

[illegible]

RE
VC

```

RRRRRRRR      EEEEEEEEEEE MM      MM      QQQQQQQ      IIIIII      000000
RRRRRRRR      EEEEEEEEEEE MM      MM      QQQQQQQ      IIIIII      000000
RR      RR      EE      MMMM      MMMM      QQ      QQ      II      00      00
RR      RR      EE      MMMM      MMMM      QQ      QQ      II      00      00
RR      RR      EE      MM      MM      MM      QQ      QQ      II      00      00
RR      RR      EE      MM      MM      MM      QQ      QQ      II      00      00
RRRRRRRR      EEEEEEEEEEE MM      MM      QQ      QQ      II      00      00
RRRRRRRR      EEEEEEEEEEE MM      MM      QQ      QQ      II      00      00
RR      RR      EE      MM      MM      QQ      QQ      II      00      00
RR      RR      EE      MM      MM      QQ      QQ      II      00      00
RR      RR      EE      MM      MM      QQ      QQ      II      00      00
RR      RR      EE      MM      MM      QQ      QQ      II      00      00
RR      RR      EE      MM      MM      QQ      QQ      II      00      00
RR      RR      EE      MM      MM      QQ      QQ      II      00      00
RR      RR      EEEEEEEEEEE MM      MM      QQQQ      QQ      IIIIII      000000
RR      RR      EEEEEEEEEEE MM      MM      QQQQ      QQ      IIIIII      000000

```

```

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
LLLLLLLLLLLL IIIIII          SSSSSSSS
LLLLLLLLLLLL IIIIII          SSSSSSSS

```


(1)	38	HISTORY
(1)	47	DECLARATIONS
(1)	75	PROCESS ASTS
(1)	107	I/O Processing

REMQIO
V04-000

- PERFORM QIO FUNCTIONS

E 10

16-SEP-1984 02:12:05 VAX/VMS Macro V04-00
5-SEP-1984 02:54:11 [REM.SRC]REMQIO.MAR;1

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```
0000 1      .TITLE  REMQIO - PERFORM QIO FUNCTIONS
0000 2      .IDENT  'V04-000'
0000 3
0000 4
0000 5 :*****
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0000 24 :*
0000 25 :*
0000 26 :*****
0000 27
0000 28 :++
0000 29 : FACILITY:      REMOTE I/O ACP
0000 30 :
0000 31 : ABSTRACT:
0000 32 :   THIS MODULE PROCESSES QIO REQUESTS.
0000 33 :
0000 34 : ENVIRONMENT:
0000 35 :   MODE = KERNEL
0000 36 :--
```


REMQIO
V04-000

- PERFORM QIO FUNCTIONS
HISTORY

F 10

16-SEP-1984 02:12:05 VAX/VMS Macro V04-00
5-SEP-1984 02:54:11 [REM.SRC]REMQIO.MAR;1

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0000	38		.SBTTL	HISTORY
0000	39	:	AUTHOR:	SCOTT G. DAVIS, CREATION DATE: 13-JUL-79
0000	40	:		
0000	41	:	MODIFIED BY:	
0000	42	:		
0000	43	:	V02-002	DJD2001 Darrell Duffy 5-Mar-1981
0000	44	:		RTTDRIIVER calls NETDRIIVER directly for IO.
0000	45	:		

```

0000 47      .SBTTL  DECLARATIONS
0000 48      :
0000 49      : INCLUDE FILES:
0000 50      :
0000 51      :
0000 52      $CRBDEF
0000 53      $DDBDEF
0000 54      $DDTDEF
0000 55      $IPLDEF
0000 56      $IRPDEF
0000 57      $RDPDEF
0000 58      $RBFDEF
0000 59      $REMDEF
0000 60      $UCBDEF
0000 61      :
0000 62      : MACROS:
0000 63      :
0000 64      :
0000 65      :
0000 66      : EQUATED SYMBOLS:
0000 67      :
0000 68      :
0000 69      :
0000 70      : OWN STORAGE:
0000 71      :

```



```

00000000 73      .PSECT  REM_CODE,NOWRT
0000      74
0000      75      .SBTTL  PROCESS ASTS
0000      76
0000      77      :++
0000      78      :
0000      79      : RCV_AST - process link message received AST
0000      80      :
0000      81      : INPUTS:
0000      82      :
0000      83      :      4(AP) - Device index
0000      84      :
0000      85      :--
0000      86
0000      87 RCV_AST: .WORD  ^M<R2,R3,R4,R5,R6,R7,R8,R9,R10,R11>
57  5B  04 AC  OFFC 0000 88      MOVL  4(AP),R11 ; Get the device index
50  0000'DF4B D0 0002 89      MOVL  @W^REM$GL_RBUFVEC[R11],R7 ; Get the buffer address
0000'DF4B 7D 0006 90      MOVQ  @W^REM$GL_RIOSBVEC[R11],R0 ; Get the IOSB
04 50  E8 0012 91      BLBS  R0,5$ ; If LBS I/O was OK
0015 92      :
0015 93      : I/O failed
0015 94      :
0015 95      3$:
FFEB' 30 0015 96      BSBW  REM$CLEAN_UP ; Clean up the channel
04 0018 97      RET ; Done
0019 98      5$:
55  0000'DF4B D0 0019 99      MOVL  @W^REM$GL_UCBVEC[R11],R5 ; Get the UCB address
01 12 001F 100     BNEQ  6$ ; If NEQ proceed
04 0021 101     RET ; UCB is gone
0022 102     6$:
EE 64 A5 04 E0 0022 103     BBS  #UCB$V_ONLINE,UCB$W_STS(R5),3$ ; If BC initing protocol
FFD6' 30 0027 104     BSBW  REM$PROTOCOL ; Call the protocol-dependent routine
04 002A 105     RET ; Dismiss the AST

```

```

002B 107 .SBTTL I/O Processing
002B 108 :++
002B 109 :
002B 110 : REM$RECV_MSG - This routine allocates a buffer and issues a receive
002B 111 :
002B 112 : INPUTS:
002B 113 :
002B 114 : R11 - device index
002B 115 :
002B 116 : OUTPUTS:
002B 117 :
002B 118 : R0 - LBC => failure; LBS => success
002B 119 :
002B 120 :--
002B 121 :
002B 122 REM$RECV MSG::
56 0000'DF4B D0 002B 123 MOVL @W^REM$GL_RBUFVEC[R11],R6 ; Get the receive buffer address
55 0000'DF4B 7E 0031 124 MOVAQ @W^REM$GL_RIOSBVEC[R11],R5 ; Get the IOSB address
58 FFC5 CF 9E 0037 125 MOVAB W^RCV_AST,R8 ; Set AST address
59 00' B0 003C 126 MOVW S^#IOS_READVBLK,R9 ; Function code
SA 00000000'GF 3C 003F 127 MOVZWL G^IOS$GW_MAXBUF,R10 ; This is the size of the read bfr
07 11 0046 128 BRB COMMON_QIO ; Do the QIO and return to caller
0048 129
0048 130
0048 131
0048 132 :++
0048 133 :
0048 134 : REM$SEND_MSG - send message over logical link - no AST
0048 135 : REM$SEND_MSGAST - send message over logical link - AST
0048 136 :
0048 137 : INPUTS:
0048 138 :
0048 139 : R6 - buffer address
0048 140 : R8 - AST address (REM$SEND_MSGAST)
0048 141 : R10 - buffer length
0048 142 : R11 - device index
0048 143 :
0048 144 : OUTPUTS:
0048 145 :
0048 146 : R0 - LBC => failure; LBS => success
0048 147 :
0048 148 :--
0048 149 :
0048 150 REM$SEND MSG::
58 D4 0048 151 CLRL R8 ; No AST
004A 152
004A 153 REM$SEND MSGAST::
55 D4 004A 154 CLRL R5 ; No IOSB
59 00' B0 004C 155 MOVW S^#IOS_WRITEVBLK,R9 ; Function code
004F 156 COMMON_QIO:
57 0000'DF4B B0 004F 157 MOVW @W^REM$GL_CHANVEC[R11],R7 ; Get the I/O channel
0055 158 ; Fall through to do QIO...
0055 159 ; and return to caller
0055 160
0055 161
0055 162
0055 163 :++

```



```

0055 164 : REM$DO_QIO - Issue QIO
0055 165 :
0055 166 : INPUTS:
0055 167 :
0055 168 :     R5 - IOSB address or 0
0055 169 :     R6 - P1
0055 170 :     R7 - channel number
0055 171 :     R8 - AST address
0055 172 :     R9 - function code
0055 173 :     R10 - P2
0055 174 :     R11 - device index
0055 175 :
0055 176 : OUTPUTS:
0055 177 :
0055 178 :     R0 - LBC => failure; LBS => success
0055 179 :
0055 180 :
0055 181 :--
0055 182 :
0055 183 REM$DO_QIO::
0055 184     $QIO_S  CHAN= R7,-           ; Issue accept or reject
0055 185             FUNC= R9,-
0055 186             IOSB= (R5),-
0055 187             ASTADR= (R8),-
0055 188             ASTPRM= R11,-
0055 189             P1= (R6),-
0055 190             P2= R10
0072 191 QIO_DONE:
05 0072 192     RSB           ; Done
0073 193
0073 194     .END

```

REMQIO
Symbol table

- PERFORM QIO FUNCTIONS

K 10

16-SEP-1984 02:12:05 VAX/VMS Macro V04-00
5-SEP-1984 02:54:11 [REM.SRC]REMQIO.MAR;1

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```

$ST1          = 00000000
COMMON QIO    = 0000004F R      02
IOS_READVBLK  ***** X      02
IOS_WRITEVBLK ***** X      02
IOCSGW_MAXBUF ***** X      02
QIO_DONE      = 00000072 R      02
RCV_AST       = 00000000 R      02
REMSCLEAN_UP  ***** X      02
REMSC_CURECO  = 00000001
REMSC_CURVRS  = 00000001
REMSC_LNK_READ = 00000002
REMSC_MAXDEVS = 0000000A
REMSC_MAXLINKS = 00000010
REMSC_MAXUNITS = 00000010
REMSC_MBX_READ = 00000001
REMSC_ST_ATTRIB = 00000002
REMSC_ST_CONFIG = 00000001
REMSDO_QIO    = 00000055 RG     02
REMSG_L_CHANVEC ***** X     02
REMSG_L_RBUFVEC ***** X     02
REMSG_L_RIOSBVEC ***** X     02
REMSG_L_UCBVEC ***** X     02
REMSG_PROTOCOL ***** X     02
REMSG_RECV_MSG = 0000002B RG     02
REMSG_SEND_MSG = 00000048 RG     02
REMSG_SEND_MSGAST = 0000004A RG     02
SYSSQIO       ***** GX     02
UCBSV_ONLINE  = 00000004
UCBSW_STS     = 00000064
```

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

PSECT name	Allocation	PSECT No.	Attributes														
ABS	00000000 (0.)	00 (0.)	NOPIC	USR	CON	ABS	LCL	NOSHR	NOEXE	NORD	NOWRT	NOVEC	BYTE				
\$ABSS	00000000 (0.)	01 (1.)	NOPIC	USR	CON	ABS	LCL	NOSHR	EXE	RD	WRT	NOVEC	BYTE				
REM_CODE	00000073 (115.)	02 (2.)	NOPIC	USR	CON	REL	LCL	NOSHR	EXE	RD	NOWRT	NOVEC	BYTE				

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

Phase	Page faults	CPU Time	Elapsed Time
Initialization	29	00:00:00.06	00:00:00.39
Command processing	107	00:00:00.60	00:00:02.13
Pass 1	270	00:00:06.92	00:00:15.10
Symbol table sort	0	00:00:01.10	00:00:01.82
Pass 2	52	00:00:01.21	00:00:02.85
Symbol table output	5	00:00:00.05	00:00:00.05
Psect synopsis output	2	00:00:00.03	00:00:00.03
Cross-reference output	0	00:00:00.00	00:00:00.00
Assembler run totals	467	00:00:09.98	00:00:22.38

The working set limit was 1350 pages.

36963 bytes (73 pages) of virtual memory were used to buffer the intermediate code.
There were 40 pages of symbol table space allocated to hold 720 non-local and 3 local symbols.
194 source lines were read in Pass 1, producing 13 object records in Pass 2.
20 pages of virtual memory were used to define 19 macros.

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

Macro library name	Macros defined
-----	-----
_\$255\$DUA28:[REM.OBJ]REM.MLB;1	1
-\$255\$DUA28:[SYS.OBJ]LIB.MLB;1	8
-\$255\$DUA28:[SYSLIB]STARLET.MLB;2	7
TOTALS (all libraries)	16

844 GETS were required to define 16 macros.

There were no errors, warnings or information messages.

MACRO/LIS=LIS\$:REMQIO/OBJ=OBJ\$:REMQIO MSRC\$:REMQIO/UPDATE=(ENH\$:REMQIO)+EXECML\$/LIB+LIB\$:REM/LIB

0312 AH-BT13A-SE
VAX/VMS V4.0

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