B_RECALLCNT	FFFFFFC5
PRC_L_INDEPTH	0000005C			WRK_B_VALLEV	FFFFFFC4
PRC_L_INDFAB	0000001C			WRK_B_VERBTYP	FFFFFFC2
PRC_L_INDINPRAB	00000014			WRK_C_LENGTH	FFFFF486
PRC_L_INDOUTRAB	00000018			WRK_G_BUFFER	FFFFF492
PRC_L_INPRAB	00000008			WRK_G_INPBUF	FFFFF896
PRC_L_LASTKEY	0000004C			WRK_G_RESULT	FFFFF9B6
PRC_L_LSTSTATUS	000000B0			WRK_K_LENGTH	FFFFF486
PRC_L_ONCTLY	000000B8			WRK_L_CHARPTR	FFFFF48E
PRC_L_ONERROR	0000006C			WRK_L_DISALLOW	FFFFFFE6
PRC_L_OUTOFBAND	000000B4			WRK_L_ERRORRTN	FFFFF9AE
PRC_L_OUTRAB	0000000C			WRK_L_EXPANDPTR	FFFFF486
PRC_L_OUTRABCTX	00000118			WRK_L_IMAGE	FFFFFFE2
PRC_L_PPFLIST	00000070			WRK_L_MARKPTR	FFFFF48A
PRC_L_RECALLPTR	0000012F			WRK_L_PAROUT	FFFFFFD2
PRC_L_RESTART	00000058			WRK_L_PMPTADDR	FFFFF9A2
PRC_L_SAVAP	00000000			WRK_L_PROMPTRTN	FFFFF9A6
PRC_L_SAVFP	00000004			WRK_L_PROPTR	FFFFFFC6
PRC_L_SEVERITY	00000050			WRK_L_QUABLK	FFFFFFCA
PRC_L_SPWN	000000C0			WRK_L_READRTN	FFFFF9AA
PRC_L_STACKLM	000000A4			WRK_L_RECALLPTR	FFFFFFEA
PRC_L_STACKPT	000000A0			WRK_L_RSLEND	FFFFFFB6
PRC_L_STATUS	00000054			WRK_L_RSLNXT	FFFFFFBA
PRC_L_STS	00000084			WRK_L_SAVAP	FFFFFFF8
PRC_L_STV	00000088			WRK_L_SAVFP	FFFFFFFC
PRC_L_SYMBOL	00000060			WRK_L_SAVSP	FFFFFFF4
PRC_L_TMBX	00000074			WRK_L_SIGNALRTN	FFFFFFD6
PRC_L_TRMLIST	00000010			WRK_L_SPECRTN	FFFFF9B2
PRC_Q_ALLOCREG	00000020			WRK_L_TAB_VEC	FFFFFFDE

```
WRK_L_VERB                         FFFFFFBE
WRK_W_FLAGS                        FFFFFFF0
WRK_W_FLAGS2                       FFFFFFF2
WRK_W_IMGCHAN                      FFFFFFEE
WRK_W_PMPTLEN                      FFFFF99E
```

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

PSECT name	Allocation		PSECT No.		Attributes											
. ABS .	00000000	(0.)	00	(0.)	NOPIC	USR	CON	ABS	LCL	NOSHR	NOEXE	NORD	NOWRT	NOVEC	BYTE
ABS	FFFFFFFC	(0.)	01	(1.)	NOPIC	USR	CON	ABS	LCL	NOSHR	EXE	RD	WRT	NOVEC	BYTE
DCL$ZCODE	0000002E	(46.)	02	(2.)	NOPIC	USR	CON	REL	LCL	NOSHR	EXE	RD	NOWRT	NOVEC	BYTE

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

Phase	Page faults	CPU Time	Elapsed Time
Initialization	15	00:00:00.05	00:00:01.00
Command processing	102	00:00:00.72	00:00:07.21
Pass 1	170	00:00:04.89	00:00:18.76
Symbol table sort	0	00:00:00.50	00:00:01.46
Pass 2	26	00:00:00.67	00:00:02.97
Symbol table output	11	00:00:00.10	00:00:00.35
Psect synopsis output	2	00:00:00.02	00:00:00.02
Cross-reference output	0	00:00:00.00	00:00:00.00
Assembler run totals	326	00:00:06.95	00:00:31.77

The working set limit was 1050 pages.
20448 bytes (40 pages) of virtual memory were used to buffer the intermediate code.
There were 30 pages of symbol table space allocated to hold 394 non-local and 3 local symbols.
111 source lines were read in Pass 1, producing 13 object records in Pass 2.
26 pages of virtual memory were used to define 13 macros.

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

Macro library name	Macros defined
_255DUA28:[SYSLIB]SYS$LDMLB.MLB;1	0
_255DUA28:[DCL.OBJ]DCL.MLB;1	5
_255DUA28:[SYS.OBJ]LIB.MLB;1	0
_255DUA28:[SYSLIB]STARLET.MLB;2	3
TOTALS (all libraries)	8

497 GETS were required to define 8 macros.

There were no errors, warnings or information messages.

MACRO/LIS=LIS$:IF/OBJ=OBJ$:IF MSRC$:IF/UPDATE=(ENH$:IF)+EXECML/LIB+LIB$:DCL/LIB+SYS$LIBRARY:SYS$LDMLB/LIB

GETKEYNAM
LIS

GOTO
LIS

EXPRESS
LIS

HANDLE
LIS

IMAGECTRL
LIS

INITIAL
LIS

INDIRECT
LIS

FILECMDS
LIS

IF
LIS

IMAGEXECT
LIS