```
     1                                           .TITLE   TSGEN -- System Generation Parameters
     2                                           .IDENT   /V6.40/
     3 000000                                    .CSECT   TSGEN
     4                                           .ENABL   LC
     5                                           .DSABL   GBL
     6                                           .NLIST   CND
     7                         ;-----------------------------------------------------------------------
     8                         ;   TSGEN version 6.40
     9                         ;
    10                         ;   This module contains the the definitions of system parameters
    11                         ;   that define the characteristics of the TSX-Plus system
    12                         ;   being generated.
    13                         ;
    14                         ;   Written by Phil Sherrod.
    15                         ;
    16                         ;   Copyright (c) 1978,1979,1980,1981,1982,1983,1984,1985,1986,1987,1988,1989.
    17                         ;   S&H Computer Systems, Inc.
    18                         ;   1027 17th. Avenue South
    19                         ;   Nashville, Tennessee  U.S.A.
    20                         ;   (615) 327-3670
    21                         ;
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    33                         ;   S&H will seek legal redress for any unauthorized use of this product.
    34                         ;
    35                         ;
    36                         ;   Set FULLST to 1 for a full assembly listing.
    37                         ;   Set FULLST to 0 for a normal short listing.
    38                         ;
    39           000000        FULLST  =        0
    40                         ;
```

```
   1                                          ;=================================================================
   2                                          ;  The TSX-Plus system manager alters values in the following
   3                                          ;  section to customize the system for a particular configuration.
   4                                          ;
   5                                          ;  System parameters:
   6                                          ;
   7                                          ;  Swap file device-file specification (do not place on VM).
   8                                          ;
   9 003140  075250  100020  075150  SWDBLK:  .RAD50   /SY TSXSWPTSX/
     003146  100020
  10                                          ;
  11                                          ;  Spool file device-file specification (do not place on VM).
  12                                          ;
  13 003150  075250  100020  074514  SPLBLK:  .RAD50   /SY TSXSPLTSX/
     003156  100020
  14                                          ;
  15                                          ;  PLAS region swap file specification (do not place on VM).
  16                                          ;
  17 003160  075250  100020  071576  RSFBLK:  .RAD50   /SY TSXRSFTSX/
     003166  100020
  18                                          ;
  19                                          ;  File spec for file used to hold user defined command definitions (UCL)
  20                                          ;
  21 003170  075250  100020  101704  UCLDAT:  .RAD50   /SY TSXUCLTSX/
     003176  100020
  22                                          ;
  23                                          ;  File spec for temp file used while processing IND command files
  24                                          ;
  25 003200  075250  100020  035164  INDFIL:  .RAD50   /SY TSXINDTSX/
     003206  100020
  26                                          ;
  27                                          ;  Maximum amount of memory that can be used by any job (# K bytes).
  28                                          ;  This value must not exceed 64. (Kb)
  29                                          ;
  30          000100                  HIMEM  =       64.      ;Max memory that any job may use
  31                                          ;
  32                                          ;  Default memory size for jobs that will be in effect when the job
  33                                          ;  logs on. (Specify in # K bytes).
  34                                          ;
  35          000070                  DFLMEM =       56.      ;Default memory limit for jobs
  36                                          ;
  37                                          ;  SWAPFL controls whether TSX-Plus is allowed to swap jobs to disk if
  38                                          ;  insufficient memory is available to hold all active users.
  39                                          ;  The normal case (SWAPFL=1) allows TSX-Plus to do job swapping.
  40                                          ;  SWAPFL can be set to 0 (zero) in special situations such as when a
  41                                          ;  small number of lines are being supported on a floppy disk based system
  42                                          ;  that does not have room for a swap file.
  43                                          ;  If SWAPFL is set to zero the following actions occur:
  44                                          ;  1. No disk swap file is created.
  45                                          ;  2. A line will not be allowed to log on if there is insufficient
  46                                          ;     free memory space to support it.
  47                                          ;  3. Each job is allocated a memory size equal to DFLMEM (default job
  48                                          ;     memory size).
  49                                          ;  4. The MEMORY command cannot be used to change the job size.
  50                                          ;
  51          000001                  SWAPFL =       1        ;1==>Allow job swapping; 0==>Do not swap.
  52                                          ;
```

```
 53                                        ;  If the system is generated with job swapping enabled (SWAPFL=1), then
 54                                        ;  the SWPSLT parameter controls the number of job slots allocated
 55                                        ;  in the swap file.  SWPSLT should be in the range 0 up to the
 56                                        ;  total number of jobs. If SWPSLT is set to zero, TSX-Plus will
 57                                        ;  automatically allocate one job slot in the swap file for each job.
 58                                        ;  SWPSLT may be set to a value less than the total number of jobs if
 59                                        ;  a small amount of job swapping is anticipated; however, a system
 60                                        ;  crash will occur if the system needs to swap a job out of memory
 61                                        ;  and no free slot is available in the swap file.
 62                                        ;  The SWPSLT parameter has no effect on non-swapping systems (SWAPFL=0).
 63                                        ;  The recommended setting for this parameter is 0 (zero).
 64                                        ;
 65           000000                       SWPSLT  =        0.       ;Number of job slots in swap file
 66                                        ;
 67                                        ;  Number of 512-byte blocks to allocate for swap file that is used
 68                                        ;  for extended memory PLAS (Program's Logical Address Space) regions
 69                                        ;  that are used by jobs that have virtual overlays or virtual arrays.
 70                                        ;  Note that this is the total space in the PLAS swap file for all
 71                                        ;  extended memory regions in use at any time by all jobs.
 72                                        ;  Note: In a non-swapping system (SWAPFL=0), SEGBLK must be non-zero
 73                                        ;  if PLAS support is wanted, but its value does not matter.
 74                                        ;
 75           000000                       SEGBLK  =        0        ;# blocks for PLAS swap file
 76                                        ;
 77                                        ;  Number of shared global PLAS regions that can be created by all jobs.
 78                                        ;
 79           000014                       NGR     =        12.      ;Number of global PLAS regions
 80                                        ;
 81                                        ;  BUSTYP defines the machine bus structure for TSX-Plus.  Their are two
 82                                        ;  possible machine bus structures supported by TSX-Plus - the QBUS (LSI)
 83                                        ;  and the UNIBUS.  Select one of these parameters below to specify the
 84                                        ;  bus support desired.  Use the following information for choosing the
 85                                        ;  correct bus structure.
 86                                        ;
 87                                        ;  QBUS   - 11/23, 11/23-Plus, 11/73, and Professional.
 88                                        ;  UNIBUS - 11/24, 11/34a, 11/44, and 11/60.
 89                                        ;
 90           000001                       BUSTYP  =        QBUS     ;Specify machine bus structure (UNIBUS/QBUS)
 91                                        ;
 92                                        ;  Memory upper limit size specification expressed in number of k-bytes.
 93                                        ;  This parameter controls the maximum memory available for TSX-Plus
 94                                        ;  system use.  Memory above this upper limit will not be used by the
 95                                        ;  operating system.
 96                                        ;  If the MEMSIZ parameter is set to 0 (zero), TSX-Plus will use all
 97                                        ;  available memory on the machine.  To disable the use of extended
 98                                        ;  memory, set MEMSIZ to 248 or less.
 99                                        ;
100           000370                       MEMSIZ  =        248.     ;Upper memory limit
101                                        ;
102                                        ;  The INIABT parameter controls the action taken by TSX-Plus when
103                                        ;  certain errors are detected during system initialization.
104                                        ;  If INIABT=0, TSX-Plus ignores the error and continues running.
105                                        ;  If INIABT=1, TSX-Plus aborts initialization and prints an error message.
106                                        ;
107                                        ;  ****************************************************
108                                        ;  **  The normal and recommended setting for      **
109                                        ;  **  this parameter is INIABT=1. It is cleared    **
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110                            ;  **  for default installation.                    **
111                            ;  ******************************************************
112                            ;
113                            ;  The following initialization errors are controlled by the INIABT flag:
114                            ;    1. A device that was specified in TSGEN does not have a
115                            ;       TSX-Plus handler on the system disk.
116                            ;    2. A time sharing line that was generated into TSX-Plus is not
117                            ;       installed on the machine.
118                            ;    3. A shared run-time system file could not be found during startup.
119                            ;
120        000000             INIABT  =       0       ;0==>Continue on error, 1==>Abort on error
121                            ;
122                            ;  The UXIFLG parameter controls the action taken by TSX-Plus when
123                            ;  an interrupt occurs at an unexpected location. Unexpected interrupts
124                            ;  may occur if the interrupt vector address specified in a device
125                            ;  handler does not match the actual interrupt address for which the
126                            ;  device has been set. Unexpected interrupts can also occur if real-time
127                            ;  interrupts occur and no connection has been established between the
128                            ;  real-time interrupt and a TSX-Plus real-time program.
129                            ;
130                            ;  If UXIFLG is set to 1 (one) then unexpected interrupts cause a system
131                            ;  crash with the error message:
132                            ;      ?TSX-F-UEI-Interrupt occurred at unexpected location
133                            ;      Argument value = xxxx
134                            ;  Where "xxxx" is the address at which the interrupt occurred.
135                            ;
136                            ;  If UXIFLG is set to 0 (zero) then unexpected interrupts are ignored
137                            ;  by the system and do not cause a crash or print an error message.
138                            ;
139                            ;  The recommended setting for UXIFLG is 1 (one).
140                            ;
141        000001             UXIFLG  =       1       ;Unexpected interrupt control flag
142                            ;
143                            ;  Parameters related to the TSX-Plus system crash dump facility.
144                            ;  This optional facility will print some useful internal system
145                            ;  data if a system crash occurs.  The dump information can be printed
146                            ;  on any terminal connected to a DL-11 type line (including DLV-11)
147                            ;  or on a parallel printer port.
148                            ;  It is recommended that this facility not be included in the system
149                            ;  unless you are experiencing system crashes.
150                            ;
151                            ;  Set SYSDMP to 1 if you want the crash dump facility, 0 if not.
152                            ;
153        000000             SYSDMP  =       0       ;1==>Enable crash dump, 0==>No crash dump
154                            ;
155                            ;  Address of transmitter control register for device to which crash
156                            ;  dump is to be written.  This must be a DL-11 type device controller
157                            ;  or a parallel printer controller.  It is valid to use either the
158                            ;  transmitter or receiver CSR.
159                            ;  Specify 177560 or 177564 to dump on the console terminal.
160                            ;  Specify 177510 or 177514 to dump to line printer connected to standard
161                            ;  parallel port.
162                            ;
163        177564             DMPTCR  =       177564  ;Transmitter control reg for dump device
164                            ;
165                            ;  Set DMPKTP to 1 if you want a system crash to occur any time a trap
166                            ;  occurs within the system. Set it to 0 (zero) if you want recoverable
```

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167                                          ;  traps within the system to abort the job but continue execution of the
168                                          ;  system.
169                                          ;
170          000000                          DMPKTP  =         0          ;1==>Always crash on traps within system
171                                          ;
172                                          ;  The  IOABT parameter controls the action taken by TSX-Plus when
173                                          ;  a job terminates execution.  If IOABT=0, TSX-Plus will wait for
174                                          ;  all outstanding I/O pending for the job to complete before the job
175                                          ;  is actually terminated.  If IOABT=1, TSX-Plus will call the handler
176                                          ;  abort entry point for all outstanding I/O pending for the job.
177                                          ;  Note, the "SET IO [NO] ABORT" keyboard command may be used to
178                                          ;  change the value of this parameter.
179                                          ;
180          000001                          IOABT   =         1          ;0==>I/O rundown, 1==>I/O abort
181                                          ;
182                                          ;  U$CL is a flag that controls whether the User Command Linkage is to
183                                          ;  be used to allow users to define their own commands.
184                                          ;  If U$CL is non-zero the UCL facility is enabled and users may define
185                                          ;  their own system commands. If U$CL is zero, user defined commands
186                                          ;  will not be supported by the system. Note: if the UCL facility is
187                                          ;  enabled, the TSXUCL.SAV file must be placed on the system disk.
188                                          ;
189          000001                          U$CL    =         1          ;0==>No UCL program, 1==>UCL program
190                                          ;
191                                          ;  Number of user-defined commands that can be stored by TSXUCL
192                                          ;  for each job. (The number of blocks required in the SY:TSXUCL.DAT file
193                                          ;  is approximately equal to the number of commands per job times the
194                                          ;  total number of time-sharing lines divided by 5).
195                                          ;
196          000005                          UCLMNC  =         5.         ;Maximum user-defined commands per job
197                                          ;
198                                          ;  The UCLORD parameter selects the default call order for checking
199                                          ;  to see if a command is a user-defined command.
200                                          ;  FIRST  ==> Check for user-defined commands before system commands.
201                                          ;  MIDDLE ==> Check after system commands but before command files.
202                                          ;  LAST   ==> Check after system commands and command files.
203                                          ;
204                                          ;  Note that the SET UCL FIRST/LAST keyboard command can be used to
205                                          ;  alter this order on a line-by-line basis.
206                                          ;
207          000002                          UCLORD  =         MIDDLE  ;Select FIRST / MIDDLE / LAST
208                                          ;
209                                          ;  The LDSYS flag controls whether the standard system support for
210                                          ;  logical disks (LD) is to be provided.
211                                          ;  If LDSYS is set to 1, system support for logical disks is included.
212                                          ;  If LDSYS is set to 0, system support for logical disks is excluded.
213                                          ;
214          000001                          LDSYS   =         1          ;1==>Include LD support, 0==>Exclude LD.
215                                          ;
216                                          ;  The SLEDIT flag controls whether the Single Line Editor (SL) facility
217                                          ;  is to be made available to the system.
218                                          ;  If SLEDIT is set to 1, Single Line Editor support is included.
219                                          ;  If SLEDIT is set to 0, Single Line Editor support is omitted.
220                                          ;  Single Line Editor support adds approximately 2Kb to the size of the
221                                          ;  mapped portion of the system.
222                                          ;
223          000001                          SLEDIT  =         1          ;1==>Include SL support, 0==>Exclude SL
```

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224                                     ;
225                                     ;  The KEYMAX parameter specifies the number of user-defined keys supported
226                                     ;  by the single line editor.  The DEFINE/KEY command is used to associate
227                                     ;  a user-specified text string with a function key.  The maximum number
228                                     ;  of such key definitions that may be in effect at one time for each user
229                                     ;  is controlled by the KEYMAX parameter.
230                                     ;  The maximum supported value for KEYMAX is 60.
231                                     ;
232         000007                      KEYMAX  =       7.        ;Maximum number of user-defined keys for SL
233                                     ;
234                                     ;  The MAXWIN parameter specifies the maximum number of terminal display
235                                     ;  windows that may be in use by all jobs on the system.
236                                     ;  If MAXWIN is set to 0 (zero), the display window feature is not included
237                                     ;  in the system.  Display windows are useful if you frequently utilize
238                                     ;  subprocesses in that they preserve the screen context when you switch
239                                     ;  between processes.
240                                     ;
241         000012                      MAXWIN  =       10.       ;Total number of display windows for all jobs
242                                     ;
243                                     ;  Set DBGFLG to 1 to cause the TSX-Plus program debugging facility
244                                     ;  to be included with the system.
245                                     ;  Set DBGFLG to 0 if the debugging facility is not wanted.
246                                     ;
247         000000                      DBGFLG  =       0         ;1==>Include debugger; 0==>Exclude debugger
248                                     ;
249                                     ;  Number of slots in INSTALL table to reserve for user programs.
250                                     ;
251         000004                      NUIP    =       4.        ;Number of INSTALL slots for user programs
252                                     ;
253                                     ;  The following time-slice values are used to schedule jobs for execution.
254                                     ;  Each time value must be specified in 0.1 second units.
255                                     ;
256                                     ;  QUAN0 -- Time slice for round-robin scheduling of high-priority
257                                     ;           real-time jobs. That is, jobs with execution priorities
258                                     ;           greater than or equal to PRIHI.
259                                     ;
260         000002                      QUAN0   =       2.        ;Time slice for real-time jobs
261                                     ;
262                                     ;  QUAN1 -- Time that jobs will remain in a high-priority state after
263                                     ;           they receive an activation character from the terminal.
264                                     ;           A job is classified as "interactive" from the time when an
265                                     ;           activation character is received until the job consumes
266                                     ;           QUAN1 units of time, then the job is classified as "compute
267                                     ;           bound".
268                                     ;
269         000024                      QUAN1   =       20.       ;High-priority time for interactive jobs
270                                     ;
271                                     ;  QUAN1A -- Time that jobs will remain in a high-priority state after
272                                     ;           they are activated because of I/O completion or they are
273                                     ;           restarted following other wait states.
274                                     ;
275         000002                      QUAN1A  =       2.        ;High-priority time for wait-reactivation
276                                     ;
277                                     ;  QUAN1B -- Time slice used to switch between "interactive" jobs.
278                                     ;
279         000002                      QUAN1B  =       2.        ;Time slice for "interactive" jobs.
280                                     ;
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281                                    ;  QUAN1C -- Time job will be allowed to stay in highest execution state
282                                    ;           after receipt of a character from the terminal.
283                                    ;
284        000001                      QUAN1C  =      1.      ;Time at highest execution state
285                                    ;
286                                    ;  QUAN2 -- Time that normal priority CPU-bound jobs are allowed to run
287                                    ;           if there are no high-priority jobs that want to run.
288                                    ;           This time-slice controls round-robin scheduling of CPU-bound jobs
289                                    ;           with execution priority values in the range (PRILOW+1) to
290                                    ;           (PRIHI-1).
291                                    ;
292        000012                      QUAN2   =      10.     ;Normal-priority CPU-bound job time-slice
293                                    ;
294                                    ;  QUAN3  -- Time slice for round-robin scheduling of very low priority
295                                    ;            jobs. That is, jobs with priorities less than or equal
296                                    ;            to PRILOW.
297                                    ;
298        000024                      QUAN3   =      20.     ;Time slice for very low priority jobs
299                                    ;
300                                    ;  INTIUC -- Number of consecutive times that a job will be allowed to
301                                    ;            perform I/O operations following input of an activation
302                                    ;            character from the terminal before the job is classified
303                                    ;            as non-interactive.
304                                    ;
305        000036                      INTIUC  =      30.     ;Number of I/O ops. while "interactive".
306                                    ;
307                                    ;  HIPRCT -- Number of consecutive times that a job will be given a
308                                    ;            high-priority execution boost following wait states such
309                                    ;            as I/O wait before the job will be scheduled as a normal
310                                    ;            CPU-bound job.
311                                    ;
312        000050                      HIPRCT  =      40.     ;Number of consecutive high-priority hits
313                                    ;
314                                    ;  Time that job will be held in memory after being swapped in from disk.
315                                    ;  A job is not eligible to be swapped out of memory until CORTIM has
316                                    ;  elapsed since it was swapped into memory.  However, the job becomes
317                                    ;  immediately eligible to be swapped if it goes into a state where it is
318                                    ;  waiting on any resource other than non-terminal I/O.
319                                    ;  Specify in 0.1 second units.
320                                    ;
321        000002                      CORTIM  =      2.      ;Guaranteed memory-residency time
322                                    ;
323                                    ;  Job priority classes:  There are three groups of job priorities,
324                                    ;  the lowest priority group ranges from a job priority 0 up to and
325                                    ;  including the priority equal to the PRILOW parameter. Jobs with
326                                    ;  priorities in this range execute with lower priority than all normal
327                                    ;  time-sharing jobs.
328                                    ;  The second range of priorities is from (PRILOW+1) up to (PRIHI-1).
329                                    ;  Jobs in this range are treated as normal time-sharing jobs.
330                                    ;  The third range of priorities is from PRIHI up to 127. These priorities
331                                    ;  are for real-time jobs which will take unconditional precedence over
332                                    ;  all other jobs.
333                                    ;  All priority values must be in the range 0 to 127.
334                                    ;
335        000023                      PRILOW  =      19.     ;Highest "low priority" value
336        000120                      PRIHI   =      80.     ;Lowest "high priority" value
337                                    ;
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338                                         ;   PRIDEF -- Default job priority.
339                                         ;
340          000062                         PRIDEF  =       50.       ;Default job priority
341                                         ;
342                                         ;   PRIVIR -- Amount by which a job's execution priority is reduced
343                                         ;             when the job is disconnected from the terminal by switching
344                                         ;             to a subprocess. Note: this only applies to jobs with
345                                         ;             base priorities in the range (PRILOW+1) to (PRIHI-1).
346                                         ;
347          000012                         PRIVIR  =       10.       ;Disconnect job priority reduction
348                                         ;
349                                         ;   Maximum number of subprocesses per primary process.
350                                         ;
351          000002                         MAXSEC  =       2.        ;Max subprocesses per user
352                                         ;
353                                         ;   Maximum file size (# blocks) that will be returned in response to
354                                         ;   a .ENTER request that specifies a file size of 0 blocks.
355                                         ;
356          001750                         MAXFIL  =       1000.     ;Max # blocks for default allocation
357                                         ;
358                                         ;   Number of 512 byte blocks to hold in memory in a generalized data cache.
359                                         ;   If the CACHE parameter is set to 0 (zero), data caching is not performed.
360                                         ;   Note: The data caching facility adds approximately 2000 bytes to the
361                                         ;   size of the unmapped portion of the system and 528*CACHE bytes to
362                                         ;   the mapped portion of the system.
363                                         ;   The maximum number of blocks that may be held in the cache is 4095. (2MB)
364                                         ;
365          000000                         CACHE   =       0.        ;Number of blocks in data cache
366                                         ;
367                                         ;   The following parameters relate to the cache of file directory entries
368                                         ;   maintained by TSX-Plus.  This cache is used to reduce the number of disk
369                                         ;   accesses required to do lookups on frequently accessed files.
370                                         ;   The system disk (SY:) is automatically cached.
371                                         ;   Other devices are only cached if they are introduced to the system
372                                         ;   by use of the MOUNT command.
373                                         ;
374                                         ;   Maximum number of units that may be cached.
375                                         ;   This includes all logical disks (LD) and all physical disks for which
376                                         ;   directory caching is enabled by use of the MOUNT command.
377                                         ;   (Space required is 18 bytes per unit).
378                                         ;
379          000012                         MAXCSH  =       10.       ;Max # device units whose directories to cache
380                                         ;
381                                         ;   Maximum number of file entries to be held in directory cache.
382                                         ;   (Space required is 18 bytes per entry)
383                                         ;
384          000050                         NMFCSH  =       40.       ;Max # file entries to be cached
385                                         ;
386                                         ;   Maximum number of device units that can be allocated to jobs for exclusive
387                                         ;   use by use of the ALLOCATE command.
388                                         ;
389          000005                         MAXALC  =       5.        ;Max # units that can be allocated
390                                         ;
391                                         ;   Maximum number of simultaneous requests by jobs to monitor other jobs.
392                                         ;
393          000005                         MAXMON  =       5.        ;Max # job monitoring requests
394                                         ;
```

```
395                                    ;  The system password is a global password which must be entered
396                                    ;  when a line is initiated before the normal logon sequence begins.
397                                    ;  The use of a system password is optional and may be enabled on a
398                                    ;  line-by-line basis by specifying the $SYSPS flag with the
399                                    ;  FLAGS macro within the line definition blocks for the lines
400                                    ;  for which the password will be required.  If a system password is
401                                    ;  required for a line, an exclamation point prompt is printed as the
402                                    ;  first thing when the line is initiated.  The idea is to force the
403                                    ;  calling person to provide a password before printing the normal
404                                    ;  logon greeting which identifies the nature and identity of the site.
405                                    ;
406 003210                                     SYSPS    <TSX>  ;System password for all lines with $SYSPS
407                                    ;
408                                    ;  Amount of time a phone job is allowed to be active without
409                                    ;  establishing carrier after its ring has been answered (by raising
410                                    ;  DTR).  After this time interval the job is automatically logged off.
411                                    ;  Specify in 0.5 second units. This timer is inoperative if set to 0.
412                                    ;
413         000170                     TIMIN   =       120.     ;Sixty seconds for normal modem connection
414                                    ;
415                                    ;  Amount of time that carrier may be lost during a normal phone
416                                    ;  connection. If carrier is re-established within the time interval
417                                    ;  then the counter is reset. If carrier is continuously absent for
418                                    ;  this interval, then the job is automatically logged off.
419                                    ;  Specify in 0.5 second units. This timer is inoperative if set to 0.
420                                    ;
421         000012                     TIMOUT  =       10.      ;Five seconds of lost carrier
422                                    ;
423                                    ;  Amount of time that a phone job may be connected as an apparent local
424                                    ;  job (never generated the ring signal) without establishing carrier.
425                                    ;  After this time interval, the job is automatically logged off. (cf. PHONE)
426                                    ;  Specify in 0.5 second units. This timer is inoperative if set to 0.
427                                    ;
428         000001                     TIMLOC  =       1.       ;Normally disallow this case
429                                    ;
430                                    ;  Amount of time that a phone connection will be maintained after a job
431                                    ;  has logged off.  After this time the DTR signal will be dropped,
432                                    ;  causing the phone to be hung up.
433                                    ;  Specify in 0.5 second units. This timer is inoperative if set to 0.
434                                    ;
435         000004                     OFFTIM  =       4.       ;Allow two seconds to log back on
436                                    ;
437                                    ;  Amount of time a after a ring is answered (by raising DTR) that a
438                                    ;  phone connection will be maintained if carrier is not detected.  After
439                                    ;  this time the DTR signal will be dropped, causing the phone to be hung up.
440                                    ;  Specify in 0.5 second units. This timer is inoperative if set to 0.
441                                    ;
442         000170                     ONTIM   =       120.     ;Allow up to 1 min for modems to connect
443                                    ;
444                                    ;  Modem lines ($PHONE in the LINDEF FLAGS macro) are normally
445                                    ;  treated as phone lines if the DCD signal (carrier) is present
446                                    ;  when the lines are started and optionally treated as local lines
447                                    ;  if the signal is not present. The TIMLOC parameter determines how
448                                    ;  long a phone line may be active without establishing carrier.
449                                    ;  If you want a phone job which does not establish carrier to be
450                                    ;  treated as a local line, set PHONE to 0. If you want an active
451                                    ;  phone job which does not establish carrier within TIMLOC*0.5 sec
```

```
452                                        ;  to be killed, set PHONE to 1.
453                                        ;
454             000000                     PHONE    =        0.       ;$PHONE lines may be local if carrier absent
455                                        ;
456                                        ;  Define Lead-in character that tells TSX-Plus that a special
457                                        ;  terminal control sequence is coming from the program.
458                                        ;
459             000035                     TSLICH   =        035      ;Octal 35 = decimal 29.
460                                        ;
461                                        ;  Define the keyboard control character that will be used to
462                                        ;  switch to a subprocess.
463                                        ;  (Specify the octal value of the ASCII control character)
464                                        ;
465             000027                     VLSWCH   =        027      ;Octal 27 = control-W
466                                        ;
467                                        ;  Define keyboard control character used to cause the current screen
468                                        ;  window contents to be printed.
469                                        ;  (Specify the octal value of the ASCII control character)
470                                        ;
471             000002                     PWCH     =        002      ;Octal 02 = control-B
472                                        ;
473                                        ;  Define keyboard control character that is used to generate a line
474                                        ;  of status information on the terminal.  Note that the information
475                                        ;  is displayed like the SEND command and is not managed by the
476                                        ;  Process Windowing system -- it goes away on screen refresh.
477                                        ;
478             000024                     STATCH   =        024      ;Octal 24 = control-T
479                                        ;
480                                        ;  Define keyboard control character that is used to terminate
481                                        ;  a cross-connection between a time-sharing line and a CL line.
482                                        ;  (Specify the octal value of the ASCII control character)
483                                        ;
484             000034                     CCXTRM   =        034      ;Octal 34 = control-\ (control backslash)
485                                        ;
486                                        ;  Define keyboard control character that is used to signal
487                                        ;  special control functions for a time-sharing line cross-connected
488                                        ;  to a CL line.
489                                        ;  (Specify the octal value of the ASCII control character)
490                                        ;
491             000001                     CCXCTL   =        001      ;Octal 001 = control-A
492                                        ;
493                                        ;  Define the version number to be associated with the CL handler when
494                                        ;  being used with VTCOM.  If CLVRSN is defined as 0 then an appropraite
495                                        ;  value will be selected via an internal table. Zero is the suggested
496                                        ;  setting.
497                                        ;
498             000000                     CLVRSN   =        0.       ;CL version number
499                                        ;
500                                        ;  Define maximum number of user defined activation characters
501                                        ;  that each line may define during execution.
502                                        ;
503             000020                     MXSPAC   =        16.      ;Max # user defined activation chars per job
504                                        ;
505                                        ;  Define maximum number of characters that can be translated by
506                                        ;  the terminal handler.  This translation consists of replacing
507                                        ;  a received character by a substitution character on input and replacing
508                                        ;  the substitution character by the original character on output.
```

```
509                                      ;  This parameter must be non-zero to use the SET TT TRANSLATE=( ) command.
510                                      ;
511         000004                       MXTTCT  =        4.      ;Max # chars that terminal handler can translate
512                                      ;
513                                      ;  Select default system editor.
514                                      ;  The choices are
515                                      ;   EDIT
516                                      ;   TECO
517                                      ;   KED
518                                      ;   K52
519                                      ;
520         000003                       EDITOR  =        KED     ;Default system editor
521                                      ;
522                                      ;  Select system default implicit or explicit wildcards for CCL commands.
523                                      ;     If WILDFL = 0 then explicit wildcards are selected.
524                                      ;     If WILDFL = 1 then implicit wildcards are selected.
525                                      ;
526         000001                       WILDFL  =        1       ;1==>Implicit wildcard, 0==>Explicit wildcard
527                                      ;
528                                      ;--------------------------------------------------------------------
529                                      ;  The DEVDEF macro must be used to define the names and characteristics
530                                      ;  of all devices which are to be available to TSX-Plus users.
531                                      ;  The form of a device definition is:
532                                      ;
533                                      ;      DEVDEF   <device>[,option,...,option]
534                                      ;
535                                      ;  For each device to be available to the system an entry must be made
536                                      ;  using the DEVDEF macro. This macro requires at least one argument
537                                      ;  but may have several optional arguments as described below:
538                                      ;
539                                      ;  1.  The first parameter is the two character device name enclosed
540                                      ;      in angle brackets.
541                                      ;  2.  The optional parameters specify the device characteristics.
542                                      ;      There are nine allowable device attributes which may be
543                                      ;      specified in any order.   They are as follows:
544                                      ;
545                                      ;      DMA       Device performs Direct Memory Access (DMA).
546                                      ;      MAPIO     Perform I/O mapping (18-bit controllers on 22-bit QBUS).
547                                      ;      EVNBUF    Require even byte buffer address for I/O transfers.
548                                      ;      NOCACHE   Do not use generalized data cache for this device.
549                                      ;      NOMOUNT   Do not allow mounts (i.e., use directory cache) for
550                                      ;                this device.
551                                      ;      REQALC    Require device allocation before use.
552                                      ;      MAPH      Load the device handler outside the low memory 40K
553                                      ;                byte region and into a mapped handler region.
554                                      ;      NOMAPH    Do not load the handler into a mapped handler region
555                                      ;                instead load it into the low memory 40k byte region.
556                                      ;      HANBUF    Handler contains an internal I/O buffer.
557                                      ;
558                                      ;  For standard device drivers, it is important to choose MAPIO when
559                                      ;  18-bit controllers or handlers will be used on a 22-bit LSI system.
560                                      ;  It is not necessary to specify other device attributes for standard
561                                      ;  TSX-Plus supplied device drivers since TSX-Plus will automatically
562                                      ;  make default selections.
563                                      ;
564                                      ;      ****************************************
565                                      ;      **  When performing a TSX-Plus      **
```

```
566                                        ;         **  system generation, remove the  **
567                                        ;         **  devices in this list which are **
568                                        ;         **  not present on your system,     **
569                                        ;         **  and include those which are.    **
570                                        ;         **************************************
571                                        ;
572 003236                                          DEVBEG              ;Beginning of device definitions
573 003236                                          DEVDEF  <DL>
574 003236                                          DEVDEF  <DM>
575 003236                                          DEVDEF  <DU>,NOSET
576 003236                                          DEVDEF  <RK>,MAPIO
577 003236                                          DEVDEF  <DY>,MAPIO
578 003236                                          DEVDEF  <DX>
579 003236                                          DEVDEF  <LP>
580 003236                                          DEVDEF  <NL>
581 003236                                          DEVEND              ;End of device definitions
582
583                                        ; ----------------------------------------------------------------------
584                                        ;  Parameters related to system I/O buffers used when DMA devices
585                                        ;  with 18-bit controllers are used on Q-bus systems with
586                                        ;  22-bit addressing (e.g., 11/23-Plus and 11/73).
587                                        ;
588                                        ;  Number of system buffers allocated for I/O buffering.
589                                        ;  (The recommended number is one per active device that requires buffering.)
590                                        ;
591          000001                        MIONBF  =       1.      ;Number of system I/O buffers
592                                        ;
593                                        ;  Size of each system I/O buffer, in units of 512 bytes.
594                                        ;  The maximum allowed value for this parameter is 15.
595                                        ;
596          000010                        MIOBSZ  =       8.      ;I/O buffer size in units of 512 bytes
597
598                                        ; ----------------------------------------------------------------------
599                                        ;  Some device handlers allocate extended memory (PLAS) regions for
600                                        ;  their use.  For example, the DU and MU handlers each require one
601                                        ;  PLAS region. If you are using any other handlers which require
602                                        ;  extended memory regions, include the number of regions required.
603                                        ;
604          000004                        DEVXMR  =       4.      ;Number of XM regions for device handlers
605
606                                        ; ----------------------------------------------------------------------
607                                        ;  SPFLAG allows you to specify whether or not you wish individual
608                                        ;  spooled devices to print a flag page before each file.  This macro
609                                        ;  defines the initial settings, which may be later changed with the
610                                        ;  SPOOL dev,[NO]FLAGPAGE keyboard command.  The initial setting is
611                                        ;  specified by selecting "F" for FLAGPAGE or "N" for NOFLAGPAGE.
612                                        ;  Each "F" or "N" must correspond to the respective device in the
613                                        ;  list of device names in the SPOOL macro   For example:
614                                        ;
615                                        ;       SPFLAG  F,N
616                                        ;
617                                        ;  would enable flag pages for the first device and disable them for the
618                                        ;  second device specified in the SPOOL macro. As an example, with the
619                                        ;  following SPOOL macro:
620                                        ;
621                                        ;       SPOOL   2,20.,3,2000.,<LP CL2>,0,5.
622                                        ;
```

```
623                               ;  flag pages would be initially enabled for LP and disabled for CL2.
624                               ;
625 003236                           SPFLAG  F,N
626
627                               ;-------------------------------------------------------------------------
628                               ;  SPWIDE allows you to specify the default width to be used for centering
629                               ;  flagpages on individual spooled devices.  This is done by specifing
630                               ;  "W" for WIDE (132 column centering), or "N" for NARROW (80 column
631                               ;  centering).  Each "W" or "N" must correspond to the respective device
632                               ;  in the list of device names in the SPOOL macro.  For example in:
633                               ;
634                               ;      SPWIDE  W,N
635                               ;
636                               ;  where the SPOOL macro looks like:
637                               ;
638                               ;      SPOOL   2,20.,3,2000.,<LP CL2>,0,5.
639                               ;
640                               ;  flag pages printed on LP will be centered on 132 columns, whereas flag
641                               ;  pages printed on CL2 will be centered on 80 columns.  Note that the
642                               ;  only choice is between 80 and 132 column centering, no other widths
643                               ;  are supported.  The initial setting may be changed later with the
644                               ;  SPOOL dev,WIDE and SPOOL dev,NARROW keyboard commands.
645                               ;
646 003236                           SPWIDE  W,N
647
648                               ;-------------------------------------------------------------------------
649                               ;  SPHOLD allows you to specify whether or not spool files may be started
650                               ;  printing as soon as they are created or should be held until the output
651                               ;  channel is closed.  This is specified by selecting "H" for HOLD if they
652                               ;  are to be held until the channel is closed, or "N" for NOHOLD if spool
653                               ;  files may be started printing as soon as they are created.  Each "H" or
654                               ;  "N" must correspond to the respective device in the list of device
655                               ;  names in the SPOOL macro.  For example in:
656                               ;
657                               ;      SPHOLD  H,N
658                               ;
659                               ;  where the SPOOL macro looks like:
660                               ;
661                               ;      SPOOL   2,20.,3,2000.,<LP CL2>,,5.
662                               ;
663                               ;  spooled device LP will hold files from being printed until the channel
664                               ;  is closed, whereas spooled device CL2 will allow files to start printing
665                               ;  as soon as they are created.  The SPOOL dev,[NO]HOLD keyboard command
666                               ;  may be used later to change the initial settings.
667                               ;
668 003236                           SPHOLD  N,H
669
670                               ;-------------------------------------------------------------------------
671                               ;  Define those devices which are to be spooled by TSX-Plus
672                               ;  (such as line printers).
673                               ;  There are seven arguments to the SPOOL macro:
674                               ;      1. Number of devices to be spooled (may be zero).
675                               ;      2. Number of spool files which may be open by all users.
676                               ;      3. Number of spool buffers (512. bytes each).
677                               ;      4. Number of blocks in spool disk file.
678                               ;      5. List of 3 character names of devices to be spooled.
679                               ;      6. Specify 0 if spool files are to be eligible to be started
```

```
680                                    ;        as soon as they are created, specify 1 if they are to be held
681                                    ;        until the channel is closed. This parameter specifies for all
682                                    ;        devices the same characteristic as selected by the SPHOLD macro.
683                                    ;        If you wish to specify hold/nohold on an individual device basis,
684                                    ;        using the SPHOLD macro, then this parameter should be blank (,,)
685                                    ;        If a value is specified, it will override all the SPHOLD selections.
686                                    ;     7. Number of blocks which are to be backed up
687                                    ;        when the "SPOOL xx,BACK" command is given.
688                                    ;
689                                    ; Note: The SPOOL macro must be present even if
690                                    ; there are no spooled devices.  However, if the first
691                                    ; argument (number of spooled devices) is zero, no spool
692                                    ; tables are generated and arguments 2-7 are ignored.
693                                    ;
694 003236                                    SPOOL    2,20.,3,500.,<LP CLO>,0,10.
695
696                                    ; -----------------------------------------------------------------------
697                                    ; Define parameters pertaining to record (block) locking
698                                    ; for shared files.  If the shared file block locking
699                                    ; facility is not wanted, set all of these parameters to
700                                    ; 0 (zero).
701                                    ;
702                                    ; Maximum number of shared files which may be open
703                                    ; simultaneously.  Note that several users accessing the same
704                                    ; file count as 1.
705                                    ;
706            000036               MAXSF    =       30.      ;Max number of shared files
707                                    ;
708                                    ; Maximum number of I/O channels which all users may
709                                    ; simultaneously have open to shared files.
710                                    ; Note, this is the total number for all users not
711                                    ; for each user.
712                                    ;
713            000036               MAXSFC   =       30.      ;Max # shared file channels
714                                    ;
715                                    ; Maximum number of blocks which may be simultaneously
716                                    ; held locked by any channel.  That is, max blocks
717                                    ; locked per channel.
718                                    ;
719            000003               MXLBLK   =        3.      ;Max blocks locked per channel
720                                    ;
721                                    ; Number of 512-byte blocks to be held in the in-memory data
722                                    ; cache for shared files.
723                                    ; (Note that the MAXSF, MAXSFC, and MXLBLK parameters must be
724                                    ; non-zero to enable shared file data caching.)
725                                    ;
726            000000               NUMDC    =        0.      ;Number of blocks in shared file data cache
727                                    ;
728                                    ; -----------------------------------------------------------------------
729                                    ; Define parameters pertaining to the inter-program
730                                    ; message communication feature.  If this feature is
731                                    ; not wanted, set all four parameters to 0 (zero).
732                                    ;
733                                    ; Maximum number of message communication channels
734                                    ; which may be simultaneously in use.
735                                    ;
736            000003               MAXMC    =        3.      ;Max message channels
```

```
737                                     ;
738                                     ;  Maximum message length (bytes).
739                                     ;
740         000310                      MSCHRS  =      200.    ;Max message length (bytes)
741                                     ;
742                                     ;  Maximum number of messages which may be held in queue.
743                                     ;
744         000003                      MAXMSG  =      3.      ;Max queued messages
745                                     ;
746                                     ;  Maximum number of requests for messages that may be held in queue
747                                     ;
748         000012                      MAXMRB  =      10.     ;Max # pending message requests
749                                     ;
750                                     ; ------------------------------------------------------------------
751                                     ;  The RTVECT parameter specifies the number of real-time interrupt vectors
752                                     ;  that can be connected to TSX-Plus jobs.  Set RTVECT to the maximum number
753                                     ;  of interrupt vectors that all running real-time programs may be connected
754                                     ;  to at the same time.
755                                     ;  (Note: The basic real-time support facility is now a standard part of
756                                     ;  TSX-Plus and it is no longer necessary to set RTVECT to 1 to include
757                                     ;  real-time facilities such as locking a job in memory or accessing the
758                                     ;  I/O page.  It is also no longer necessary to set RTVECT to 1 to allow
759                                     ;  use of the SYSMON program. RTVECT should be set to 0 (zero) unless some
760                                     ;  real-time interrupts are going to be connected to TSX-Plus jobs.)
761                                     ;
762         000000                      RTVECT  =      0.      ;Max # interrupt vectors that may be connected
763
764                                     ; ------------------------------------------------------------------
765                                     ;  Define the size of the table within TSX-Plus used to hold information
766                                     ;  when the performance monitoring feature is being used.
767                                     ;  Each word in this table corresponds to one cell in the histogram.
768                                     ;  Specify the size as number of bytes for the table.
769                                     ;  (Note: The maximum allowed size is 8192 bytes)
770                                     ;
771         000000                      PMSIZE  =      0.      ;Size of performance monitor table (bytes)
772
773                                     ; ------------------------------------------------------------------
774                                     ;  Use the RTDEF macro at this point to specify information about
775                                     ;  any shared run-time systems to be loaded when TSX-Plus is started.
776                                     ;
777                                     ;  The form of the RTDEF macro is
778                                     ;       RTDEF   <name>,r-flag,skip-count
779                                     ;
780                                     ;  Where
781                                     ;  - Name is the 12 character name of the file containing the run-time system
782                                     ;    which must be specified in the form DevFilnamExt -- that is, three
783                                     ;    character device name, six character file name and three character
784                                     ;    extension.
785                                     ;  - R-flag is either R if user programs are to have read-only access to
786                                     ;    the run-time system, or RW if read-write access is to be granted.
787                                     ;  - Skip-count is the number of blocks to be skipped over at the front
788                                     ;    of the file when loading it.
789                                     ;
790                                     ;  Example:
791                                     ;       RTDEF   <SY CBRO63SHR>,R,1.      ;COBOL-Plus shared run-time
792                                     ;       RTDEF   <SY DBLSHRRTS>,R,1.      ;DBL shared run-time
793                                     ;       RTDEF   <SY DB4RTSSHR>,R,0.      ;DBL V4 shared run-time
```

794   ;

```
    1                                      ; -------------------------------------------------------------------------
    2                                      ;  Time-sharing line parameters:
    3                                      ;
    4                                      ;  Default input and output character buffer sizes.
    5                                      ;  These buffer sizes will be used for lines that don't use
    6                                      ;  the BUFSIZ macro within their line definitions to declare
    7                                      ;  their character buffer sizes.
    8                                      ;  These buffer sizes are also used for all subprocesses.
    9                                      ;
   10        000144                        DINSPC  =       100.    ;Default input char buffer size
   11        000360                        DOTSPC  =       240.    ;Default output char buffer size
   12                                      ;
   13                                      ;  When the terminal-output character buffer is filled a job is suspended.
   14                                      ;  The job is restarted after characters are printed from the buffer and
   15                                      ;  there are OTRASZ characters remaining in the buffer.
   16                                      ;
   17        000031                        OTRASZ  =       25.     ;Reactivation character count
   18                                      ;
   19                                      ;  A software character "silo" is used to hold characters received
   20                                      ;  from time-sharing lines until they can be processed by the system.
   21                                      ;  The silo is used to prevent the loss of characters during high
   22                                      ;  speed input.  Each time-sharing line and CL line has its own silo.
   23                                      ;  If the input to the line is coming from a terminal, the silo can be
   24                                      ;  quite small.  On the other hand, if the input is coming from another
   25                                      ;  computer or other high speed device, the silo size should be increased.
   26                                      ;  The NCSILO, NCXOFF, and NCXON parameters set default values pertaining
   27                                      ;  to the silos.  The SILO macro can be used within a line definition
   28                                      ;  to specify silo parameters for a specific line.
   29                                      ;
   30                                      ;  Default size of input character silos.
   31                                      ;
   32        000040                        NCSILO  =       32.     ;Default silo size
   33                                      ;
   34                                      ;  The system will transmit a control-S (XOFF) character when an input
   35                                      ;  silo is filled to the point where there are only NCXOFF free
   36                                      ;  character positions remaining.
   37                                      ;
   38        000014                        NCXOFF  =       12.     ;Default XOFF point for silos
   39                                      ;
   40                                      ;  If the system sends an XOFF because a silo becomes nearly full,
   41                                      ;  it will send an XON to restart transmission when there are only
   42                                      ;  NCXON characters remaining in the silo.
   43                                      ;
   44        000004                        NCXON   =       4.      ;Default XON point for silos
   45                                      ;
   46                                      ;  Number of "extra" CL (communication line) units to be genned into
   47                                      ;  system.  These CL units are not initially assigned to any line but
   48                                      ;  may be used "take over" a time-sharing line to use it as a CL unit.
   49                                      ;  The total number of CL units (those defined using CLDEF blocks plus
   50                                      ;  the extra units) may not exceed 16.  The first 8 CL units are
   51                                      ;  named CL0 to CL7, the second 8 are named C10 through C17.
   52                                      ;
   53        000001                        CLXTRA  =       1.      ;Number of extra CL units.
   54                                      ;
   55                                      ;  Default output ring buffer size for I/O communication lines defined
   56                                      ;  with the CLDEF macro and accessed as "CL" devices.
   57                                      ;  The recommended value is ((3*baud_rate)/1000+2).
```

```
58                                    ;
59          000040                    CLORSZ  =        32.     ;Size of CL output ring buffers
60                                    ;
61                                    ;-----------------------------------------------------------------------------
62                                    ;  Flags which can be used with the FLAGS macro within
63                                    ;  a line definition block to define line characteristics.
64                                    ;
65          100000                    $SCOPE  =        100000  ;ON==>CRT type terminal
66          040000                    $ECHO   =        40000   ;ON==>Echo characters to terminal
67          020000                    $TAPE   =        20000   ;ON==>"Paper-tape" mode (do x-on/x-off control, etc.)
68          010000                    $8BIT   =        10000   ;ON==>Support 8 bit (rather than 7 bit) characters.
69          004000                    $START  =        4000    ;ON==>Automatically start line during initialization
70          002000                    $ALTER  =        2000    ;ON==>Allow .GTLIN to receive ! and activate on ^C
71          001000                    $TAB    =        1000    ;ON==>Do not simulate tabs (Terminal handles tab char)
72          000400                    $FORM   =        400     ;ON==>Do not simulate form-feeds (Terminal handles FF)
73          000200                    $AUTO   =        200     ;ON==>Do autobaud speed selection for line
74          000100                    $PAGE   =        100     ;ON==>Enable ctrl-S/ctrl-Q input processing
75          000040                    $LC     =        40      ;ON==>Enable lower-case input
76          000020                    $NOSUB  =        20      ;ON==>Disallow use of subprocesses
77          000010                    $DEFER  =        10      ;ON==>Do defered character echoing (recommended)
78          000004                    $QTSET  =        4       ;ON==>Set tt quiet (Don't list command files)
79          000002                    $SYSPS  =        2       ;ON==>Require system password before logon
80          000001                    $PHONE  =        1       ;ON==>Dial-up, modem connected line
81                                    ;
82                                    ;  Default line flags that will be used for each line that does
83                                    ;  not explicitly specify flags using a FLAGS macro.
84                                    ;
85          040150                    NRMFLG  =        $ECHO!$DEFER!$PAGE!$LC
86                                    ;
87                                    ;-----------------------------------------------------------------------------
88                                    ;  Terminal type names that are legal to used with the TRMTYP macro
89                                    ;  within a line definition block to define the terminal type.
90                                    ;
91                                    ;  VT100 ==> DEC VT100
92                                    ;  VT200 ==> DEC VT200 with 7 bit control codes
93                                    ;  VT52  ==> DEC VT52
94                                    ;  LA36  ==> DEC LA36
95                                    ;  LA120 ==> DEC LA120
96                                    ;  HAZEL ==> Hazeltine brand terminals
97                                    ;  ADM3A ==> Lear Siegler ADM3A
98                                    ;  DIABLO==> Diablo brand terminals (with X-ON/X-OFF protocol)
99                                    ;  QUME  ==> Qume brand terminals (with X-ON/X-OFF protocol)
100                                   ;
```

```
   1                              ; ------------------------------------------------------------------
   2                              ;  Line definitions
   3                              ;
   4                              ;  The TBLDEF macro call requires four arguments:
   5                              ;    1. The number of real (physical) time-sharing lines on machine.
   6                              ;    2. The number of subprocess jobs.
   7                              ;    3. The number of detached jobs.
   8                              ;    4. The number of dedicated CL lines.
   9                              ;
  10 003476                              TBLDEF  3.,2.,2.,0.      ;# Real, # Subprocess, # Detached, # CL lines
  11
  12                              ;
  13                              ;  Define primary (real) time-sharing lines
  14                              ;
  15
  16                              ;  #1 time-sharing line
  17 006366                              LINDEF  60,177560,OPER           ;USE CONSOLE TERMINAL AS T/S TERM
  18 006366                              NAME    <Console>
  19                              ;       CMDFIL  LINE1.TSX
  20                              ;       TRMTYP  VT100
  21 006366                              FLAGS   NRMFLG!$START
  22 006366                              LINEND
  23
  24                              ;  #2 time-sharing line
  25 006402                              LINDEF  310,176510
  26                              ;       CMDFIL  LINE2.TSX
  27                              ;       TRMTYP  LA120
  28 006402                              FLAGS   NRMFLG
  29 006402                              LINEND
  30
  31                              ;  #3 time-sharing line
  32 006416                              LINDEF  320,176520
  33                              ;       CMDFIL  LINE3.TSX
  34                              ;       TRMTYP  VT52
  35 006416                              FLAGS   NRMFLG
  36 006416                              LINEND
  37                              ;
  38                              ;;  The following section is an example of line definitions for a
  39                              ;;  DHV11 type multiplexer.
  40                              ;
  41                              ;       DHVDEF  370,160020               ;DHV11 MUX VECTOR & RSR ADDRESS
  42                              ;
  43                              ;;  Mux line # 0 - first line on DHV
  44                              ;       LINDEF  0
  45                              ;       CMDFIL  LINE2.TSX
  46                              ;       FLAGS   NRMFLG!$AUTO
  47                              ;       LINEND
  48                              ;
  49                              ;;  Mux line # 7 - last line on DHV
  50                              ;       LINDEF  7
  51                              ;       CMDFIL  LINE2.TSX
  52                              ;       FLAGS   NRMFLG!$AUTO
  53                              ;       LINEND
  54                              ;
  55                              ;       MUXEND                           ;END OF DHV11 MUX LINES USED
  56                              ;
  57                              ;;  The following section is an example of line definitions for a
```

```
58                                        ;;   DZV11 type multiplexer.
59                                        ;
60                                        ;        DZDEF   360,160010            ;DZV11 MUX VECTOR & RSR ADDRESS
61                                        ;
62                                        ;;   Mux line # 0 - first line on DZ
63                                        ;        LINDEF  0
64                                        ;        TRMTYP  VT100
65                                        ;        SPEED   S9600
66                                        ;        CMDFIL  LINE2.TSX
67                                        ;        LINEND
68                                        ;
69                                        ;;   Mux line # 3 - last line on DZ
70                                        ;        LINDEF  3
71                                        ;        TRMTYP  LA120
72                                        ;        SPEED   S1200
73                                        ;        CMDFIL  LINE2.TSX
74                                        ;        FLAGS   NRMFLG!$FORM
75                                        ;        LINEND
76                                        ;
77                                        ;        MUXEND            ;End of DZ11 lines
78                                        ;
79                                        ;  Use the "DETACH" macro here to declare any start-up command
80                                        ;  files and associated parameters (up to 80 characters) to be
81                                        ;  run as detached jobs:
82                                        ;
83                                        ;        DETACH  <SY:EXAMPL.TSX PARM1 PARM2> ;Detached job with parameters
84                                        ;        DETACH  <SY:DETACH.TSX>            ;Start-up detached job
85                                        ;        DETACH  <SY:WINPRT.TSX>            ;Start window-print detached job
86                                        ;
87                                        ; ======================================================================
88                                        ;  END OF SECTION OF TSGEN TO BE ALTERED BY USER
89                                        ; ======================================================================
```

Errors detected: 0

*** Assembler statistics

Work file reads: 180
Work file writes: 168
Size of work file: 23718 Words   (93 Pages)
Size of core pool: 17920 Words   (70 Pages)
Operating system: RT-11

Elapsed time: 00:01:11.04
DK:TSGEN,LP:TSGEN=DK:TSGEN.MAC/C/N:SYM

```
$8BIT     14-68#
$ALTER    14-70#
$AUTO     14-73#
$DEFER    14-77#      14-85
$ECHO     14-66#      14-85
$FORM     14-72#
$INDDV     2-111#
$LC       14-75#      14-85
$MEMSZ     1-50        2-108#
$NOSUB    14-76#
$NOVLN     1-174#
$PAGE     14-74#      14-85
$PHONE    14-80#
$PRIV      1-173#
$QTSET    14-78#
$SCOPE    14-65#
$START    14-69#      15-21
$SYSPS    14-79#
$TAB      14-71#
$TAPE     14-67#
$TCFIG     2-110#
ABRTOV     1-126       3-97#
ADM3A      1-136
AHEND      1-89       13-581#
ALCEND     1-86       16-133#
ALCTBL     1-86       16-127#
AUTHAN     1-89       13-572#
BASMAP     1-110       3-337#
BLKEY      1-98        2-61#
BLKMV      1-137       2-231
BMJMP      2-229       2-231#
BO         7-50#      15-17       15-17#      15-22       15-22#      15-25       15-25#      15-29       15-29#      15-32       15-32#      15-36
          15-36#     16-32       16-57       16-57       16-75       16-75       16-75#      16-75#      16-75#      16-75#
BOTCSR     1-88        3-107#
BOTDEV     1-88        3-105#
BOTUNI     1-88        3-106#
BUSTYP     3-178      13-90#      16-103
C         13-694      13-694      13-694      13-694      13-694#     13-694#     13-694#
C1DEVX     1-105       3-104#
CA$BLK     1-120       3-126#
CA$DVU     1-120       3-127#
CA$HBL     1-120       3-132#
CA$HFL     1-120       3-131#
CA$HSH     1-120       3-133#
CA$UBL     1-120       3-130#
CA$UFL     1-120       3-129#
CA$WCT     1-120       3-128#
CACHE      3-40        3-41       13-365#     16-151
CASCBR     1-122       3-141#
CASCUP     1-122       3-144#
CASTBR     1-122       3-140#
CASTBW     1-122       3-143#
CASTRO     1-122       3-139#
CASTWO     1-122       3-142#
CCBHD      1-121       3-138#
CCLSAV     1-103       3-65#
```

```
CCXCTL   3-194     13-491#
CCXTRM   3-193     13-484#
CDX$DH   1-78       1-216#
CDX$DL   1-78       1-214#     1-232
CDX$DZ   1-78       1-215#
CDX$PC   1-78       1-219#
CDX$PI   1-77       1-218#
CDX$PP   1-78       1-220#
CDX$QP   1-79       1-221#
CDX$VH   1-78       1-217#
CFABLV   1-50       2-98#
CFCHAN   1-69       1-223#
CFSTS    1-50       2-94#      2-217
CHKEY    1-98       2-62#
CL$COL   18-55     18-95#
CL$EPN   18-58     18-109#
CL$EPP   18-58     18-111#
CL$EPS   18-58     18-110#
CL$LEN   18-57     18-96#
CL$LIN   18-57     18-97#
CL$LIX   18-57     18-78#
CL$OPT   18-55     18-93#
CL$ORA   18-56     18-107#
CL$ORB   18-56     18-103#
CL$ORE   18-56     18-104#
CL$ORG   18-56     18-106#
CL$ORP   18-56     18-105#
CL$ORS   18-56     18-108#
CL$RQH   18-55     18-101#
CL$SKP   18-57     18-99#
CL$STA   18-55     18-94#
CL$WID   18-57     18-100#
CL$WQH   18-55     18-102#
CL$XLN   18-58     18-98#
CLDEVX   1-105      3-103#
CLEOFS   1-55       1-171#
CLKVEC   1-126      1-167#
CLORSZ   1-61      14-59#
CLSCDB   1-125      3-168#
CLSTS    18-58     18-65#
CLTOTL   1-64      15-10#     18-89     18-93     18-94     18-95     18-96     18-97     18-98     18-99     18-100    18-101
         18-102    18-103    18-104    18-105    18-106    18-107    18-108    18-109    18-110    18-111
CLVERS   1-61       3-218#
CLVRSN   3-218     13-498#    18-67
CLX      15-17     15-17     15-17     15-17     15-17     15-17     15-17     15-17#    15-18     15-22     15-22     15-22
         15-22     15-22     15-22     15-22     15-22     15-22     15-22     15-25     15-25     15-25     15-25     15-25
         15-25     15-25#    15-29     15-29     15-29     15-29     15-29     15-29     15-29     15-29     15-29     15-29
         15-29     15-32     15-32     15-32     15-32     15-32     15-32     15-32#    15-36     15-36     15-36     15-36
         15-36     15-36     15-36     15-36     15-36     15-36     15-36     16-57     16-57     16-57#    16-57#    16-75
         16-75     16-75     16-75     16-75     16-75     16-75#    16-75#
CLXTRA   1-64      14-53#     15-10     15-10
CMFDON   15-17#    15-22     15-22#    15-25#    15-29     15-29#    15-32#    15-36     15-36#    16-75     16-75
CMFSEC   1-72       8-81#
CMFTOP   1-72      15-22#     15-29#    15-36#
CONFG2   1-105      2-95#
CONFIG   1-99       2-81#
```

```
CORTIM   1-109     3-11      13-321#
CORUSR   1-93      2-88#      2-213
CP$RT    1-206     1-209#
CP$STD   1-206     1-208#
CP$SYN   1-206     1-210#
CSHALC   1-62      3-41#
CSHBAS   1-123     3-73#
CSHBFP   1-121     3-134#
CSHCLN   1-123     3-149#
CSHDEV   1-85      3-99#
CSHDVN   1-85      3-100#
CSHFHD   1-121     3-137#
CSHFIN   1-123     3-150#
CSHHD    1-85      3-81#
CSHINI   1-123     3-147#
CSHIO    1-123     3-148#
CSHLRU   1-121     3-135#
CSHMRU   1-121     3-136#
CSHSIZ   1-116     3-349#
CSHVEC   1-123     3-146#
CTRLTT   1-63      3-60#     15-17
CURCDX   1-232#    15-17     15-25     15-32
CURMX    1-230#    15-17     15-25     15-32     16-36
CURMXL   15-17#    15-22     15-25#    15-29     15-32#    15-36
CURUMR   16-101#
CVTPHY   1-137     2-226
CXBBAS   1-129     3-365#
CXBSIZ   1-129     3-366#
CXTBUF   1-129     3-364#
CXTPAG   1-129     3-361#
CXTPDR   1-129     3-362#
CXTRMN   1-129     3-363#
CXTWDS   1-129     3-360#
DATIMH   1-128     3-238#
DATIML   1-128     3-237#
DBGFLG   3-185     13-247#
DCAGE    1-81      1-168#
DCCRD    1-67      3-244#
DCCWR    1-67      3-246#
DCRD1    1-126     3-169#
DCRD2    1-126     3-170#
DCTOTU   1-67      3-242#
DCTRD    1-67      3-243#
DCTWR    1-67      3-245#
DEFBAS   3-111#
DETCBS   1-52      1-147#    16-57     16-57
DEVSIZ   1-101     2-172#
DEVXMR   3-36      13-604#
DFJMEM   1-111     3-344#
DFLAGS   15-17#    15-21#    15-22     15-25#    15-28#    15-29     15-32#    15-35#    15-36
DFLG     1-98      2-64#
DFLMEM   3-32      13-35#    16-16
DHBFSZ   1-75      1-153#
DHOINT   18-34     18-43#
DHSTOP   18-34     18-40#
DHSTRT   18-34     18-39#
```

```
DHTIMR   18-35      18-38#
DHUSE     1-233#    18-26
DHXOFF   18-36      18-42#
DHXON    18-36      18-41#
DIABLO    1-137
DINSPC    3-49      14-10#    15-17      15-25      15-32      16-75      16-75
DIS      15-17#     15-22     15-25#     15-29      15-32#     15-36      16-75      16-75      16-75#     16-75#
DLINT     1-133     15-10     15-10      15-10
DM$CSR    3-276      3-276#    3-294
DM$LSR    3-277      3-277#    3-293
DM$VEC    3-278      3-278#
DMA       4-19#
DMPKTP    3-176     13-170#
DMPTCR    3-119     13-163#
DOCOPN    1-124      3-158#
DOCULK    1-125      3-163#
DOOPAP    1-124      3-157#
DORLK     1-124      3-161#
DOS      15-17#     15-22     15-25#     15-29      15-32#     15-36      16-75      16-75      16-75#     16-75#
DOSCHD    1-46       3-217#
DOSFCK    1-125      3-165#
DOTLK     1-125      3-162#
DOTSPC    3-50      14-11#     15-17      15-25      15-32      16-75      16-75
DOULK1    1-125      3-164#
DSKBUF    1-139      3-45     18-186
DTYPE     1-48      13-572#
DVFLAG    1-114      2-181#
DVFLG    13-573     13-573#   13-574     13-574#    13-575     13-575     13-575#    13-575#    13-576     13-576     13-576#    13-576#
         13-577     13-577    13-577#    13-577#    13-578     13-578#    13-579     13-579#    13-580     13-580#    13-581     13-581
         13-581     13-581    13-581#    13-581#    13-581#    13-581#
DVNUM     4-38#     13-573    13-573     13-573#    13-574     13-574     13-574#    13-575     13-575     13-575#    13-576     13-576
         13-576#    13-577    13-577     13-577#    13-578     13-578     13-578#    13-579     13-579     13-579#    13-580     13-580
         13-580#    13-581    13-581     13-581     13-581     13-581     13-581     13-581     13-581     13-581     13-581#    13-581#
         13-581#    13-581#
DVSTAT    1-100      2-163#
DWTYPE    1-79       2-116#
EDIT      3-378#
EDITOR    3-196     13-520#
EMTRTN    2-100#
EVEN      3-410#
EVNBUF    4-21#
EXCJOB    1-46       3-216#
EXTCHN    1-113      2-189#    2-200      2-211
EXTP1     1-137      2-230
F        12-5#      13-625
F1       12-12#     13-625#   13-646     13-646#    13-668     13-668#    13-694
F10      12-21#
F11      12-22#
F12      12-23#
F13      12-24#
F14      12-25#
F15      12-26#
F16      12-27#
F17      12-28#
F18      12-29#
F19      12-30#
```

```
F2          12-13#      13-625#     13-646      13-646#     13-668      13-668#     13-694
F20         12-31#
F21         12-32#
F22         12-33#
F23         12-34#
F24         12-35#
F25         12-36#
F26         12-37#
F27         12-38#
F28         12-39#
F29         12-40#
F3          12-14#
F30         12-41#
F4          12-15#
F5          12-16#
F6          12-17#
F7          12-18#
F8          12-19#
F9          12-20#
FASTIN      1-53        1-166#
FIRST       3-385#
FNDHRB      1-133       2-227
FORKQ       1-138       2-17
FP$CDI      1-184       1-190#
FP$CDO      1-184       1-191#
FP$CK1      1-184       1-196#
FP$CKT      1-183       1-189#
FP$DEF      1-183       1-192#
FP$FLG      1-184       1-186#      1-187       1-188       1-189       1-190       1-191       1-192       1-193       1-194       1-195       1-196
            1-198       1-199
FP$IOA      1-183       1-194#
FP$IOF      1-183       1-193#
FP$IOS      1-183       1-198#
FP$MAX      1-184       1-187#
FP$MOV      1-183       1-199#
FP$PIO      1-184       1-195#
FP$RT       1-183       1-188#
FREFRK      1-88        3-301#
FREIOQ      1-102       3-249#
FREPGS      1-110       3-341#
FREUMR      1-47        2-20
FRKADR      2-101#
FRKDLY      1-94        3-59#
FRKGEN      1-56        1-148#      3-304
FRKGET      1-138       2-16
FRKINI      1-56        3-302#
FRKLST      3-301       3-303#
FSTDL       1-92        15-10#
FSTIOL      1-49        15-10       15-10#
FSTSL       1-63        15-10#
FULLST      1-39#       1-41        12-285      16-1        16-2        18-174
GENTOP      1-109       18-173#
GETRTQ      1-138       2-11
GETUMR      1-47        2-19
H           12-8#       13-668      13-694      13-694
HANBUF      4-27#
```

```
HANDSK    1-46      2-166#
HANENT    1-100     2-9       2-159#
HANIOC    1-101     2-178#
HANPAR    1-119     2-10      2-175#
HANRCB    1-46      3-122#
HANRCO    1-46      2-238#
HANSIZ    1-100     2-169#
HANXMR    1-137     2-228
HAZEL     1-137
HIMAP     1-110     3-339#
HIMEM     2-68      3-31      13-30#    16-12     16-16
HIPRCT    3-12      13-312#
HNMEPT    2-112     2-236#
HNSPDO    4-28#
HSUFFX    2-104#
I         15-10     15-10     15-10     15-10     15-10     15-10     15-10     15-10     15-10     15-10     15-10     15-10
          15-10     15-10     15-10     15-10     15-10     15-10     15-10#    15-10#    15-10#    15-10#    15-10#    15-10#
          15-10#    15-10#    15-10#    15-10#    15-10#    15-10#
IDSFLG    1-115     3-211#
ILSW2     15-10     15-10#    15-22     15-29     15-36
INDDBL    1-104     3-67#
INDDBS    1-104     3-68#
INDDEV    2-122#
INDFIL    1-91      13-25#
INDOFF    2-111     2-121#
INDSAV    1-103     3-66#
INDTSV    1-104     2-196#    2-218
INIABT    3-179     13-120#
ININT     1-133     15-10     16-85
INMXV     1-59      16-85#
INRECV    1-57      15-10#
INSTA     2-107#    2-216
INSTBL    1-51      3-95#
INSTBN    1-51      3-96#
INTEN     1-135     2-38
INTIOC    3-13      13-305#
INTSSZ    1-102     1-159#
INVEC     1-56      15-10     15-10#    15-17     15-25     15-32
IOABFL    1-63      3-110#
IOABT     3-110     13-180#
IOFIN     1-135     2-69
IOHANQ    1-47      2-18
IOHLTM    1-54      1-170#
IOLFLG    7-52#     15-17     15-17     15-22     15-22     15-22     15-22     15-22#    15-25     15-25     15-29     15-29
          15-29     15-29     15-29#    15-32     15-32     15-36     15-36     15-36     15-36     15-36#    16-75     16-75
          16-75     16-75     16-75#    16-75#
IOLN      7-53#
IOQSIZ    1-139     2-22
IOSTRT    1-138     2-14
ITRMTP    15-10     15-10#
JCXPGS    1-111     3-342#
K52       3-381#
KED       3-380#    13-520
KEYMAX    3-38      13-232#
KMNCHN    1-127     3-356#
KMNHI     1-53      3-64#
```

```
KMNPGS   1-127     3-355#
KMNSTK   1-127     3-353#
KMNSTR   1-127     3-354#
KMNTOP   1-53      3-63#
KMONCE   1-46      3-215#
KUSECK   1-119     1-169#
L        13-581    13-581    13-581#
LA120    1-136
LA36     1-136
LABTIM   15-10     15-10#
LACTIV   15-10     15-10#
LAFSIZ   15-10     15-10#
LAST     3-387#
LBASE    15-10     15-10#
LBRKCH   15-10     15-10#
LBRKCQ   15-10     15-10#
LBSPRI   15-10     15-10     15-10#
LCDTIM   15-10     15-10#
LCDTYP   15-10     15-10#    15-17     15-25     15-32
LCLUNT   15-10     15-10#
LCMPL    15-10     15-10#
LCMQHD   15-10     15-10#
LCOL     15-10     15-10#
LCONTM   15-10     15-10#
LCPUHI   15-10     15-10#
LCPULO   15-10     15-10#
LCXPAR   15-10     15-10#
LCXTBL   15-10     15-10#    15-22     15-29     15-36
LDDEVX   1-105     3-102#
LDHB1B   15-10     15-10#
LDHB1P   15-10     15-10#
LDHB2B   15-10     15-10#
LDHB2R   15-10     15-10#
LDHB2S   15-10     15-10#
LDSYS    3-183     13-214#
LDVERS   1-61      3-219#
LEMTPC   15-10     15-10#
LESCHR   15-10     15-10#
LESRTN   15-10     15-10#
LF       15-22     15-22#    15-22#    15-29     15-29#    15-29#    15-36    15-36#    15-36#    16-75    16-75    16-75#
         16-75#
LFWLIM   15-10     15-10#
LHIPCT   15-10     15-10#
LHIRBA   15-10     15-10#    15-22     15-29     15-36
LHIRBB   15-10     15-10#
LHIRBC   15-10     15-10#    15-22     15-29     15-36
LHIRBE   15-10     15-10#
LHIRBG   15-10     15-10#
LHIRBP   15-10     15-10#
LHIRBS   15-10     15-10#
LINBUF   15-10     15-10#
LINCNT   15-10     15-10#
LINCUR   15-10     15-10#
LINEND   15-10     15-10#
LINIR    15-10     15-10#
LINNUM   1-93      1-133     3-202#    15-10*    15-10*    15-10*
```

```
LINNXT   15-10     15-10#
LINPNT   15-10     15-10#
LINSIZ   15-10     15-10#    15-22     15-29     15-36     16-75     16-75
LINSPC   15-10     15-10#
LIOCNT   15-10     15-10#
LIOHLD   15-10     15-10#
LITIME   15-10     15-10#
LJSW     15-10     15-10#
LMEMIN   15-10     15-10#
LMINQ    15-10     15-10#
LMONHD   15-10     15-10#
LMSGBF   15-10     15-10#
LMXLN     1-59     15-10#
LMXNUM   15-10     15-10#
LMXPRM    1-59     15-10     15-10#    15-22     15-29     15-36
LN        7-49#    15-17     15-17     15-17#    15-22     15-25     15-25     15-25#    15-29     15-32     15-32     15-32#
         15-36     16-55     16-57     16-57     16-57     16-57     16-57#    16-57#    16-58     16-75     16-75     16-75
         16-75     16-75#    16-75#
LNAME    15-10     15-10#    15-18     15-29     15-36
LNBLKS   15-10     15-10#
LNMAP     1-60     15-10#
LNMTOP    1-48     15-18#    15-29#    15-36#
LNPRIM    1-60     15-10#
LNSBLK   15-10     15-10#
LNSPAC   15-10     15-10#
LOFFTM   15-10     15-10#
LOGCHN    1-68      1-224#
LOKBAS    1-82      3-72#
LOKCSH    1-82      3-76#
LOKINI    1-124     3-156#
LOKMEM    1-82      3-75#
LOKVEC    1-124     1-126     3-155#
LOMAP     1-110     3-338#
LOTBUF   15-10     15-10#
LOTEND   15-10     15-10#
LOTNXT   15-10     15-10#
LOTPNT   15-10     15-10#
LOTSIZ   15-10     15-10#    15-22     15-29     15-36     16-75     16-75
LOTSPC   15-10     15-10#
LOUTIR   15-10     15-10#
LPARBS   15-10     15-10#
LPARNT   15-10     15-10#
LPRG1    15-10     15-10#
LPRG2    15-10     15-10#
LPRI      1-60     15-10#
LPROG    15-10     15-10#
LPROJ    15-10     15-10#
LQLINK   15-10     15-10#
LQUAN    15-10     15-10#
LRBFIL   15-10     15-10#
LRDTIM   15-10     15-10#
LRTCHR   15-10     15-10#
LSCCA    15-10     15-10#
LSECPT   15-10     15-10#    15-22     15-29     15-36
LSLEPH   15-10     15-10#
LSLEPL   15-10     15-10#
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LSNDCH	15-10	15-10#									
LSPACT	15-10	15-10#	15-22	15-29	15-36	16-75	16-75				
LSPND	15-10	15-10#									
LSTACT	15-10	15-10#									
LSTATE	15-10	15-10#									
LSTDL	1-92	15-10	15-10#								
LSTHL	1-49	15-10#									
LSTIOL	1-57	15-10#									
LSTLIN	1-58	15-10#									
LSTMX	1-58	1-229#	16-82	16-87							
LSTPL	1-57	15-10	15-10	15-10#							
LSTPRM	8-137#	15-22	15-22	15-29	15-29	15-36	15-36				
LSTSL	1-63	15-10	15-10#								
LSUCF	15-10	15-10#	15-22	15-29	15-36	16-57	16-57				
LSW	15-10	15-10#									
LSW10	15-10	15-10#									
LSW11	15-10	15-10#									
LSW2	15-10	15-10#									
LSW2S	15-10	15-10#									
LSW3	15-10	15-10#									
LSW4	15-10	15-10#									
LSW5	15-10	15-10#									
LSW6	15-10	15-10#									
LSW7	15-10	15-10#									
LSW8	15-10	15-10#									
LSW9	15-10	15-10#									
LSWPBK	15-10	15-10#									
LTRMTP	15-10	15-10#									
LTSCMD	15-10	15-10#									
LTTCR	15-10	15-10#									
LTTPAR	15-10	15-10#									
LUNAME	1-57	15-10#									
LWINDO	15-10	15-10#									
LX	7-51#	15-17	15-17	15-17#	15-25	15-25	15-25#	15-32	15-32	15-32#	16-57	16-57
	16-57	16-57	16-57#	16-57#	16-75	16-75	16-75	16-75	16-75#	16-75#		
LXCL	15-10	15-10#									
LXX	15-10	15-10	15-10	15-10	15-10	15-10	15-10#	15-10#	15-10#	15-10#	
MAPH	4-25#										
MAPIO	4-20#	13-576	13-577								
MAPPAR	1-84	3-340#									
MAPSIZ	1-113	3-336#									
MAPUSR	1-92	3-201#									
MAXALC	1-86	13-389#	16-124	16-128							
MAXBLK	1-99	2-83#									
MAXCSH	3-98	13-379#	16-115								
MAXDEV	1-101	1-144#	2-156	2-159	2-163	2-166	2-169	2-172	2-175	2-178	2-181	13-573
	13-574	13-575	13-576	13-577	13-578	13-579	13-580	13-581	13-581	13-581	13-581	13-581
MAXFIL	2-83	3-19	13-356#								
MAXGVL	1-105	2-184#									
MAXMC	3-27	13-736#									
MAXMON	3-21	13-393#									
MAXMRB	3-30	13-748#									
MAXMSG	3-29	13-744#									
MAXMUX	1-152#	3-263	3-264	3-265	3-266	3-267	3-268	3-269	3-270	3-271	3-272	3-273
	3-274	3-275	3-276	3-277	3-278							
MAXSEC	1-64	13-351#	15-22	15-22	15-29	15-29	15-36	15-36				

MAXSF	3-14	13-706#	17-4			
MAXSFC	3-15	3-78	13-713#			
MAXWIN	3-37	13-241#				
MEM256	1-86	3-212#				
MEMPTR	1-50	2-112#				
MEMSIZ	3-336	13-100#				
MFPMOV	2-133#	2-220				
MFPS	2-92	2-132#				
MH$BAR	1-75	3-287#				
MH$BCR	1-75	3-286#	3-297			
MH$BRK	3-273	3-273#				
MH$CAR	1-74	3-285#	3-295			
MH$LPR	3-274	3-274#	3-292			
MH$PBR	3-275	3-275#				
MH$RCR	1-74	3-284#	3-291			
MH$SCR	1-74	3-283#	3-290			
MH$SSR	1-75	3-288#	3-296			
MHNSIZ	1-119	3-347#				
MIDDLE	3-386#	13-207				
MINTIM	1-94	3-61#				
MIOBHD	1-52	3-834				
MIOBSZ	3-198	13-596#	16-144			
MIODBG	1-84	1-162#				
MIOFLG	1-88	3-213#				
MIONBF	3-197	13-591#				
MIONWB	1-91	1-161#				
MIOSYQ	1-116	3-85#				
MIOWHD	1-116	3-84#				
MNUAOT	1-160#	3-200				
MODDAT	1-70	3-120#				
MODTIM	1-72	3-121#				
MONAME	2-103#					
MONFQH	1-61	3-82#				
MONVEC	1-103	2-38#	2-102	2-112	2-118	2-121	2-184
MPARFL	1-117	1-163#				
MSCHRS	3-28	13-740#				
MSGBAS	1-80	3-70#				
MTPS	2-91	2-148#				
MUXNUM	1-93	1-134	3-203#			
MVSIZ	1-69	2-204#	2-205			
MVWDS	1-113	2-205#				
MXBRK	1-74	3-281#				
MXCAR	3-270	3-270#	3-281	3-288		
MXCSR	3-264	3-264#	3-283			
MXDTR	3-267	3-267#	3-286			
MXJADR	1-108	3-345#				
MXJMEM	1-111	3-343#				
MXLBLK	3-17	13-719#				
MXLNT	3-272	3-272#				
MXLPR	3-265	3-265#	3-279			
MXRBUF	1-74	3-279#	3-284			
MXRING	1-74	3-280#				
MXSBRK	3-269	3-269#				
MXSPAC	1-73	13-503#	15-22	15-29	15-36	16-75	16-75
MXTBUF	3-268	3-268#	3-280	3-287		
MXTCR	3-266	3-266#	3-285			

MXTTCT	1-46	13-511#	15-22	15-22	15-29	15-29	15-36	15-36			
MXTYPE	3-263	3-263#									
MXVEC	3-271	3-271#									
N	12-6#	13-625	13-646	13-668							
NAMDON	15-17#	15-18#	15-22	15-25#	15-29	15-29#	15-32#	15-36	15-36#	16-75	16-75	
NAMPTR	15-18	15-18#	15-22	15-22#	15-29	15-29	15-29#	15-29#	15-36	15-36	15-36#	15-36#
NAMSEC	1-48	8-27#									
NCLDF	7-55#	16-46	16-61								
NCSILO	1-62	3-46	14-32#	16-23	16-24						
NCXOFF	1-62	3-47	14-38#	16-25	16-26	16-26#					
NCXON	1-62	3-48	14-44#	16-27	16-28	16-28#					
NDL	1-92	15-10	15-10	15-10	15-10	15-10	15-10	15-10	15-10	15-10	15-10	15-10
	15-10	15-10	15-10#	16-49	16-55	16-57	16-57	16-57	16-57	16-58		
NDLDF	7-56#	16-49	16-57	16-57	16-57#	16-57#					
NDRTDF	1-172#	17-23									
NDVRCB	1-59	3-36#									
NESB	1-53	13-694#									
NFRESB	1-55	3-92#									
NGR	3-35	13-79#									
NIOL	1-49	15-10	15-10	15-10	15-10	15-10	15-10	15-10	15-10	15-10	15-10	15-10
	15-10	15-10	15-10	15-10	15-10	15-10#	16-46	16-61				
NLCHN	1-50	1-228#	2-190								
NLIN2	1-49	15-10	15-10#								
NLINES	1-50	15-10	15-10	15-10	15-10	15-10	15-10	15-10	15-10	15-10	15-10	15-10
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	15-10	15-10	15-10	15-10	15-10	15-10	15-10	15-10	15-10	15-10	15-10	15-10
	15-10	15-10	15-10	15-10	15-10	15-10	15-10	15-10	15-10	15-10	15-10	15-10
	15-10	15-10	15-10	15-10	15-10	15-10	15-10	15-10	15-10	15-10	15-10	15-10
	15-10	15-10	15-10	15-10	15-10	15-10	15-10	15-10	15-10	15-10	15-10	15-10
	15-10	15-10	15-10	15-10	15-10#							
NMFCSH	3-20	13-384#	16-118								
NMFREQ	1-102	18-156#									
NMSNMB	1-109	1-149#	3-80								
NMSYMB	1-150#	3-80									
NMUMB	1-109	3-80#									
NOCACH	4-22#										
NODMA	4-31#	4-32									
NOMAPH	4-26#										
NOMOUN	4-23#										
NONDMA	4-32#										
NONE	3-412#	8-137									
NOSET	4-29#	13-575									
NPL	1-49	15-10	15-10	15-10	15-10	15-10	15-10	15-10	15-10	15-10	15-10	15-10
	15-10	15-10	15-10	15-10	15-10	15-10	15-10	15-10	15-10	15-10	15-10	15-10#
	15-17	15-22	15-25	15-29	15-32	15-36	16-43	16-55	16-57	16-57	16-58	16-75
	16-75										
NPLDF	7-54#	15-17	15-17#	15-25	15-25#	15-32	15-32#	16-43			
NRMFLG	3-42	14-85#	15-17	15-21	15-25	15-28	15-32	15-35			
NSCP	1-65	1-158#									
NSL	1-49	15-10	15-10	15-10	15-10	15-10	15-10	15-10	15-10	15-10	15-10	15-10
	15-10	15-10	15-10#	16-67	16-68						
NSPLBL	1-60	3-91#									
NSPLDV	1-55	3-214#									
NSPLFL	1-60	3-90#									
NUCHN	1-69	1-151#	1-223	1-224	1-225	1-226	1-227	1-228			
NUIP	3-39	13-251#									

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NUMCCB    1-107     1-157#
NUMCDB    1-81      3-78#
NUMDC     3-16      3-77      13-726#
NUMDCD    1-81      3-77#
NUMDEV    1-101     2-8       3-248#
NUMFRK    1-57      1-145#
NUMIOQ    1-102     1-155#    18-13     18-13#    18-156
NUMON     1-93      3-204#
NUMRDB    1-84      1-231#    17-25     17-25     17-25#    17-25#
NUMSYQ    1-102     1-156#    18-14     18-14#    18-156
NXIVMH    1-57      1-146#
ODD       3-411#
OFFTIM    3-26      13-435#
ONTIM     3-25      13-442#
OTMXV     1-59      16-87#
OTRASZ    1-60      14-17#
OTRECV    1-57      15-10#
P1EXT     2-113#
P1XPTR    2-113     2-230#
PHONE     3-199     13-454#   18-164
PHYMEM    1-50      2-155#
PIDPTR    1-117     3-116#
PMSIZE    3-43      13-771#   16-137
PNAME     1-100     2-102     2-156#
PNPTR     2-102#
PRIDEF    3-188     13-340#
PRIHI     3-187     13-336#
PRILOW    3-186     13-335#
PRIVIR    3-189     13-347#
PROBRK    1-118     1-164#
PROFLG    1-117     3-207#
PROITP    1-133     18-183
PROODC    1-118     1-165#
PROSLT    1-100     3-117#
PSW       1-135     2-133
PVON      1-93      3-205#
PVSPBL    1-59      13-694    13-694    13-694    13-694#
PWCH      3-192     13-471#
QBUS      1-114     3-312#    13-90
QCOMP     1-98      2-69#
QCOMPL    1-138     2-15
QFREE     1-138     2-12
QIO       1-138     2-13
QUANO     3-4       13-260#
QUAN1     1-58      3-5       13-269#
QUAN1A    1-68      3-6       13-275#
QUAN1B    1-68      3-7       13-279#
QUAN1C    3-8       13-284#
QUAN2     1-58      3-9       13-292#
QUAN3     3-10      13-298#
QUME      1-137
R$CFST    1-58      2-217#
R$CH17    1-112     2-210#
R$CHN     1-112     2-209#
R$DATE    1-112     2-212#
R$INST    1-58      2-216#
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R$INTC    1-104      2-218#
R$JOB     1-112      2-213#
R$MFMV    1-92       2-220#
R$SWPC    1-119      2-219#
R$TTOP    1-58       2-215#
R$UBAS    1-112      2-214#
R$XCHN    1-113      2-211#
RBR       1-56       15-10      15-10      15-10#     15-17      15-25      15-32
RDB       1-84       3-372#
RDBEND    1-84       18-169#
RDBSEC    1-48       3-371#
REQALC    4-24#
RF$WRT    1-109
RMNBAS    1-134      2-110      2-111
RPRCSR    1-79       2-114#
RPRVEC    1-79       2-115#
RSFBLK    1-90       13-17#
RSR       1-56       15-10      15-10#     15-17      15-25      15-32
RTVECT    1-94       13-762#    18-8       18-13      18-14      18-16
RUNCHN    1-76       1-226#
S         15-17      15-17      15-17      15-17#     15-17#     15-17#     15-18      15-18#     15-22      15-22      15-22      15-22
          15-22      15-22      15-22      15-22      15-22      15-22      15-22      15-22#     15-22#     15-22#     15-22#     15-22#
          15-22#     15-22#     15-22#     15-22#     15-25      15-25      15-25      15-25#     15-25#     15-25#     15-29      15-29
          15-29      15-29      15-29      15-29      15-29      15-29      15-29      15-29      15-29      15-29      15-29#     15-29#
          15-29#     15-29#     15-29#     15-29#     15-29#     15-29#     15-29#     15-29#     15-32      15-32      15-32      15-32#
          15-32#     15-32#     15-36      15-36      15-36      15-36      15-36      15-36      15-36      15-36      15-36      15-36
          15-36      15-36      15-36#     15-36#     15-36#     15-36#     15-36#     15-36#     15-36#     15-36#     15-36#     15-36#
          16-24#     16-25      16-27      16-57      16-57      16-57      16-57      16-57      16-57      16-57#     16-57#     16-75
          16-75      16-75      16-75      16-75      16-75      16-75#     16-75#     16-75#     16-75#     16-75#     16-75#
S110      3-393#
S1200     3-398#
S134.5    3-394#
S150      3-395#
S1800     3-399#
S19200    3-406#
S2000     3-400#
S2400     3-401#
S300      3-396#
S3600     3-402#
S4800     3-403#
S50       3-391#
S600      3-397#
S7200     3-404#
S75       3-392#
S9600     3-405#     8-137
SASECT    1-48       8-212#
SCHED     1-139      3-44       18-185
SCPFHD    1-51       3-101#
SD$HLD    1-134
SDBULS    1-91       13-694#
SDCB      1-54       13-694#
SDCBND    1-54       13-694#
SDCBSZ    1-91       13-694     13-694#
SEGBLK    3-34       13-75#
SEGCHN    1-90       3-62#
SETERR    1-134
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SFCB     1-68      3-87#
SFCBFH   1-53      3-89#
SFCBND   1-68      3-88#
SFCLS    1-125     3-166#
SFRSST   1-124     3-160#
SFSVST   1-124     3-159#
SFWRIT   1-125     3-167#
SHRRCB   1-51      3-93#
SHRRCN   1-51      3-94#
SILSIZ   15-17#    15-22     15-25#    15-29     15-32#    15-36
SILXOF   15-17#    15-22     15-25#    15-29     15-32#    15-36
SILXON   15-17#    15-22     15-25#    15-29     15-32#    15-36
SIZMEM   3-336     3-336     3-336     3-336     3-336#
SLEDIT   3-184     13-223#
SMONHD   1-48      3-86#
SMRSIZ   1-116     3-346#
SNBUX    1-89      13-694    13-694    13-694    13-694    13-694#
SNDBX    1-86      3-91      13-694#
SNMSHD   1-108     3-79#
SPLANM   1-91      13-694#
SPLBHD   1-53      13-694#
SPLBLK   1-55      13-13#
SPLCHN   1-101     13-694#
SPLDEV   1-54      13-694    13-694#
SPLDVN   1-54      13-694    13-694#
SPLNB    1-52      13-694    13-694    13-694#
SPLND    1-52      13-694    13-694#
SPLNF    1-52      3-90      13-694    13-694#
SPOLID   1-118     3-108#
SPSTAT   1-61      2-105#
SPUSR    1-99      2-70#
SR3FLG   1-115     3-210#
SRERR    15-17     15-17#    15-25     15-25#    15-32     15-32#
SRTSIZ   1-116     3-348#
STATCH   3-195     13-478#
STPFLG   1-94      3-208#
SWAPFL   3-177     13-51#    15-10
SWDBLK   1-65      13-9#
SWPCHN   1-102     2-200#    2-219
SWPSLT   3-33      13-65#    15-10     15-10     15-10#
SYCH0    1-95      2-43#
SYCH1    1-95      2-44#
SYCH10   1-96      2-51#
SYCH11   1-96      2-52#
SYCH12   1-96      2-53#
SYCH13   1-96      2-54#
SYCH14   1-97      2-55#
SYCH15   1-97      2-56#
SYCH16   1-97      2-57#
SYCH17   1-97      2-58#     2-210
SYCH2    1-95      2-45#
SYCH20   1-97      2-59#
SYCH3    1-95      2-46#
SYCH4    1-95      2-47#
SYCH5    1-95      2-48#
SYCH6    1-96      2-49#
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SYCH7    1-96      2-50#
SYINDX   1-105     2-93#
SYNAME   1-106     3-112#
SYNCH    1-135     2-89
SYPSPR   1-47      3-220#
SYPSWD   1-47      13-406    13-406    13-406#
SYSCHN   1-95      2-42#     2-209
SYSDAT   1-98      2-63#     2-212
SYSDMP   3-175     13-153#
SYSGEN   1-105     2-96#
SYSPSS   8-383#    13-406#   18-160
SYSUPD   1-99      2-80#
SYSVER   1-99      2-79#
SYTIMH   1-101     3-51#
SYTIML   1-101     3-52#
SYUNIT   1-99      2-71#
T        15-22     15-22#    15-29     15-29#    15-36     15-36#    16-75     16-75     16-75#    16-75#    17-25     17-25
         17-25#    17-25#
TBR      1-57      15-10     15-10#    15-17     15-25     15-32
TECO     3-379#
TIMIN    3-22      13-413#
TIMLOC   3-23      13-428#
TIMOUT   3-24      13-421#
TIOBAS   1-82      3-74#
TK1CNT   1-65      3-55#
TK1SEC   1-65      3-53#
TK1VAL   1-103     3-54#
TK3SVL   1-111     3-57#
TK5VAL   1-111     3-56#
TMIDLH   1-107     3-235#
TMIDLL   1-107     3-236#
TMIOH    1-65      3-229#
TMIOL    1-65      3-230#
TMIOWH   1-66      3-233#
TMIOWL   1-66      3-234#
TMSWPH   1-66      3-231#
TMSWPL   1-66      3-232#
TMSWTH   1-107     3-227#
TMSWTL   1-107     3-228#
TMTOTH   1-106     3-223#
TMTOTL   1-106     3-224#
TMUSRH   1-106     3-225#
TMUSRL   1-106     3-226#
TNHL     1-49      15-10     15-10     15-10     15-10     15-10     15-10     15-10     15-10     15-10     15-10     15-10
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         15-10     15-10     15-10     15-10     15-10     15-10#
TOTON    1-93      3-206#
TSDEFS   1-137     3-111
TSDHIO   18-34     18-37#
TSGEN    1-42#     1-48
TSLICH   3-190     13-459#
TSR      1-56      15-10     15-10#    15-17     15-25     15-32
TSXSIT   1-69      3-58#
TSXVEC   2-8#      2-37
TSXVRS   1-47      1-143#    2-21
TTCSCH   1-56      1-154#
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TTOP      2-119#    2-215
TTOPTS    1-113     2-110     2-118#
U$CL      3-181     13-189#
UBUSMP    1-86      3-209#
UCLBLK    1-115     3-114#
UCLDAT    1-115     13-21#
UCLMNC    3-18      13-196#
UCLNAM    1-52      3-113#
UCLORD    3-182     13-207#
UKMNAM    1-54      3-115#
UMRBAS    16-91     16-102#
UMREND    16-91     16-111#
UMRWHD    16-91     16-92#
UMSYTP    1-89      3-109#
UNIBUS    1-114     3-313#    16-103
USPLCH    1-86      1-225#
USRBAS    1-80      3-69#
USROFF    2-68#     2-214
USWPCH    1-119     1-227#    2-200
UXIFLG    3-180     13-141#
VBUSTP    1-114     3-178#
VCBBAS    18-6      18-7#
VCBEND    18-6      18-12#
VCORTM    1-83      3-11#
VCSHNB    1-66      3-40#
VCTRLT    1-71      3-195#
VCXCTL    1-75      3-194#
VCXTRM    1-75      3-193#
VDBFLG    1-118     3-185#
VDFMEM    1-108     3-32#
VDISPC    1-70      3-49#
VDMKTP    1-70      3-176#
VDMTCR    1-70      3-119#
VDOSPC    1-70      3-50#
VDSKBU    1-72      3-45#
VECBAS    1-108     2-37#     2-204     2-209     2-210     2-211     2-212     2-213     2-214     2-215     2-216     2-217
          2-218     2-219     2-220
VEDIT     1-64      3-196#
VERR      15-17     15-17#    15-25     15-25#    15-32     15-32#
VH$BA1    1-77      3-295#
VH$BA2    1-77      3-296#
VH$BCR    1-77      3-297#
VH$CSR    1-76      3-290#
VH$DBR    1-76      3-291#
VH$LCR    1-77      3-294#
VH$LPR    1-76      3-292#
VH$LSR    1-76      3-293#
VHIMEM    1-103     3-31#
VHIPCT    1-94      3-12#
VHOINT    18-35     18-48#
VHSTOP    18-35     18-45#
VHSTRT    18-35     18-44#
VHXOFF    18-36     18-47#
VHXON     18-36     18-46#
VIDCSR    1-100     3-118#
VINABT    1-63      3-179#
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VINTIO     1-89        3-13#
VKEYMX     1-72        3-38#
VLDSYS     1-60        3-183#
VLSWCH     3-191       13-465#
VMAXMC     1-80        3-27#
VMIOBF     1-81        3-197#
VMIOSZ     1-79        3-198#
VMLBLK     1-90        3-17#
VMNUAO     1-47        3-200#
VMSCHR     1-79        3-28#
VMXCSH     1-85        3-98#
VMXFIL     1-108       3-19#
VMXMON     1-61        3-21#
VMXMRB     1-80        3-30#
VMXMSG     1-80        3-29#
VMXSF      1-90        3-14#
VMXSFC     1-90        3-15#
VMXWIN     1-55        3-37#
VNCSLO     1-71        3-46#
VNCXOF     1-71        3-47#
VNCXON     1-71        3-48#
VNFCSH     1-85        3-20#
VNGR       1-51        3-35#
VNRFLG     1-69        3-42#
VNUIP      1-51        3-39#
VNUMDC     1-81        3-16#
VOFFTM     1-87        3-26#
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VPLAS      1-90        3-34#
VPMSIZ     1-73        3-43#
VPRIDF     1-99        3-188#
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VPRILO     1-98        3-186#
VPRIVR     1-64        3-189#
VQUANO     1-73        3-4#
VQUAN1     1-83        3-5#
VQUAN2     1-83        3-9#
VQUAN3     1-73        3-10#
VQUN1A     1-83        3-6#
VQUN1B     1-83        3-7#
VQUN1C     1-69        3-8#
VSCHED     1-72        3-44#
VSLEDT     1-56        3-184#
VSWPFL     1-92        3-177#
VSWPSL     1-55        3-33#
VSYDMP     1-70        3-175#
VT100      1-136
VT200      1-136
VT52       1-136
VTMIN      1-87        3-22#
VTMLOC     1-87        3-23#
VTMOUT     1-87        3-24#
VTSLCH     1-73        3-190#
VU$CL      1-52        3-181#
VUCLMC     1-115       3-18#
VUCLOR     1-115       3-182#
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VUXIFL	1-62	3-180#
VVLSCH	1-73	3-191#
VVPWCH	1-73	3-192#
W	12-7#	13-646
WILDFL	1-64	13-526#
WINBAS	1-80	3-71#

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X        13-573     13-573#    13-574    13-574#    13-575     13-575#    13-576     13-576#    13-577     13-577#    13-578    13-578#
         13-579     13-579#    13-580    13-580#    13-581     13-581     13-581     13-581     13-581#    13-581#    13-581#   13-581#
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BLANK    12-161#
BUFSIZ    8-49#    16-75     16-75
CHNRES    2-26#     2-43      2-44      2-45      2-46      2-47      2-48      2-49      2-50      2-51      2-52      2-53
          2-54      2-55      2-56      2-57      2-58      2-59      2-192     2-192     2-192     2-192     2-192     2-192
          2-192     2-192     2-196
CLDEF     7-11#
CLEND     8-338#
CLTABL   18-82#    18-93     18-94     18-95     18-96     18-97     18-98     18-99    18-100    18-101    18-102    18-103
         18-104    18-105    18-106    18-107    18-108    18-109    18-110    18-111
CMDFIL    8-83#    15-22     15-29     15-36
DETACH    8-347#   16-57     16-57
DEVBEG    4-7#     13-572
DEVDEF    4-40#    13-573    13-574    13-575    13-576    13-577    13-578    13-579    13-580    13-581    13-581    13-581
         13-581
DEVEND    4-109#   13-581
DHDEF     9-14#
DHUDEF   10-57#
DHVDEF   10-12#
DZDEF    11-44#
FLAGS     8-6#     15-21     15-28     15-35
LINDEF    7-58#    15-17     15-25     15-32
LINEND    8-214#   15-22     15-29     15-36     16-75     16-75
LINPRM    8-106#
MEMORY    3-319#    3-336
MUXDEF   11-12#
MUXEND   11-52#
MXTBL     3-253#    3-263     3-264     3-265     3-266     3-267     3-268     3-269     3-270     3-271     3-272     3-273
          3-274     3-275     3-276     3-277     3-278
NAME      8-29#    15-18     15-29     15-36
NOT      12-165#   13-694    13-694
OB        5-7#     15-10     15-10     15-10     15-10     15-10     15-10     15-10     15-10     15-10     15-10     15-10
         15-10     15-10     15-10     15-10     15-10     15-10     15-10     15-10     15-10     15-10     15-10     15-10
         15-10     15-10     15-10     15-10     15-10     15-10     15-10     15-10     15-10     15-10     15-10     15-10
         15-10     15-10     15-10     15-10     15-10     15-10     15-10     15-10     15-10     15-10     15-10     15-10
         15-10     15-10     15-10     15-10     15-10     15-10     15-10     15-10     15-10     15-10     15-10     15-10
         15-10     15-10     15-10     15-10     15-10     15-10     15-10     15-10     15-10     15-10     15-10     15-10
         15-10
OBH       5-37#    15-10     15-10     15-10     15-10     15-10     15-10     15-10     15-10     15-10     15-10     15-10
         15-10     15-10     15-10     15-10     15-10     15-10     15-10     15-10     15-10     15-10     15-10     15-10
         15-10     15-10
OBP       5-22#    15-10     15-10     15-10     15-10     15-10     15-10     15-10
OBT       5-52#    15-10     15-10     15-10     15-10     15-10     15-10     15-10     15-10     15-10
OR       12-169#
PAGE      8-73#
RTDEF     8-404#   17-25     17-25
SILO      8-63#
SPEED     8-139#
SPFLAG   12-48#    13-625
SPHOLD   12-124#   13-668
SPOOL    12-184#   13-694
SPWIDE   12-86#    13-646
SRCHK     8-198#   15-17     15-25     15-32
SYSPS     8-384#   13-406
TBLDEF    5-71#    15-10
TRMTYP    8-12#
UMRDEF   16-93#
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VECCHK   8-183#   15-17   15-25   15-32