

0001 MUB06

RCSL: 43-GL4106  
AUTHOR: DHA  
EDITED: 77.06.02

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MUB06

; KEYWORD: MUS, BASIC I/O, PROCEDURES, LISTING.  
; ABSTRACT: MUS BASIC I/O CONTROL PROCEDURES FOR COROUTINES.  
; ASCII PAPER TAPE RCSL 43-GL4105  
; REL. BINARY PAPER TAPE RCSL 43-GL4107

1 0002 MUB06

01 .TITL MUB06

02 000001 .TXTM 1

03 .NREL

04 000012 .RDX 10

1 0003 MUB06

01  
02  
03

; ENTRY POINT REPEATSHARE  
; AC1 IRRELEVANT  
; AC2 ZONE  
; AC3 LINK

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07 000001'055025 A528: STA 3 Z1,2 ; REPEATSHARE;  
08 00001'021024 LDA 0 Z0,2 ; AC0:=USERSTATUS;  
09 00002'176520 SUBZL 3,3 ; SAVE(LINK);  
10 00003'055024 STA 3 ZREPEAT,2 ; REPEAT.ZONE:=1;  
11 00004'034040 A5224:LDA 3 CUR ; REPEATSHARE2;  
12 00005'051424 STA 2 SAVE,3 ; SAVE.CUR:=ZONE;  
13 00006'035020 LDA 3 ZTOP,2 ;  
14 00007'025017 LDA 1 ZFIRST,2 ;  
15 00010'166404 SUB 3,1 SZR ; IF TOP.Z<>FIRST.Z(=TOP TRANSF) THE  
16 00011'015011 DSZ ZBLOCK,2 ; DECR(BLOCK.ZONE);  
17 00012'000401 JMP .+1 ;  
18 00013'035005 LDA 3 ZKIND,2 ;  
19 00014'024116 LDA 1 .1B13 ; OPERATION:=0;  
20 00015'167405 AND 3,1 SNR ; IF -,KIND.ZONE(13)(=NOT POS) THEN  
21 00016'000412 JMP A5220 ; GOTO PREPAREMESSAGE;  
22 00017'024113 LDA 1 CPOSITION ; OP:=POSITION;  
23 00020'034113 LDA 3 .1B10 ;  
24 00021'163405 AND 3,0 SNR ;  
25 00022'000406 JMP A5220 ;  
26 00023'035021 LDA 3 ZUSED,2 ;  
27 00024'035400 LDA 3 9OPER,3 ;  
28 00025'020121 LDA 0 .3 ; IF (STATUS.SHARE AND PARITY = 1)  
29 00026'163626 ANDZR 3,0 SEZ ; AND OPER.SHARE(14;15)=OUTPUT TH  
30 00027'024444 LDA 1 A5225 ; OP:=POSITION+ERASURE;  
31 00030'021006 A5220:LDA 0 ZMASK,2 ; PREPAREMESSAGE;  
32 00031'045006 STA 1 ZMASK,2 ; AC0:=SAVE(MASK.Z);  
33 00032'025004 LDA 1 ZMODE,2 ;  
34 00033'034147 LDA 3 .M256 ;  
35 00034'137400 AND 1,3 ;  
36 00035'025006 LDA 1 ZMASK,2 ;  
37 00036'167000 ADD 3,1 ;  
38 00037'045006 STA 1 ZMASK,2 ;  
39 00040'024123 LDA 1 .6 ; MESS0:=OPERATION + ZMODE(0:7);  
40 00041'147000 ADD 2,1 ; MESSAGEADDR:=ZONE+6(=ZMASK);  
41 00042'006004 SENDMESSAGE ; SENDMESSAGE(ZONE,MESS,BUF);  
42 00043'145000 MOV 2,1 ; AC1:=BUF;  
43 00044'031424 LDA 2 SAVE,3 ; AC2:=ZONE;  
44 00045'041006 STA 0 ZMASK,2 ; MASK.Z:=SAVE(MASK.Z);  
45 00046'035021 LDA 3 ZUSED,2 ;  
46 00047'045405 STA 1 SSTATE,3 ; STATE.SHARE:=BUFADDRESS;  
47 00050'004550 JSR A5238 ; WAITBUF(ZONE,STATUS,COUNT,SHARE);  
48 00051'045023 STA 1 ZREM,2 ; REM:=COUNT(=0 IN CONTROLMESS.);  
49 00052'045405 STA 1 SSTATE,3 ; STATE.SHARE:=0;  
50 00053'024464 LDA 1 A5290 ;  
51 00054'107404 AND 0,1 SZR ; IF (STATUS AND -,IGNORE)<>0 THEN  
52 00055'000423 JMP A5201 ; GOTO NEUTRAL;  
53 00056'055020 A5221:STA 3 ZTOP,2 ; SET STOP;  
54 00057'006413 A5222:JSR0 .A531 ; REP MESS: SENDSHARE(ZONE,SHARE);
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1 0004 MUB06

01

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02 00060'035404 A5223:LDA 3 SNEXT,3 ; NEXTSHARE;
03 00061'055021 STA 3 ZUSED,2 ; USED.ZONE:=SHARE;
04 00062'021020 LDA 0 ZTOP,2 ; RESTORE(STOP);
05 00063'025405 LDA 1 SSTATE,3 ; BUF:=STATE.SHARE;
06 00064'162415 SUB# 3,0 SNR ; IF SHARE=STOP THEN
07 00065'000412 JMP A520 ; GOTO WAIT AGAIN;
08 00066'125005 MOV 1,1 SNR ; IF BUF=0 THEN
09 00067'000771 JMP A5223 ; GOTO NEXTSHARE;
10 00070'004530 JSR A5238 ; WAITBUF(BUF,ZONE,MESS0,MESS1,SHARE
11 00071'000766 JMP A5222 ; GOTO REP MESS;
12 00072'000303',A531:A531 ;
13 00073'000240 A5225:1B8+1B10 ; ERASURE+POSITION;
14
15
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1 0005 MUB06

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01
02 ; PROCEDURE WAITTRANSFER(ZONE);
03 ;
04 ; WAITS FOR A MESSAGE BY CALLING FREESHARE(ZONE,STATUS,SHARE).
05 ; ZTOP:=SFIRST, ZFIRST(=TOP TRANSFERRED):=SFIRST+COUNT,
06 ; IF MODE=OUTPUT THEN ZREM:=ZSHAREL=IF Z.KIND(10) THEN 2 ELSE 0.
07 ; IF (STATUS AND REP) THEN REPEATSHARE2;
08 ;
09 ; AC0 RETURN;
10 ; AC1 DESTROYED
11 ; AC2 ZONE DESTROYED
12 ; AC3 LINK ZONE DESTROYED
13
14 000024 ZREPE=Z0 ; REF.REPEAT.ZONE:=REF.Z0.ZONE;
15 00074'055025 A52: STA 3 Z1,2 ; WAITTRANSFER;
16 00075'020122 A521: LDA 0 .5 ;
17 00076'041024 STA 0 ZREPEAT,2 ; REPCOUNT:=5;
18 00077'006210 A520: FREESHARE ; WAIT AGAIN: FREESHARE(Z,STATUS,SHARE
19 00100'025406 A5201:LDA 1 SFIRST,3 ; NEUTRAL, CONTROL ERROR;
20 00101'045020 STA 1 ZTOP,2 ; TOP.ZONE:=FIRST.SHARE;
21 00102'035023 LDA 3 ZREM,2 ;
22 00103'167000 ADD 3,1 ;
23 00104'045017 STA 1 ZFIRST,2 ; FIRST.ZONE:=TOP.ZONE+COUNT(=ZREM);
24 00105'025004 LDA 1 ZMODE,2 ;
25 00106'125222 MOVZR 1,1 S2C ;
26 00107'125223 MOVZR 1,1 S2C ; IF (MODE,Z AND 1B14 AND 1B15)<>0 T
27 00110'000403 JMP A5206 ; IOUTPUT I TRANSPUTMESSAGE;
28 00111'035022 LDA 3 ZSHAREL,2 ; ZREM:=SHAREL.ZONE
29 00112'055023 STA 3 ZREM,2 ;
30 00113'024115 A5206:LDA 1 .1B12 ; REPEAT=1B12;
31 00114'035005 LDA 3 ZKIND,2 ; IF KIND.ZONE(12)=0 THEN
32 00115'167405 AND 3,1 S2R ; REP:=1B15
33 00116'176521 SUBZL 3,3 SKP ; ELSE
34 00117'034421 LDA 3 A5291 ; REP:=REPBITS;
35 00120'117405 AND 0,3 S2R ; IF (STATUS AND REP)<>0 THEN
36 00121'000403 JMP A5207 ; BEGIN
37 00122'015024 DSZ ZREPEAT,2 ; IF DECR(REPCOUNT)>0 THEN
38 00123'000661 JMP A5224 ; GOTO REPEATSHARE2; ! AC0 = STATU
39 ;
40 ; END;
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1 0006 MUB06

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01
02 00124'025006 A5207:LDA 1 ZMASK,2 ;
03 00125'107400 AND 0,1 ; USERSTATUS:=STATUS AND MASK.ZONE;
04 00126'122400 SUB 1,0 ; STATUS:=STATUS-USERSTATUS;
05 00127'034410 LDA 3 A5290 ; IF (STATUS AND -,IGNORE)<>0 THEN
06 00130'163404 AND 3,0 SZR ; GOTO BREAK5;
07 00131'000411 JMP A524 ;
08
09
10 A527: ; FINIS;
11 00132'125005 MOV 1,1 SNR ; IF USERSTATUS=0 THEN
12 00133'003025 JMP@ Z1,2 ; RETURN;
13 00134'035025 LDA 3 Z1,2 ; RESTORE(LINK);
14 00135'045024 STA 1 Z0,2 ; Z0.ZONE:=USERSTATUS;
15 00136'003007 JMP@ ZGIVEUP,2 ; GOTO GIVEUP.ZONE;
16 000002 ,RDX 2
17 00137'161777 A5290:1110001111111111 ; -,IGNORE BITS 1B3+1B4+1B5;
18 00140'020141 A5291:0010000001100001 ; REPEAT BITS 1B2+1B9+1B10+1B15;
19 00141'001005 A5292:0000001000000101 ; REJECTED BITS 1B6+1B13+1B15;
20 000012 ,RDX 10
21 00142'105000 A524: MOV 0,1 ; BREAKS;
22 00143'035006 LDA 3 ZMASK,2 ;
23 00144'175222 MOVZR 3,3 SZC ; IF ZMASK.ZONE(1B15)=1 THEN
24 00145'000765 JMP A527 ; GOTO FINIS;
25 00146'020122 LDA 0 .5 ;
26 00147'030040 LDA 2 CUR ;
27 00150'006012 BREAKPROCESS ; BREAKPROCESS(S,STATUS,CUR);
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01 ;PROCEDURE FREESHARE(ZONE,STATUS,SHARE);
02 ;
03 ; WAITS FOR THE MESSAGEBUFFER ADDRESSED BY SADDR,SHARE.
04 ; AND RETURN WITH STATUS OF THE OPERATION.
05 ; REM,Z:=MESS1.BUF(=COUNT).
06 ; IF (STATUS<>REJECTED AND BUF>0) THEN
07 ; BEGIN
08 ;   ZFILE:=MESS2.BUF(=FILE).
09 ;   IF KIND=POS THEN ZBLOCK:=MESS3.BUF ELSE INCR(ZBLOCK);
10 ;   IF KIND=-,BLOCKED THEN SCOUNT:=SCOUNT-COUNT AND SADDR:=SADDR
11 ; END;
12 ; STATE.SHARE(=BUFADDRESS):=0;
13 ; CALL: RETURN:
14 ;AC0 STATUS
15 ;AC1 DESTROYED
16 ;AC2 ZONE
17 ;AC3 LINK SHARE=USED.ZONE
18
19 00151'055014 A523: STA 3 ZSIZE,2 ; FREESHARE:
20 00152'004446 JSR A5238 ; WAITBUF(ZONE,MESS0.BUF,MESS1.BUF)
21 00153'045023 STA 1 ZREM,2 ; REM.ZONE:=COUNT(=MESS1.BUF);
22 00154'024765 LDA 1 A5292 ; AC1:=REJECTED BITS;
23 00155'035405 LDA 3 SSTATE,3 ; AC3:=BUF;
24 00156'175004 MOV 3,3 SZR ; IF (STATUS AND REJECT)=0 AND BUF>
25 00157'107404 AND 0,1 SZR ; BEGIN
26 00160'000434 JMP A5233 ; !BUF<0 THEN STATUS=1B13 BY WAIT
27 00161'025410 LDA 1 MESS2,3 ;
28 00162'045010 STA 1 ZFILE,2 ; FILE.ZONE:=MESS2.BUF(=FILE);
29 00163'025005 LDA 1 ZKIND,2 ;
30 00164'020116 LDA 0 .1B13 ; POSITION=1B13;
31 00165'123405 AND 1,0 SNR ; IF KIND.ZONE(POS)=1 THEN
32 00166'000404 JMP A5234 ; BEGIN
33 00167'025411 LDA 1 MESS3,3 ; BLOCK.Z:=MESS3.BUF(=BLOCK);
34 00170'045011 STA 1 ZBLOCK,2 ; END
35 00171'000405 JMP A5235 ; ELSE
36 00172'025023 A5234: LDA 1 ZREM,2 ; IF COUNT(=ZREM)<>0 THEN
37 00173'125004 MOV 1,1 SZR ; BEGIN
38 00174'011011 ISZ ZBLOCK,2 ; INCR(BLOCK,Z);
39 00175'000401 JMP .+1 ; END;
40 00176'035021 A5235: LDA 3 ZUSED,2 ; AC3:=SHARE;
41 00177'025005 LDA 1 ZKIND,2 ;
42 00200'125220 MOVZR 1,1 ; BLOCKED=1B14;
43 00201'125222 MOVZR 1,1 SZC ; IF Z.KIND(BLOCKED)=0 THEN
44 00202'000410 JMP A5232 ; BEGIN
45 00203'025023 LDA 1 ZREM,2 ; !UPDATE SHARE, NOT BLOCKED!
46 00204'021401 LDA 0 SCOUNT,3 ;
47 00205'122400 SUB 1,0 ; COUNT.SHARE:=
48 00206'041401 STA 0 SCOUNT,3 ; COUNT.SHARE-COUNT;
49 00207'021402 LDA 0 SADDR,3 ; ADDRESS.SHARE:=
50 00210'123000 ADD 1,0 ; ADDRESS.SHARE+COUNT;
51 00211'041402 STA 0 SADDR,3 ; END;
52 00212'035405 A5232: LDA 3 SSTATE,3 ; AC3:=BUF;
53 00213'021406 LDA 0 MESS0,3 ; AC0:=STATUS(=MESS0.BUF);
54 00214'126400 A5233: SUB 1,1 ; END;
55 00215'035021 LDA 3 ZUSED,2 ;
56 00216'045405 STA 1 SSTATE,3 ; STATE.SHARE:=0(=FREE);
57 00217'003014 JMP0 ZSIZE,2 ; RETURN;

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1 0008 MUB06

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01 ; PROCEDURE WAITBUF(ZONE,STATUS,COUNT,SHARE);
02 ; CALL: RETURN;
03 ; AC0 STATUS=MESS0,BUF
04 ; AC1 COUNT=MESS1,BUF
05 ; AC2 ZONE
06 ; AC3 LINK SHARE=USED,ZONE
07
08 00220'055023 A5238:STA 3 ZREM,2 ; WAITBUF:
09 00221'021005 LDA 0 ZKIND,2 ; AC0:=KIND,ZONE;
10 00222'035021 LDA 3 ZUSED,2 ; AC3:=SHARE;
11 00223'145000 MOV 2,1 ; AC1:=ZONE;
12 00224'031405 LDA 2 SSTATE,3 ; AC2:=BUF;
13 00225'150513 NEGL# 2,2 SNC ; IF BUF>0 THEN
14 00226'000420 JMP A5239 ; BEGIN
15 00227'101132 MOVZL# 0,0 SZC ; IF KIND.ZONE(0)=1 THEN
16 00230'006337 CWANSWER ; CWANSWER(ZONE,BUF);
17 00231'034040 LDA 3 CUR ;
18 00232'045424 STA 1 SAVE,3 ; SAVE,CUR:=ZONE;
19 00233'006005 WAITANSWER ; WAITANSWER(STATUS,COUNT,BUF);
20 00234'035424 LDA 3 SAVE,3 ;
21 00235'035421 LDA 3 ZUSED,3 ;
22 00236'035400 LDA 3 SOPER,3 ;
23 00237'020117 LDA 0 .1B14 ;
24 00240'116405 SUB 0,3 SNR ; IF SHARE.OPERA = 2 THEN
25 00241'101121 MOVZL 0,0 SKP ; STATUS:= 1B13; ! OTTO BIT !
26 00242'021006 LDA 0 MESS0,2 ;
27 00243'030040 LDA 2 CUR ;
28 00244'031024 LDA 2 SAVE,2 ; AC2:=ZONE:=SAVE,CUR;
29 00245'000407 JMP A5237 ; END
30 00246'141004 A5239:MOV 2,0 SZR ; ELSE BEGIN
31 00247'020116 LDA 0 .1B13 ; MESS0:=IF BUF=0 THEN 0 ELSE 1B13
32 00250'131000 MOV 1,2 ; AC2:=ZONE;
33 00251'126400 SUB 1,1 ; MESS1:=0;
34 00252'034040 LDA 3 CUR ;
35 00253'051424 STA 2 SAVE,3 ; SAVE,CUR:=ZONE;
36 00254'035021 A5237:LDA 3 ZUSED,2 ; END; AC3:=SHARE;
37 00255'003023 JMP0 ZREM,2 ; RETURN;
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01 ; PROCEDURE TRANSFER(ZONE,LENGTH,OPERATION);
02 ; STARTS THE TRANSFER DESCRIBED BY OP AND LENGTH TO USED SHARE.
03 ; UPDATES USED SHARE TO POINT AT NEXT SHARE IN THE ZONE.
04 ; CALL: RETURN:
05 ; AC0 OPERATION DESTROYED
06 ; AC1 LENGTH DESTROYED
07 ; AC2 ZONE ZONE
08 ; AC3 LINK DESTROYED
09
10 00256'021004 A530: LDA 0 ZMODE,2 ; START TRANSFER;
11 00257'055024 A53: STA 3 Z0,2 ; OP:=MODE,ZONE;
12 00260'035021 LDA 3 ZUSED,2 ; TRANSFER; SHARE:=USED,ZONE;
13 00261'045401 STA 1 SCOUNT,3 ; MESS1.BUF=COUNT,SHARE:=LENGTH;
14 00262'025406 LDA 1 SFIRST,3 ;
15 00263'045402 STA 1 SADDR,3 ; MESS2.BUF=ADDR,SHARE:=FIRST,SHARE;
16 00264'041400 STA 0 SOPER,3 ; MESS0.BUF=OPERA,SHARE:=OP;
17 00265'025011 LDA 1 ZBLOCK,2 ;
18 00266'045403 STA 1 SSPECIAL,3; MESS3.BUF=SPECIAL,SHARE:=BLOCK,ZON
19 00267'004414 JSR A531 ; SENDSHARE(ZONE,SHARE);
20 00270'035404 LDA 3 SNEXT,3 ;
21 00271'055021 STA 3 ZUSED,2 ; USED,ZONE:=NEXT,SHARE;
22 00272'003024 JMP0 Z0,2 ; RETURN;
23
24 ; PROCEDURE STARTSHARE(ZONE,OPERATION,SHARE);
25 ; SUPPLY OPERATION WITH CHANNELNUMBER (BIT 0:7 OF MODE)
26 ; AND SEND MESSAGE BY SENDSHARE
27 ; CALL: RETURN:
28 ; AC0 OPERATION DESTROYED
29 ; AC1 DESTROYED
30 ; AC2 ZONE ZONE
31 ; AC3 LINK USED.ZONE
32
33 00273'055023 A5310:STA 3 ZREM,2 ; STARTSHARE;
34 00274'035004 LDA 3 ZMODE,2 ;
35 00275'024147 LDA 1 .M256 ;
36 00276'137400 AND 1,3 ;
37 00277'163000 ADD 3,0 ; OPERATION:=OPERATION+MODE(0:7) SH
38 00300'035021 LDA 3 ZUSED,2 ;
39 00301'041400 STA 0 SOPER,3 ; OPERATION,SHARE:= OPERATION;
40 00302'101001 MOV 0,0 SKP ; SENDSHARE(ZONE,SHARE); RETURN;
41
42 ; PROCEDURE SENDSHARE(ZONE,SHARE);
43 ; SENDS A MESSAGE BUILT UP IN USED SHARE OF THE ZONE. THE ADDRESS
44 ; OF THE MESSAGE BUFFER IS STORED IN STATE.SHARE.
45 ; CALL: RETURN:
46 ; AC0 DESTROYED
47 ; AC1 DESTROYED
48 ; AC2 ZONE ZONE
49 ; AC3 LINK USED.ZONE
50
51 00303'055023 A531: STA 3 ZREM,2 ; SENDSHARE;
52 00304'025021 LDA 1 ZUSED,2 ; ADDRESS(=SHARE):=ZONE,USED;
53 00305'141000 MOV 2,0 ; SAVE(ZONE);
54 00306'006004 A532: SENDMESSAGE ; SENDMESSAGE(SHARE,ZONE,BUF);
55 00307'135000 MOV 1,3 ;
56 00310'051405 STA 2 SSTATE,3 ; STATE,SHARE:=BUF;
57 00311'111000 MOV 0,2 ;
58 00312'003023 JMP0 ZREM,2 ; RETURN;

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01 ; PROCEDURE INBLOCK(ZONE);
02 ; CALL; RETURN;
03 ; AC0 DESTROYED
04 ; AC1 DESTROYED
05 ; AC2 ZONE ZONE
06 ; AC3 LINK DESTROYED
07
08 00313'055025 A54: STA 3 Z1,2 ; INBLOCK;
09 00314'035021 A541: LDA 3 ZUSED,2 ; SHARE:=USED,ZONE;
10 00315'021405 LDA 0 SSTATE,3 ;
11 00316'101004 MOV 0,0 SZR ; IF STATE,SHARE<>0 !BUSY! THEN
12 00317'002404 JMP@ .A521 ; GOTO WAITTRANSFER;
13 00320'025022 LDA 1 ZSHAREL,2 ; LENGTH:=SHARELENGTH,ZONE;
14 00321'004735 JSR A530 ; TRANSFER(ZONE,LENGTH);
15 00322'000772 JMP A541 ; GOTO INBLOCK;
16 00323'000075' .A521: A521 ; RETURN;
17
18 ; PROCEDURE OUTBLOCK(ZONE);
19 ; CALL; RETURN;
20 ; AC0 DESTROYED
21 ; AC1 DESTROYED
22 ; AC2 ZONE ZONE
23 ; AC3 LINK DESTROYED
24
25 00324'055025 A55: STA 3 Z1,2 ; OUTBLOCK;
26 00325'025022 LDA 1 ZSHAREL,2 ; LENGTH:=SHARELENGTH,ZONE;
27 00326'021023 LDA 0 ZREM,2 ; REM:=ZREM,ZONE;
28 00327'035005 LDA 3 ZKIND,2 ;
29 00330'175300 MOVS 3,3 ;
30 00331'177120 ADDZL 3,3 ;
31 00332'177133 ADDZL# 3,3 SNC ; IF KIND,ZONE(11)=1 THEN
32 00333'000404 JMP A551 ; BEGIN
33 00334'106404 SUB 0,1 SZR ; IF REM<>LENGTH THEN
34 00335'025022 LDA 1 ZSHAREL,2 ; LENGTH:=SHARELENGTH,ZONE;
35 00336'102400 SUB 0,0 ; REM:=0;
36 ; END;
37 00337'106404 A551: SUB 0,1 SZR ; LENGTH:=LENGTH-REM;
38 00340'004716 JSR A530 ; IF LENGTH<>0 THEN TRANSFER(Z,LENGT
39 00341'002762 JMP@ .A521 ; WAITTRANSFER(ZONE);
40 ; RETURN;
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1 0011 MUB06

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01 ; PROCEDURE WAIT ALL(ZONE);
02 ; WAITS FOR ALL PENDING MESSAGES OF THE ZONE, USING WAIT
03 ; TRANSFER FOR OUTPUT MESSAGES AND WAIT ANSWER FOR THE
04 ; REMAINING MESSAGES.
05 ; CALL: RETURN:
06 ; AC0 UNCHANGED
07 ; AC1 UNCHANGED
08 ; AC2 ZONE ZONE
09 ; AC3 LINK USED,ZONE
10
11 00342'055026 A700: STA 3 Z2,2 ; WAIT ALL:
12 00343'041030 STA 0 Z4,2 ;
13 00344'045027 STA 1 Z3,2 ;
14 00345'021004 LDA 0 ZMODE,2 ;
15 00346'024121 LDA 1 .3 ;
16 00347'123626 ANDZR 1,0 SEZ ; IF MODE.ZONE(14:15)=3 THEN
17 00350'006206 OUTBLOCK ; OUTBLOCK(ZONE);
18 00351'035021 A7009:LDA 3 ZUSED,2 ; SET STOP;
19 00352'055025 STA 3 Z1,2 ; STOP:=USED,ZONE;
20 A7000: ; TEST OPERATION;
21 00353'035404 LDA 3 SNEXT,3 ; SHARE:=NEXT,SHARE;
22 00354'055021 STA 3 ZUSED,2 ; USED,ZONE:=SHARE;
23 00355'021405 LDA 0 SSTATE,3 ;
24 00356'101005 MOV 0,0 SNR ; IF STATE,SHARE=0 THEN
25 00357'000412 JMP A7004 ; GOTO NEXT;
26 00360'021004 LDA 0 ZMODE,2 ;
27 00361'024121 LDA 1 .3 ; OP:=MODE,ZONE;
28 00362'123627 ANDZR 1,0 SBN ; IF COMMAND.OP<>OUTPUT THEN
29 00363'000403 JMP A7002 ; GOTO ONLY WAIT;
30 00364'006202 WAITTRANSFER ; WAIT TRANSFER(ZONE);
31 00365'000764 JMP A7009 ; GOTO SET STOP;
32 A7002: ; ONLY WAIT:
33 00366'004632 JSR A5238 ; WAITBUF(ZONE,STATUS,COUNT,SHARE);
34 00367'102400 SUB 0,0 ;
35 00370'041405 STA 0 SSTATE,3 ; STATE,SHARE:=0;
36 00371'025025 A7004:LDA 1 Z1,2 ; NEXT:
37 00372'166414 INE 3,1 ; IF SHARE<>STOP THEN
38 00373'000760 JMP A7000 ; GOTO TEST OPERATION;
39 00374'006202 A7005:WAITTRANSFER ; WAITTRANSFER(ZONE);
40 00375'025027 LDA 1 Z3,2 ;
41 00376'021030 LDA 0 Z4,2 ;
42 00377'003026 JMP# Z2,2 ; RETURN;
43
44
45
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1 0012 MUB06

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01 ; PROCEDURE SETPOSITION(ZONE,FILE,BLOCK);
02 ; CALL; RETURN;
03 ; AC0 BLOCK DESTROYED
04 ; AC1 FILE DESTROYED
05 ; AC2 ZONE
06 ; AC3 LINK DESTROYED
07
08 004001055031 A70: STA 3 Z5,2 ; SETPOSITION;
09 004001004741 JSR A700 ; WAIT ALL(ZONE);
10 004002041011 STA 0 ZBLOCK,2 ; BLOCK.ZONE:=BLOCK;
11 004003045010 STA 1 ZFILE,2 ; FILE.ZONE:=FILE;
12 004004035021 LDA 3 ZUSED,2 ; SHARE:=USED.ZONE;
13 004005041403 STA 0 SSPEC,3 ; MESS3.BUF=SPEC.SHARE:=BLOCK;
14 004006020113 LDA 0 CPOSITION ; AC0=OPERATION:=POSITION;
15 004007045402 STA 1 SADDR,3 ; MESS2.BUF=ADDRESS.SHARE:=FILE;
16 00410004663 JSR A5310 ; STARTSHARE(ZONE,OPERATION,SHARE);
17 00411006202 WAITTRANSFER ; WAITTRANSFER(ZONE);
18 00412003031 JMP Z5,2 ; RETURN;
19
20
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01 ; PROCEDURE CLOSE(ZONE,RELEASE);
02 ; CALL: RETURN;
03 ; AC0 DESTROYED
04 ; AC1 RELEASE, 0=NO, 1=YES DESTROYED
05 ; AC2 ZONE ZONE
06 ; AC3 LINK DESTROYED
07
08 00413'055031 A71: STA 3 Z5,2 ; CLOSE: Z5:=LINK;
09 00414'004726 JSR A700 ; WAIT ALL(ZONE);
10 00415'035004 LDA 3 ZMODE,2 ; MODE:=MODE.ZONE;
11 00416'102400 SUB 0,0 ; OP:=SENSE;
12 00417'175222 MOVZR 3,3 SZC ; IF MODE(14:15)=3 THEN
13 00420'175223 MOVZR 3,3 SNC ; BEGIN IOUTPUT I TRANSPUTMESSI
14 00421'000402 JMP A714 ; OP:=TERMINATION;
15 00422'020114 LDA 0 CTERMIN ; END;
16 00423'125004 A714: MOV 1,1 SZR ; IF RELEASE=YES(=1) THEN
17 00424'024414 LDA 1 A713 ; OP:=OP+
18 00425'123000 ADD 1,0 ; CONTROL BITS;
19 00426'035021 LDA 3 ZUSED,2 ; ! AC0 = OPERATION !
20 00427'126400 SUB 1,1 ;
21 00430'045401 STA 1 SCOUNT,3 ; MESS1.BUF=COUNT,SHARE:=0;
22 00431'045402 STA 1 SADDR,3 ; MESS2.BUF=ADDRESS,SHARE:=0;
23 00432'004641 JSR A5310 ; STARTSHARE(ZONE,OPERATION,SHARE);
24 00433'126400 SUB 1,1 ;
25 00434'045004 STA 1 ZMODE,2 ; MODE.ZONE:=0;
26 00435'004705 JSR A700 ; WAIT ALL(ZONE);
27 00436'024107 LDA 1 .1B6 ; ACTION:=REMOVEAREAPROCESS;
28 00437'000422 JMP A735 ; GOTO CHECK AREA PROCESS;
29 00440'000114 A713: 1B9+1B12+1B13 ; CONTROL BITS: DISCON+CONV+RESER;
30
31 ; PROCEDURE OPEN(ZONE,OPERATION);
32 ; CALL: RETURN;
33 ; AC0 OPERATION DESTROYED
34 ; AC1 DESTROYED
35 ; AC2 ZONE ZONE
36 ; AC3 LINK DESTROYED
37
38 00441'055026 A72: STA 3 Z2,2 ; OPEN:
39 00442'041004 STA 0 ZMODE,2 ; AC0=MODE.ZONE:=OPERATION;
40 00443'024106 LDA 1 .1B5 ; ACTION:=CREATE;
41 00444'004414 JSR A73 ; GOTO CHECK AREAPROCESS;
42 00445'035021 LDA 3 ZUSED,2 ;
43 00446'045401 STA 1 SCOUNT,3 ; MESS1.BUF=COUNT,SHARE:=RESERVEMODE
44 00447'025012 LDA 1 ZCONV,2 ;
45 00450'045402 STA 1 SADDR,3 ; MESS2.BUF=ADDR,SHARE:=CONVTABLE,ZO
46 00451'004622 JSR A5310 ; STARTSHARE(ZONE,OPERATION,SHARE);
47 00452'006202 WAITTRANSFER ; WAITTRANSFER(ZONE);
48 00453'003026 JMP 0 Z2,2 ; RETURN;
49
50
51

```

```

01 ; PROCEDURE CHECK AREAPROCESS(ZONE,ACTION,RESERVEMODE);
02 ; THE PROCEDURE COMMUNICATES WITH THE CAT PROCESS TO CREATE
03 ; OR REMOVE AREA PROCESSES, WHEN THE BACKING STORAGE IS A
04 ; DISC; OPERATION=RESERVATION AT OUTPUT ELSE 0;
05 ; CALL: RETURN;
06 ; AC0 OPERATION
07 ; AC1 ACTION FOR CAT RESERVEMODE
08 ; AC2 ZONE
09 ; AC3 LINK DESTROYED
10
11 00454'000455'A731: .+1 ; NAME OF CAT=PROCESS;
12 .TXT .CAT<0><0>. ;
    00455'041501
    00456'052000
    00457'000000
13 A73: ; CHECK AREA PROCESS;
14 00460'055031 STA 3 Z5,2 ; SAVE LINK IN Z1.ZONE;
15 00461'021005 A735: LDA 0 ZKIND,2 ;
16 00462'034114 LDA 3 .1B11 ; IF Z,KIND(11)<>0 THEN
17 00463'117405 AND 0,3 9NR ; BEGIN
18 00464'000421 JMP A732 ; AC3:=SHARE ADDRESS;
19 00465'035021 A733: LDA 3 ZUSED,2 ; MESS.BUF SEND TO CAT;
20 00466'045400 STA 1 SOPER,3 ; MESS0.BUF:=ACTION;
21 00467'051401 STA 2 SCOUNT,3 ; MESS1.BUF:=ZONE;
22 00470'020417 LDA 0 .A734 ;
23 00471'041023 STA 0 ZREM,2 ; RETURNADDRESS FOR SENDSHARE;
24 00472'165000 MOV 3,1 ; MESSAGEADDRESS;
25 00473'141000 MOV 2,0 ; FOR SENDMESSAGE CALL;
26 00474'030760 LDA 2 A731 ; AC0:=SAVE(ZONE); AC2:=CAT;
27 00475'004611 JSR A532 ; SENDSHARE(ZONE,SHARE);
28 00476'006202 A734: WAITTRANSFER ; WAITTRANSFER(ZONE);
29 00477'035004 LDA 3 ZMODE,2 ;
30 00500'020116 LDA 0 CRESERV ; OPERATION:=RESERVATION;
31 00501'024117 LDA 1 .1B14 ;
32 00502'167414 AND# 3,1 SZR ; IF Z.MODE(14)= 1 THEN
33 00503'125400 INC 1,1 ; RESERVEMODE:=4 ELSE
34 00504'125401 INC 1,1 SKP ; RESERVEMODE:=3;
35 00505'020127 A732: LDA 0 .12 ; ELSE OPERATION:=RESERVE+CONVERSION
36 00506'003031 JMP# Z5,2 ; RETURN;
37 00507'000476',A734:A734 ;
38

```

1 0015 MUB06

```
01 ; PROCEDURE CREATEENTRY(ZONE,TYPE,SIZE);
02 ; CALL; RETURN;
03 ; AC0 TYPE DESTROYED
04 ; AC1 SIZE DESTROYED
05 ; AC2 ZONE
06 ; AC3 LINK DESTROYED
07
08 00510'055031 A74: STA 3 Z5,2 ; Z5.ZONE:=LINK(CHECKAREAPROCESS);
09 00511'034102 LDA 3 .1B1 ; ACTION:=CREATE ENTRY;
10 00512'000417 JMP A80 ; GOTO COMMON;
11
12 ; PROCEDURE LOOKUPENTRY(ZONE,STORAGE ADDRESS);
13 ; CALL; RETURN;
14 ; AC0 DESTROYED
15 ; AC1 STORAGE ADDRES DESTROYED
16 ; AC2 ZONE
17 ; AC3 LINK DESTROYED
18
19 00513'055031 A75: STA 3 Z5,2 ; Z5.ZONE:=LINK;
20 00514'034103 LDA 3 .1B2 ; ACTION:=LOOKUP ENTRY;
21 00515'000414 JMP A80 ; GOTO COMMON;
22
23 ; PROCEDURE CHANGEENTRY(ZONE,STORAGE ADDRESS);
24 ; CALL; RETURN;
25 ; AC0 DESTROYED
26 ; AC1 STORAGE ADDRES DESTROYED
27 ; AC2 ZONE
28 ; AC3 LINK DESTROYED
29
30 00516'055031 A76: STA 3 Z5,2 ; Z5.ZONE:=LINK;
31 00517'034104 LDA 3 .1B3 ; ACTION:=CHANGE ENTRY;
32 00520'000411 JMP A80 ; GOTO COMMON;
33
34 ; PROCEDURE REMOVEENTRY(ZONE);
35 ; CALL; RETURN;
36 ; AC0 DESTROYED
37 ; AC1 DESTROYED
38 ; AC2 ZONE
39 ; AC3 LINK DESTROYED
40
41 00521'055031 A77: STA 3 Z5,2 ; Z5.ZONE:=LINK;
42 00522'034105 LDA 3 .1B4 ; ACTION:=REMOVE ENTRY;
43 00523'000406 JMP A80 ; GOTO COMMON;
44
```

1 0016 MUB06

```
01 ; PROCEDURE INITCAT(ZONE,NEW/OLD,DRIVENO);
02 ; CALL: RETURN;
03 ; AC0 NEW/OLD DESTROYED
04 ; AC1 DRIVENO DESTROYED
05 ; AC2 ZONE ZONE
06 ; AC3 LINK DESTROYED
07
08 00524'055031 A78: STA 3 Z5,2 ; Z5.ZONE:=LINK;
09 00525'034110 LDA 3 .1B7 ; ACTION:=INIT CAT;
10 00526'000403 JMP A80 ; GOTO COMMON;
11
12 ; PROCEDURE SETENTRY(ZONE,ADDRESS);
13 ; CALL: RETURN;
14 ; AC0 DESTROYED
15 ; AC1 STORAGE ADDR DESTROYED
16 ; AC2 ZONE ZONE
17 ; AC3 LINK DESTROYED
18
19 00527'055031 A79: STA 3 Z5,2 ; Z5.ZONE:=LINK;
20 00530'034101 LDA 3 .1B0 ; ACTION:=UPDATE CAT;
21
22 00531'055030 A80: STA 3 Z4,2 ; COMMON;
23 00532'035021 LDA 3 ZUSED,2 ; SHARE:=ZUSED.ZONE;
24 00533'045402 STA 1 SADDRESS,3 ; MESS2.BUF:=AC1;
25 00534'041403 STA 0 SSPEC,3 ; MESS3.BUF:=AC0;
26 00535'025030 LDA 1 Z4,2 ; AC1:=ACTION;
27 00536'000727 JMP A733 ; GOTO CHECKAREAPROCESS;
28
```



1 0017 MUB06

```
01      000202 .LOC WAITTRANS=GOS
02 00202 000274'      A52      ; WAIT TRANSFER
03      000203 .LOC .REPEATSHARE=GOT
04 00203 000000'      A528      ;
05      000210 .LOC FREESHARE=GOS
06 00210 000151'      A523      ; FREESHARE
07      000204 .LOC TRANSFER=GOS
08 00204 000257'      A53      ; TRANSFER
09      000205 .LOC INBLOCK=GOS
10 00205 000313'      A54      ; INBLOCK
11      000206 .LOC OUTBLOCK=GOS
12 00206 000324'      A55      ; OUTBLOCK
13      000222 .LOC WAITZONE=GOS
14 00222 000342'      A700     ; WAITZONE
15      000217 .LOC SETPOS=GOS
16 00217 000400'      A70      ; SET POSITION
17      000220 .LOC CLOSE=GOS
18 00220 000413'      A71      ; CLOSE
19      000221 .LOC OPEN=GOS
20 00221 000441'      A72      ; OPEN
21      000346 .LOC CREATEENTRY=GOS
22 00346 000510'      A74      ; CREATE ENTRY
23      000347 .LOC LOOKUPENTRY=GOS
24 00347 000513'      A75      ; LOOKUP ENTRY
25      000350 .LOC CHANGEENTRY=GOS
26 00350 000516'      A76      ; CHANGE ENTRY
27      000351 .LOC REMOVEENTRY=GOS
28 00351 000521'      A77      ; REMOVE ENTRY
29      000352 .LOC INITCAT=GOS
30 00352 000524'      A78      ; INIT CAT
31      000353 .LOC SETENTRY=GOS
32 00353 000527'      A79      ; SETENTRY
33
34      .NREL
35      ; ***** END BASIC I/O PROCEDURES *****
36
37      .END
```

|       |         |       |       |       |       |       |       |
|-------|---------|-------|-------|-------|-------|-------|-------|
| A52   | 0000741 | 5/15  | 17/02 |       |       |       |       |
| A520  | 0000771 | 4/07  | 5/18  |       |       |       |       |
| A5201 | 0001001 | 3/52  | 5/19  |       |       |       |       |
| A5206 | 0001131 | 5/27  | 5/30  |       |       |       |       |
| A5207 | 0001241 | 5/36  | 6/02  |       |       |       |       |
| A521  | 0000751 | 5/16  | 10/16 |       |       |       |       |
| A5220 | 0000301 | 3/21  | 3/25  | 3/31  |       |       |       |
| A5221 | 0000561 | 3/53  |       |       |       |       |       |
| A5222 | 0000571 | 3/54  | 4/11  |       |       |       |       |
| A5223 | 0000601 | 4/02  | 4/09  |       |       |       |       |
| A5224 | 0000041 | 3/11  | 5/38  |       |       |       |       |
| A5225 | 0000731 | 3/30  | 4/13  |       |       |       |       |
| A523  | 0001511 | 7/19  | 17/06 |       |       |       |       |
| A5232 | 0002121 | 7/44  | 7/52  |       |       |       |       |
| A5233 | 0002141 | 7/26  | 7/54  |       |       |       |       |
| A5234 | 0001721 | 7/32  | 7/36  |       |       |       |       |
| A5235 | 0001761 | 7/35  | 7/40  |       |       |       |       |
| A5237 | 0002541 | 8/29  | 8/36  |       |       |       |       |
| A5238 | 0002201 | 3/47  | 4/10  | 7/20  | 8/08  | 11/33 |       |
| A5239 | 0002461 | 8/14  | 8/30  |       |       |       |       |
| A524  | 0001421 | 6/07  | 6/21  |       |       |       |       |
| A527  | 0001321 | 6/10  | 6/24  |       |       |       |       |
| A528  | 0000001 | 3/07  | 17/04 |       |       |       |       |
| A5290 | 0001371 | 3/50  | 6/05  | 6/17  |       |       |       |
| A5291 | 0001401 | 5/34  | 6/18  |       |       |       |       |
| A5292 | 0001411 | 6/19  | 7/22  |       |       |       |       |
| A53   | 0002571 | 9/11  | 17/08 |       |       |       |       |
| A530  | 0002561 | 9/10  | 10/14 | 10/38 |       |       |       |
| A531  | 0003031 | 4/12  | 9/19  | 9/50  |       |       |       |
| A5310 | 0002731 | 9/33  | 12/16 | 13/23 | 13/46 |       |       |
| A532  | 0003061 | 9/53  | 14/27 |       |       |       |       |
| A54   | 0003131 | 10/08 | 17/10 |       |       |       |       |
| A541  | 0003141 | 10/09 | 10/15 |       |       |       |       |
| A55   | 0003241 | 10/25 | 17/12 |       |       |       |       |
| A551  | 0003371 | 10/32 | 10/37 |       |       |       |       |
| A70   | 0004001 | 12/08 | 17/16 |       |       |       |       |
| A700  | 0003421 | 11/11 | 12/09 | 13/09 | 13/26 | 17/14 |       |
| A7000 | 0003531 | 11/20 | 11/38 |       |       |       |       |
| A7002 | 0003661 | 11/29 | 11/32 |       |       |       |       |
| A7004 | 0003711 | 11/25 | 11/36 |       |       |       |       |
| A7005 | 0003741 | 11/39 |       |       |       |       |       |
| A7009 | 0003511 | 11/18 | 11/31 |       |       |       |       |
| A71   | 0004131 | 13/08 | 17/18 |       |       |       |       |
| A713  | 0004401 | 13/17 | 13/29 |       |       |       |       |
| A714  | 0004231 | 13/14 | 13/16 |       |       |       |       |
| A72   | 0004411 | 13/38 | 17/20 |       |       |       |       |
| A73   | 0004601 | 13/41 | 14/13 |       |       |       |       |
| A731  | 0004541 | 14/11 | 14/26 |       |       |       |       |
| A732  | 0005051 | 14/18 | 14/35 |       |       |       |       |
| A733  | 0004651 | 14/19 | 16/27 |       |       |       |       |
| A734  | 0004761 | 14/28 | 14/37 |       |       |       |       |
| A735  | 0004611 | 13/28 | 14/15 |       |       |       |       |
| A74   | 0005101 | 15/08 | 17/22 |       |       |       |       |
| A75   | 0005131 | 15/19 | 17/24 |       |       |       |       |
| A76   | 0005161 | 15/30 | 17/26 |       |       |       |       |
| A77   | 0005211 | 15/41 | 17/28 |       |       |       |       |
| A78   | 0005241 | 16/08 | 17/30 |       |       |       |       |
| A79   | 0005271 | 16/19 | 17/32 |       |       |       |       |
| A80   | 0005311 | 15/10 | 15/21 | 15/32 | 15/43 | 16/10 | 16/22 |

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|       |         |       |       |       |      |
|-------|---------|-------|-------|-------|------|
| ZREPE | 000024  | 3/10  | 5/14  | 5/17  | 5/37 |
| .A521 | 000323! | 10/12 | 10/16 | 10/39 |      |
| .31   | 000072! | 3/54  | 4/12  |       |      |
| .A734 | 000507! | 14/22 | 14/37 |       |      |