This is the old - original documentation for mellon mods.
BEWARE - most of it is now invalid. It is included here
for the sake of historical acuracy only.

```
$$$
```

```
$                                                          $
$ 4.) Delete /*ROUTE XEQ CPUn support.  Use /*JOBPARM      $
$     SYSAFF=(sid) card.                                   $
$                                                          $
$ 5.) Delete $KD/$KT command support.  Use IBM supplied    $
$     commands $D/$T MASDEF.                               $
$                                                          $
$ 6.) Re-format various command responses to include       $
$     MLWTO control lines to match JES2 command responses. $
$                                                          $
$ 7.) New command responses to $QA/$QD commands.           $
$                                                          $
$ 8.) Change $QD command to deny removal of a resource if  $
$     there are executing job in the given system.  Add    $
$     a third poistional $QD command operand, "FORCE", to  $
$     permit the resource to be removed even if there are  $
$     active jobs using the resource.                      $
$                                                          $
$ 9.) Enhance $DC command response to show count of        $
$     conflicts.                                           $
$                                                          $
$ 10.) Enhance $DB command.                                $
$                                                          $
$ 11.) Change $QJ, $QT, $QS, and add $Q'jobname' to        $
$      permit abstract resources to be added/delete from   $
$      a JOB/TSU/STC or release a JOB from a dependent     $
$      job control hold condition.  JECL cards and PR/PU   $
$      stats are no longer detailed by this command.  Use  $
$      IOF, SDSF, Q command for displaced function.        $
$                                                          $
$ 12.) Eliminate /*AFTER, /*BEFORE, /*CNTL order           $
$      dependency.  This cards can now appear in any order $
$      in the input stream.                                $
$                                                          $
$ 13.) Various $HASP9** series messages have been          $
$      eliminated or changed.                              $
$                                                          $
$ 14.) SAF entity names have changed for the $Q commands.  $
$                                                          $
$ 15.) Add front end intercept to $QACT service routine    $
$      in support of /*WITH JECL card.                     $
$                                                          $
$ 16.) Previously supplied Mellon Bank support for the     $
$      $DN/$DQ commands has been renamed to $LN/$LQ        $
$      and has been substantially enhanced.                $
$                                                          $
$ 17.) $HASP608 message text has been enhanced.            $
$                                                          $
$ 18.) Several Mellon Bank commands using the CONDEF       $
$      DISPLEN when building command responses.            $
```

```
$                                                          $
$ 19.) Add resource-equate definition macro - $RESEQU      $
$                                                          $
$ 20.) Enhance $LF command job selection by absence or     $
$      presence of job, operator, and error holds. Also    $
$      screen for held or non-held output dispostions.     $
$                                                          $
$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$
$                                                          $
$                                                          $
$ FUNCTIONAL CHANGES FOR RELEASE    SP3.1.3                $
$                                                          $
$ 1.) Interface to $SEAS routine to validate user commands $
$     in EXIT 005 through SAF.                             $
$                                                          $
$ 2.) Correct addressability errors when using all 64      $
$     resource names in the abstract resource table.       $
$                                                          $
$ 3.) Correct DJC hold problem by front ends place on      $
$     $QMOD and $QPUT established by EXIT024.              $
$                                                          $
$                                                          $
$ FUNCTIONAL CHANGES FOR RELEASE(S) SP2.2.0/SP3.1.1        $
$                                                          $
$ 1.) Performance enhancement for dependent job control    $
$     job select logic through the use of user hold        $
$     hold bits in the JQE.                                $
$                                                          $
$ 2.) $DN/DQ,HOLD commands enhanced to process jobs that   $
$     are held due to dependent job control conflicts.     $
$                                                          $
$ 3.) Enhancements made in the HASP608 job display message $
$     to show before/after/cntl specifications as well as  $
$     dependent job control hold/ownership information.    $
$                                                          $
$ 4.) New exit routine, MBJOBEND, added to release jobs    $
$     on dependent job control hold when an owning job     $
$     ends.                                                $
$                                                          $
$                                                          $
$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$
************************************************************
************************************************************
**************                                **************
************                                  ************
**********                                    **********
*                                                          *
*                                                          *
*             GENERAL DESCRIPTION OF MELLON BANK           *
*                  SHARED SPOOL MODS                       *
```

```
*                                                          *
**********                                        **********
************                                    ************
**************                                **************
************************************************************
************************************************************


************************************************************
*                                                          *
*                D I S C L A I M E R                       *
*                                                          *
************************************************************
```

THE MODS ON THIS TAPE HAVE BEEN USED SUCCESSFULLY AND TO THE BEST OF OUR KNOWLEDGE THEY ARE OPERATIONAL, HOWEVER NO WARRANTY IS MADE TO THE ACCURACY OF THE MODS AND NO RESPONSIBILITY IS ASSUMED FOR ANY MODIFICATION DIRECTLY OR INDIRECTLY CAUSED BY THE USE OF THE MODIFICATIONS. IT IS THE USERS RESPONSIBILITY TO EVALUATE THE USEFULLNESS OF THE MATERIAL.

WE DO NOT GUARANTEE TO KEEP ANY MATERIAL PROVIDED UP TO DATE NOR DO WE GUARANTEE TO PROVIDE ANY CORRECTIONS OR EXTENSIONS MADE IN THE FUTURE.

```
************************************************************
************************************************************

++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
```

THE FOLLOWING IS A BRIEF EXPLANATION OF THE MELLON BANK MODS MADE TO JES2. IT IS INTENDED FOR THOSE WHO ARE UNFAMILIAR WITH PREVIOUS VERSIONS OF HASP OR JES2 SHARED SPOOL SUPPORT AND IS BEING PROVIDED IN LIEU OF THE FORMAL DOCUMENT ORIGINALLY DISTRIBUTED WITH THE HASP V4 MELLON MODIFICATIONS. IF THE WRITE-UP LEAVES YOU WITH SOME UNANSWERED QUESTIONS, YOU MAY GIVE US A CALL.

```
++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
```

RESOURCE ROUTING CONTROL CARDS

PROVIDES A FACILITY BY WHICH JOBS CAN BE ROUTED TO SPECIFIC CPUS DEPENDING ON THE AVAILABILITY OF A PARTICULAR RESOURCE NAME ASSIGNED TO A CPU. RESOURCE NAMES ARE USER DEFINED (SYSTEMS PROGRAMMER) AND SPECIFIED IN THE JES2 MACRO $RESTABL. ONCE DEFINED, THESE RESOURCE NAMES ATTACHED TO A CPU REMAIN IN EFFECT UNTIL THEY ARE DETACHED VIA THE $QD COMMAND, OR A COLD START IS DONE AND ALL RESOURCES ARE THEN UNASSIGNED.

RESOURCES SPECIFIED IN THE $RESTABL MACRO CAN DEFINE PHYSICAL I/O GEAR WHICH MAY BE ATTACHED TO ONLY ONE CPU AT A TIME, OR POSSIBLY A SOFTWARE NAME WHICH MAY ONLY PERTAIN TO ONE PARTICULAR CPU.

SPECIFICATION ... IN $RESTABL MACRO

ASSIGNMENT.....	$QA,resource	attached a resource name from the table to this system.
	$QD,resource	remove a resource name from this system if no jobs executing using specified resource.
	$QD,resource,FORCE	remove resource name from this system even if jobs executing are using the resource name.

USE..... /*ROUTE XEQ resource ... FOLLOWING JOBCARD

JOB WILL AUTOMATICALLY BE SCHEDULED TO THE CPU(S) BEARING THIS RESOURCE NAME IN ITS QSE

EXAMPLE:

SYSTEM #	RESOURCES ATTACHED
1	DUALD,IMS
2	3525
3	IMS,TSO,NOINQ

```
//BSPROUT JOB (,,7551,429),'TEST RESOURCE',MSGLEVEL=(1,1),CLASS=A
/*ROUTE XEQ IMS
//S1 EXEC PGM=IEFBR14
```

THIS JOB WILL BE SCHEDULED TO EITHER SYSTEM #1 OR SYSTEM #3

THE $DC COMMAND IS USED TO DISPLAY THOSE JOBS WHICH HAVE USED THE /*ROUTE XEQ RESOURCE CONTROL CARD AND NO CPUS HAVE THAT RESOURCE NAME ATTACHED.... FOR EXAMPLE, USING THE ABOVE LIST, IF A JOB WERE SUBMITTED WITH A /*ROUTE XEQ SCANNER CONTROL CARD, THE JOB WOULD NEVER EXECUTE NO MATTER HOW MANY INITIATORS WERE AVAILABLE UNTIL A SYSTEM IN THE COMPLEX WOULD ISSUE A $QA,SCANNER. THIS WOULD

BE DETECTABLE BY ISSUING A $DC COMMAND WHICH WOULD DISPLAY THOSE JOBS WAITING FOR RESOURCE NAMES.

THE $DR COMMAND WILL LIST THE RESOURCE ATTACHED TO EACH CPU.

EXAMPLE

```
$DR          NO OPERANDS  DEFAULTS THIS CPU

$DR,&SID     LIST SPECIFIC CPU RESOURCES.
```

OTHER /*ROUTE CONTROL CARD FORMATS.....

```
 /*ROUTE XEQ HERE
     JOB WILL BE SCHEDULED FOR EXECUTION ON THE CPU WHICH
     READ THE JCL.  (CONTROLLING THE CARD READER)
```

..... /*CNTL CARDS .....

THIS FEATURE PROVIDES THE ABILITY TO SINGLE-THREAD JOBS THROUGH EXECUTION WHICH NEED A DEVICE OF WHICH THERE IS ONLY ONE AND MUST BE USED SERIALLY. SOME EXAMPLES WOULD BE THE 3525, DUALD DENSITY DRIVE AND THE OCR SCANNER.

BY USING THE /*CNTL CARD, YOU CAN DEFINE A RESOURCE NAME THAT YOU NEED EXCLUSIVE CONTROL OF. IF ANY OTHER JOBS COME INTO THE SYSTEM WITH THE SAME CONTROL NAME, THEY WILL NOT EXECUTE SIMULTANEOUSLY ON THE SAME OR OTHER CPUS IN THE COMPLEX. THIS PROVIDES BETTER CONTROL OVER THE RESOURCES WE HAVE THAT MUST BE USED SERIALLY. THIS DOES NOT AFFECT JOBS RUNNING WITHOUT THE /*CNTL CARD OR RUNNING IN A SYSTEM WITHOUT SHARED SPOOL.

THE FORMAT FOR RESOURCE CONTROL IS :

```
/*CNTL name,EXC     OR
/*CNTL name,SHR    (DEFAULT SHR)
```

USERS MAY ALSO PROTECT DATASETS FROM BEING BEING UPDATED BY DIFFERENT JOBS ON THE SAME OR DIFFERENT CPUS BY USING THE /*CNTL CARD.

EACH /*CNTL CARD MAY HAVE A 1 TO 8 CHARACTER CONTROL NAME AND AN EXC OR SHR SPECIFICATION.

JOBS WITH THE SAME CNTL NAME WILL NOT EXECUTE SIMUTANEOUSLY IF ONE OF THE JOBS HAS AN EXC CONTROL SPECIFICATION. JOBS WITH SHR MAY EXECUTE SIMUTANEOUSLY ON ANY CPU.

EXAMPLES:

```
//JOB1 JOB
/*CNTL MASTER,EXC


//JOB2 JOB
/*CNTL MASTER,SHR
```

IN THE ABOVE EXAMPLE, WHICHEVER JOB BEGAN EXECUTION FIRST, WOULD LOCKOUT THE OTHER JOB FROM BEGINNING UNTIL IT HAS COMPLETED.

```
//JOB1 JOB
/*CNTL MASTER,SHR


//JOB2 JOB
/*CNTL MASTER


//JOB3 JOB
/*CNTL MASTER,SHR
```

IN THE ABOVE EXAMPLE, ALL 3 JOBS COULD RUN SIMULTANEOUSLY AS THEY ALL SPECIFY THE SHR OPTION.

/*BEFORE, /*AFTER, /*WITH dependent job control cards

FORMAT :

```
/*BEFORE jobname
/*AFTER  jobname
/*WITH   jobname
```

Provides a means to schedule jobs before, after, or with another JOB/TSU/STC in the execution queue. These cards must follow the JOB card.

IF THE BEFORE OR AFTER JOBNAME IS NOT IN THE JOBQ, THERE IS NO ACTION TAKEN ON PREVENTING THE JOB FROM BEGINNING.

IF THE WITH jobname IS NOT IN THE JOBQ, THE JOB WILL WAIT FOR THE JOB/TSU/STC TO BEGIN EXECUTION.

EXAMPLE #1:

```
/*PRIORITY     13
//BSPTEST  JOB (,,7551,429),KALISH,MSGLEVEL=(1,1),CLASS=A
/*AFTER BSPFIRST
//S1 EXEC PGM=IEFBR14
/*
/*PRIORITY     2
//BSPFIRST JOB (,,7551,429),KALISH,MSGLEVEL=(1,1),CLASS=A
/*CNTL DUALD,EXC
//SA EXEC PGM=IEFBR14
/*
```

IN THE ABOVE EXAMPLE, JOB BSPTEST WOULD NOT EXECUTE UNTIL JOB BSPFIRST HAS FINISHED EXECUTION, EVEN THOUGH BSPTEST HAS A HIGHER PRIORITY.

EXAMPLE #2:

```
/*PRIORITY     10
//cicst900 JOB (,,7551,429),KALISH,MSGLEVEL=(1,1),CLASS=A
/*WITH CICSTEST
//S1 EXEC PGM=IEFBR14
/*
```

In the above example, job CICST900 would not execute until JOB/TSU/STC CICSTEST began executiion. At that time, CICST900 would be eligible for selection by an initiator in the same system as CICSTEST.

****
****

EXAMPLES OF ALLOWABLE -MULTI- CONTROL AND ROUTE CARDS COMBINATIONS

```
COMBINATION  1.                 ** ONE          AFTER  CARD  **
                                ** ONE          BEFORE CARD  **
                                ** NONE TO FOUR CNTL   CARDS **
            /*AFTER   JOBNAME
            /*BEFORE  JOBNAME
            /*CNTL    NAME,DISP
            /*CNTL    NAME,DISP
            /*CNTL    NAME,DISP
            /*CNTL    NAME,DISP

COMBINATION  2.                 ** ONE           AFTER CARD  **
                                ** NONE TO FIVE  CNTL  CARDS **
            /*AFTER   JOBNAME
            /*CNTL    NAME,DISP
            /*CNTL    NAME,DISP
            /*CNTL    NAME,DISP
            /*CNTL    NAME,DISP
            /*CNTL    NAME,DISP

COMBINATION  3.                 ** ONE           BEFORE CARD **
                                ** NONE TO FIVE  CNTL  CARDS **
            /*BEFORE  JOBNAME
            /*CNTL    NAME,DISP
            /*CNTL    NAME,DISP
            /*CNTL    NAME,DISP
            /*CNTL    NAME,DISP
            /*CNTL    NAME,DISP

COMBINATION  4.                 ** ONE TO SIX  CNTL    CARD  **
            /*CNTL    NAME,DISP
            /*CNTL    NAME,DISP
            /*CNTL    NAME,DISP
            /*CNTL    NAME,DISP
            /*CNTL    NAME,DISP
            /*CNTL    NAME,DISP

COMBINATION  5.                 ** ONE           AFTER  CARD  **
                                ** ONE           BEFORE CARD  **
                                ** ONE           WITH   CARD  **
                                ** NONE TO THREE CNTL   CARDS **
            /*CNTL    name,disp
            /*CNTL    name,disp
            /*CNTL    name,disp
            /*AFTER   jobname
            /*BEFORE  jobname
            /*WITH    jobname
```

```
*************************************************************
$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$
$        H    H      J EEEEEE 4    4 4    4  2222   0000        $
$        H    H      J E      4    4 4    4 2    2 0    0       $
$        H    H      J E      4    4 4    4      2 0    0       $
$        HHHHHH      J EEEE   444444 444444  2222  0    0       $
$        H    H      J E           4      4 2      0    0       $
$        H    H J    J E           4      4 2      0    0       $
$        H    H  JJJJ  EEEEEE      4      4 222222  0000        $
$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$
*************************************************************
*
*
*  MELLON BANK SHARED SPOOL FOR SP 4.2.0 JES2 FMID(HJE4420)
*
*  THESE CHANGES WILL REQUIRE A COLD-START SINCE THEY MODIFY JES2
*  CONTROL BLOCKS (IE. QSE, JQE)...
*
*  SINCE SP 1.3.3 JES2 THE VAST MAJORITY OF THE MELLON MOD CODE
*  HAS BEEN REMOVED FROM INSTREAM HASPSRC UPDATES AND HAS BEEN
*  PLACED INTO JES2 EXIT CODE THAT IS TAKEN BY THE JES2 MAIN
*  TASK.
*
*
*     ADDITIONALLY, DEPENDENT JOB CONTROL HOLD/OWNERSHIP IS DISPLAYED.
*
*  $  THE FOLLOWING MODULES, MACROS, AND CONTROL BLOCK ARE CHANGED.
*
*      $JQE, $QSE, $RDRWORK, $HCT, HASPCOMM
*
*
*  $    THE FOLLOWING STATEMENTS NEED TO BE ADDED TO THE JES2 PARAMETER
*       LIBRARY TO ESTABLISH THE NECESSARY JES2 EXIT ENVIRONMENT AT
*       INITIALIZATION TIME:
*
*       LOAD    MBSHRSPL                     USER LINKLIB LOAD MODULE
*       EXIT002 ROUTINE=(MBJOBCRD)           JOB CARD SCAN
*       EXIT004 ROUTINE=(MBJECL)             JCL/JECL CARD SCAN
*       EXIT005 ROUTINE=(MBCMDS)             COMMAND PROCESSOR
*       EXIT007 ROUTINE=(MBJOBEND)           RELEASE JOBS ON DJC HOLD
*       EXIT014 ROUTINE=(MBJQEGET)           $QGET
*       EXIT020 ROUTINE=(MBRDREND)           END OF INPUT
*       EXIT024 ROUTINE=(MBQINIT)            POST INITIALIZATION
*       EXIT245 ROUTINE=(MBJOBMSG)           COFJMSG SUPPORT
*
*
*
*  $    SEVERAL ADDITIONAL MELLON WRITTEN COMMANDS HAVE BEEN INCLUDED
*       FOR YOUR USE:
*
```

```
*       $DB WILL DISPLAY A SUMMARY OF THE WORKED BACKLOGGED ON THE
*       M.A.S. COMPLEX.
*
*       $DP WILL DISPLAY A ONE LINE SUMMARY OF PRINTER/PUNCH STATUS.
*
*       $LF IS SIMILAR TO THE $DF COMMAND; HOWEVER, IT HAS THE ABILITY
*       TO LIST JOB OUTPUT BY JOBNAME.
*
*
*
*
*  $    FILE 2 ON THIS TAPE CONTAINS IEBUPDTE CARDS THAT UPDATE AND ADD
*       CODE TO YOUR HASPSRC SOURCE LIBRARY (IT IS ADVISABLE TO CREATE
*       A BACKUP COPY OF YOUR HASPSRC PDS AND APPLY THE MODS TO THAT
*       COPY). ASSEMBLE AND LINK YOUR JES2 SOURCE.  MBSHRSPL SHOULD
*       BE ASSEBMBLED AND LINKED AS SEPARATE APF AUTHORIZED LOAD
*       MODULE AND MUST BE LOCATED IN AN APF AUTHORIZED LIBRARY
*       AVAILABLE TO JES2 AT INITIALIZATION TIME.
*
*       NOTE:  DO NOT LINK THIS EXIT AS REENTRANT OR YOU WILL
*              EXPERIENCE ABEND S0C4 PROBLEMS IN THE EXIT POINTS.
*
*
*  $    TAPE FORMAT IS:
*
*       THIS DOCUMENT
*                           RECFM=FB
*                           LRECL=80
*                           BLKSIZE=24000
*                           LABEL=(1,NL)
*                           VOL=SER=JESMOD
*                           DSN=B1SP.FILE1
*
*       IEBUPDTE INPUT TO ADD AND UPDATE MEMBERS IN HASPSRC PDS
*                           RECFM=FB
*                           LRECL=80
*                           BLKSIZE=24000
*                           LABEL=(2,NL)
*                           VOL=SER=JESMOD
*                           DSN=B1SP.FILE2
*
*  $    PLEASE DIRECT ANY INQUIRIES, PROBLEMS, SUGGESTIONS, ETC. TO:
*
*     ROSS CUMMINGS    MELLON BANK N.A.
*                      SYSTEMS CONTROL PROGRAMMING SECTION
*                      MELLON SQUARE, AIM 153-0420
*                      PITTSBURGH,  PA. 15230
*             PHONE  (412) 234-0519
*
*     JOHN ROSSMILLER  MELLON BANK N.A.
```

```
*             PHONE  (412) 236-1058
*
*     DON GREB         MELLON BANK N.A.
*             PHONE  (412) 234-5985
*
*
*       PLEASE HAVE CURRENT ASSEMBLED SOURCE LISTINGS AND DUMPS
*       ON HAND BEFORE CALLING WITH ANY PROBLEMS.
*
*****************************************************************
*****************************************************************
  GGGG   OOOO   OOOO  DDDD         L      U    U  CCCC  K    K
 G    G O    O O    O D   D        L      U    U C    C K   K
 G      O    O O    O D    D       L      U    U C      K  K
 G  GGG O    O O    O D    D       L      U    U C      KKK
 G    G O    O O    O D    D       L      U    U C      K  K
 G    G O    O O    O D    D       L      U    U C    C K  K
  GGGG   OOOO   OOOO  DDDDD        LLLLLL  UUUU   CCCC  K   K
*                                                                *
1

        @@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@
        @@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@
        @@                                                            @@
        @@                                                            @@
        @@  #~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~!  @@
        @@  |                                                         |  @@
        @@  |                                                         |  @@
        @@  |                                                         |  @@
        @@  |                                                         |  @@
        @@  |   M E L L O N   B A N K   E N H A N C E M E N T S       |  @@
        @@  |                                                         |  @@
        @@  |                    T O   T H E                          |  @@
        @@  |                                                         |  @@
        @@  |             J E S 2   S U B S Y S T E M                 |  @@
        @@  |                                                         |  @@
        @@  |                       F O R                             |  @@
        @@  |                                                         |  @@
        @@  |      SP VERSION 4 RELEASE 2 MODIFICATION LEVEL 0        |  @@
        @@  |                                                         |  @@
        @@  |                                                         |  @@
        @@  |                                                         |  @@
        @@  |                                                         |  @@
        @@  %~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~¢  @@
        @@                                                            @@
        @@                                                            @@
        @@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@
        @@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@
1
```

```
@@@
```

identifier (cca), symbolic console name (name), or symbolic console name and output area ID (name-a) of the active MCS console at which the requested information is to be displayed.

1

$DC (Display Conflicts)

```
#~~?~~~
```

```
|  |         |    a     |                                |
|  |   #    !|    cc    |                                |
|$D|P  |,PUN||,L= cca   |                                |
|  |   %    ¢|    name  |                                |
|  |         |    name-a|                                |
|  |         %          ¢                                |
|  |                                                     |
%~~_~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~¢
```

P

This command displays a one line status for each local printer on the system from which the command is issued.

PUN

If this operand is present a one line status is generated for each local punch on the system from which the command is issued.

L=a or cc or cca or name or name-a

The area (a), console identifier (cc), area and console identifier (cca), symbolic console name (name), or symbolic console name and output area ID (name-a) of the active MCS console at which the requested information is to be displayed.

1

$DR (Display Abstract Resources Attached To A MAS Member)

```
#~~?~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~!
|  |                                                     |
|  |        #          !                                |
|  |         |    a     |                                |
|  |  #    !||    cc    |                                |
|$D|R |,sid||,L= cca   |                                |
|  |  |,ALL||    name  |                                |
|  |  %    ¢|    name-a|                                |
|  |        %          ¢                                |
|  |                                                     |
%~~_~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~¢
```

R

Display all abstract resource name attached to a given member

or all member of the MAS spool complex.

sid
The display is requested for a specific MAS member. If this operand is omitted, the display is returned for the member on which the command is entered.

ALL
The display is requested for a members of the MAS spool complex.

L=a or cc or cca or name or name-a
The area (a), console identifier (cc), area and console identifier (cca), symbolic console name (name), or symbolic console name and output area ID (name-a) of the active MCS console at which the requested information is to be displayed.

1

$LF (List Forms)

```
#~~?~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~!
|  |                                                                  |
|  |                                                                  |
|  | #           !#           !#                 !                   |
|$L|F|,F=ffffffff||,W=wwwwwwww||,PRMODE=ppppppppp|                    |
|  | %           ¢%           ¢%                 ¢                   |
|  |                    #         !                                  |
|  |                    |     #  !|#          !                      |
|  | #       !#       !|   Sn|-m|||     #   !|#      !               |
|  | |,C=cccc||,T=tttt||,J=Jn|-m|||,R=rn|-rm|||,B=Y/N|                |
|  | %       ¢%       ¢|   Tn|-m|||     %   ¢|%      ¢               |
|  |                    |     %  ¢|%          ¢                      |
|  |                    %         ¢                                  |
|  |                                                                  |
|  | #            !#             !                                   |
|  | |       #   !||        #   !|#      !#      !                   |
|  | |,LIM=ln|-lm|||,PLIM=pn|-pm|||,D=H/A||,S=Y/N|                   |
|  | |       %   ¢||        %   ¢|%      ¢%      ¢                   |
|  | %            ¢%             ¢                                   |
|  |                    #    a     !                                  |
|  | #         !#     !|    cc    |                                  |
|  | |,Q=q1..q8||,JOBS||,L= cca   |                                  |
```

```
|  | %         ¢%     ¢|    name  |                        |
|  |                   %    name-a¢                        |
|  |                                                       |
%~~_~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~¢
```

F

Selectively display the JOT (job output table) for elements awaiting hardcopy processing. As many operands as required may be present so as to create a command response as selective as is desired. NOTE: No elements having an external writer name are included in the display unless explicitly requested.

F=

The one to eight character form name is to be used as a search argument.

W=

The one to eight character external writer name is to be used as a search argument. NOTE: unless this argument is present, no job output elements having the attribute of any external writer name will be included in the command display.

PRMODE=

The one to eight character processing mode name is to be used as a search argumant.

L=a or cc or cca or name or name-a

The area (a), console identifier (cc), area and console identifier (cca), symbolic console name (name), or symbolic console name and output area ID (name-a) of the active MCS console at which the requested information is to be displayed.

C=

The one to four character FCB name is to be used as a search argument.

T=

The one to four character UCS name is to be used as a search argument.

J=

The display is to be limited to a job or range of jobs as designated by the keyword value.

R=

The display is to be limited to a route code or a range of route codes as designated by the keyword value. If this operand is omitted the display is limited to the route code calculated from the command source.

B=

The display is to be limited to job output elements that need burst (Y) or that do not require bursting (N).

S=

Y - the display is to limited to output elements with selectable output dispositions - WRITE/KEEP
N - the display is to limited to output elements with non-selectable output dispositions - HOLD/LEAVE

Default: Y

D=

H - the display is limited to jobs and output elements with an operator or system hold.
A - the display will select all jobs

Default: only jobs or output elements with no operator or system hold will be displayed.

LIM=

The display is to be limited to job output elements having the specified number of lines of output.

PLIM=

The display is to be limited to job output elements having the specified number of pages of output.

Q=

The display is to be limited to job output elements having the specified sysout class(s). Up to eight sysout classes may be present in the list.

JOBS

The display is to be categorized by jobname and number. If this operand is present, it must be used in conjunction with another selection operand.

$LN (List Job Queue Information By Name)

```
#~~?~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~!
|   |                                                                  |
|   |                                 #          !                     |
|   |                                 |   DJCOWN |                     |
|   |                                 |   DJCHOLD|                     |
|   | #    !      #                 !|   XEQ    |                     |
|   | |,ALL|#    !|        #      !||   CNV    |                     |
|$L|N|,ANY||,IND||,R=dest1|-dest2|||,Q=STC    |                     |
|   | |,sid|%    ¢|        %      ¢||   TSU    |                     |
|   | |,IND|      %                ¢|   HOLD   |                     |
|   | %    ¢                         |   ACTIVE |                     |
|   |                                 |   READY  |                     |
|   | #                   !          %          ¢                     |
|   | |         #       !|#               !#             !            |
|   | |,C=class1|-class2|||,AFTER=jobname||,WITH=jobname|             |
|   | |         %       ¢|%              ¢%             ¢            |
|   | %                  ¢                                             |
|   |                                                                  |
|   | #               !#          !#              !                    |
|   | |,BEFORE=jobname||,CNTL=name||,RES=resource|                    |
|   | %               ¢%          ¢%              ¢                    |
|   |                                                                  |
|   |            #        !                                            |
|   |            |  a     |                                            |
|   | #         !|  cc    |                                            |
|   | |,V=volser||L=cca   |                                            |
|   | %         ¢|  name  |                                            |
```

```
        |  |            |  name-a|                              |
        |  |            %        ¢                              |
        |  |                                                    |
        %~~_~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~¢
```

N
    JES2 is to list job information by name.

sid
    JES2 is to display the job information for all jobs whose system
    affinities include the specified 4-character system identifier

ANY
    JES2 is to display the above job information for all jobs with
    the system affinity of ANY

ALL
    JES2 is to display the above job information for all jobs
    regardless of system infinity.

IND
    JES2 is to display the above job information for all jobs
    whose system affinity is for systems operating in independent mode.

R=dest1-dest2
    JES2 is to display the job information for all jobs having
    a default print/punch routing or range of routing (low to high)
    of the specified destination(s).

Q=DJCOWN
   Job information is to be displayed for jobs that are holding out
   other jobs due to dependent job control conflicts.

Q=DJCHOLD
   Job information is to be displayed for jobs awaiting execution or
   conversion in dependent job control hold status.

Q=XEQ
Job information is to be displayed for jobs waiting for execution and/or conversion.

Q=CNV
The job information is to be displayed for jobs awaiting conversion.

Q=STC
STC specifies that the display is for system tasks being prepared for execution or awaiting conversion.

Q=TSU
TSU specifies that the display is for time-sharing user waiting for execution or awaiting conversion.

Q=HOLD
Job information is to be displayed for jobs awaiting execution or conversion in hold status or dependent job control hold status.

Q=ACTIVE
Job information is to be displayed for jobs that are executing.

Q=READY
Job information is to be displayed for jobs awaiting execution that are not in hold status.

CLASS=class1-class2
Job information is to be displayed for jobs that have specified the class or jobs in the class range (low to high).

AFTER=jobname
Job information is to be displayed for jobs that have requested to execute after the specified jobname.

BEFORE=jobname
Job information is to be displayed for jobs that have requested to execute before the specified jobname.

WITH=jobname
Job information is to be displayed for jobs that have requested to execute in the same system with the specified jobname.

RES=resource
Job information is to be displayed for jobs that have requested to execute in a system with the specified JES2 abstract resource attached.

V=volser
Job information is to be displayed for jobs that have spool space on the specified spool volume.

1

L=a or cc or cca or name or name-a
The area (a), console identifier (cc), area and console identifier (cca), symbolic console name (name), or symbolic console name and output area ID (name-a) of the active MCS console at which the requested information is to be displayed.

NOTE: The first two operands of the $L N command are positional in nature; if entered, they must be in the indicated order.

1

$LQ (List Job Queue Information By Count)

```
#~~?~~~
```

```
|   |                                |   DJCOWN |           |
|   |                                |   DJCHOLD|           |
|   | #    !      #                !|   XEQ    |           |
|   | |,ALL|#    !|        #      !||   CNV    |           |
|$L|Q|,ANY||,IND||,R=dest1|-dest2|||,Q=STC    |           |
|   | |,sid|%    ¢|        %      ¢||   TSU    |           |
|   | |,IND|      %                ¢|   HOLD   |           |
|   | %    ¢                         |   ACTIVE |           |
|   |                                |   READY  |           |
|   | #                  !          %          ¢           |
|   | |         #       !|#              !#             !  |
|   | |,C=class1|-class2|||,AFTER=jobname||,WITH=jobname|  |
|   | |         %       ¢|%              ¢%             ¢  |
|   | %                  ¢                                  |
|   |                                                       |
|   | #               !#          !#             !          |
|   | |,BEFORE=jobname||,CNTL=name||,RES=resource|          |
|   | %               ¢%          ¢%             ¢          |
|   |                                                       |
|   |            #        !                                 |
|   |            |  a     |                                 |
|   | #         !|  cc    |                                 |
|   | |,V=volser||L=cca   |                                 |
|   | %         ¢|  name  |                                 |
|   |            |  name-a|                                 |
|   |            %        ¢                                 |
|   |                                                       |
%~~_~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~¢
```

Q
    JES2 is to display the number of jobs on the specified queue.

sid
    JES2 is to display the job information for all jobs whose system affinities include the specified 4-character system identifier

ANY
    JES2 is to display the above job information for all jobs with the system affinity of ANY

ALL
    JES2 is to display the above job information for all jobs regardless of system infinity.

IND

JES2 is to display the above job information for all jobs whose system affinity is for systems operating in independent mode.

R=dest1-dest2
JES2 is to display the job information for all jobs having a default print/punch routing or range of routing (low to high) of the specified destination(s).

1

Q=DJCOWN
Job information is to be displayed for jobs that are holding out other jobs due to dependent job control conflicts.

Q=DJCHOLD
Job information is to be displayed for jobs awaiting execution or conversion in dependent job control hold status.

Q=XEQ
Job information is to be displayed for jobs waiting for execution and/or conversion.

Q=CNV
The job information is to be displayed for jobs awaiting conversion.

Q=STC
STC specifies that the display is for system tasks being prepared for execution or awaiting conversion.

Q=TSU
TSU specifies that the display is for time-sharing user waiting for execution or awaiting conversion.

Q=HOLD
Job information is to be displayed for jobs awaiting execution or conversion in hold status or dependent job control hold status.

Q=ACTIVE
Job information is to be displayed for jobs that are executing.

Q=READY
Job information is to be displayed for jobs awaiting execution that are not in hold status.

1

CLASS=class1-class2
Job information is to be displayed for jobs that have specified the class or jobs in the class range (low to high).

AFTER=jobname
Job information is to be displayed for jobs that have requested to execute after the specified jobname.

BEFORE=jobname
Job information is to be displayed for jobs that have requested to execute before the specified jobname.

WITH=jobname
Job information is to be displayed for jobs that have requested to execute in the same system with the specified jobname.

RES=resource
Job information is to be displayed for jobs that have requested to execute in a system with the specified JES2 abstract resource attached.

V=volser
Job information is to be displayed for jobs that have spool space on the specified spool volume.

1

L=a or cc or cca or name or name-a

The area (a), console identifier (cc), area and console identifier (cca), symbolic console name (name), or symbolic console name and output area ID (name-a) of the active MCS console at which the requested information is to be displayed.

NOTE: The first two operands of the $L N command are positional in nature; if entered, they must be in the indicated order.

1

$QA (Attach An Abstract Resource To A MAS Member)

```
#~~?~~~
```

L=a or cc or cca or name or name-a

The area (a), console identifier (cc), area and console identifier (cca), symbolic console name (name), or symbolic console name and output area ID (name-a) of the active MCS console at which the requested information is to be displayed.

1

$QD (Delete An Abstract Resource From A MAS Member)

```
#~~?~~~
```

L=a or cc or cca or name or name-a
The area (a), console identifier (cc), area and console identifier (cca), symbolic console name (name), or symbolic console name and output area ID (name-a) of the active MCS console at which the requested information is to be displayed.

1

$Q'
$QJ
$QT (Alter Job Abstract Resource And Dependent Job Control Hold)
$QS

```
#~~?~~~
```

L=a or cc or cca or name or name-a

The area (a), console identifier (cc), area and console identifier (cca), symbolic console name (name), or symbolic console name and output area ID (name-a) of the active MCS console at which the requested information is to be displayed.

1

```
@@@
```

The value, jobname, is any one to eight byte valid JES2 job name.

Only one /*AFTER card is supported per job. If more that one /*AFTER card is present in a job stream, only the last one has any meaning.

The use of a /*AFTER card reduces by one the maximum allowable number of /*CNTL cards available for use by a given job.

1

The /*BEFORE statement

```
#~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~!
|                                                                          |
|  /*BEFORE jobname                                                        |
|                                                                          |
%~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~¢
```

Use the /*BEFORE statement to insure that a given job executes before another job that is currently in the spool complex awaiting execution.

The value, jobname, is any one to eight byte valid JES2 job name.

Only one /*BEFORE card is supported per job. If more that one /*BEFORE card is present in a job stream, only the last one has any meaning.

The use of a /*BEFORE card reduces by one the maximum allowable number of /*CNTL cards available for use by a given job.

1

The /*WITH statement

```
#~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~!
|                                                                       |
|  /*WITH jobname                                                       |
|                                                                       |
%~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~¢
```

Use the /*WITH statement to insure that a given job executes in the same complex member as the specified jobname. If the named job is not currently active when the job using the /*WITH card enters the job queue, the job with the /*WITH card will wait for the named job to become active.

The value, jobname, is any one to eight byte valid JES2 job name.

Only one /*WITH card is supported per job. If more that one /*WITH card is present in a job stream, only the last one has any meaning.

The use of a /*WITH card reduces by one the maximum allowable number of /*CNTL cards available for use by a given job.

1

The /*CNTL statement

```
#~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~!
|                                                                       |
|                #    !                                                 |
|  /*CNTL anyname|,EXC|                                                 |
|                |,SHR|                                                 |
|                %    ¢                                                 |
|                                                                       |
%~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~¢
```

Use the /*CNTL statement to declare a user defined abstract resource name that will be used by the given job as well as the disposition of the named resource.

The value, anyname, is any one to eight byte name defined by the user to represent an abstract resource.

Up to six /*CNTL cards are supported per job stream; however, the use of /*AFTER /*BEFORE and /*WITH cards reduces this number.

EXC denotes that the job requests exclusive control over the named abstract resource. A job specifying this option will not begin execution if any other job currently executing in the MAS spool complex has requested the same abstract resource name either shared (SHR) or exclusively (EXC).

SHR denotes that the job requests shared control over the named abstract resource. A job specifying this option will not begin execution if any other job currently executing in the MAS spool complex has requested the same abstract resource name exclusively (EXC). However, multiple jobs are permitted to execute if they all request shared control over the same abstract resource name.

If neither EXC nor SHR are specified, the requested control over the named abstract resource is assumed to be shared (SHR).

1

The /*ROUTE statement

```
#~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~!
|                                                                           |
|  /*ROUTE XEQ resource                                                     |
|                                                                           |
%~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~¢
```

Use the /*ROUTE statement to insure that a given job executes in a MAS member that contains the named JES2 abstract resource.

The value, resource, is any one of the JES2 systems programmer defined abstract resource names. Use the TSO HELP RESOURCE command to determine all of the available resource names.

As many /*ROUTE cards as necessary may be present in the job stream.

The /*ROUTE cards may be in any order in relation to all other JCL or JECL cards in the job stream.

The value, HERE, may be used in place of a resource name. It denotes that the job must execute on the MAS member upon which the job was entered.

1

```
@@@
```

```
$HASP921 F=ffff R= rrrr PRMODE=pppp W=wwww B=b S=s
$HASP921   Q: q=999 q=999 q=999 q=999 q=999 q=999 q=999
```

Issued by: MBSHRSPL

Explanation: The operator requested a display of the JOT with a $LF command.

System Action: None.

Operator Response: None.

```
$HASP928 *device* status F=ffffffff Q=qqqqqqqq   FSS
```

Issued by: MBSHRSPL

Explanation: The operator requested a display of local printer or punch devices with the $DP command. If the device is in FSS mode, a code of "FSS" will appear at the end of the corresponding display line.

System Action: None.

Operator Response: None.

1

```
$HASP935 JOBNAME SPECIFIED ON /*BEFORE STATEMENT IS INVALID.
         CORRECT - RESUBMIT
```

Issued by: MBSHRSPL

Explanation: An invalid jobname has been detected on a /*BEFORE card.

System Action: The job is flushed with a JCL error.

Programmer Response: Correct the error then resubmit the job.

```
$HASP936 JOBNAME SPECIFIED ON /*AFTER STATEMENT IS INVALID.
         CORRECT - RESUBMIT
```

Issued by: MBSHRSPL

Explanation: An invalid jobname has been detected on a /*AFTER card.

System Action: The job is flushed with a JCL error.

Programmer Response: Correct the error then resubmit the job.

$HASP937 PARM SPECIFIED ON /*CNTL STATEMENT IS INVALID.
CORRECT - RESUBMIT

Issued by: MBSHRSPL

Explanation: An invalid control name has has been detected on a /*CNTL card.

System Action: The job is flushed with a JCL error.

Programmer Response: Correct the error then resubmit the job. The control name must be one to eight characters long.

$HASP938 MAXIMUM COMBINATION OF /*BEFORE, /*AFTER, /*WITH,
AND /*CNTL IS 6

Issued by: MBSHRSPL

Explanation: The maximum allowable number of these types of JECL statements per job is 6.

System Action: The job is flushed with a JCL error.

Programmer Response: Correct the error then resubmit the job. Note that the use of a /*AFTER card reduces the maximum number of /*CNTL cards allowed by one. The same holds true for the /*BEFORE card.

$HASP939 JOBNAME SPECIFIED ON /*WITH STATEMENT IS INVALID.
CORRECT - RESUBMIT

Issued by: MBSHRSPL

Explanation: An invalid jobname has been detected on a /*WITH card.

System Action: The job is flushed with a JCL error.

Programmer Response: Correct the error then resubmit the job.
1

$HASP940 * -- AFTER JOBNAME = jjjjjjjj   --

Issued by: MBSHRSPL

Explanation: The job currently on a reader has specified a
/*AFTER card for job, jjjjjjjj.

System Action: Processing continues.

Operator Response: None.

$HASP941 * -- WITH   JOBNAME = jjjjjjjj   --

Issued by: MBSHRSPL

Explanation: The job currently on a reader has specified a
/*WITH card for job, jjjjjjjj.

System Action: Processing continues.

Operator Response: None.

$HASP942 * -- RESOURCE ROUTING = rrrrrrrr --

Issued by: MBSHRSPL

Explanation: The job currently on a reader has requested the JES2
abstract resource routing, rrrrrrrr.

System Action: Processing continues.

Operator Response: None.

$HASP943 * -- CONTROL INFO = cccccccccccc --

Issued by: MBSHRSPL

Explanation: The job currently on a reader has specified the user
defined control information, cccccccccccc.

System Action: Processing continues.

Operator Response: None.

1

$HASP944 * -- BEFORE JOBNAME = jjjjjjjj --

Issued by: MBSHRSPL

Explanation: The job currently on a reader has specified a
/*BEFORE card for job, jjjjjjjj.

System Action: Processing continues.

Operator Response: None.

$HASP946* RESOURCE, rrrrrrrr, IS NO LONGER VALID; PLEASE REMOVE

Issued by: MBSHRSPL

Explanation: The named resource, rrrrrrrr, is obsolete. Remove it
from the job.

System Action: The JECL card is ignored.

Programmer Response: Remove the RESOURCE card on the next submission
of the job.

$HASP950 nnnnn AWAITING EXECUTION
$HASP950 c= nnnnn c=nnnnnn c= nnnnn ...
$HASP950 nnnnn AWAITING OUTPUT
$HASP950 nnnnn AWAITING HARDCOPY
$HASP950 nnnnn AWAITING TRANSMISSION
$HASP950 nodename = nnnnn nodename = nnnnn ...
$HASP950 TOTAL JOBS count-BATCH count-STC count-TSU count-APPC

Issued by: MBSHRSPL

Explanation: These messages are display as the result of an operator
entering the $DB command. The count values are JQE
counts.

System Action: None.

Operator Response: None.

$HASP965 sid = resource resource resource ...

Issued by: MBSHRSPL

Explanation: This response is the result of an operator $DR command. The indicated resource name(s) are attached to the named system id.

System Action: None.

Operator Response: None.

1

$HASP966 sid = NO RESOURCES ATTACHED

Issued by: MBSHRSPL

Explanation: This response is the result of an operator $DR or $QD command. There are no resources attahced to the indicated system id.

System Action: None.

Operator Response: None.

$HASP968 nnnnn JOB/RESOURCE CONFLICT(S) EXIST

Issued by: MBSHRSPL

Explanation: This response is the result of an operator $DC command. The list of jobs queued for execution or conversion that cannot run due to a lack of resources attached to the systems in the target spool complex is complete.

System Action: None.

Operator Response: If appropriate, attached the required resource names to a system in the spool complex with the $QA command.

```
$HASP969 resource ADDED   IN sid
                  DELETED
```

Issued by: MBSHRSPL

Explanation: This response is the result of an operator $QA or $QD command. The name resource has been added to or removed from the named system id.

System Action: None.

Operator Response: None.

```
$HASP970 resource IN USE BY nnnnn JOB(S) ON sid
```

Issued by: MBSHRSPL

Explanation: This response is the result of an operator $QD command for a resource name that is currently being used by the specified count of jobs on the named system id.

System Action: The resource is not removed from the named system id.

Operator Response: Use the $LN,sid,RES=resource command to list the jobs active with the named resource. Either wait for all jobs to end that are using the resource or issue the $QD command with the FORCE operand to immediately remove the named resource.