PART 2

COBOL APPLICATION ROUTINES

TPS

PART 2 - THE PROGRAMMING INTERFACE BETWEEN COBOL APPLICATION ROUTINES AND TPS

1. DESCRIPTION OF THE INTERFACE

1.1 ACCESS TO THE CONTROL BLOCK

The function of the Control Block as the interfacing mechanism directing each of the Application Routines to the "worksheet' that it is required to process is explained in Section 1.1 of Part 1 of this manual. The writer of a COBOL Application Routine does not, however, need to access the Control Block itself in order to access the constituent parts of the "worksheet" as they are defined through the mechanism of the Linkage Section, as described in 1.2.

Two elements of the Control Block itself will however need to be available to the programmer. They are:

The Re-entry parameter
The Reply word

In addition, two further elements will probably be required. These are:

The Terminal Number
The Message Serial Number

These elements may all be accessed either by defining them as separate parameters in the Calling Sequence to be mapped on to separate 01 level items in the Linkage Section or by defining the Control Block itself as such an item, and sub-defining it to specify the required fields. (The constructing of the calling sequence and Linkage Section is described in Section 3.10 of Part 1 of this manual; the layout of the Control Block itself appears in Appendix A.)

In less usual cases (e.g. in implementing the Facilities Management feature as described in section 3.16 of part 1) access may be required to other elements in the Control Block. This can only be achieved by defining the Control Block itself in the Linkage Section.

TPS

1.2   ENTRY AND RE-ENTRY TO THE APPLICATION ROUTINE

1.2.1   Progressing through the logic of a routine

Application Routines may be "entered" to commence the
execution of their logic, or "re-entered" to continue
that logic after an intermediate return to TPS for the
performance of some function such as a File Transfer.
In either case, however, the actual entry must be made at
the start of the routine in order to re-establish the
linkage addresses.   The progression through the various
stages of the routine must therefore be controlled by internal
logic within the Application Routine itself.   This is made
possible by the use of the Re-entry parameter which is held
within the Control Block.   TPS ensures that this parameter
is set to zero on a "First" entry - i.e. on any entry which is
not a direct return after the processing of a TPS request
raised in the routine being entered.   Thereafter, on any
exit to TPS the user will set a Re-entry parameter which will
be taken by TPS and stored in the Re-entry word in the Control
Block.   This word will be defined in Linkage Section,
either independently (at the 01 Level) or as a sub-field
in the Control Block, and its name can thus be used as the
parameter to a "Depending" clause in a "GO TO ....
DEPENDING ...." statement at the start of the routine.
In this way a branch will take place to the appropriate
procedure as indicated by the numeric value of the re-entry
parameter as related to the list of procedure names defined in
the "GO TO" statement.

In normal logic the re-entry parameter will be given an
absolute numeric value at each exit point in the logic.   In
more complex routines it may be appropriate to calculate a
value based on logic within the routine.   In this case the
programmer should be aware of the possibility of an error of
logic producing a value beyond the valid range in which case
the "GO TO" statement will act as through the value were zero
and effectively cause the routine to re-commence from its start.
A check for validity in this case will help to avoid an error
which may otherwise be very difficult to diagnose.

In applications with more complex logic the programmer may
wish to perform part of the logic of one Application Routine,
then pass control to another routine (possibly performing a
common function shared by other transactions) and subsequently
return to the first routine to continue with the rest of its
logic.   In this case, as on re-entry to the first routine
the Control Block has in fact been passed from another routine,
the TPS Re-entry Word will be zeroised.   The programmer must
therefore carry a "private" parameter of his own to use in
order to make the required branch to the appropriate continuation
point in the logic (e.g. by a second "GO TO......DEPENDING "
following the first, and using the "private" field as its
parameter)

1.2.2   Reply Information from TPS

On entry or re-entry to an Application Routine immediately
following either a File Manager or a Print Handler function
reply information relating to the success or failure of the
requested procedure will be returned by TPS by setting values
in the Reply Word. This word, which is one of the fields
within the Control Block, is accessed within the Linkage
Section either by defining it as a separate entry at the 01
level, or by defining it as a subfield within the Control
Block itself. Its possible values and their significance
are described in Section 3.1. of Part 1 of this manual for
File Manager Replies, and in Section 3.11 of Part 1 of this
manual for Print Handler Replies.

1.2.3   Finding the "Worksheet"

The mechanism for directing the COBOL Application Routine to
the appropriate "worksheet" on entry is not apparent to the
programmer (in contrast to the situation in a PLAN Application
Routine). The various constituent parts of the "worksheet"
itself and of any common areas to be accessed are simply
defined in the Linkage Section, and addressed by the data
names used there. (Section 3.10 of Part 1 of this manual
describes the use of the Linkage Section in more detail).

TPS

1.3   .EXIT TO TPS

The following three sections describe the range of subroutine
calls by use of which the Application Routine requests TPS to
perform functions on its behalf. Most of these functions fall
into the categories described in Section 2.4 of Part 1 of this
manual as activities which should be carried out by the
controlling routines within TPS. These routines are found at a
higher level in the program hierarchy them the Application
Routines themselves. Accordingly the subroutines which the
Application Routine calls will in fact only set parameters (in
the Control Block) to be acted on by TPS; they do not themselves
perform the associated function. In order to achieve this, the
call must be followed by an exit to TPS by use of the EXIT
PROGRAM statement (cases in which this is not required are
mentioned as they occur in the following sections). Note that an
exit without a preceding call will have indeterminate affects, as
no recognisable parameter will have been passed to TPS for action.

The subroutine calls themselves direct the subsequent action of
TPS by the parameters which are associated with them. For the
purpose of maximising the range of options for the setting of
these parameters the calls are defined as ENTER statements in
Section 2 below. If users prefer to use CALL statements they
may do so where the settings of the parameters permit, as defined
in the relevant COBOL manual definitions of the ENTER and CALL
statements (CALL is the preferred option from the point of view
of forwards compatibility).

Except in cases where a call does not require to be followed
by an EXIT, the parameter string will include Sequencing
Re-entry parameters. The former directs TPS to pass control
to a different routine after performing its action; the
latter is stored by TPS for use by the Application Routine
in order to execute the correct stage of logic on re-entry,
as described in Section 1.2 above. Details of the settings
of these parameters are given in Section 1.5.1. and 1.5.2
below.

TPS

1.4. SUMMARY OF INTERFACE SUBROUTINES USED IN COBOL APPLICATION
ROUTINES

Section 2 contains reference sheets on each of the subroutines
arranged in alphabetical order for ease of location. The
following list, in logical groupings, shows the mnemonic
significance of the subroutine names. Comparison with Part 3
will show that the names of the macros used in PLAN routines
have identical mnemonics with prefix £T.

Group 1 Accessing Files
Use of the facilities provided by this group of subroutines is
described in section 3.1. of Part 1 of this manual.

TPSCOPF	Open a file (globally)
TPSCOFC	Open a file (conditionally)
TPSCCLF	Close a file (globally)
TPSCCFC	Close a file (conditionally)

TPSCRR	Read a specific Record
TPSCRRN	Read the Next Record relating to this terminal
TPSCRRS	Read the Next Record in Sequence
TPSCWR	Write a specific record (not already present on file)
TPSCWRU	Write a specific record (Updating an existing record)
TPSCWRN	Write the next record relating to this terminal
TPSCWRS	Write the next record in Sequence
TPSCWRB	Write the next record in Sequence (buffered)
TPSCDR	Delete a record
TPSCWRF	Write the next record in Sequence (forced)

TPSCRB	Read a specific Bucket
TPSCRBN	Read the Next Bucket relating to this terminal
TPSCRBS	Read the Next Bucket in Series
TPSCWB	Write a specific Bucket
TPSCWBN	Write the Next Bucket relating to this terminal
TPSCWBS	Write the Next Bucket in Series
TPSCRBM	Read Block Multiple
TPSCWBM	Write Block Multiple

TPSCSL	Set a file lock
TPSCFL	Free a file lock

TPSCFLA	Reset File specification

TPS

Group 2 Accessing Terminals
Use of the facilities provided by this group of subroutines is described
in section 3.2 of Part 1 of this manual.

A   The TPS3 Logical Terminal Interface

TPSCDISPLAY	Display output to a terminal
TPSCRM	Reset Message
TPSCSCO	Suppress ETSA Conversion on Output
TPSCVALIDAT	Validate and Reformat Input
TPSCVER	Validation Error Response.
TPSCBCS	Start display of a repeated broadcast
TPSCBCE	End display of a repeated broadcast

B   The "Low Level" output interface

TPSCSD	Send direct
TPSCBCF	Include the "repeated Broadcast" field in low level output
TPSCCO	Confirm Output
TPSCXRF	Retrieve Format and place in Message Area.
TPSCXRM	Retrieve Standard Message and place in Message Area
TPSCTR	Set 'turnaround' bit on output
TPSCXPB	Process Standard Parameter Block

C   Manipulating Terminal Status

TPSCOPT	Open a terminal
TPSCCLT	Close a terminal
TPSCPOT	Partly open a terminal
TPSCDET	Detach a terminal
TPSCSA	Set Access Status
TPSCRA	Reset Access Status
TPSCRTC	Read a terminal control record
TPSCWTC	Write a terminal control record

D   The "Phase 2" "High Level" output interface

TPSCEOS	Establish Output String
TPSCFMT	Output a standard Format
TPSCMSG	Output a standard Message
TPSCMSI	Output a standard Message and include for XPRE
TPSCTXT	Output text
TPSCTXI	Output text and include for XPRE
TPSCES	Edit and Send
TPSCESB	Edit and Send Broadcast
TPSCESL	Edit and Send to list of terminals
TPSCDISP	Display output to a terminal

E   The "Phase 2" input interface

TPSCVALID	Validate and Reformat Input

F   The "Phase 1" output system

TPSCOUT	Output a standard format
TPSCBDC	Broadcast an output
TPSCLST	Ouptut to a list of terminals

TPS

Group 3 Output to Printers

Use of the facilities provided by this group of Subroutines is
described in section 3 of Part 1 of this manual

```
TPSCEPS   Establish a Print Stream
TPSCAPI   Add a Print Item to a Stream

TPSCPAD   Amend a print demand

TPSCPOD   Request Output of a Print Stream
TPSCPCD   Cancel a Print Demand
TPSCPDS   Delete a Print Stream
TPSCSPO   Suspend the Output of a Print Stream
TPSCRPO   Resume the Output of a Print Stream
TPSCRPR   Reset Priority of a Print Demand
TPSCRPW   Reset Print Well
TPSCTPW   Tidy Print Well
```

Group 4 Manipulating store

Use of the facilities provided by this group of subroutines is
described in section 3.9 of Part 1 of this manual.

```
TPSCGS    Get a cell of store
TPSCFS    Free a cell of store
```

Group 5 Control of Processing

Use of the facilities provided by the various subroutines in
this group is described in the appropriate subsections of
section 3 of Part 1 of this manual, as cross-referred to from
the specification sheet for each subroutine in section 2 below.

```
TPSCINP   Return to input handler (from an input interpreter)
TPSCNXT   Go to next AR
TPSCNRT   Go to new AR train
TPSCEND   End of processing
TPSCABT   Abort a transaction
TPSCULE2  End with a user specified minor logic error (LE2)
TPSCWT    Wait
TPSCDGN   Put an entry in a diagnostic buffer
TPSCWJE   Write a Journal Entry
```

TPS

1.5   NOTES ON COMMON PARAMETERS

Certain of the parameters passed to the Interface Subroutines
occur frequently and require explanation in some detail. These
are summarised here and are cross-referred to in the reference
sheets in section [2].   Most of the parameters may be given
either as literals or as address parameters defining locations
containing the appropriate values. Literals when so given must
be fixed length with leading zeroes where required. (When the
value is zero a single character is always acceptable.)

Locations which are used to carry the values of most parameters
must be single word locations on word boundaries. The values
are mainly numeric except where stated and the locations should
therefore be defined as 9(6) COMP SYNC RIGHT (but NOT S1(23)
which generates a bit address.)

1.5.1   The Sequencing Parameter

This parameter (which is referred to as "Y" in the parameter
specifications below) governs the return of control from TPS to
the user's routines. It takes one of two forms:

A.   A single character literal with one of the following values:

0 (Zero) - indicates that return is to be made to the current
           Application Routine.

"L"   - Indicates that return is to be made to the current
           Application Routine, and that in the meantime the
           routine is to be "locked"; i.e. it is not to be
           made available to any other transaction.

1 - 9   A value in this range indicates that control is to be
           passed to another routine in the appropriate
           Application Routine Train. The value of the parameter
           is used as a "stepping factor" along the train. (see
           section 3.3 of Part 1 of the manual)

"X"   This value indicates that the processing of the current
           transaction is to terminate after the processing of the
           function requested by the subroutine call to which it
           is a parameter.

B.   The name of a single character field, (Pic X), containing the
     appropriate value as defined above. This field must be within
     one of the areas linked to the Control Block (unless it is a
     constant, in which case it may be in a Common Area) and must
     be defined within the Linkage Section.

     If the Sequencing Parameter is set to other than zero or "L"
     the Re-entry parameter must be set to zero.

TPS

1.5.2   The Re-entry Parameter

This Parameter (which is referred to as "Z" in the parameter
specifications below) is for   use internally within the
Application Routine, to indicate the point at which processing
is to resume after an Exit to TPS. The parameter is stored by
TPS in the Re-Entry word which is in the Control Block and
which may be individually specified at the 01 level in the Linkage
Section. The most straight-forward use of this parameter is
within the "DEPENDING" clause of a "GO TO" statement at the
head of the Procedure Division of the routine.

The Parameter takes one of two forms:

-    A two character numeric literal

-    The name of a location containing the value to be given
     to the parameter. The Location is a word, defined as 9(6)
     COMP SYNC RIGHT within one of the areas linked to the
     Control Block (unless it is a constant, in which case it
     may be in a Common Area) and must be defined within the
     Linkage Section.

1.5.3   The File Identity Parameter

A system for identifying files in an Application Routine written
in COBOL is described in Part 1 - 3.1. This method establishes
a convention of logically significant names which may be used as
parameters to interface subroutines. Alternatively, the
parameter may be the name of any single word location containing
a numeric value identifying one of the files in the system
(9(6) COMP SYNC RIGHT), or a two character numeric literal.

1.5.4   The Record Area Parameter.

This parameter is the name of an area into which or from which
data is to be transferred.   The area, which must start on a
word boundary, is within an area linked to the Control Block,
and defined in the Linkage Section, and not in a File Section
(which must not be defined in an Application Routine).   The
parameter is identified as "Record Name" in the reference
sections below whether the data to be transferred is a record
or a bucket.

1.5.5   Cursor Positioning Parameters.

These parameters occur in pairs, identifying line number and
character position within the line.   Each may take one of two
forms:

-    A   two character numeric literal in the range 01 - 30
     or 01 - 80 respectively.

- The name of a one word location containing the appropriate value, (PIC 9(6)) COMP SYNC RIGHT). ~~The location must be within one of the areas linked to the Control Block, (unless the value is a Constant in which case it may be within a Common Area) and defined in the Linkage Section.~~

In accordance with the functioning of the 7181 VDU, either or both parameters may be omitted if the cursor is at the desired co-ordinate after a previous part of the display has been completed. This effect is achieved by setting a value of zero in the parameter as described above.

1.5.6 Print Well File Identity Parameter

This parameter gives the file identity of the print well to which this request is directed. Several print wells can exist in the system at the same time. See 1.5.3 for general details of file identifiers.

1.5.7 Stream Identifier and Demand Identifier Parameter

This parameter must be the name of a word-aligned 12 character location containing the stream identifier or demand identifier.

Section 3.11 of Part 1 of this manual describes standards for these identifiers.

TPS

2.　INTERFACE SUBROUTINES : REFERENCE SHEETS

TPSCABT - Abort the current transaction

CALLING SEQUENCE

　　　ENTER TPS　TPSCABT

PARAMETERS

　　　None

FUNCTIONS

The subroutine sets parameters in the Control Block that cause TPS to terminate the processing of the current transaction.　Its use within user logic should be considered exceptional.

REFERENCE

　　　Part 1, Section 3.6

TPSCAPI - Add a Print Item to a Stream

CALLING SEQUENCE

ENTER TPS TPSCAPI USING A B C D E Y Z

PARAMETERS

A   File ID of the Print Well.
See 1.5.6

B   Stream Identifier, see 1.5.7

C   The parameter gives the name of a word-aligned area
containing the text. The format of the text must
contain all the appropriate control characters for
the specific printer to handle positioning of text
on a line and page. In addition the size of the
printer text must conform to the limitations of the
printer device, and not exceed the print file bucket
size in words less 7 words (TPS use) and 3 words
(bucket header).

D   Length of text. A two character literal, or data name
of a 1 word area containing the length of the text in
characters, Pic 9(6) COMP SYNC RIGHT.   The permitted
range is 1 - 4000. For values greater than 99 the
Data Name option must be used.

E   Record Type. A one character literal, or data name of
a 1 word area, Pic 9(6) COMP SYNC RIGHT. It may have
the following values.

0 - Normal
1 - Restart Point
2 - Section End
3 - Section End and Restart Point
4 - End of Stream

Y   Sequencing parameter. See Section 1.5.1

Z   Re-entry parameter. See Section 1.5.2

FUNCTIONS

The subroutine sets parameters in the Control Block so that
TPS will write the print item from the user's area to the
print well identified by parameter A. For each stream the
creating terminal must be the same for both the TPSCEPS and
TPSCAPI subroutine calls i.e. data can only be added to a
print stream in response to messages from the terminal that
established the print stream. TPS obtains the value of
the creating terminal from the terminal number in the control
block.

TPS

To signify that a print stream is completed it is only necessary to set the Record Type (parameter E) to 4 for the last print item. End of Stream is assumed to signify Section End and Restart Point.

The settings of the "Y" and "Z" parameters will govern the passing of the Control Block for continued processing after the requested function has been completed.

REFERENCE

Part 1, Section 3.11

TPS

TPSCBCE - End the Display of a "Repeated Broadcast"

CALLING SEQUENCE

ENTER TPS   TPSCBCE   USING A

PARAMETERS

A   The number (either 1 or 2) of a user specified
     "Repeat Broadcast" as defined in Form 12.1 of the
     Control Routine Generation. A single character
     literal, or the Data Name of a one word area,
     Pic 9(6) COMP SYNC RIGHT.

     Note: Y and Z parameters are not required with this
     subroutine call.

FUNCTIONS

The subroutine unsets an indicator which governs the
appearance of the stipulated passage in the "Repeated
Messages" area of the screen. After the issuing of this
call the system will stop adding the specified message
to subsequent output to all terminals.

REFERENCE

Part 1, Section 3.2

TPS

TPSCBCF - <u>Add the "Repeated Broadcast" field to a "Low Level" Output</u>

CALLING SEQUENCE

ENTER TPS TPSCBCF USING A B

PARAMETERS

A   The Data Name of a one word area containing the number
of characters already set up in the output message.
Pic 9(6) COMP SYNC RIGHT.

B   The Terminal Identifier. (This parameter is required
to enable the software to check the status of the
terminal - e.g. that it is not "excluded from Broadcast").
A two character literal, or the Data Name of a one word
area Range 1 - 4095; for values greater than 99 the
Data Name option must be used. Pic 9(6) COMP SYNC RIGHT.

Note: Y and Z parameters are not required with this
subroutine call.

FUNCTIONS

This subroutine is used to incorporate the "Repeated
Message" area in an output prepared using the "Low level"
interface (TPSCSD). It may be incorporated at any time
during the construction of the output string. The area
named in parameter A will contain the number of characters
of output currently established in the string, and will be
updated by this subroutine to include the added characters.
Further output may therefore be added by the user using the
updated value of A as the displacement in the Message Area.

REFERENCE

Part 1, Section 3.2

TPS

TPSCBCS - Start the Display of a "Repeated Broadcast"

CALLING SEQUENCE

    ENTER TPS TPSCBCS   USING A

PARAMETER

A   The number (either 1 or 2) of a user specified "Repeat
     Broadcast" as defined in Form 12.1 of the Control
     Routine Generation. A single character literal or the
     Data Name of a one word area. Pic 9(6) COMP SYNC RIGHT.

     Note Y and Z parameters are not required with this
     subroutine call.

FUNCTIONS

     The subroutine sets an indicator which causes the stipulated
     message to be added into the "Repeated Messages" area of
     the screen on every subsequent transmission to any terminal
     not defined as "excluded from Broadcasts".

REFERENCE

     Part1, Section 3.2.

TPS

TPSCBDC - <u>Output a standard screen format to all currently</u>
<u>operating terminals</u>

Note: This subroutine is part of the Phase 1 interface, and
          is not usable in a series commencing with TPSCEOS
          (see Section 3.2)

CALLING SEQUENCE

      ENTER TPS TPSCBDC USING A B C D E Y Z

PARAMETERS

    A   Clear Screen Indicator 1 to clear the screen otherwise
         zero. A single character literal, or a Data Name, Pic
         9(6) COMP SYNC RIGHT.

    B   Screen Identifier (four alpha characters), may be zero
         if no format is to be used. A four character literal,
         or a Data Name (see 1.5). Zero as a single character
         literal is acceptable.

    C, D Co-ordinates defining the final cursor position. Either
         or both may be zero (see Section 1.5.5).

    E   Name of an area large enough to hold the parameters
         generated by the series of subroutine calls of which
         this is the first (i.e. 2N - 1 words where N is the
         number of subroutine calls in the series). This area
         must be within one of the areas associated with the
         Control Block and defined in the Linkage Section. It
         must start on a word boundary.

    Y   Sequencing Parameter - see section 1.5.1

    Z   Re-entry Parameter - see section 1.5.2

FUNCTIONS

      The subroutine sets parameters in the Control Block and the
      nominated parameter area so that TPS will retrieve the
      required screen format and set it up in the message area
      associated with the Control Block for output to all terminals
      currently "live". If no format is specified, the major output
      parameters are set ready for a "message" or for "Text" to be
      added by the appropriate subsequent subroutines. The settings
      of the Y and Z parameters will govern the passing of the
      Control Block for continued processing after the output has
      been transmitted. Note that this call is not always
      immediately followed by EXIT.

REFERENCE

      Part 1, Section 3.2

TPSCCFC - Close a File (Conditionally)

CALLING SEQUENCE

    ENTER TPS TPSCCFC USING A Y Z

PARAMETERS

    A   File ID. See Section 1.5.3

    Y   Sequencing Parameter. See Section 1.5.1

    Z   Re-entry Parameter. See Section 1.5.2

FUNCTIONS

    The subroutine sets parameters in the Control Block so that
    TPS will close the file identified by parameter A if the
    total number of Close File Conditional calls equals the
    number of Open File Conditional calls for this file. If
    the number is less the file remains open; the count is
    incremented by one.

REFERENCE

    Part 1, Section 3.1

TPS

<u>TPSCCLF - Close a file</u>

CALLING SEQUENCE

    ENTER TPS TPSCCLF USING A Y Z

PARAMETERS

    A   File ID - see section 1.5.3

    Y   Sequencing Parameter- see section 1.5.1

    Z   Re-entry Parameter - see section 1.5.2

FUNCTIONS

    The subroutine sets parameters in the Control Block so
    that TPS will close the file identified by parameter A.
    This is a "global" close, without reference to any
    "outstanding" users of the file.

REFERENCE

    Part 1, Section 3.1

TPS

TPSCCLT

TPSCCLT - Close a Terminal

CALLING SEQUENCE

    ENTER   TPS   TPSCCLT   USING A Y Z

PARAMETERS

A   The system's internal number of the terminal to be
    closed. A 2 character literal (01-99) or the Data
    name of a 1 word area (Pic 9(6) COMP SYNC RIGHT)
    containing the number. For values greater than 99
    the latter option must be chosen.

Y   Sequencing Parameter - see section 1.5.1

Z   Re-entry Parameter - see section 1.5.2

FUNCTIONS

The subroutine sets parameters in the Control Block which
causes TPS to set the status of the terminal to be "closed".
In most environments this merely applies a software trap
within TPS causing input data to be rejected, but in a
7903 or Communications Manager environment it issues the
necessary "supervisories" to close the terminal in the
external software. In a George 3 environment it also
issues the necessary "Detach" command via the GDR link if
specified.

REFERENCE

Part 1, Section 3.2

TPS

TPSCCO - Confirm Output

CALLING SEQUENCE

ENTER TPS TPSCCO

PARAMETERS

NONE

FUNCTIONS

The subroutine sets bit 10 of the request code in the
Control Block. This indicates that confirmation of output
is required. (May be required for multiple transmissions
to termiprinters and similar devices).

NOTE:

This function is only valid in a Communications Manager
System using the "low level" output interface. The call
of TPSCCO must be inserted between the calls to
TPSCSD and the EXIT PROGRAM by which the transmission is
actually executed.

REFERENCE

Part 1, Section 3.2.3

TPS

TPSCDET - Detach a Terminal

CALLING SEQUENCE

ENTER TPS TPSCDET USING A Y Z

PARAMETERS

A - The system's internal number of the terminal to be detached.
A 2 character literal(01-99) or the Data Name of a one word
area (PIC 9(6) COMP SYNC RIGHT) containing the number. For
values greater than 99 the latter option must be chosen.

Y - Sequencing parameter. See Section 1.5.1

Z - Re-entry parameter. See Section 1.5.2

FUNCTIONS

The subroutine sets parameters in the Control Block, which cause
TPS to set the status of the terminal from "Open" to "Partly Open".
In a Communications Manager environment it issues the necessary
"Supervisories" to partly open the terminal in the external
software.

In all other environments TPS handles this request in exactly the
same way as TPSCCLT.

REFERENCE

Part 1 Section 3.2

TPS

TPSCDGN - Place an entry in the Diagnostic Buffer

CALLING SEQUENCE

ENTER TPS TPSCDGN USING A B C

PARAMETERS

A   Identifier: a two character alphabetic expression used
to distinguish entries of different types in the buffer.
A two character literal, or the Data Name of a two
character area (PicXX)

B   The length in words of the data to be entered in the
buffer. Range 1 - 511. A two character literal, or
the Data Name of a one word area, Pic 9(6) **COMP** SYNC
RIGHT. For values greater than 99 the latter option
must be used.

C   The Data Name of an area containing the data to be
entered in the buffer.

      Note: Y and Z parameters are not required with this
            subroutine call. It is not followed by "EXIT
            PROGRAM".

FUNCTIONS

The subroutine makes an entry in the Diagnostic Buffer by
moving in the specified data and adding a further word,
at the end, consisting of the identifier and the length.

REFERENCE

Part 3, Section

TPS

TPSCDISP - Display output to terminal

CALLING SEQUENCE

    ENTER TPS TPSCDISP USING A B C Y Z

PARAMETERS

A   Data name of area holding data fields to be output.

B   Data name of area holding parameters to control the
     output: this must commence on a word boundary.

C   Data name of an area containing details of all fields
     which may be output: this must commence on a word
     boundary.

Y   Sequencing parameter.

Z   Re-entry parameter.

FUNCTIONS

    This subroutine sets parameters in the Control Block so
    that TPS will produce parameters for output according
    to the areas set up, and will edit the output message to
    match the physical characteristics of the terminal receiving
    the final output message.

    The setting of the "Y" and "Z" parameters will govern the
    passing of the Control Block for further processing after
    the output has been transmitted.

Area 'A' - Data fields for output

    The output area must be in the linkage section.

    All fields of non-zero length defined by parameter C below
    must be present and of the length specified; the actual
    output will be in accordance with values set in parameter
    B below.

    For a field which is defined as a standard message, the
    standard message number should be set up as four numeric
    characters (PIC 9(4)).

    It should be noted that all text fields must precede all
    standard messages.

TPS

Area 'B' - Parameters to control the output

This area must be in the linkage section

POSITION	PICTURE	CONTENTS
0.0	X(4)	Zero: no format to be displayed otherwise the format identifier as 3 or 4 alphabetic characters (left-justified).
1.0	9	Clear screen indicator: 1 = CS 0 = no CS
1.1	9	Alarm to be sounded (as last output) 1 = sound alarm 0 = no alarm
1.2	9	Rack-up to be incorporated (after output of fields) 1 = rack up 0 = no rack-up
1.3	9	XPRE indicator 1 = fields to be included for XPRE - use XPRE area for TPS params/text. 0 = no fields to be included for XPRE.
2.0	S9(6) CSR OCCURS 2.	Co-ordinates defining the final cursor position: the first word gives the line and the second word the column position. Either or both may be zero (see Section 1.5.5). If the line number is set negative, the column number indicates the number of the output field at which the cursor is to be positioned (first field is number 1).
4.0	S9(6) CSR	Terminal identifier (the system number) If this is zero, the output will be directed to the terminal which originated the current transaction. If the value is negative, the message is output as a general broadcast.
5.0	9 OCCURS n	Where n is the number of output fields as defined in parameter C. Indicator of output required for each field.

Continued.....

The output indicator for each field will have values:

0 Do not output

1 Do not output : set protect steady   (↑1)

2 Do not output : set protect flash   (↑2)

3 Do not output : set unprotect flash   (↑3)

4 Do not output : set unprotect steady (↑4)

5 Output field

6 Output field : set protect steady   (↑1)

7 Output field : set protect flash   (↑2)

8 Output field : set unprotect flash (↑3)

9 Output field : set unprotect steady (↑4)

i.e. Value = control char required + 5 if field to be
                (0-4)   output

The flash/steady indicator would be output on the screen in
the position immediately preceding the line/column specified
as field position in Parameter C.

Area 'C' - Output field details

POSITION	PICTURE	CONTENTS
0.0	9(6) CSR	Count of number of fields in following table (n)
1.0	99	Line number for output of field (01-30)
1.2	99	Column number for output of field (01-80)
2.0	X(4)	Length of field (may be zero) or 000M for standard message.

OCCURS n { (braces spanning the 1.0, 1.2, 2.0 rows)

This area must be in the linkage section: this may be set up in
Working Storage using 'VALUE ' clauses and moved into linkage.

REFERENCE

Part 1, Section 3.2.

TPSCDISPLAY - Display output to terminal (TPS3 Logical Terminal Interface)

CALLING SEQUENCE

ENTER TPS TPSCDISPLAY USING A B Y Z

PARAMETERS

A - Data name of an area holding the data fields to be output.
This area must commence on a word boundary, and must have
the following layout (COBOL levels are for illustration only):-

```
02 A.
   03 MODE        PIC 9          Mode indicator:
                                 0= following data in fixed
                                    length format
                                 1= following data in variable
                                    length format

   03 FILLER      PIC X(3)       Value zero

   03 DATA        PIC X(n)       Data to be output.
                                 (See Part 1, Section 3.2.8 for
                                 full details of the format of
                                 this Data).
```

B - Data name of an area holding the output control parameters.
This area must commence on a word boundary and have the following
layout (COBOL levels are for illustration only):-

```
02 B.
   03 FORMAT-ID   PIC X(4)       Format identifier for L.T.I.
                                 output parameters

   03 SET-NO      PIC 99         Set number within format for
                                 L.T.I. output parameters:in range 1-63.

   03 FORMAT-IND  PIC 99         Indicates whether the format
                                 specified is to be output as
                                 part of the display:
                                 0 - do not output format
                                 1 - output format

   03 CLEAR-IND   PIC 9          Indicates whether the screen
                                 is to be cleared:
                                 0 - do not clear screen
                                 1 - clear screen
```

03 TERMINAL-ID	PIC S9(6) CSR	Terminal identifier (the system number). If this is zero, the output will be directed to the terminal which originated the current transaction. If the value is negative, the message is output as a general broadcast.
03 CONTROL-IND	PIC 99 OCCURS n	Output control indicators. ('n' is the number of elements - text fields and standard message defined at L.T.I. set-up). Values of the control indicator are detailed in Part 1, Section 3.2.8.

Y - Sequencing parameter - see Section 1.5.1

Z - Re-entry parameter   - see Section 1.5.2

FUNCTIONS

This subroutine sets parameters in the Control Block so that TPS will produce parameters for output according to the areas set up and the L.T.I. output parameters specified as part of the System Definition procedures, and will edit the output message to match the physical characteristics of the terminal receiving the final output message.

The setting of the "Y" and "Z" parameters will govern the passing of the Control Block for further processing after the output has been transmitted.

REFERENCE

Par 1, Section 3.2

TPS

TPSCDR - Delete a Record

CALLING SEQUENCE

    ENTER TPS TPSCDR USING A B C Y Z

PARAMETERS

    A   File ID - see Section 1.5.3

    B   Name of the location containing the key of the record
         to be deleted.

    C   Name of the location containing the LBN if known
         (otherwise zero). A one word field, Pic 9(6) COMP
         SYNC RIGHT.

    Y   Sequencing Parameter - see Section 1.5.1

    Z   Re-entry Parameter - see Section 1.5.2

FUNCTIONS

    The subroutine sets up parameters in the Control Block so
    that TPS will delete the specified record from the file
    currently opened under the given name. If the LBN is not
    stated, the record will be located by the method appropriate
    to the file as defined in the file Spec. (e.g. by Index
    Search). The setting of the Y and Z parameters will govern
    the passing of the Control Block for continued processing
    after the deletion has taken place.

REFERENCE

    Part 1, Section 3.1

TPS

TPSCEND - Terminate the processing of the current transaction

CALLING SEQUENCE

    ENTER TPS TPSCEND

PARAMETERS

  None

FUNCTIONS

    The subroutine sets parameters in the Control Block so
that TPS will free any data Locks and any cells of
dynamically allocated store associated with the Control
Block, and return it to the queue of free Control Blocks.
In most cases this subroutine will not be used as the
processing will be terminated by setting to "X" the Sequencing
parameter associated with a call to output a response to
the terminal.

TPS

TPSCEOS - Establish an Output String

CALLING SEQUENCE

    ENTER TPS TPSCEOS USING A B C D

PARAMETERS

A   Clear Screen Indicator 1 to clear the screen, otherwise zero. A single character literal or a Data Name (see 6.7.1) *of a one word area (pic 9(6) csr)*

B   The number of following parameters, and also the following:

    0 = Parameter Area and Text Area in TCR for "XPRE"

    1 = Parameter Area (C) nominated, text left in situ

    2 = Parameter Area and Text Area (C, D) nominated

C   Name of an area large enough to hold the parameters generated by the series of subroutine calls of which this is the first (i.e. 2N words where N is the number of subroutine calls in the series). This area must be within one of the areas associated with the Control Block (it must be defined in the Linkage Section and start on a word boundary). If the parameters are to be held in the "XPRE" area in the Terminal Control Record, this parameter is omitted. Parameter D must also be omitted in this case.

D   If an area is to be provided for the storing of Text prior to output, then this parameter must be the name of an area large enough to hold the total amount of Text that will be output by all the TPSCTXT or TPSCTXI subroutine calls present in the series of output subroutine calls of which this is the first. This area must be within one of the areas associated with the Control Block (it must be defined in the Linkage Section and start on a word boundary). If the text is to be left where it is then this parameter is omitted. If the text output by any TPSCTXT or TPSCTXI subroutine calls is to be stored in the "XPRE" area in the Terminal Control Record, parameter C must also have been omitted.

    Note: Y and Z parameters do not occur with this subroutine call. It is not followed by "EXIT PROGRAM".

FUNCTIONS

    This subroutine sets parameters in the Terminal Control Record to indicate the methods to be employed with subsequent output subroutine calls (e.g. whether text is to be left where it is or moved somewhere to enable user areas to be freed immediately). If XPRE is in use, and the Clear Screen parameter is set, all the currently stored XPRE data will be discarded and reset.

(Cont.)

(This is only done in store. The Terminal Control Record if on disc will not be updated until the output message is ready for transmission).

The saving of data for XPRE does not make it obligatory to set parameter B to zero: data may be handled by either of the other two methods and only incorporated into the TCR at output time. This may give better usage of TCR space as items not to be saved will not have to be accommodated.

REFERENCE

Part 1, Section 3.2

TPS

TPSCEPS - Establish a Print Stream

CALLING SEQUENCE

ENTER TPS TPSCEPS USING A B C Y Z

PARAMETERS

A   File ID of the Print Well. See 1.5.6.

B   Stream Identifier. See 1.5.7

C   Number of line-up records. A 2 character literal (0 - 99) or data name of a 1 word area containing the number. (Pic 9(6) COMP SYNC RIGHT).

Y   Sequencing parameter - see Section 1.5.1

Z   Re-entry parameter - see Section 1.5.2

FUNCTIONS

The subroutine sets parameters in the Control Block so that TPS creates a Stream Record in the Stream Index of the Print Well identified by parameter A. Line-up records if present must occur at the start of the stream and the number is specified by parameter C. Line-up records are added to the print stream by calls to TPSCAPI with a record type of Normal (=0).

The settings of the "Y" and "Z" parameters will govern the passing of the Control Block for continued processing after the requested function has been completed.

The number of print streams that an individual terminal can create concurrently is determined by a system file generation parameter TCRS.

REFERENCE

Part 1, Section 3.8. 11

TPS

TPSCES - Edit and Send

CALLING SEQUENCE

ENTER TPS TPSCES USING A B C Y Z

PARAMETERS

A,B Co-ordinates defining the final cursor position. Either or both may be zero (see Section 1.5.5.)

C Terminal Identifier (the system number). If the parameter is zero the output will be directed to the terminal which originated the current transaction. A two character literal, or a data name (see Section 1.5). If the terminal number is greater than 99, the data name option must be chosen. (Zero as a single character literal is acceptable). (0 - 4095).

Y Sequencing Parameter - see Section 1.5.1.

Z Re-entry Parameter - see Section 1.5.2.

FUNCTIONS

The subroutine sets parameters in the Control Block and parameter area set up by a preceding call to the subroutine TPSCEOS to enable TPS to edit the output message to match the physical characteristics of the terminal receiving the final output message. This subroutine must only be used in conjunction with TPSCEOS. The settings of the "Y" and "Z" parameters will govern the passing of the Control Block for further processing after the output has been transmitted.

REFERENCE

Part 1, Section 3.2.

TPS

TPSCESB - Edit and Send Broadcast

CALLING SEQUENCE

    ENTER TPS TPSCESB USING A B Y Z

PARAMETERS

    A,B Co-ordinates defining the final cursor position.
        Either or both may be zero (See Section 1.5.5)

    Y   Sequencing Parameter - see Section 1.5.1.

    Z   Re-entry Parameter - see Section 1.5.2

FUNCTIONS

    The subroutine sets parameters in the Control Block and
    parameter area set up by a preceding call to the sub-
    routine TPSCEOS to enable TPS to edit the output message
    to match the physical characteristics of the terminal
    receiving the final output message.   The output data is
    transmitted to all currently available terminals except those
    defined as "excluded from broadcasts"   This subroutine
    must only be used in conjunction with TPSCEOS.   The settings
    of the Y and Z parameters will govern the passing of the
    Control Block for further processing after the output has
    been transmitted.

REFERENCE

    Part 1, Section 3.2.

TPS

TPSCESL

TPSCESL - Edit and Send to a List of Terminals

CALLING SEQUENCE

    ENTER TPS TPSCESL USING A B C Y Z

PARAMETERS

    A,B Co-ordinates defining the final cursor position.
        Either or both may be zero (see Section 1.5.5)

    C   Name of the area containing the list of terminals
        (the list consists of one word per terminal,
        containing the terminal identifier as a binary
        number with one word set negative as a terminator)

    Y   Sequencing Parameter - See Section 1.5.1.

    Z   Re-entry Parameter - see Section 1.5.2

FUNCTIONS

    The subroutine sets parameters in the Control Block and
    parameter area set up by a preceding call to the sub-
    routine TPSCEOS to enable TPS to edit the output message
    to match the physical characteristics of the terminal
    receiving the final output message.   The output data is
    transmitted to all currently available terminals in the list.
    This subroutine must only be used in conjunction with TPSCEOS.
    The settings of the Y and Z parameters will govern the passing
    of the Control Block for further processing after the
    output has been transmitted.

REFERENCE

    Part 1, Section 3.2

TPS

<u>TPSCFL</u> - <u>Free a data lock (File or Bucket)</u>

CALLING SEQUENCE

    ENTER TPS TPSCFL USING A B Y Z

PARAMETERS

    A   File I.D. - see Section 1.5.3

    B   Name of a single word location (PIC 9(6) COMP SYNC RIGHT)
         containing the LBN in binary form, or containing zero,
         or a single character literal zero.

    Y   Sequencing parameter - see Section 1.5.1

    Z   Re-entry parameter - see Section 1.5.2

FUNCTIONS

The subroutine sets parameters in the Control Block which
cause TPS to release a lock set on a nominated LBN.   Only
locks set by the current message can be freed. This sub-
routine is not used for the routine freeing of a data lock
which normally takes place on release of the Control Block.
This is an important element of the system's security. If
parameter B is zero the request will be interpreted as
freeing a file lock.

The settings of the Y and Z parameters then govern the
passing of the Control Block for continued processing.

REFERENCE

    Part 1, Section 3.1

TPS

TPSCFLA - Reset File Specification

CALLING SEQUENCE

    ENTER TPS TPSCFLA USING A B C D E Y Z

PARAMETERS

A   File I.D. - See Section 1.5.3

B   Data name of an area containing the new file details. This
      area must commence on a word boundary, and contain the
      following information:

      First three words - file name (PIC X(12))

      Fourth word   - generation number of the version of the
                     file to be opened. In range 0-4095, or
                     value -1 to open highest generation of
                     the file online. (PIC S9(6) COMP SYNC RIGHT).

      Fifth word   - new generation number to be given to the
                     file on opening. In range 0-4095, or
                     value -1 to leave the generation number
                     unaltered. (PIC S9(6) COMP SYNC RIGHT).
                     Note that this parameter is only
                     significant for files opened in OUTPUT mode.

C   Status type of file specification to be amended. A one
      character literal, or data name of a one-character area (PIC X).
      It may have the following values:

         C - amend current file specification
         S - amend start-of-day file specification

D   Unit number (in range 1-18). A two-character literal, or data
      name of a one word area containing the unit number within the
      logical file (PIC 9(6) COMP SYNC RIGHT).

E   File opening mode. A two-character literal or data name of a
      one word area containing the file opening mode (PIC 9(6) COMP
      SYNC RIGHT). The opening mode may have the following values:

      0   Do not change opening mode
      1   Overlay
      2   Input
      3   Output

Y   Sequencing parameter - see Section 1.5.1

Z   Re-entry parameter   - see Section 1.5.2

FUNCTIONS

The subroutine sets parameters in the Control Block so that TPS
will amend the File Specification details on the System File for
the specified Logical File. This routine may only be used when
the Logical File is closed.or 'failed'

The settings of the Y and Z parameters will govern the passing of
the Control Block for continued processing after the File
Specification amendment has been made.

REFERENCE

Part 1, Section 3.1

TPS

TPSCFMT - Output a standard Format

CALLING SEQUENCE

ENTER TPS TPSCFMT USING A

PARAMETER

A   Screen Identifier (three or four alpha characters).
     A three or four character literal, or a Data Name of
     a one word area containing the identifier, left justified.

     Note: Y and Z parameters do not occur with this sub-
             routine call. It does not require to be followed
             by "EXIT PROGRAM"

FUNCTIONS

This subroutine stores the Screen Identifier in the
Terminal Control Record to enable TPS to retrieve the
required screen format when output message is finally
prepared for output. This subroutine must only be
used in conjunction with the subroutine TPSCEOS.

REFERENCE

Part 1, Section 3.2

TPS

TPSCFS - <u>Release a cell or cells of Store</u>

CALLING SEQUENCE

ENTER TPS   TPSCFS   USING A B_1.......B_n Y   Z

PARAMETERS

A   The number of cells to be released, in the range
1 - 5.   A single character literal or a Data Name
(see 1.5.)

B   The number of the link word in the Control Block in
which the address of the cell is to be found.
This will be established by identifying the 01 level
entry in the Linkage Section which will map the area
for access by the routine, and relating this to the
item in the Calling Sequence, as set up on Form 21 of
the Generation Forms.   This item on the form will be
in the format TPSLINK,n,   The value of "n" is the
value to be used in this parameter.   It will be expressed
as a two character literal or a Data Name (see 1.5.)
(Range 01 to 99)

Y   Sequencing Parameter - see section 1.5.1.

Z   Re-entry Parameter - see section 1.5.2.

FUNCTION

The subroutine sets up parameters in the Control Block so
that TPS will release the store cell or cells nominated
and return them to their chains.

REFERENCE

Part 1 Section 3.9

TPS

TPSCGS - <u>Get a cell or cells of Store</u>

CALLING SEQUENCE

ENTER TPS   TPSCGS   USING A B_1 C_1.........B_n C_n Y   Z

PARAMETERS

A   The number of cells to be obtained, in the range 1 - 5
     A single character literal or a Data Name (see 1.5.)

B   The number of the link word in the Control Block into
     which the address of the cell is to be put. This will
     be found by identifying the 01 level entry in the Linkage
     Section which will map the area for access by the routine,
     and relating this to the item in the Calling Sequence,
     as set up on Form 2F of the Generation Forms. This item
     on the form will be in the format TPSLINK,n, The value
     of "n" is the value to be used in this parameter.
     It will be a two character literal or a Data Name (see
     1.5.)   (Range 01 to 99).

C   The number identifying the chain of cells from which one
     is to be obtained. The chain is identified by its position
     in Form 9 of the Generation Forms. This parameter will
     be a two character literal or a Data Name (see 1.5.);
     (Range 01 to 99).

     Parameters B and C occur in pairs; up to 5 pairs may be used

Y   Sequencing Parameter - see section 1.5.1.

Z   Re-entry Parameter - see Section 1.5.2.

FUNCTION

The subroutine sets up parameters in the Control Block so
that TPS will allocate the required cell or cells of store,
placing their addresses in the chosen link words and making
them accessible by the appropriate part of the Linkage Section.

REFERENCE

Part 1, Section 3.9.

TPS

TPSCINP - Return to Input Handler

CALLING SEQUENCE

    ENTER TPS TPSCINP USING A B

PARAMETERS

    A   Entry Point (0 or 1).   A single character literal,
         or the Data Name of a one word area (PIC 9(6) COMP
         SYNC RIGHT). Zero will normally be the only setting
         used.

    B   Displacement: the number of characters to be discarded
         from the front of the input data. A two character
         literal, or the Data Name of a one word area (PIC 9(6)
         COMP SYNC RIGHT)

         Note: Y and Z parameters are not required with this
               subroutine call, but it must be followed by
               "EXIT PROGRAM"

FUNCTIONS

    This subroutine is designed for use when writing input
    interpreters.   It sets parameters which cause TPS to
    return the control Block for processing by Input Handler,
    re-entering at a point governed by parameter A, which
    should be set to zero to cause the full logic of Input
    Handler to be obeyed.   Parameter B enables the user to
    define the length of a preamble to be removed by the
    software before recommencing the Input procedures.
    The text of the input is realigned to discard the preamble.

REFERENCE

    Part 1, Section 3.15.

TPS

<u>TPSCLST</u> - Output a standard screen format to the Terminals nominated in a given List

Note: This subroutine is part of the Phase 1 interface, and is not usable in a series commencing with TPSCEOS

CALLING SEQUENCE

ENTER TPS TPSCLST USING A B C D E F Y Z

PARAMETERS

A   Clear Screen Indicator, 1 to clear screen, otherwise zero. A single character literal or a Data Name (see 1.5.)

B   Screen Identifier (four alpha characters). May be zero if no format is to be used. A four character literal, or a Data Name of a one word area, PIC xxxx. Zero as a single character literal is acceptable.

C,D Co-ordinates defining the final cursor position. Either or both may be zero (see Section 1.5.5)

E   Name of an area large enough to hold the parameters generated by the series of subroutine calls of which this is the first (i.e. 2N - 1 words where N is the number of subroutine calls inthe series). This area must be within one of the areas associated with the Control Block and defined in the Linkage Section. It must start on a word boundary.

F   Name of the area containing the list of terminals (the list consists of one word per terminal, containing the terminal identifier as a binary number with one word set negative as a terminator).

Y   Sequencing Parameter - see Section 1.5.1.

Z   Re-entry Parameter - see Section 1.5.2.

FUNCTIONS

The subroutine sets parameters in the Control Block and in the nominated area so that TPS will retrieve the required screen format and set it up in the message area associated with the Control Block for output to the terminals nominated in the list.

Continued.

If no format is specified the major output parameters
are set ready for a "message" or for "text" to be added
by the appropriate subsequent subroutines. The settings
of the Y and Z parameters will govern the passing of
the Control Block for further processing after the Output
has been transmitted.   Note that this subroutine call is
not always immediately followed by Exit.

REFERENCE

Part 1 Section 3.2

TPS

TPSCMSG - Add a standard Message to a Screen

CALLING SEQUENCE

ENTER TPS TPSCMSG USING A B C

PARAMETERS

A,B Screen Co-ordinates at which the Message is to appear.
Either or both may be zero (see section 1.5.5)

C Message Identifier (in the range 1 - 4095). A two
character literal or a Data Name of a one word area
(PIC 9(6) COMP SYNC RIGHT). For values greater than
99 the Data Name option must be chosen.

Note: Y and Z parameters do not occur with this sub-
routine call. It does not always require to be
followed by "EXIT PROGRAM"

FUNCTIONS

The subroutine sets parameters in the parameter area set
up by a preceding call to TPSCEOS so that TPS will retrieve
the given message, and add it to the character string being
built up for output in the message area associated with the
Control Block. This subroutine must therefore only be used
in conjunction with the above routine, unless the Phase 1
interface is used, in which case it may occur within a
series commencing with TPSCOUT, TPSCBDC, or TPSCLST.

REFERENCE

Part 1 Section 3.2

TPS

<u>TPSCMSI - Add a standard message to a Screen and include for XPRE</u>

CALLING SEQUENCE

    ENTER TPS TPSCMSI   USING A B C

PARAMETERS

A,B Screen co-ordinates at which the message is to appear.
    Either or both may be zero (see Section 1.5.5)

C   Message Identifier (in the range 1 - 4095).   A two
    character literal or a Data Name of a one word area
    (PIC 9(6) COMP SYNC RIGHT)   For values greater than 99
    the Data Name option must be chosen.

Note: "Y" and "Z" parameters do not occur with this
         subroutine call.   It does not require to be
         followed by "EXIT PROGRAM"

FUNCTIONS

    The subroutine sets parameters in the parameter area set
    up by a preceding call to TPSCEOS so that TPS will retrieve
    the given message and add it to the character string being
    built up for output in the message area associated with the
    Control Block and also retain for inclusion into the current
    XPRE data.
    This subroutine must therefore only be used in conjunction
    with the above routine.

REFERENCE

    Part 1 Section 3.2.

TPS

TPSCNRT - Pass control to a New Routine Train

CALLING SEQUENCE

ENTER TPS   TPSCNRT   USING A B

PARAMETERS

A   A 3 or 4 character identifier of the transaction type
    to which transfer is to be made. (A genuine transaction
    of this type need not be present in the system, but an
    appropriate entry must occur in the Message Type table
    (Form 23) pointing to the AR Train in question (Form 4)
    A three or four character literal, or the Data Name of a
    one word area containing the identifier left justified.

B   The displacement in the train at which processing is to
    continue.   A two character literal, or the Data Name of
    a one word field (PIC 9(6) COMP SYNC RIGHT).   Note that
    the locations in the Train as represented in Form 4
    count from 1, not zero.

Note: No Y or Z parameters occur with this call.   It must,
       however, be followed by "EXIT PROGRAM"

FUNCTION

The subroutine sets parameters in the Control Block which
cause TPS to alter the sequencing data held elsewhere in
the Control Block so that the transaction is passed for
processing to the routine indicated in the nominated location
of the specified AR Train.

REFERENCE

Part 1, Section 3.3

TPS

TPSCNXT - Pass control to another Application Routine.

CALLING SEQUENCE

    ENTER TPS   TPSCNXT   USING   A

PARAMETERS

    A   A positive numeric in the range 1 - 9, having the
         significance defined in the description of the
         sequencing parameter in section 1.5.1.   A single
         character literal, or a Data Name of a single character
         field (PIC 9) or a one word field (PIC 9(6) COMP SYNC
         RIGHT).   Note that this last format is an exception to
         the rule for sequencing parameter.

FUNCTIONS

    The subroutine sets parameters in the Control Block so
    that TPS will record that the current Application Routine
    is now finished with, and will calculate from the
    Application Routine Train the next routine to which the
    Control Block will be passed.

REFERENCE

    Part 1, section 3.3.

TPS

TPSCOFC - <u>Open a File (Conditionally)</u>

CALLING SEQUENCE

    ENTER TPS   TPSCOFC USING A Y Z

PARAMETERS

    A   File ID. See Section 1.5.3.

    Y   Sequencing Parameter. See Section 1.5.1.

    Z   Re-entry Parameter. See Section 1.5.2.

FUNCTIONS

The subroutine sets parameters in the Control Block so that
TPS will open the file identified by parameter A, if the file
is closed. Alternatively, if the file is open, no action is
taken and no error is reported as opposed to the action of a
TPSCOPF call, which would report an error. A record is made
of the number of calls to this subroutine for each file, and
this value is used to control the action of the Conditional
Close routine which will not close the file unless there have
been as many close requests as open requests.

REFERENCE

    Part 1, Section 3.1.

TPS

<u>TPSCOPF - Open a File (Globally)</u>

CALLING SEQUENCE

    ENTER TPS TPSCOPF USING A Y Z

PARAMETERS

    A   File ID - see section 1.5.3.

    Y   Sequencing Parameter - see section 1.5.1.

    Z   Re-entry Parameter - see section 1.5.2.

FUNCTIONS

    The subroutine sets parameters in the Control Block so
    that TPS will open the file identified by parameter A,
    in accordance with the settings of parameters in the
    File Specification.

REFERENCE

    Part 1 Section 3.1.

<u>TPSCOPT - Open a Terminal</u>

CALLING SEQUENCE

ENTER TPS   TPSCOPT   USING   A Y Z

PARAMETERS

A   The system's internal number of the terminal to be
    opened.   A 2 character literal (1 - 99) or the Data
    Name of a one word area (PIC 9(6) COMP SYNC RIGHT)
    containing the number.   For values greater than 99
    the latter option must be chosen.

Y   Sequencing parameter. See Section 1.5.1.

Z   Re-entry parameter. See Section 1.5.2.

FUNCTIONS

The subroutine sets parameters in the Control Block which cause
TPS to set the status of the terminal to "Open" In most
environments this merely removes a software trap within TPS
thus allowing data from the terminal to be received into the
system, but in a 7903 or Communications Manager environment
it issues the necessary "supervisories" to open the terminal
in the external software.   In a George 3 environment it also
issues the necessary "Attach" command via the GDR link, if
specified.

REFERENCE

Part 1 Section 3.2.

TPS

TPSCOUT - Output a standard screen format

Note: This subroutine is part of the Phase 1 interface and is not usable in a series commencing with TPSCEOS

CALLING SEQUENCE

    ENTER TPS TPSCOUT USING A B C D E F Y Z

PARAMETERS

A   Clear Screen Indicator; 1 to clear the screen, otherwise zero.   A single character literal, or a Data Name (see 1.5).

B   Screen Identifier (four alpha characters) may be zero if no format is to be used.   A four character literal, or a Data Name of a one word area, PIC XXXX.   Zero as a single character literal is acceptable.

C,D Co-ordinates defining the final cursor position.   Either or both may be zero (see Section 1.5.5)

E   Name of an area large enough to hold the parameters generated by the series of subroutine calls of which this is the first (i.e. 2N -1 where N is the number of sub-routine calls in the series).   This area must be within one of the areas associated with the Control Block, and defined in the Linkage Section.   It must start on a word boundary.

F   Terminal Identifier (the system number).   If the parameter is zero the output will be directed to the terminal which originated the current transaction. A two character literal, or a Data Name of a one word location, (PIC 9(6) COMP SYNC RIGHT).   If the Terminal Number is greater than 99, the Data Name option must be chosen. (Zero as a single character literal is acceptable). (Range 0 - 4095)

Y   Sequencing parameter - see Section 1.5.1

Z   Re-entry parameter - see Section 1.5.2

FUNCTIONS

The subroutine sets parameters in the Control Block and in the nominated parameter area so that TPS will retrieve the required screen format and set it up in the Message Area associated with the Control Block for output to the nominated terminal. If no format is specified, the major parameters are set ready for a "message" or for "text" to be added by the appropriate subsequent subroutines.

TPS

The settings of the Y and Z parameters will govern
the passing of the Control Block for further processing
after the Output has been transmitted.   Note that this
subroutine call is not always immediately followed by
Exit.

REFERENCE

Part 1 Section 3.2

TPS

TPSCPAD - Amend a Print Demand

CALLING SEQUENCE

ENTER TPS TPSCPAD USING A B C D E Y Z

PARAMETERS

A   File ID of the Print Well - see Section 1.5.6

B   Stream Identifier - see Section 1.5.7

C   Demand Identifier - see Section 1.5.7

D   New Destination Terminal Number. The internal system number of the new destination terminal(which must be a printer),or zero if the destination terminal is not to be amended. A two character literal, or the Data Name of a one word area (PIC 9(6) COMP SYNC RIGHT). Range 0 - 4095; for values greater than 99 the Data Name option must be chosen.

E   New Controlling Terminal Number. The internal system number of the new controlling terminal, or zero if the controlling terminal is not to be amended. A two character literal, or the Data Name of a one word area (PIC 9(6) COMP SYNC RIGHT). Range 0 - 4095; for values greater than 99 the Data Name option must be chosen.

Y   Sequencing Parameter - see Section 1.5.1

Z   Re-entry Parameter - see Section 1.5.2

FUNCTIONS

The subroutine sets up parameters in the Control Block so that TPS amends the Print Demand Record in the Print Demand Index. Either the Destination Terminal or the Controlling Terminal or both may be changed.

An error reply will be created if the specified Demand record cannot be located or an attempt is made to change either terminal to its current value, or output is in progress to the destination terminal.

The settings of the Y and Z parameters will govern the passing of the Control Block for continued processing after the above function has been completed.

REFERENCE

Part 1,Section 3.11.

TPS

TPSCPCD - Cancel a Print Demand

CALLING SEQUENCE

ENTER TPS   TPSCPCD   USING A B C Y Z

PARAMETERS

A   File ID of the Print Well   See 1.5.6

B   Stream Identifier.   See 1.5.7.

C   Demand Identifier.   See 1.5.7.

Y   Sequencing parameter.   See 1.5.1.

Z   Re-entry parameter.   See 1.5.2.

FUNCTIONS

The subroutine sets up parameters in the Control Block so
that TPS deletes the demand record from the demand index
if the demand is not current or sets the end of stream
indicator in the TCR.

The settings of the Y and Z parameters will govern the
passing of the Control Block for continued processing after
the above function has been completed.   Subsequently when the
Control Block is released (in response to a TPSCEND call or
to any call with a sequencing parameter of "X") TPS will
destroy the stream if there are no other demands for this
stream in the demand index and a request to destroy the
stream has been issued by a TPSCPOD call.   Only one TPSCPCD
subroutine call can be issued per allocation of a control
block (i.e., processing of a message).   In addition if the
demand was current the demand record is deleted.

REFERENCE

Part 1, section 3.11.

TPSCPDS - Delete a Print Stream

CALLING SEQUENCE

    ENTER TPS TPSCPDS USING A B Y Z

PARAMETERS

A   File ID of the Print Well. See 1.5.6.

B   Stream Identifier.   See 1.5.7.

Y   Sequencing parameter.   See 1.5.1.

Z   Re-entry parameter.   See 1.5.2

FUNCTIONS

This subroutine sets parameters in the Control Block so
that TPS will check that there are no demands for this
stream outstanding and note that the stream is to be destroyed.
If the check fails an error reply is made.

The settings of the "Y" and "Z" parameters will govern the
passing of the Control Block for continued processing after
the above function has been completed.   Subsequently when
the Control Block is released (in response to a TPSCEND call
or to any call with a sequencing parameter of "X") TPS will
delete the stream from the print well, chaining all the
buckets freed by this process to the Free Cell Chain. Only
one TPSCPDS subroutine call can be issued per allocation of a
Control Block (i.e., processing of a message).

REFERENCE

    Part 1 Section 3.11.

TPS

TPSCPOD - Request Output of a Print Stream

CALLING SEQUENCE

    ENTER TPS TPSCPOD USING A B C D E F G H Y Z

PARAMETERS

A   File ID of the Print Well See Section 1.5.6.

B   Stream Identifier.   See 1.5.7.

C   Demand Identifier.   See 1.5.7.

D   Demand Priority. A two character literal or data name of a 1 word location (PIC 9(6)COMP SYNC RIGHT) Range 0-4095.

E   The system's internal number of the printer to which the stream is to be sent. A two character literal or data name of a 1 word location (PIC 9(6) COMP SYNC RIGHT) Range 1 - 4095.

F   Header and Trailer requirements. A one character literal or data name of a one word location (PIC9(6) COMP SYNC RIGHT) values:

     0 - None

     1 - Stream ID preamble and postcript required.

     2 *Confirmation at demanding terminal of completion*

     3 - Confirmation at demanding terminal of completion in addition to Stream ID preamble and postcript.

G   Destroy/Save Depth parameter. A one character literal or data name of a one word location (PIC 9(6) COMP SYNC RIGHT). Values:

     + n   Stream to be destroyed but to be saved to a depth of n restart points. n = 0 to 8.

         0 signifies that each bucket is destroyed after its contents are printed.

     -n   Stream not to be destroyed.

H   1 character literal or data name of a one word location (PIC 9(6) COMP SYNC RIGHT) containing output control char:

     0 - No control.
     1 - Print only when Section End inserted into Stream.
     2 - Release printer at Section End.

Y   Sequencing Parameter. See 1.5.1.

Z   Re-entry Parameter. See 1.5.2

TPS

TPSCPOD   Continued.

FUNCTIONS

    The subroutine sets up parameters in the Control Block so
that TPS will creat a Print Demand Record in the Print
Demand Index.   The demand priority (parameter D) determines
the order in which demands to a specific printer are actioned.

    An error reply will be created and the demand rejected if a
previous TPSCPOD call has specified that the stream is to be
destroyed.

    The settings of the Y and Z parameters will govern the
passing of the Control Block for continued processing after
the above function has been completed.   Subsequently when the
Control Block is released (in response to a TPSCEND call) TPS
will cause the demand to be scheduled for printing.

REFERENCE

    Part 1 Section 3.11.

TPS

TPSCPOT-Partly Open a Terminal

CALLING SEQUENCE

ENTER TPS TPSCPOT USING A Y Z

PARAMETERS

A - The system's internal number of the terminal to be partly
opened. A 2 character literal (01-99) or the Data Name of
a one word area (PIC 9(6) COMP SYNC RIGHT) containing the
number. For values greater than 99 the latter option
must be chosen.

Y - Sequencing parameter. See Section 1.5.1

Z - Re-entry parameter. See Section 1.5.2

FUNCTIONS

The subroutine sets parameters in the Control Block which
cause TPS to set the status of the terminal from "Closed"
to "Partly Open". In a communications manager environment
it issues the necessary "supervisories" to partly open the
terminal in the external software.

In all other environments TPS handles this request in
exactly the same way as TPSCOPT.

REFERENCE

Part 1 Section 3.2

TPS

TPSCRA - Reset Access Status

CALLING SEQUENCE

> ENTER TPS TPSCRA USING A Y Z

PARAMETERS

> A   Terminal Number.   The internal system number of the
> terminal to be affected.   A two character literal,
> or the Data Name of a one word area (PIC 9(6) COMP SYNC
> RIGHT)   Range 1 - 4095; for values greater than 99 the
> Data Name option must be chosen.
>
> Y   Sequencing Parameter - see section 1.5.1.
>
> Z   Re-entry Parameter - see section 1.5.2.

FUNCTIONS

> The subroutine sets parameters in the Control Block so that
> TPS will set the Access Status of the nominated terminal
> back to that generated as its "start of run" state - i.e.,
> cancelling any dynamically acquired access rights.   The
> settings of the Y and Z parameters will govern the passing
> of the Control Block for continued processing after this
> function has been performed.

REFERENCE

> Part 1, Section 3.2.

TPS

TPSCRB - Read a specific Bucket

CALLING SEQUENCE

    ENTER TPS   TPSCRB   USING   A B C D E Y Z

PARAMETERS

A   File ID - see section 1.5.3.

B   Record Name - see section 1.5.4.

C   Lock Parameter; 1 if a lock is required, otherwise zero.
    A single character literal, or a Data Name of a one word
    location (PIC 9(6) COMP SYNC RIGHT)

D   Length of data to be transferred (in words). If the
    parameter is set to zero the whole of the bucket will be
    transferred.   A two character literal or a Data Name of
    a one word location (PIC 9(6) COMP SYNC RIGHT).   For
    values greater than 99 the Data Name option must be used.

E   Name of a single word location containing the LBN in
    Binary Form.   (PIC 9(6) COMP SYNC RIGHT)

Y   Sequencing Parameter - see section 1.5.1.

Z   Re-entry Parameter - see section 1.5.2.

FUNCTIONS

    The subroutine sets parameters in the Control Block so that
    TPS will read the bucket with the specified LBN from the file
    currently open under the given name and transfer the data
    directly into the user's area.   The specified number of words
    of data is transferred.   The settings of the Y and Z parameter
    will then govern the passing of the Control Block for continued
    processing after the file access has been made.

REFERENCE

    Part 1, section 3.1.

TPS

TPSCRBM - Read "Multiple Buckets"

CALLING SEQUENCE

    ENTER TPS   TPSCRBM USING A B C D E Y Z

PARAMETERS

A   File ID - see section 1.5.3.

B   Record Name - see section 1.5.4.

C   Lock Parameter; 1 if a lock is required, otherwise zero.
     A single character literal, or a Data Name of a one word
     location(PIC 9(6) COMP SYNC RIGHT)

D   Length of data to be transferred (in words).   A two
     character literal or a Data Name of a one word location
     (PIC 9(6) COMP SYNC RIGHT).   For values greater than
     99 the Data Name option must be used.

E   Name of a single word location containing the LBN in
     Binary form (PIC 9(6) COMP SYNC RIGHT)

Y   Sequencing Parameter - see section 1.5.1.

Z   Re-entry Parameter - see section 1.5.2.

FUNCTIONS

    The subroutine sets parameters in the control Block so that
    TPS will read from the start of the bucket with the
    specified LBN from the file currently open under the given
    name and transfer the data directly into the user's area.
    The specified number of words of data is transferred in a
    single transfer without regard to the end of bucket.   The
    settings of the Y and Z parameters will then govern the
    passing of the Control Block for continued processing after
    the file access has been made.

REFERENCE

    Part 1, Section 3.1.

TPS

TPSCRBN - Read this terminal's Next Bucket

CALLING SEQUENCE

ENTER TPS   TPSCRBN   USING A B C D Y Z

PARAMETERS

A   File ID - see section 1.5.3.

B   Record Name - see section 1.5.4.

C   Lock Parameter; 1 if a lock is required, otherwise zero.
    A single character literal, or a Data Name of a one word
    location (PIC 9(6) COMP SYNC RIGHT)

D   Length of data to be transferred (in words).   If the
    parameter is set to zero the whole of the bucket will be
    transferred.   A two character literal or a Data Name of
    a one word location (PIC 9(6) COMP SYNC RIGHT).   For
    values greater than 99, the Data Name option must be used.

Y   Sequencing Parameter - see section 1.5.1.

Z   Re-entry Parameter - see section 1.5.2.

FUNCTIONS

The subroutine sets parameters in the Control Block so that
TPS will read the next bucket from the file currently open
under the given name.   The specified number of words of data
is transferred directly to the user's area.   The "next"
bucket is identified as that following the last one read in
connection with a message from the terminal making the current
Request.   The data is transferred directly to the user's area.
The settings of the Y and Z parameters will govern the passing
of the Control Block for continued processing after the file
access has been made.

REFERENCE

Part 1, Section 3.1.

TPS

TPSCRBS - Read the next Bucket in Sequence

CALLING SEQUENCE

ENTER TPS TPSCRBS USING A B C D Y Z

PARAMETERS

A   File ID - see section 1.5.3.

B   Record Name - see section 1.5.4.

C   Lock Parameter; 1 if a lock is required, otherwise zero.
     A single character literal, or a Data Name of a one word
     location (PIC 9(6) COMP SYNC RIGHT)

D   Length of data to be transferred (in words). If the
     parameter is set to zero the whole of the bucket will be
     transferred. A two character literal or a Data Name of
     a one word location (PIC 9(6) COMP SYNC RIGHT). For
     values greater than 99 the Data Name option must be used.

Y   Sequencing Parameter - see section 1.5.1.

Z   Re-entry Parameter - see section 1.5.2.

FUNCTIONS

The subroutine sets parameters in the Control Block so that
TPS will read the next bucket from the file currently open
under the given name. The specified number of words of data is
transferred directly to the user's area. The "next" bucket
is identified as that following the last one read serially.
The data is transferred directly to the user's area. The
settings of the Y and Z parameters will govern the passing
of the Control Block for continued processing after the file
access has been made.

REFERENCE

Part 1 Section 3.1.

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TPSCRM - Reset the Message

CALLING SEQUENCE

    ENTER TPS TPSCRM USING A

PARAMETER

    A   Screen Identifier (three or four alphabetic characters).
        This identifier will be stored as the "Expected Message"
        A three or four character literal, or the data name of a
        one word area containing the identifier, left justified.

        Note: Y and Z parameters are not required with this
        subroutine call.

FUNCTIONS

    This subroutine is provided for use with the "XPRE" facility
    when the screen is logically "reset" without actually being
    cleared by transmission of the "Clear Screen" command from the
    program.   It clears the current contents of the XPRE area in
    the TCR, and adds back in the format, as though already
    displayed (i.e., without including it in the current transmission)
    This routine must be called before any call TO TPSCEOS

REFERENCE

    Part 1, Section 3.2.

TPSCRM - Reset the Message

CALLING SEQUENCE

     ENTER TPS TPSCRM USING A

PARAMETER

     A   Screen Identifier (three or four alphabetic characters).
          This identifier will be stored as the "Expected Message".
          A three or four character literal, or the data name of a
          one word area containing the identifier, left justified.

          Note: Y and Z parameters are not required with this
                 subroutine call.

FUNCTIONS

     This subroutine is provided for use with the "XPRE" facility
     when the screen logically "reset" without actually being
     cleared by transmission of the "Clear Screen" command from
     the program. It clears the current contents of the XPRE area
     in the TCR, and adds back in the format, as though already
     displayed (i.e. without including it in the current transmission)
     This routine must be called before any calls to TPSCEOS, TPSCDISP
     or TPSCDISPLAY.

REFERENCE

     Part 1, Section 3.2

TPS

TPSCRPO - Resume the Output of a Print Stream

CALLING SEQUENCE

ENTER TPS TPSCRPO USING A B C D E F Y Z

PARAMETERS

A   File ID of the Print Well.
    See 1.5.6.

B   Stream Identifier. See 1.5.7.

C   Demand Identifier. See 1.5.7.

D   Demand Priority. A two character literal or Data Name
    of a one word location (PIC 9(6) COMP SYNC RIGHT). Range
    0 - 4095.

E   Restart Parameter. A two character literal (0 - 99)
    or Data Name of a one word location (PIC 9(6) COMP SYNC
    RIGHT). The parameter can have the following values:

    -n   Commence printing n restart points back from the
         current position of this demand in the stream.
         n = 1 to 8.

    0   Commence printing at current position.

    + m Commence printing m restart points from the start of
         the print stream. Note for the start of the print
         stream m = 1.   m = 1 to 4095.

F   Repeat Line-up parameter. A one character literal or
    data name of a one word location, (PIC 9(6) COMP SYNC
    RIGHT). The parameter can have the following values:

    0 - no repeat.
    1 - repeat line-up procedure using line-up records if
        present at start of stream.

Y   Sequencing parameter. See 1.5.1.

Z   Re-entry parameter. See 1.5.2.

FUNCTIONS

The subroutine sets up parameters in the control block so that
TPS will update the status, priority and line-up requirements
of the demand in the demand record (the demand having been
previously suspended by a TPSCSPO call).

TPSCRPO - <u>Resume the Output of a Print Stream</u>

CALLING SEQUENCE

    ENTER TPS TPSCRPO USING A B C D E F Y Z

PARAMETERS

    A   File ID of the Print Well.
        See 1.5.6.

    B   Stream Identifier. See 1.5.7.

    C   Demand Identifier. See 1.5.7.

    D   Demand Priority. A two character literal or Data Name
        of a one word location (PIC 9(6) COMP SYNC RIGHT). Range
        0 - 4095.

    E   Restart Parameter. A two character literal (0 - 99)
        or Data Name of a one word location (PIC 9(6) COMP SYNC
        RIGHT).   The parameter can have the following values:

        -n   Commence printing n restart points back from the
              current position of this demand in the stream.
              n = 1 to 8.

        0   Commence printing at current position.

        + m   Commence printing m restart points from the start of
             the print stream.   Note for the start of the print
             stream m = 1.   m = 1 to 4095.

    F   Repeat Line-up parameter.   A one character literal or
        data name of a one word location, (PIC 9(6) COMP SYNC
        RIGHT).   The parameter can have the following values:

        0 - no repeat.
        1 - repeat line-up procedure using line-up records if
            present at start of stream.

    Y   Sequencing parameter.   See 1.5.1.

    Z   Re-entry parameter.   See 1.5.2.

FUNCTIONS

    The subroutine sets up parameters in the control block so that
    TPS will update the status, priority and line-up requirements
    of the demand in the demand record (the demand having been
    previously suspended by a TPSCSPO call).

(Functions)

The settings of the Y and Z parameters will govern the passing
of the Control Block for continued processing after the above
function has been completed.   Subsequently when the Control
Block is released (in response to a TPSCEND call or any call
with a sequencing parameter of X) TPS will schedule the demand
for printing.   The start point in the stream at which printing
resumes is determined by the restart parameter (parameter "E")

REFERENCE

Part 1, Section 3.11.

TPS

TPSCRPR - Reset Priority of a Print Demand

CALLING SEQUENCE

   ENTER TPS TPSCRPR USING A B C D Y Z

PARAMETERS

   A   File ID of the Print Well.   See 1.5.6.

   B   Stream Identifier. See 1.5.7.

   C   Demand Identifier.   See 1.5.7.

   D   Demand Priority.   A two character literal or data name
       of a 1 word location (PIC 9(6) COMP SYNC RIGHT). Range
       0 - 4095.

   Y   Sequencing parameter.   See 1.5.1.

   Z   Re-entry parameter.   See 1.5.2.

FUNCTIONS

   The subroutine sets up parameters in the Control Block so that
   TPS will update the priority of the demand in the demand record.

   The settings of the "Y" and "Z" parameters will govern the
   passing of the Control Block for continued processing after
   the requested function has been completed.

REFERENCE

   Part 1 Section 3.11.

TPS

TPSCRPW - Reset Print Well

CALLING SEQUENCE

ENTER TPS TPSCRPW USING A Y Z

PARAMETERS

A   File ID of the Print Well - see section 1.5.6

Y   Sequencing parameter - see section 1.5.1

Z   Re-entry parameter - see section 1.5.2

FUNCTIONS

The subroutine sets parameters in the Control Block so that
the specified Print Well is reset.

The settings of the "Y" and "Z" parameters will govern the
passing of the Control Block for continued processing after
the requested function has been completed.

REFERENCE

Part 1, Section 3.11.2.3.

TPS

2 - 60.1

TPSCRR

TPSCRR - Read a specific Record

CALLING SEQUENCE

    ENTER TPS TPSCRR USING A B C D E Y Z

PARAMETERS

    A   File ID - see section 1.5.3.

    B   Record Name - see section 1.5.4.

    C   Lock Parameter; 1 if a lock is required, otherwise zero.
        A single character literal, or the Data Name of a one word
        location (PIC 9(6) COMP SYNC RIGHT).

    D   Name of a one word location containing the LBN if known
        (otherwise zero).   (PIC 9(6) COMP SYNC RIGHT)

    E   Name of the location containing the key of the record to
        be read

    Y   Sequencing Parameter - see section 1.5.1.

    Z   Re-entry Parameter - see section 1.5.2.

FUNCTIONS

    The subroutine sets up parameters in the Control Block so that
    TPS will read the specified record from the file currently open
    under the given name.   If the LBN is not stated the record
    will be located by the method appropriate to the file as defined in
    the file spec. (e.g. by index search).   If a lock is
    requested, it will be applied to the bucket read.   The transfer
    will be made into a buffer supplied by the File Manager, and
    the record will be moved into the user's area.   The settings
    of the Y and Z parameters will govern the passing of the
    Control Block for continued processing after the File Access
    has been made.

REFERENCE

    Part 1   Section 3.1.

TPS

TPSCRRN - Read this terminal's Next Record

CALLING SEQUENCE

ENTER TPS TPSCRRN USING A B C Y Z

PARAMETERS

A   File ID - see section 1.5.3.

B   Record Name - see section 1.5.4.

C   Lock Parameter; 1 if a lock is required, otherwise zero

Y   Sequencing parameter - see section 1.5.1.

Z   Re-entry Parameter - see section 1.5.2.

FUNCTIONS

The subroutine sets up parameters in the Control Block so that
TPS will read the next record in sequence from the file
currently open under the given name, and place it in the
stated area.   The "next" record will be identified by the
method appropriate to the structure of the file as defined in
the file spec and will be the next data record in logical
sequence with a message from the terminal making the current
request.   If the file has no logical sequence the next record
in physical location will be brought.   If a lock is requested
it will be applied to the bucket read.   The transfer will be
made into a buffer supplied by the File Manager, and the record
moved to the user's area.   The settings of the Y and Z parameters
will govern the passing of the Control Block for continued
processing when the file access has been made.

REFERENCE

Part 1 Section 3.1.

TPS

TPSCRRS - Read the Next Record in Sequence

CALLING SEQUENCE

        ENTER TPS TPSCRRS   USING A B C Y Z

PARAMETERS

    A   File ID - see section 1.5.3.

    B   Record Name - see section 1.5.4.

    C   Lock Parameter; 1 if a lock is required, otherwise zero.
         A single character literal, or the Data Name of a one
         word location (PIC 9(6) COMP SYNC RIGHT).

    Y   Sequencing Parameter - see section 1.5.1.

    Z   Re-entry Parameter - see section 1.5.2.

FUNCTIONS

    The subroutine sets up parameters in the Control Block so
    that TPS will read the next record in sequence from the file
    currently open under the given name, and place it in the
    stated area.   The "next" record will be identified by the
    method appropriate to the structure of the file as defined
    in the file spec and will be the next data record in logical
    sequence.   If the file has no logical sequence the next record
    in physical location will be brought.   If a lock is requested,
    it will be applied to the bucket read.   The transfer will be
    made into a buffer supplied by the File Manager, and the record
    moved to the user's area.   The settings of the Y and Z
    parameters will govern the passing of the Control Block for
    continued processing when the file access has been made.

REFERENCE

    Part 1, Section 3.1.

TPS

<u>TPSCRTC - Read a Terminal Control Record</u>

CALLING SEQUENCE

    ENTER TPS TPSCRTC USING Y Z

PARAMETERS

    Y   Sequencing parameter - see Section 1.5.1.

    Z   Re-entry parameter - see Section 1.5.2.

FUNCTIONS

    The subroutine sets parameters in the Control Block
    so that TPS will read the Terminal Control Record into
    the TCR area.   The record retrieved will be that for
    the terminal whose number is currently held within the
    Control Block.   It will overwrite the contents of the
    TCR area.   To read another terminal's TCR it will
    therefore be necessary to enter that terminal's
    number in the Control Block, and if the current contents
    of the TCR area are to be preserved they must first be
    written away using TPSCWTC.

    The settings of the Y and Z parameters will govern the
    passing of the Control Block for further processing
    when this function is complete.

REFERENCE

    Part 1, Section 3.2

TPS

TPSCSA - Set Access Rights

CALLING SEQUENCE

    ENTER TPS TPSCSA USING A B C Y Z

PARAMETERS

    A   Name of single word location (PIC 9(6) C.S.R.)
         containing the user number.

    B   Name of area holding password(PIC X(12)).

    C   Name of single word location (PIC 9(6) C.S.R.)
         containing password violation action indicator.

         = 0 take action and report
         = 1 no action and report

    Y   Sequencing parameter

    Z   Re-entry parameter

FUNCTIONS

    The subroutine sets parameters in the control block to
    request TPS to give the input terminal the access rights
    associated with the specified user number (as set up by
    #TPSR). Parameter C indicates the action to be taken
    if the user number and/or password is invalid. If this
    is zero,1 is subtracted from the number of invalid attempts
    for "this series" and "cumulative" as specified by #TPSR.
    If either of these counts become zero the terminal will be
    closed, and the reply word will be set non-zero. If
    parameter C is non-zero no action will be taken and the
    reply word set non-zero.

REFERENCE

    Part 1, Section 3.2

TPS

TPSCSCO - Suppress ETSA Conversion on Output

CALLING SEQUENCE

    ENTER TPS TPSCSCO

PARAMETERS

    NONE
    Note: this subroutine call is not followed by "EXIT PROGRAM"

FUNCTIONS

    The subroutine sets parameters in the control block so that the
    ETSA output conversion is suppressed for any display output by
    subsequent TPSCES, TPSCDISP or TPSCDISPLAY subroutine calls within
    the message pair.

REFERENCE

    Part 1, Section 3.2

TPS

TPSCSD - Send output to a terminal Direct from the Message Area

CALLING SEQUENCE

    ENTER TPS TPSCSD USING A B C D Y Z

PARAMETERS

    A   Screen Identifier to be stored as the "expected message."
        A three or four alphabetic character expression given as
        a three or four character literal, or the Data Name of a
        one word area holding the identifier, left justified.

    B   The "Save" parameter, with the following meanings:

        1 - save for "XPRE" clearing the current contents of
            the XPRE area.

        2 - save for "XPRE" adding into the current data saved.

        3 - do not save for "XPRE"

        A single character literal, or the Data name of a one word
        area (PIC 9(6) COMP SYNC RIGHT)

    C   The length of the output text, in characters; range 1 - 2047.
        The data name of a one word area (PIC 9(6) COMP SYNC RIGHT)

    D   The identifier of the terminal to which the output is to be
        sent (the internal system number). If this parameter is zero
        the output will be directed to the terminal which originated
        the current transaction. A two character literal, or the
        data name of a one word area (PIC 9(6) COMP SYNC RIGHT).
        If the value is greater than 99 the data name option must
        be chosen; (range 0 - 4095).

    Y   The sequencing parameter - see section 1.5.1.

    Z   The Re-entry parameter - see section 1.5.2.

FUNCTIONS

    The subroutine sets parameters so that TPS will transmit the
    contents of the message area, without alteration, to the nominated
    terminal. The text to be transmitted, which must be in its
    correct form, including all control characters, will be found
    starting from the second word of the message area; the
    character count given in parameter C will be set by the sub-
    routine into the first word of the area and used to limit the
    output. According to the settings of parameter B the data
    may be saved in the TCR for use in response to the XPRE function.

REFERENCE

    Part 1 Section 3.2.

TPS

TPSCSL - Set a File Lock

CALLING SEQUENCE

    ENTER TPS TPSCSL USING   A   Y   Z

PARAMETERS

    A   File I.D. - see Section 1.5.3.

    Y   Sequencing parameter - see Section 1.5.1.

    Z   Re-entry parameter - see Section 1.5.2.

FUNCTIONS

    The subroutine sets parameters in the Control Block so
    that TPS will set a lock on the nominated file.
    The settings of the Y and Z parameters will then govern
    the passing of the Control Block for further processing.

REFERENCE

    Part 1, Section 3.1.

TPS

PR2-1-67-0377

TPSCSPO - Suspend the Output of a Print Stream

CALLING SEQUENCE

ENTER TPS TPSCSPO USING A B C Y Z

PARAMETERS

A   File ID of the Print Well. See 1.5.6.

B   Stream Identifier.   See 1.5.7.

C   Demand Identifier.   See 1.5.7.

Y   Sequencing parameter. See 1.5.1.

Z   Re-entry parameter. See 1.5.2.

FUNCTIONS

The subroutine sets up parameters in the Control Block so that
TPS will update the status of the demand to be suspended in
the demand record if the demand is not current.

The settings of the "Y" and "Z" parameters will govern the
passing of the Control Block for continued processing after
the above function has been completed.   Subsequently when the
Control Block is released (in response to a TPSCEND call)
TPS will if the demand is current cause printing for this
demand to terminate according to the following rules and update
the status of the demand to be suspended.

Print Stream being printed by section - printing will continue
                                        until section end is
                                        reached

Print stream not being destroyed - no further messages will be
                                   sent to the printer.

Print stream being destroyed and   - printing will continue
restart point save/depth is non-zero. until the next restart
                                        point is reached.

Print Stream being destroyed but - no further message will be
restart point save/depth is zero. sent to the printer.

If the demand was not current no action is required when the
Control Block is released.

REFERENCE

Part 1. Section 3.11.

TPSCTPW - Tidy Print Well

CALLING SEQUENCE

    ENTER TPS TPSCTPW USING A Y Z

PARAMETERS

    A   File ID of the Print Well - see section 1.5.6

    Y   Sequencing parameter - see section 1.5.1

    Z   Re-entry parameter - see section 1.5.2

FUNCTIONS

    The subroutine sets parameters in the Control Block so that
the specified Print Well is compressed.

    The settings of the "Y" and "Z" parameters will govern the
passing of the Control Block for continued processing after
the requested function has been completed.

REFERENCE

    Part 1, Section 3.11.2.3

TPS

TPSCTR - Set 'turnaround' bit in request code

CALLING SEQUENCE

    ENTER TPS TPSCTR

PARAMETERS

    NONE

FUNCTIONS

    The subroutine sets bit 11 of the request code in the Control
    Block. This indicates that turnaround is required on
    teletypes, termiprinters and similar devices.

    NOTE:

        This function is only valid in a Communications Manager
        system using the "low level" output interface. The call
        of TPSCTR must be inserted between the call to TPSCSD
        and the EXIT PROGRAM by which the transmission is actually
        executed.

REFERENCE

    Part 1, Section 3.2.3

TPS

TPSCTXI - Add user variable Text to a Screen and include for XPRE

CALLING SEQUENCE

    ENTER TPS TPSCTXI USING A B C D

PARAMETERS

    A,B Screen co-ordinates at which the Text is to appear.
        Either or both may be zero (see Section 1.5.5)

    C   Name of an area containing the text to be displayed.
        The area named by this parameter is not constrained
        to start on a word boundary.

    D   Name of a single word area containing, in binary format,
        the length of the Text in characters.

        Note: Y and Z parameters do not occur with this sub-
              routine call.

FUNCTIONS

    The subroutine sets up parameters in the parameter area set
    up by a preceding call to the subroutine TPSCEOS. The action
    taken with the text depends on the option chosen with TPSCEOS.
    The text will be left where it is, moved to a nominated area,
    or moved to an area within the Terminal Control Record.
    Subsequently it will be added to a character string being
    built up for output in the message area associated with the
    Control Block, and moved into the TCR if not already there.
    This subroutine must only be used in conjunction with TPSCEOS.

REFERENCE

    Part 1, Section 3.2.

TPS

TPSCTXT - Add user variable Text to a Screen

CALLING SEQUENCE

    ENTER TPS TPSCTXT USING A B C D

PARAMETERS

    A,B Screen Co-ordinates at which the Text is to appear.
    Either or both may be zero (see Section 1.5.5.)

    C   Name of an area containing the text to be displayed.
       The area named by this parameter is not constrained
       to start on a word boundary.

    D   Name of a single word area containing, in binary
       format, the length of the Text in characters.

    NOTE: Y and Z parameters do not occur with this subroutine
    call.

FUNCTIONS

    This subroutine sets up parameters in the parameter area
    set up by a preceding call to the subroutine TPSCEOS.
    The text will be left where it is, moved to a nominated area
    or moved to the TCR. Subsequently it will be added to a
    character string being built up for output in the Message
    Area associated with the Control Block, and removed from the
    TCR if previously stored there.

    This subroutine may also be used as part of the Phase 1 Output
    interface in which case it sets parameters in the parameter
    area set up by a preceding call to TPSCOUT, TPSCBDC, or TPSCLST
    so that TPS will add the given text to a character string being
    built up for output in the message area associated with the
    Control Block. In this case, it must therefore only be used
    in conjunction with one of the above three routines.

    This subroutine is also used within the "Phase 1" output system
    to indicate a "low level" output, in which case parameters A
    and B are set to zero, and parameter C to - 1. The text is
    then assumed to be set up commencing in the second word of that
    portion of the Message Area passed to the Application Routine.
    The first word (i.e. first word defined in the Linkage Section)
    will contain the character count, but this will be set up by
    the TPS routine. The user's text must include the characters
    to Set Receive, Clear Screen and position the cursor if required:
    these must not be set as parameters to the TPSCOUT or equivalent
    call.

REFERENCE

    Part 1 Section 3.2

TPS

TPSCULE2 - User Logic Error 2

CALLING SEQUENCE

ENTER TPS TPSCULE2 USING A

PARAMETERS

A   Error Code.

A 4 character literal or data name of a word containing
an error code which consists of 4 octal characters in
the range 7000 - 7776.

FUNCTIONS

The subroutine sets parameters in the control block so that
TPS passes the control block to the Logic Error 2 Routine.

Note: This is not strictly a subroutine since control is
not returned to the application routine.

REFERENCE

Part 1, Section 3.5

TPS

TPSCVALID - Validate and reformat input

CALLING SEQUENCE

    ENTER TPS TPSCVALID USING A B C

PARAMETERS

A   Data name of an area containing the parameters to control
the validation of the input message. This area must commence
on a word boundary.

B   Data name of an area to hold details of any errors in the
input fields. This area must commence on a word boundary.

C   Data name of an area to hold the input message after
validation. This area must commence on a word boundary.

    N.B. All three areas may be set up in the Linkage section
        or in working storage, further details on the layout
        of these areas can be found below.

FUNCTIONS

This subroutine call is not followed by an 'EXIT PROGRAM' statement.
The fields in the input message are validated according to the
parameters set in Area 'A', if any errors are found the relevant
error code will be set in Area 'B' and finally the validated input
message (reformatted according to parameters in Area 'A') will be
set into Area 'C'. (Area 'C' may be the message area itself).

Area 'A' - Input validation parameters

This area may be set up in the Linkage Section or, more usually, in
the Working Storage using the 'VALUE IS' clause. The first two words
of this area give general information about the input message and
its eventual format in area 'C'.

First Word - PIC 9(6) COMP SYNC RIGHT, contains the total number of
input fields on the screen, including the screen identifier.

Second Word:-

First character contains the character to be used to fill fields
'not sent'. This character is user nominated as there may be a need
to differentiate between a field which is 'sent but spacefilled' and
a field which is 'not sent'

Second Character is set to either zero or 1.

Zero denotes that the field separator characters 'T4' or 'T3' are
not be to set in area 'C'.

                                            Continued....

1 denotes that they are to be left between fields 'sent' and are to be inserted between fields 'not sent' in area 'C'.

<u>Third and Fourth Characters</u> should be set to zeros as they are not used.

The remainder of area 'A' consists of validation parameters relating to individual input fields, two words for each field in the order in which the fields appear on the input screen. These words are set up as follows:

First word - PIC X(4)

<u>First Character</u> contains the character code for the type of validation required (see list below).

<u>Second Character</u> is set to either 0 or 1. 0 denotes that the field is Optional, i.e. all spaces allowed or field 'not sent'; 1 denotes that the field is mandatory.

<u>Third Character</u>; If the field is a numeric field with a decimal point (validation codes 13, 14, 16, 17, 19 and 20) this character should contain the number of characters after the decimal point *(range 0.6)* when the field is right-justified. For all other field types ~~(range 0.6)~~ this character should be set to 0 to indicate that the field is not to be left-justified, or to 1 to indicate that the field is to be left-justified.

<u>Fourth Character</u>; If the field is numeric and to be added into an accumulator (validation codes 15, 16 or 17) this character should be set to the number of the accumulator to be used (1-4). If the field is a 'total' (validation codes 18, 19 or 20) the first three bits should be set to the total concerned (1-4), the second three bits should be set to indicate if this value is itself to be added into an acculator. (0 - do not add into accumulator; otherwise 1-4). If the field does not come within the above validation codes this character should be set to zero.

<u>Second Word</u> - PIC 9(4), contains the length of the field as it should appear in the output area 'C'.

<u>Input Validation codes</u>

Code	Validation
0 or 1	No validation, incorrect length will be reported.
2	Alphabetic, characters A to Z only allowed.
3	Alphanumeric, characters A to Z, 0 to 9 only allowed.
4	Alphabetic with space character allowed.

TPS

Code	Validation
5	Alphanumeric with space character allowed.
6	Numeric, characters 0 to 9 only allowed.
7 - 11	Not used.
12 (<)	Integer, 0 to 9 with leading or trailing spaces. Right-justified on output with leading zeros inserted.
13 (=)	Pure numeric, 0 to 9 with mandatory decimal point and leading or trailing spaces. On output will be right-justified with leading zeros inserted, decimal point removed, digits after decimal point set according to parameter with trailing zeroes inserted if necessary.
14 (>)	Full numeric, 0 to 9 with optional decimal point, optional leading + or -, leading or trailing spaces. On output will be right-justified, leading zeros inserted, decimal point removed, digits after the decimal point set according to parameter with trailing zeroes inserted if necessary.
15 (?)	Integer, add into accumulator specified by parameter
16 (∇)	Pure numeric, add into accumulator specified by parameter.
17 (!)	Full numeric, add into accumulator specified by parameter.
18 (")	Integer, compare with and clear accumulator, add into accumulator specified by parameter.
19 (#)	Pure numeric, compare with and clear accumulator, and add into accumulator specified by parameter.
20 (£)	Full numeric, compare with and clear accumulator, and add into accumulator specified by parameter.
21 to 32	Not used.
33 to 52	(A-T) Spare codes to allow the user to specify and write his own validation routines.

Area 'B' - Error reply area

This area may be set up in the Linkage Section, or in Working Storage and must consist of one character for each field in the input messages.

On return from TPSCVALID this area will contain an error code for each field. A list of these codes and their meanings follows:

Continued...

TPS

Code	Meaning
0	No error
1	Unacceptable character in field
2	Invalid check digit
3	Decimal point not present
4	Too many characters after the decimal point
5	Total incorrect
6	Out of range
7	Mandatory field not present
8	Field too long (compared with output length specified).
9	Field too short (compared with output length specified).

Errors are checked in the above order, so the lowest error number
will be returned if more than one error occurs. In addition the
reply word in the Control Block will be set to indicate whether
any errors have occurred:-

        Zero - no errors
        1nnn - nnn errors (PIC 9(4)).

Area 'C' Validated message area

This area may be set up in the Linkage Section. It may be specified
as the message area, but in this case the output length of each field
must not be greater than its length on input.

If it is specified that field separators ($\uparrow$4 or $\uparrow$3) should be present
they will appear between each field 'sent' and be inserted between
each field not 'sent'. Any fields which are entered too short will
be padded, with spaces to the right if they are alphabetic fields,
or zero-filled to the left and right justified, if they are numeric
fields. Any fields which are entered too long will be truncated.
Fields 'not sent' will be present and will contain the specified
padding character regardless of the validation rule requested. If
the final field is half 'sent' this is considered as being padded
to the right with spaces before validation is started. The
character count of the input message is not altered by TPSCVALID.

REFERENCES

        Part 1, Section 3.2
        Appendix C.

TPS

TPSCVALIDAT - Validate and reformat input (TPS3 Logical Terminal Interface

CALLING SEQUENCE

ENTER TPS TPSCVALIDAT USING A B C D Y Z

PARAMETERS

A - Set number. A 2 character literal or the Data Name of a one-word
location (PIC 9(6) COMP SYNC RIGHT) specifying the Set Number of
of the L.T.I. Validation Parameters to be used. In range 1 to 63.

B - Input message area. Data name of an area to receive the
reformatted input message. This must commence on a word boundary
and may be the message area itself.

C - Error reply option. A one character literal or data name of
a single character area (PIC 9). Allowed values are:

    0 - automatic error response (parameter D omitted)

    1 - return error replies (parameter D present)

D - Error table. Data name of area to receive error table, which
consists of a single reply character for each input field.
This area must commence on a word boundary.
(Values which may be assigned to the reply character are given
in Part 1, Section 3.2.8).

Y - Sequencing parameter - see Section 1.5.1

Z - Re-entry parameter - see Section 1.5.2

FUNCTIONS

The subroutine sets parameters in the Control Block so that TPS
will validate and reformat the input message according to L.T.I.
validation parameters specified as part of the System Definition
procedures, and will either automatically report errors to the
sending terminal or return an error reply table according to the
parameters presented.

TPS will end processing of the message after an automatic error
response. Otherwise the setting of the "Y" and "Z" parameters
will govern the passing of the Control Block for continued processing
after the input has been validated and reformatted.

REFERENCE

Part 1, Section 3.2

TPS

TPSCVER - Validation Error Response (TPS3 Logical Terminal Interface)

CALLING SEQUENCE

   ENTER TPS TPSCVER USING A B C Y Z

PARAMETERS

   A - Set Number. A 2 character literal or the Data Name of a one-
       word location (PIC 9(6) COMP SYNC RIGHT) specifying the Set
       Number of associated L.T.I. Validation Parameters. In range 1 to 63.

   B - Error table. Data name of area holding error table, consisting
       of a single reply character for each input field. Each reply
       character is in range 0 - 9 or "M". (significance described
       in Part 1, Section 3.2.8)

   C - Message identifier. A two character literal or the Data Name
       of a one word area (PIC 9(6) COMP SYNC RIGHT). The identifier
       of the standard message to be displayed, in range 1 to 4095.
       For values greater than 99 the Data Name option must be chosen.
       (Note that this standard message is displayed only where reply
       character "M" specified in error table)

   Y - Sequencing parameter - see Section 1.5.1

   Z - Re-entry parameter - see Section 1.5.2

FUNCTION

   This subroutine sets parameters in the Control Block so that TPS
   will return an error response to the sending terminal according
   to the parameters supplied and those specified for L.T.I. validation
   as part of the System Definition procedures.

   The setting of the "Y" and "Z" parameters will govern the passing
   of the Control Block for continued processing after the error
   response has been transmitted.

REFERENCE

   Part 1, Section 3.2

TPS

PR2-1-71- 0377

TPSCWB - Write a specific Bucket.

CALLING SEQUENCE

ENTER TPS TPSCWB USING A B C D E Y Z

PARAMETERS

A   File ID - see section 1.5.3.

B   Record Name - see section 1.5.4.

C   Lock Parameter; 1 if a lock is required, otherwise zero.
     A single character literal, or a Data Name of a one word
     area (PIC 9(6) COMP SYNC RIGHT).

D   Length of data to be transferred (in words).   If the
     parameter is set to zero, the whole of the bucket will be
     transferred.   A two character literal or a Data Name of
     a one word area (PIC 9(6) COMP SYNC RIGHT).   For values
     greater than 99 the Data Name option must be used.

E   Name of a single word location containing the LBN in
     Binary Form.

Y   Sequencing Parameter - see section 1.5.1.

Z   Re-entry Parameter - see section 1.5.2.

FUNCTIONS

The subroutine sets parameters in the Control Block so that
TPS will write data from the user's area to the bucket
specified in the file currently open under the given name.
The specified number of words of data is transferred.   The
settings of the Y and Z parameters will govern the passing
of the Control Block for continued processing after the file
access has been made.

REFERENCE

Part 1 Section 3.1.

TPS

TPSCWBM - Write a "Multiple Bucket"

CALLING SEQUENCE

ENTER TPS TPSCWBM USING A B C D E Y Z

PARAMETERS

A   File ID - see Section 1.5.3.

B   Record Name - see Section 1.5.4.

C   Lock Parameter; 1 if a lock is required, otherwise zero.
     A single character literal, or a Data Name of a one word
     area, (PIC 9(6) COMP SYNC RIGHT).

D   Length of data to be transferred (in words).   A two
     character literal, or a Data Name of a one word area,
     (PIC 9(6) COMP SYNC RIGHT). For values greater than 99
     the Data Name option must be used.

E   Name of a single word location containing the LBN in
     Binary form.

Y   Sequencing parameter - see Section 1.5.1.

Z   Re-entry parameter - see Section 1.5.2.

FUNCTIONS

The subroutine sets parameters in the Control Block so that
TPS will write data from the user's area starting at the
bucket specified in the file currently open under the given
name.   The specified number of words of data is transferred
in a single transfer without regard to the end of the bucket.
The settings of the Y and Z parameters will govern the passing
of the Control Block for continued processing after the file
access has been made.

REFERENCE

Part 1, Section 3.1.

TPS

TPSCWBN - Write this terminal's next Bucket.

CALLING SEQUENCE

ENTER TPS   TPSCWBN USING A B C D Y Z

PARAMETERS

A   File ID - see section 1.5.3.

B   Record Name - see Section 1.5.4.

C   Lock parameter; 1 if a lock is required, otherwise zero.
     A single character literal or a Data Name of a one word
     area (PIC 9(6) COMP SYNC RIGHT).

D   Length of data to be transferred (in words).   If this
     parameter is set to zero, the whole of the bucket will be
     transferred. A two character literal or a Data Name of a
     one word area (PIC 9(6) COMP SYNC RIGHT).   For values
     greater than 99 the Data Name option must be chosen.

Y   Sequencing Parameter - see section 1.5.1.

Z   Re-entry Parameter - see section 1.5.2.

FUNCTIONS

The subroutine sets parameters in the Control Block so that
TPS will write data from the user's area to the next bucket
in the file currently open under the given name. The "next"
bucket is identified as that following the last one written
in connection with a message from the terminal making the
current request.   The specified number of words of data is
transferred directly from the user's area.   The settings of
the Y and Z parameters will govern the passing of the Control
Block for continued processing after the file access has been
made.

REFERENCE

Part 1 Section 3.1.

TPS

<u>TPSCWBS - Write the next Bucket in Series.</u>

CALLING SEQUENCE

    ENTER TPS   TPSCWBS   USING A B C D Y Z

PARAMETERS

    A   File ID - see section 1.5.3.

    B   Record Name - see section 1.5.4.

    C   Lock Parameter; 1 if a lock is required, otherwise zero.
        A single character literal, or a Data Name of a one word
        area, (PIC 9(6) COMP SYNC RIGHT).

    D   Length of data to be transferred (in words). If this
        parameter is set to zero, the whole of the bucket will be
        transferred. A two character literal, or a Data Name of
        a one word area (PIC 9(6) COMP SYNC RIGHT)   For values
        greater than 99 the Data Name option must be chosen.

    Y   Sequencing Parameter - see section 1.5.1.

    Z   Re-entry Parameter - see section 1.5.2.

FUNCTIONS

    The subroutine sets parameters in the Control Block so that
    TPS will write data from the user's area to the next bucket
    in the file currently open under the given name.   The "next"
    bucket is identified as that following the last one written
    serially.   The specified number of words of data is transferred
    directly from the user's area.   The settings of the Y and Z
    parameters will govern the passing of the Control Block for
    continued processing after the file access has been made.

REFERENCE

    Part 1, Section 3.1.

TPS

TPSCWJE - Write a Journal Entry

CALLING SEQUENCE

ENTER TPS TPSCWJE USING A B C D E F Y Z

PARAMETERS

A   Journal request identifier - a four-character alphabetic
literal or the Data name of a one word area containing
the alphabetic identifier.

B   Journal request type - single character literal or the
Data Name of a one word area (PIC 9(6) COMP SYNC RIGHT)
Request Type is in range 0 - 5, with following significance:

    0 - Journalise text
    1   Journalise and display text
    2   Journalise text and specified area
    3   Journalise text and specified area; display text
    4   Journalise text and worksheet
    5   Journalise text and worksheet; display text

C   Data name of an area containing the text. This must
commence on a word boundary.

D   Length of text area (in characters) - two-character literal
or the Data Name of a one-word area (PIC 9(6) COMP SYNC RIGHT);
in range 1-40

E   Data name of area to be journalised. This must commence on
a word boundary. If no area to be journalised (i.e. Parameter
B = 0, 1, 4, 5), set to zero.

F   Length (in words) of area to be journalised - two-character
literal or the Data Name of a one-word area (PIC 9(6) COMP
SYNC RIGHT). If no area to be journalised (i.e. Parameter
B = 0, 1, 4, 5), set to zero.

Y   Sequencing parameter - see section 1.5.1

Z   Re-entry parameter - see section 1.5.2

FUNCTIONS

The subroutine sets parameters in the Control Block so that TPS
will write data to the System journal file as specfied. The text
will be displayed at the central console if requested. To
journalise the Control Block or System Control Block (except as
part of worksheet), move the area to another part of the
worksheet and journalise that.

Continued......

·The settings of the Y and Z parameters will govern the
passing of the Control Block for continued processing.

REFERENCE

Part 1, Section 3.6

TPS

TPSCWR - Write a Specific Record which is not already present on the file

CALLING SEQUENCE

ENTER TPS TPSCWR USING A B C D Y Z

PARAMETERS

A   File ID - see section 1.5.3.

B   Record Name - see section 1.5.4.

C   Lock Parameter; 1 if a lock is required, otherwise zero.
     A single character literal, or a Data Name of a one word
     area (PIC 9(6) COMP SYNC RIGHT).

D   Name of a single word location containing in Binary form
     the LBN if known (otherwise zero).

Y   Sequencing Parameter - see section 1.5.1.

Z   Re-entry Parameter - see section 1.5.2.

FUNCTIONS

The subroutine sets up parameters in the Control Block so that
TPS will write the specified record to the file currently open
under the given name.   If the LBN is not stated, then it will
be calculated by the method appropriate to the file as defined
in the file spec., (e.g. by index search).   The bucket
will be read into a buffer supplied by the File Manager and the
record moved into it from the user's area.   The settings of the
Y and Z parameters will govern the passing of the Control Block
for continued processing when the file access has been made.

REFERENCE

Part 1, Section 3.1.

TPS

TPSCWRB - Write the Next Record in Sequence - Buffered

CALLING SEQUENCE

ENTER TPS TPSCWRB USING A B Y Z

PARAMETERS

A   File ID - See Section 1.5.3.
The file spec must state that the file structure is SERIAL.

B   Record Name.   See Section 1.5.4.

Y   Sequencing Parameter.   See Section 1.5.1.

Z   Re-entry Parameter.   See Section 1.5.2.

FUNCTIONS

The subroutine sets up parameters in the Control Block so
that TPS will insert the record in the current buffer for this
file, or when there is inadequate space write the buffer to
disc and then insert the record at the start of the buffer,
having updated its LBN pointer.   The settings of the Y and Z
parameters will govern the passing of the Control Block for
continued processing.

REFERENCE

Part 1, Section 3.1.

TPSCWRF - Write the Next Record in Sequence - Forced

CALLING SEQUENCE

    ENTER TPS TPSCWRF USING A B C Y Z

PARAMETERS

    A   File ID - see section 1.5.3

    B   Record name - see section 1.5.4

    C   Lock Parameter; 1 if a lock is required, otherwise zero.
         A single character literal or a Data Name of a one word
         area, (PIC 9(6) COMP SYNC RIGHT)

    Y   Sequencing Parameter - see section 1.5.1

    Z   Re-entry Parameter - see section 1.5.2

FUNCTIONS

    The subroutine sets up parameters in the Control Block so
    that TPS will insert the record in the current buffer for this
    file and then write the buffer to disc. When there is insufficient
    space the buffer is written to disc, the record inserted at the
    beginning of the buffer and then re-written to disc, having
    updated its LBN pointer.

    The settings of the Y and Z parameters will govern the passing
    of the Control Block for continued processing when the file
    access has been made.

REFERENCE

    Part 1, Section 3.1.

TPS

TPSCWRN - Write this Terminal's Next Record

CALLING SEQUENCE

ENTER TPS TPSCWRN USING A B C Y Z

PARAMETERS

A   File ID - see section 1.5.3.

B   Record Name - see Section 1.5.4.

C   Lock Parameter; 1 if a lock is required, otherwise zero.
     A single character literal, or a Data Name of a one word
     area (PIC 9(6) COMP SYNC RIGHT).

Y   Sequencing Parameter - see section 1.5.1.

Z   Re-entry Parameter - see section 1.5.2.

FUNCTIONS

The subroutine sets up parameters in the Control Block so that
TPS will write the specified record to the file currently open
under the given name.   The record will be written as the
next in logical sequence after the last written in connection
with a message from the terminal making the current request,
according to the method defined in the file spec.   If the
file has no logical structure, the record will be written to
the next physical location.   The appropriate bucket will be
read into a buffer provided by the File Manager, and the
record moved into it from the user's area.   The settings of
the Y and Z parameters will govern the passing of the
Control Block for continued processing when the file access has
been made.

REFERENCE

Part 1 Section 3.1.

TPS

TPSCWRS - Write the Next Record in Sequence.

CALLING SEQUENCE

ENTER TPS TPSCWRS USING A B C Y Z

PARAMETERS

A   File ID - see section 1.5.3.

B   Record Name - see section 1.5.4.

C   Lock Parameter; 1 if a lock is required otherwise zero.
     A single character literal, or a Data Name of a one word
     area, (PIC 9(6) COMP SYNC RIGHT).

Y   Sequencing Parameter - see section 1.5.1.

Z   Re-entry Parameter - see section 1.5.2.

FUNCTIONS

The subroutine sets up parameters in the Control Block so
that TPS will write the specified record to the file currently
open under the given name.   The record will be written as the
next in logical sequence according to the method defined in the
file spec.   If the file has no logical structure the record
will be written to the next physical location.   The appropriate
bucket will be read into a buffer provided by the File Manager,
and the record moved into it from the user's area.
The settings of the Y and Z parameters will govern the passing
of the Control Block for continued processing when the file
access has been made.

REFERENCE

Part 1 Section 3.1.

TPS

TPSCWRU - Write a Specific Record, Updating one which is already present

CALLING SEQUENCE

ENTER TPS TPSCWRU USING A B C D Y Z

PARAMETERS

A   File ID - see section 1.5.3.

B   Record Name - see section 1.5.4.

C   Lock Parameter; 1 if a lock is required, otherwise zero.
     A single character literal, or a Data Name of a one word
     area (PIC (9(6) COMP SYNC RIGHT).

D   Name of a single word location containing in Binary form
     the LBN if known (otherwise zero).

Y   Sequencing Parameter - see section 1.5.1.

Z   Re-entry Parameter - see section 1.5.2.

FUNCTIONS

The subroutine sets up parameters in the Control Block so that
TPS will write the specified record to the file currently open
under the given name. If the LBN is not stated, then it will
be calculated by the method appropriate to the file as defined in
the file spec. (e.g. by index search).   The bucket will be
read into a buffer supplied by the File Manager and the record
moved to the user's area. The settings of the Y and Z parameters
will govern the passing of the Control Block for continued
processing when the file access has been made.

REFERENCE

Part 1, Section 3.1.

TPS

TPSCWT - Hold a transaction to wait for later processing

CALLING SEQUENCE

ENTER TPS   TPSCWT USING   Y   Z

PARAMETERS

Y   Sequencing parameter - see Section 1.5.1.

Z   Re-entry parameter - see Section 1.5.2.

Note: for this subroutine Y must be zero, and Z must
be non-zero.

FUNCTIONS

The subroutine sets parameters in the Control Block so that
TPS will place the current transaction on the "WAIT" queue.
The Control Block will not be released for further scheduling
until another transaction has terminated. The settings of
the Y and Z parameters will then cause the Control Block to
be returned to the issuing A.R. for further processing.

REFERENCE

Part 1, Section 3.7.

TPS

<u>TPSCWTC - Write a Terminal Control Record.</u>

CALLING SEQUENCE

    ENTER TPS TPSCWTC USING Y Z

PARAMETERS

    Y   Sequencing parameter - see Section 1.5.1.

    Z   Re-entry parameter - see Section 1.5.2.

FUNCTIONS

    The subroutine sets parameters in the Control Block so
that TPS will write away the contents of the Terminal
Control Record area as the TCR for the terminal whose
number is currently held in the Control Block.

    The settings of the Y and Z parameters will govern the
passing of the Control Block for further processing
when this function is complete.

REFERENCE

Part 1, Section 3.2

TPS

2-83

TPSCXPB - Process Standard Parameter Block

CALLING SEQUENCE

    ENTER TPS TPSCXPB using A B Y Z

PARAMETERS

A   Name of a single word location (PIC 9(6) COMP SYNC RIGHT)
    containing the number of characters per line of the
    destination terminal. This should be in the range 1 - 80.

B   Name of a single word location (PIC 9(6) COMP SYNC RIGHT)
    containing the number of characters per column on the
    destination terminal. This should be in the range 1 - 30.

Y   Sequencing parameter - see Section 1.5.1.

Z   Re-entry parameter - see Section 1.5.2.

FUNCTIONS

The subroutine sets parameters in the Control Block so that TPS
will format the message area as defined in the Standard Parameter
Block whose address is held in the fifth word of the XPRE area in
the System area of the TCR.

The setting of the Y and Z parameters will govern the passing of
the Control Block for continued processing after this function has
been performed.

REFERENCE

    Part 1, Section 3.15.9

TPS

TPSCXRF - Retrieve format

CALLING SEQUENCE

ENTER TPS TPSCXRF USING A Y Z

PARAMETERS

A Format Identifier - 3 or 4 character literal, or a Date Name of a one word area containing the identifier left justified.

Y Sequencing parameter - see section 1.5.1

Z Re-entry parameter - see section 1.5.2

FUNCTIONS

The subroutine sets parameters in the Control Block so that TPS will retrieve the required screen format and place it in the message area, the displacement being given by the word count.

The settings of the Y and Z parameters will govern the passing of the Control Block for continued processing after this function has been performed.

REFERENCE

Part 1, section 3.2.3.2

TPS

TPSCXRM - Retrieve standard message

CALLING SEQUENCE

    ENTER TPS TPSCXRM USING A Y Z

PARAMETERS

A   Standard message no. - two character literal or a
      Data Name of a one word area (PIC 9(6) COMP SYNC
      RIGHT).For values greater than 99, the Data Name option must
      be chosen.

Y   Sequencing Parameter - see section 1.5.1

Z   Re-entry Parameter - see section 1.5.2

FUNCTIONS

The subroutine sets parameters in the Control Block so
that TPS will retrieve the required standard message and
place it in the message area, the displacement being
given by the word count.

The settings of the Y and Z parameters will govern the
passing of the Control Block for continued processing
after this function has been performed.

REFERENCE

Part 1, Section 3.2.3.2