VisualAge Pacbase 2.5

IMS OLSD
REFERENCE MANUAL

DDOIM000021A

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TABLE OF CONTENTS

1. PRESENTATION OF THE EXAMPLE

1.1. INTRODUCTION

BRIEF DESCRIPTION OF THIS MANUAL'S CONTENTS

This manual presents a Screen described in and generated by the OLSD function. It is a complement to the ON-LINE SYSTEMS DEVELOPMENT (OLSD) Reference Manual, which is common to all on-line monitors.

This manual first shows the coding and then the organization of the generated programs.

The structure of a generated program is also detailed and commented upon so as to help users insert their own specific procedures that may be needed in the Screen.

It illustrates the following:

. The coding of Data Names,
. Descriptions of segments, screen, work areas, and communication areas,
. A complete lexicon of variables, indexes and fields used by the automatic functions,
. A description of the automatic functions, including their generation conditions. (Refer to Chapter "GENERATED PROGRAM: PROCEDURE DIVISION".)

NOTE: The Screen example described in this manual does not illustrate all generation possibilities provided by the OLSD function: segment accesses, cross-references between segments, access conditions, etc.

This manual does NOT contain an exhaustive presentation of the specific information on the use of the OLSD function.

REMINDERS ON THE OLSD FUNCTION

Based on the Screen descriptions, the OLSD function ensures the following:

- The automatic generation of the Screen map description from layout-type information. (Adaptation to the hardware and on-line monitor is based on an option specified at the Screen level.)

- The automatic generation of the Screen data processing from process-type information:

. Screen Call of Elements (-CE) -> Screen data processing

. Screen Call of Segments (-CS) -> External data processing

. Dialogue Complement (-O) and Dialogue and Screen General Documentation (-G) -> Generation Options

. Structured Code (-P) -> Specific processing

All processing is generated in a program structured in "Reception" and "Display", thus ensuring the complete processing of the Screen data.

The program is generated in COBOL. Adaptation to the hardware and the on-line Monitor is based on the options specified at the Screen level.

A PACBASE dialogue is a conversation. Therefore, the IMS generated transaction is conversational. The following are associated to a dialogue:

. A conversational IMS transaction,

. A transaction code (defined on the Dialogue Definition),

. A PSB defining the databases used in the dialogue,

. A monitor program that links the screens making up the dialogue (except if the MONITOFF option has been selected).

The monitor program that links the screens making up the dialogue will be generated by the PACBASE system (one monitor per dialogue). It will be responsible for physically receiving and sending messages (instructions GU ===> SPA, GN ===> MID, ISRT ===> SPA and MOD), calling the appropriate processing program and transmitting to it the data read.

The 'end-of-program' generates a return to the monitor. The first screen of the dialogue is then re-displayed at the end of the conversation.

COMPLEMENT TO THE MONITOR

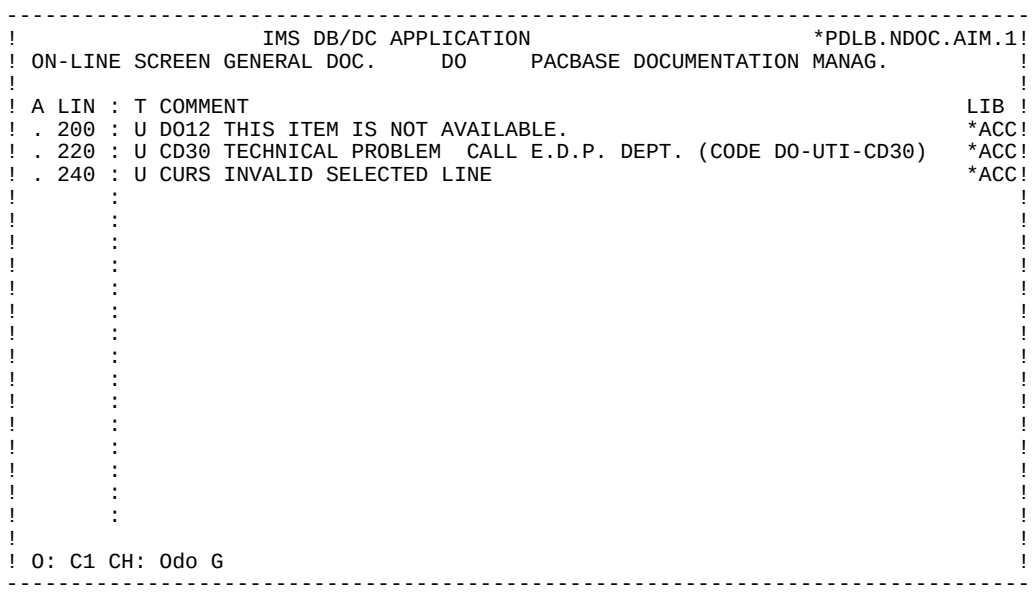
It is possible to modify the generated monitor (for example: addition of specific procedures to the dialogue, etc...). This can be done using Structured Code ('-B', '-W', '-P' and '-CP' lines).

These modifications, which are specific to a dialogue, are specified on the Dialogue Definition.

1.2. 'DO' DIALOGUE

```
--------------------------------------------------------------------------------
!                  IMS DB/DC APPLICATION                      *PDLB.NDOC.AIM.1!
! ON-LINE DIALOGUE DEFINITION.....: DO                                         !
!                                                                              !
! DIALOGUE NAME.....................: PACBASE DOCUMENTATION MANAG.             !
!                                                                              !
! SCREEN SIZE (LINES, COLUMNS) ......:   24       080                         !
! LABEL TYPE, TABS, INITIALIZATION...:   L        01                          !
! HELP CHARACTER SCREEN, DATA ELEMENT:   10       11                          !
!                                                                              !
!                                    LABELS   DISPLAY  INPUT  ER.MESS. ER.FLD!
! INTENSITY ATTRIBUTE ..............:   N        N        N        N        N !
! PRESENTATION ATTRIBUTE ...........:   N        N        N        N        N !
! COLOR ATTRIBUTE ..................:   W        W        W        W        W !
!                                                                              !
! TYPE OF COBOL AND MAP TO GENERATE..:   0   1     IBM OS IMS (PROG. & FOR. MFS!
! CONTROL CARD OPTIONS FRONT & BACK..:            (PROGRAM)      $$       (MAP)!
! EXTERNAL NAMES ...................:            (PROGRAM)               (MAP)!
! TRANSACTION CODE..................:   DOTRA                                 !
!                                                                              !
!                                                                              !
! EXPLICIT KEYWORDS..: DOC                                                     !
! SESSION NUMBER.....: 0021        LIBRARY......: AIM    LOCK....:             !
!                                                                              !
! O: C1 CH: Odo                        ACTION:                                 !
--------------------------------------------------------------------------------
```

```
--------------------------------------------------------------------------------
!                   IMS DB/DC APPLICATION                      *PDLB.NDOC.AIM.1!
! DIALOGUE COMPLEMENT....:  DO PACBASE DOCUMENTATION MANAG.                     !
!                                                                               !
!                                                                               !
! COMMON AREA-DATA STRUCTURE CODE.......: CA                                    !
!                                                                               !
! ERROR MESSAGE FILE CHARACTERISTICS                                            !
!                       ORGANIZATION....: D                                     !
!                       EXTERNAL NAME...: DBDLER                                !
!                                                                               !
! FIRST SCREEN CODE OF THE DIALOGUE.....: 0060                                  !
!                                                                               !
! COMPLEMENTARY COMMON AREA LENGTH......: 5000                                  !
!                                                                               !
! CODE OF PSB OR SUB-SCHEMA.............: PSBDOC                                 !
!                                                                               !
!                                                                               !
! OPTIONS : OCF REPET OFF                                                       !
!                                                                               !
!                                                                               !
!                                                                               !
! SESSION NUMBER     : 0132  LIBRARY      : AIM                                 !
!                                                                               !
! O: C1 CH: Odo O                       ACTION:                                 !
--------------------------------------------------------------------------------
```



1.3. THE 'DO0030' SCREEN

THE 'DO0030' SCREEN

It may be necessary to use complementary description lines in order to generate on-line programs:

. Beginning Insertions (-B),

. Screen Work Areas (-W),

. Screen Call of Macro-Structures (-CP),

. Screen General Documentation (-G).

WORK AREAS

On Work Areas screens, 'AA' is a reserved value for the CODE FOR COBOL PLACEMENT; it is internally used by the PACBASE OLSD function.
The automatically generated lines are identified in the COBOL code by the '*AAnnn' character string from columns 72 to 80. They can be overridden on the Work Areas (-W) screen on 'AAnnn'-numbered lines.

SCREEN GENERAL DOCUMENTATION

The user can use the General Documentation (-G) lines of the the screen or dialogue to override the value of some generated constants. For more details, refer to Chapter "DESCRIPTION OF A TRANSACTION", Subchapter "SCREEN GENERAL DOCUMENTATION (-G)" in the OLSD Reference Manual.

```
--------------------------------------------------------------------------------
!                   IMS DB/DC APPLICATION                    *PDLB.NDOC.AIM.1!
! ON-LINE SCREEN DEFINITION.....: DO0030                                       !
!                                                                              !
! SCREEN NAME.....................: ***  ORDER INPUT SCREEN  ***               !
!                                                                              !
! SCREEN SIZE (LINES, COLUMNS) ......:   24       080                         !
! LABEL TYPE, TABS, INITIALIZATION...:   L        01                          !
! HELP CHARACTER SCREEN, DATA ELEMENT:   10       11                          !
!                                                                              !
!                                    LABELS   DISPLAY  INPUT  ER.MESS. ER.FLD!
! INTENSITY ATTRIBUTE ..............:   N        N        N        N        N !
! PRESENTATION ATTRIBUTE ...........:   N        N        N        N        N !
! COLOR ATTRIBUTE ..................:   W        W        W        W        W !
!                                                                              !
! TYPE OF COBOL AND MAP TO GENERATE..:   0   1     IBM OS IMS (PROG. & FOR. MFS!
! CONTROL CARD OPTIONS FRONT & BACK..:            (PROGRAM)      $$       (MAP)!
! EXTERNAL NAMES ...................:   IMD030P  (PROGRAM)      IMD3M    (MAP)!
! TRANSACTION CODE..................:   DOTRA                                  !
!                                                                              !
!                                                                              !
! EXPLICIT KEYWORDS..:                                                         !
! SESSION NUMBER.....: 0037        LIBRARY......: AIM    LOCK....:             !
!                                                                              !
! O: C1 CH: Odo0030                    ACTION:                                 !
--------------------------------------------------------------------------------
```

```
--------------------------------------------------------------------------------
!                   IMS DB/DC APPLICATION                      *PDLB.NDOC.AIM.1!
! ON-LINE SCREEN GENERAL DOC.     DO0030 ***  ORDER INPUT SCREEN  ***           !
!                                                                              !
! A LIN : T COMMENT                                                      LIB !
! . 020 : C      THIS SCREEN ALLOWS TO ENTER AN ORDER FOR                *ACC!
! . 030 : C      DOCUMENTATION PLACED BY A REFERENCED CLIENT.            *ACC!
! . 050 : C      FROM THIS SCREEN, YOU MAY ACCESS ANY OTHER SCREEN OF    *ACC!
! . 055 : C      THE DIALOG BY ENTERING THE CORRESPONDING CHOICE FIELD   *ACC!
! . 060 : C      VALUE. THE DIFFERENT VALUES ARE DISPLAYED IN THE        *ACC!
! . 070 : C      BOTTOM PART OF ALL THE DIALOG'S SCREENS.                *ACC!
! . 120 : S CD05                                                         *ACC!
! . 122 : U F  8 TECHNICAL PROBLEM  CALL E.D.P. DEPT.(CODE 030-CD05 F8)  *ACC!
! . 124 : U F  9 TECHNICAL PROBLEM  CALL E.D.P. DEPT.(CODE 030-CD05 F9)  *ACC!
! . 130 : U G  9 TECHNICAL PROBLEM  CALL E.D.P. DEPT.(CODE 030-CD05 G9)  *ACC!
! . 150 : S CD10 R                                                       *ACC!
! . 152 : U F  8 INCORRECT UPDATE REQUEST.                               *ACC!
! . 154 : U F  9 INCORRECT REQUEST FOR CREATION.                         *ACC!
! . 160 : U G  9 END OF DISPLAY FOR THIS ORDER.                          *ACC!
! . 180 : S ME00 Z                                                       *ACC!
! . 190 : U G  9 TECHNICAL PROBLEM  CALL E.D.P. DEPT.(CODE 030-ME00 G9)  *ACC!
! . 200 : S FO10 R                                                       *ACC!
! . 210 : U F  9 MANUAL DOES NOT BELONG TO DOCUMENTATION.                *ACC!
!                                                                              !
! O: C1 CH: Odo0030 G                                                          !
--------------------------------------------------------------------------------
```

```
--------------------------------------------------------------------------------
!                   IMS DB/DC APPLICATION                      *PDLB.NDOC.AIM.1!
! ON-LINE SCREEN GENERAL DOC.     DO0030 ***  ORDER INPUT SCREEN  ***           !
!                                                                              !
! A LIN : T COMMENT                                                      LIB !
! . 350 : F CODMVT                                                       *ACC!
! . 360 : C      AN ACTION CODE MUST BE ENTERED.                         *ACC!
! . 400 : F FOURNI                                                       *ACC!
! . 402 : C      THE FIELD 'ITEM' IS ENTERED WITH THE 3-CHARACTER CODE   *ACC!
! . 403 : C      OF THE MANUAL. IT IS NOT POSSIBLE TO ENTER              *ACC!
! . 404 : C      REQUESTS CONCERNING THE BINDERS.                        *ACC!
! . 430 : U    A THIS PROCEDURE DOES NOT PERMIT TO ORDER BINDERS.        *ACC!
! . 450 : F MATE                                                         *ACC!
! . 451 : T    0 DOCUM DD                                                *ACC!
! . 453 : U    5 THIS TYPE OF HARDWARE IS NOT SUPPORTED BY PACBASE.      *ACC!
! . 500 : F QTMAC                                                        *ACC!
! . 510 : C      THE 'QUANTITY ORDERED' FIELD MUST BE ENTERED WITH THE   *ACC!
! . 520 : C      NUMBER OF COPIES NEEDED FOR THE SPECIFIED MANUAL.       *ACC!
! . 530 : C      ACCORDING TO STOCK AVAILABILITY, THE SYSTEM FILLS IN     *ACC!
! . 540 : C      THE 'QUANTITY DELIVERED' AND, IF NEEDED, THE 'QUANTITY  *ACC!
! . 541 : C      OUTSTANDING'.                                           *ACC!
! . 600 : F INFOR                                                        *ACC!
! . 610 : C      THE 'REMARKS' COLUMN ALLOWS TO ENTER SPECIFICS          *ACC!
! . 625 : C      CONCERNING THE LEAD TIMES OF OUTSTANDING ORDERS.        *ACC!
! O: C1 CH:                                                                  !
--------------------------------------------------------------------------------
```

```
--------------------------------------------------------------------------------
!                   IMS DB/DC APPLICATION                     *PDLB.NDOC.AIM.1!
! SCREEN CALL OF ELEM... DO0030 ***  ORDER INPUT SCREEN  ***                    !
!                                                                              !
! A LIN : D.ELEM . PHYSICAL ATTRIBUTES   . VALIDATION UPDATE .  DISPLAY        !
!       :        . P LN COL N L C HR VR  .  P V U UPD TARGET .  S SOURCE     LV!
! ..........................................................................    !
! . 050 : DOAP30 . A 01 001 S            .                   .                 !
! . 080 : DOAP04 . A 01 001 S            .                   .                 !
! . 100 : DO0030 . A 01 025 T            .                   .                 !
! . 110 : NUCOM  . A 03 004 P U          .                   .    CA00         !
! . 120 : MATE   .      003 V U          .  R     CD05       .    CD05         !
! . 122 :        .                       .      V SPECIAL    .                 !
! . 125 : RELEA  .      012 V U          .  R     CD05       .    CD05         !
! . 130 : NUCLIE .   01 004 O U          .                   .                 !
! . 140 : RAISOC .      003 P F          .                   .    CA00         !
! . 145 : RUE    .   01 009 V F          .                   .                 !
! . 150 : COPOS  .      003 V F N        .  R   P 93CP       .    WP30         !
! . 155 :        .                       .      CD05COPOS    .    CD05COPOS    !
! . 160 : VILLE  .      003 F F          .                   .    CD05         !
! . 200 : REFCLI .   01 004 V U N        .        CD05       .    CD05         !
! . 210 : DATE   .      003 V U N        .  R     CD05       .    CD05         !
! . 220 : CORRES .   01 005 V U N        .  P     CD05       .    CD05         !
!                                                                              !
! O: C1 CH: Odo0030 CE                                                         !
--------------------------------------------------------------------------------
```

```
--------------------------------------------------------------------------------
!                   IMS DB/DC APPLICATION                      *PDLB.NDOC.AIM.1!
! SCREEN CALL OF ELEM... DO0030 ***  ORDER INPUT SCREEN  ***                    !
!                                                                              !
! A LIN : D.ELEM . PHYSICAL ATTRIBUTES   . VALIDATION UPDATE .  DISPLAY        !
!       :        . P LN COL N L C HR VR  .  P V U UPD TARGET .  S SOURCE     LV!
! ..............................................................................!
! . 230 : REMIS  .      003 V U N         .        CD05       .    CD05         !
! . 300 : LINE   . A 10 001 R 1   01 09   .                   .                 !
! . 305 : CODMVT .      003 V   Y         .    I              .                 !
! . 310 : FOURNI .      003 V             .  R T   CD00       .    CD00         !
! . 320 : QTMAC  .      003 V             .  R X   CD10       .    CD10         !
! . 325 :        .                        .      + FO10QTMAM  .                 !
! . 330 : QTMAL  .      002 F             .                   .    CD10         !
! . 335 : QTMAR  .      002 F             .                   .                 !
! . 340 : INFOR  .      001 V             .  P X   CD10       .    CD10         !
! . 350 : END    .      004 Z             .                   .                 !
! . 400 :        . A 20 002 L             .                   .                 !
! . 405 : EDIT   .      001 V F           .    I   CD20       .                 !
! . 415 : DOAP31 . A 20 001 S             .                   .                 !
! . 500 : DOAP02 . A 22 001 S             .                   .                 !
!       :        .                        .                   .                 !
!       :        .                        .                   .                 !
!                                                                              !
! O: C1 CH:                                                                    !
--------------------------------------------------------------------------------
```

```
-------------------------------------------------------------------------------
!                   IMS DB/DC APPLICATION                     *PDLB.NDOC.AIM.1!
! SCREEN CALL OF ELEM... DO0030 ***  ORDER INPUT SCREEN  ***                   !
!                                                                             !
! A LIN : D.ELEM . PHYSICAL ATTRIBUTES         . LABEL                        !
!       :        . P LN COL N L HR VR IN PR CO . T LITERALS                  !
! ..........................................................................  !
! . 050 : DOAP30 . A 01 001 S                  .                              !
! . 080 : DOAP04 . A 01 001 S                  .                              !
! . 100 : DO0030 . A 01 025 T                  .                              !
! . 110 : NUCOM  . A 03 004 P U                .                              !
! . 120 : MATE   .      003 V U                .                              !
! . 122 :        .                             .                              !
! . 125 : RELEA  .      012 V U                .                              !
! . 130 : NUCLIE .   01 004 O U                .                              !
! . 140 : RAISOC .      003 P F                .                              !
! . 145 : RUE    .   01 009 V F                . P 84, OLD TOWNLINE ROAD      !
! . 150 : COPOS  .      003 V F                .                              !
! . 155 :        .                             .                              !
! . 160 : VILLE  .      003 F F                .                              !
! . 200 : REFCLI .   01 004 V U                .                              !
! . 210 : DATE   .      003 V U                . I ..__..                     !
! . 220 : CORRES .   01 005 V U                .                              !
!                                                                             !
! O: C2 CH:                                                                   !
-------------------------------------------------------------------------------
```

```
--------------------------------------------------------------------------------
!                   IMS DB/DC APPLICATION                      *PDLB.NDOC.AIM.1!
! SCREEN CALL OF ELEM... DO0030 ***  ORDER INPUT SCREEN  ***                    !
!                                                                              !
! A LIN : D.ELEM . PHYSICAL ATTRIBUTES         . LABEL                         !
!       :        . P LN COL N L HR VR IN PR CO . T LITERALS                   !
! ..............................................................................!
! . 230 : REMIS  .      003 V U                .                                !
! . 300 : LINE   . A 10 001 R 1 01 09          .                                !
! . 305 : CODMVT .      003 V                  .                                !
! . 310 : FOURNI .      003 V                  .                                !
! . 320 : QTMAC  .      003 V                  .                                !
! . 325 :        .                             .                                !
! . 330 : QTMAL  .      002 F          B       .                                !
! . 335 : QTMAR  .      002 F                  .                                !
! . 340 : INFOR  .      001 V                  .                                !
! . 350 : END    .      004 Z                  .                                !
! . 400 :        . A 20 002 L                  .   PRINTING OF FORM  :/         !
! . 405 : EDIT   .      001 V F                .                                !
! . 415 : DOAP31 . A 20 001 S                  .                                !
! . 500 : DOAP02 . A 22 001 S                  .                                !
!       :        .                             .                                !
!       :        .                             .                                !
!                                                                              !
! O: C2 CH:                                                                    !
--------------------------------------------------------------------------------
```

```
--------------------------------------------------------------------------------
!                   IMS DB/DC APPLICATION                      *PDLB.NDOC.AIM.1!
! ON-LINE SCREEN CALL OF SEGM. DO0030 ***  ORDER INPUT SCREEN  ***              !
! ...CA00...CD05...WP30..*CD00..*CD10..*FO10..£CD20.............................!
! A SEGM      :   USE PREC ACCESS KEY     ACCESS     D EXTERNAL LIB. S    :LIB !
! C CODE C LN : G R D SEGM SOURCE         KEY    B O T NAME     SEGM N LV :    !
!   CD05   00 :   M        CA00-NUCOM     KEYCD    D 1 DBDCDE   CD05   12 :0021!
!   CD05   04 :     A      CA00-NUCOM     KEYCD                           :0054!
!   HE10   00 : U                         XNMTE    D 1 DBDHEL   HE10      :0005!
!   CD10 R 00 :   T        CA00-NUCOM     KEYCD    D 1 DBDCDE   CD10      :0021!
!   CD10 R 04 :            0030-FOURNI    FOURNI                          :0021!
!   CD10 R 06 :     A      CA00-NUCOM     KEYCD                           :0021!
!   CD10 R 08 :            SPACES         FOURNI                          :0021!
!   FO10 R 00 :   M N CD10 0030-FOURNI    CLEFO    D 1 DBDFOU   FO10      :0021!
!   FO10 R 02 :            CA00-LANGU     LANGU                           :0021!
!   FO10 R 04 :            0030-RELEA     RELEA                           :0021!
!   FO10 R 06 :            0030-MATE      MATE                            :0021!
!   CD20 Z 00 :   X N      CA00-NUCOM     KEYCD    D 1 DBDCDE   CD20      :0054!
!   CD20 Z 02 :            'O'            EDIT                            :0021!
!   ME00 Z 00 :   N A      CA00-CLEME     CLEME    D 1 DBDMES   ME00      :0021!
!             :                                                           :    !
!             :                                                           :    !
!             :                                                           :    !
!                                                                             !
! O: C1 CH: Odo0030 CS                                                        !
--------------------------------------------------------------------------------
```

```
 --------------------------------------------------------------------------------
 !                  IMS DB/DC APPLICATION                    *PDLB.NDOC.AIM.1!
 ! ON-LINE SCREEN CALL OF P.M.S.......:    DO0030 ***  ORDER INPUT SCREEN  *** !
 !                                                                             !
 ! A   MACRO  LN C : COMMENTS OR PARAMETER VALUES                       D E    !
 ! .   AADOCP      : WP/                                                       !
 ! .   BBDEBR      :                                                       !
 !     BBHELP      : S-IPCB-XNMTE/                                             !
 ! .   BBINIT      :                                                           !
 !                 :                                                           !
 !                 :                                                           !
 !                 :                                                           !
 !                 :                                                           !
 !                 :                                                           !
 !                 :                                                           !
 !                 :                                                           !
 !                 :                                                           !
 !                 :                                                           !
 !                 :                                                           !
 !                 :                                                           !
 !                 :                                                           !
 !                 :                                                           !
 !                 :                                                           !
 !                                                                             !
 ! O: C1 CH: Odo0030 CP                                                        !
 --------------------------------------------------------------------------------
```

```
--------------------------------------------------------------------------------
!                   IMS DB/DC APPLICATION                      *PDLB.NDOC.AIM.1!
! WORK AREAS.........ENTITY TYPE O DO0030 ***  ORDER INPUT SCREEN  ***         !
!                                                                              !
! CODE FOR PLACEMENT..:      BB                                                !
! A LIN T LEVEL OR SECTION WORK AREA DESCRIPTION                       OCCURS!
! . 200 I 01               WW10-QTMAR                                        !
! . 201                    VALUE ZERO.                                       !
!                                                                              !
!                                                                              !
!                                                                              !
!                                                                              !
!                                                                              !
!                                                                              !
!                                                                              !
!                                                                              !
!                                                                              !
!                                                                              !
!                                                                              !
!                                                                              !
!                                                                              !
!                                                                              !
! O: C1 CH: Odo0030 W                                                          !
--------------------------------------------------------------------------------
```

```
--------------------------------------------------------------------------------
!                   IMS DB/DC APPLICATION                      *PDLB.NDOC.AIM.1!
! WORK AREAS.........ENTITY TYPE O DO0030 ***  ORDER INPUT SCREEN  ***         !
!                                                                              !
! CODE FOR PLACEMENT..:      WP                                                !
! A LIN T LEVEL OR SECTION WORK AREA DESCRIPTION                        OCCURS!
! * 000   01                 WP00.                                             !
! * 010    02                WP10.                                             !
! * 020     05               FILLER PIC X(25) VALUE                            !
! * 030                      '23400BRISBANE           '.                       !
! * 040     05               FILLER PIC X(25) VALUE                            !
! * 050                      '56400VICTORIA           '.                       !
! * 060     05               FILLER PIC X(25) VALUE                            !
! * 070                      '76500ALICE SPRINGS      '.                       !
! * 080     05               FILLER PIC X(25) VALUE                            !
! * 090                      '55300MELBOURNE          '.                       !
! * 100     05               FILLER PIC X(25) VALUE                            !
! * 110                      '11000CANBERRA           '.                       !
! * 120     05               FILLER PIC X(25) VALUE                            !
! * 130                      '34500PERTH              '.                       !
! * 140     05               FILLER PIC X(25) VALUE                            !
! * 150                      '85270DARWIN             '.                       !
! * 160     05               FILLER PIC X(25) VALUE                            !
!                                                                              !
! O: C1 CH:                                                                    !
--------------------------------------------------------------------------------
```

```
--------------------------------------------------------------------------------
!                   IMS DB/DC APPLICATION                      *PDLB.NDOC.AIM.1!
! WORK AREAS.........ENTITY TYPE O DO0030 ***  ORDER INPUT SCREEN  ***         !
!                                                                              !
! CODE FOR PLACEMENT..:      WP                                                !
! A LIN T LEVEL OR SECTION WORK AREA DESCRIPTION                       OCCURS!
! * 170                      '94000HOBART             '.                       !
! * 180     05               FILLER PIC X(25) VALUE                            !
! * 190                      '89300SYDNEY             '.                       !
! * 300    02                WP20 REDEFINES WP10 OCCURS 9.                  9 !
! * 320 E   05                WP20-COPOS .                                      !
! * 340 E   05                WP20-VILLE .                                      !
! * 400    02                WP30.                                             !
! * 410 I   05                WP30-COPOS .                                      !
! * 500    02                WP40.                                             !
! * 510 E   05                WP40-VILLE.                                       !
! * 520 E   05                WP40-VILLEL.                                      !
!                                                                              !
!                                                                              !
!                                                                              !
!                                                                              !
!                                                                              !
!                                                                              !
!                                                                              !
! O: C1 CH:                                                                    !
--------------------------------------------------------------------------------
```

PRESENTATION OF THE EXAMPLE 1
THE 'DO0030' SCREEN 3

```
    FUSFLIN OPE OPERANDS                        LVTY CONDITION


    02CP    N   INIT. NUMBER OF LOADED ITEMS    10BL
    02CP100 M   IWP20M IWP20L

    08BB    N   NO UPDATE ==> END OF RECEIVE    10IT OPER NOT = 'M'
    08BB100 GFT

    15AA    N   INITIALIZATION CATM (HEADING)   10IT CATX = SPACE
    15AA100 M   'M' CATM                          AN OPER = 'M'

    20BB    N   ITEM NOT AVAILABLE              10*A FOURNI
    20BB100 ERR A FOURNI                        99IT I-0030-FOURNI = 'CLA'
    20BB110 GF                                    AN CATM NOT = SPACE

    25BB    N   ACCESS TO FO10                  12*P CD10
    25BB100 M   '1' CD10-CF

    28BH    N   STOCK UPD.: ORDER DELETION/UPD  10IT (CATM = 'A' OR 'M')
    28BH100 A   CD10-QTMAL FO10-QTMAS             AN CATX = 'R'
    28BH120                                       AN CAT-ER = SPACES

    30BD    N   QUANTITY PROCESSING             10*P R

    30BF    N   CALC. DELIV. QUANT.   STOCK UPD.12IT CATM = 'C' OR 'M'
    30BF100 M   I-0030-QTMAC  CD10-QTMAL        99IT FO10-QTMAS NOT <
    30BF110                                          I-0030-QTMAC
    30BF120 M   FO10-QTMAS    CD10-QTMAL        99EL
    30BF130 S   CD10-QTMAL    FO10-QTMAS        99BL
    30BF140 M   CD10-QTMAL    O-0030-QTMAL

    64DA    N   PREPARATION DISPLAY DATE/HOUR   10IT CATX = ' '
    64DA 40 AD6
    64DA 80 AD  IM DATOR DAT8C
    64DA120 TIM                                 99BL
    64DA160 TIF TIMCOG TIMDAY

    65BB    N   REMAINS TO BE DELIVERED         10*P R
    65BB100 C   WW10-QTMAR =                    99IT CD10-QTMAL NOT = ZERO
    65BB110     CD10-QTMAC - CD10-QTMAL
    65BB120 M   WW10-QTMAR   O-0030-QTMAR

    8095    N   ACCESS TO HELP DATABASE         10BL
    8095200 YR  HELP
    8095210 M   'GU'        S-WPCB-XFONC
    8095220 M   S-IPCB-XNMTE
    8095225     S-HEU10-CLE
    8095230 CAL 'CBLTDLI'   USING
    8095240     S-WPCB-XFONC     S-DBDHEL
    8095250     HE10             S-HEU10-SSA
    8095260 M   ' ='             S-HEU10-OPER
    8095270 M   S-DBDHEL         S-SPCB
    8095280 M   HE10-XZONE  OUTPUT-SCREEN-FIELDS
    8095290 COB GO TO F80-ER.
    8095300 YW  HELP
    8095310 M   'ISRT'      S-WPCB-XFONC
    8095320 M   S-IPCB-XNMTE
    8095325     S-HEU10-CLE HE10-CLE
    8095330 M   OUTPUT-SCREEN-FIELDS  HE10-XZONE
    8095340 CAL 'CBLTDLI'   USING
    8095350     S-WPCB-XFONC     S-DBDHEL
    8095360     HE10             S-HE10-SSA
    8095370 M   S-DBDHEL         S-SPCB
    8095380 COB GO TO F80-ER.
    8095500 YRW HELP
    8095510 M   'GHU'       S-WPCB-XFONC
    8095520 M   S-IPCB-XNMTE
    8095525     S-HEU10-CLE
    8095530 CAL 'CBLTDLI'   USING
    8095540     S-WPCB-XFONC     S-DBDHEL
    8095550     HE10             S-HEU10-SSA
    8095560 M   ' ='             S-HEU10-OPER
    8095570 M   S-DBDHEL         S-SPCB
    8095580 COB GO TO F81ER.                    99IT S-SPCB-XCORET  NOT = '
    8095590                                       AN  'GE'  AND  'GA' AND
    8095600                                       AN  'GB'  AND  'II'
```

```
8095610 COB GO TO F80-KO.                    99IT S-SPCB-XCORET NOT = SP
8095620 M   'REPL'      S-WPCB-XFONC         99BL
8095630 M   OUTPUT-SCREEN-FIELDS  HE10-XZONE
8095640 CAL 'CBLTDLI'   USING
8095650     S-WPCB-XFONC     S-DBDHEL  HE10
8095660 M   S-DBDHEL         S-SPCB
8095670 COB GO TO F80-ER.
8095700 YD  HELP
8095710 M   'GHU'       S-WPCB-XFONC
8095720 M   S-IPCB-XNMTE
8095725     S-HEU10-CLE
8095730 CAL 'CBLTDLI'   USING
8095740     S-WPCB-XFONC     S-DBDHEL
8095750     HE10             S-HEU10-SSA
8095760 M   ' ='             S-HEU10-OPER
8095770 M   S-DBDHEL         S-SPCB
8095780 COB GO TO F81ER.                     99IT S-SPCB-XCORET  NOT = '
8095790                                        AN  'GE'  AND  'GA' AND
8095800                                        AN  'GB'  AND  'II'
8095810 COB GO TO F80-KO.                    99IT S-SPCB-XCORET NOT = SP
8095820 M   'DLET'      S-WPCB-XFONC         99BL
8095830 CAL 'CBLTDLI'   USING
8095840     S-WPCB-XFONC     S-DBDHEL
8095850     HE10
8095870 M   S-DBDHEL         S-SPCB
8095880 COB GO TO F80-ER.

93CP    N   ZIP CODE VALIDATION             10BL
93CP100 SCH WP20-COPOS WP30-COPOS
93CP200 M   '5' DEL-ER                       99IT IWP20R > IWP20L
93CP220 GT  10
```

```
!   XXXXXXXX - 0808      ***  ORDER INPUT SCREEN  ***       XXXXXXXXXX 14:45:36!
!                                                                               !
!   ORDER NUMBER: 02345   SYSTEM: IMS/VS              RELEASE:                  !
!   CUST.    BEST     D.P. MANAGEMENT                                           !
!        84, OLD TOWNLINE ROAD                        48016   CINCINNATI        !
!   CUST. REF.: LP-KCP  ORDER NUMBER: 05179      ORDER DATE: ..__..             !
!    COORDINATOR: MR. GUY DANCE               DISCOUNT RATE:    12.25          !
!                                                                               !
!  A   ITEM     ORDERED   DELIV.   OUTST. REMARKS                               !
!  C   DLG       3         1        2     REST TO BE DELIVERED : 05/03/93      !
!  .   ...      ..        ..       ..     ..................................   !
!  .   ...      ..        ..       ..     ..................................   !
!  .   ...      ..        ..       ..     ..................................   !
!  .   ...      ..        ..       ..     ..................................   !
!  .   ...      ..        ..       ..     ..................................   !
!  .   ...      ..        ..       ..     ..................................   !
!  .   ...      ..        ..       ..     ..................................   !
!  .   ...      ..        ..       ..     ..................................   !
!                                                                               !
! PRINTING OF FORM  : O            UPD : PF07, ORDERS (NEXT) : PF08,            !
! MENU : PF01, CUSTOMER LIST : PF02, CUST. HIST : PF03, ORDER LIST : PF04,      !
! END : PF12 SCREEN DOC : PF10,  DATA EL. DOC : PF11,                           !
! PLEASE CHECK YOUR MAILBOX, THANK YOU.                                         !
! XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX  !
```

2. GENERATED PROGRAM

2.1. BEGINNING OF PROGRAM

BEGINNING OF PROGRAM

The user cannot modify the IDENTIFICATION DIVISION of the generated program.

The ENVIRONMENT DIVISION is automatically adapted to the variant requested for the program.

The clause 'DECIMAL POINT IS COMMA' is generated if, on the Library Definition screen, the value in the DECIMAL POINT PRESENTATION CHARACTER field is a comma (,).

All other clauses that may be necessary in this part of the program are the user's responsibility.

All modifications to this part of the program must be done on the Beginning Insertions (-B) screen. (See the STRUCTURED CODE Reference Manual).

GENERATED PROGRAM 2
BEGINNING OF PROGRAM 1

```
    IDENTIFICATION DIVISION.
    PROGRAM-ID. IMD030P.                                    DO0030
    AUTHOR.     ***  ORDER INPUT SCREEN  ***.               DO0030
    DATE-COMPILED. 04/30/93.                                DO0030
    ENVIRONMENT DIVISION.                                   DO0030
    CONFIGURATION SECTION.                                  DO0030
    SOURCE-COMPUTER. IBM-370.                               DO0030
    OBJECT-COMPUTER. IBM-370.                               DO0030
    SPECIAL-NAMES.                                          DO0030
         DECIMAL-POINT IS COMMA.                            DO0030
    INPUT-OUTPUT SECTION.                                   DO0030
    FILE-CONTROL.                                           DO0030
    DATA DIVISION.                                          DO0030
    FILE SECTION.                                           DO0030
```

2.2. BEGINNING OF WORKING-STORAGE

BEGINNING OF WORKING-STORAGE

The 'WSS-BEGIN' level is generated at the beginning of the WORKING-STORAGE SECTION for all programs.

It contains all the variables and keys necessary for automatic processing.

IK Error indicator for file accesses.

'0' No error.
'1' Error.

OPER Operation code.

'A' Display.
'M' Update.
'S' Screen continuation.
'E' End.
'P' Previous display.
'O' Transfer to another screen.

OPERD Operation code for deferred branching.

Transferred to OPER in F40.

'O' Deferred call of another screen.

OPER and OPERD: If they correspond to a Data Element defined as an Operation Code on the Screen Call of Elements (-CE) screen (value 'O' in the VALIDATION CONDITIONS/SET VARIABLES field), they are processed in the F0520 function. If not, they are processed in the F20 function.

CATX Code of the category being executed.

'0' Beginning of reception or display.
' ' Screen-top.
'R' Repetitive.
'Z' Screen-bottom.

CATM Transaction code.

'C' Creation.
'M' Modification.

'A' Deletion.
'X' Implicit update.

ICATR Indicator for current category being processed.

(Repetitive category only)

SCR-ER Screen error indicator.

'1' no error.
'4' error.

FT End of repetitive category indicator.

'0' Lines to display.
'1' No more lines to display.

ICF Input Configuration.

'1' Screen in input.
'0' No screen in input.

OCF Output Configuration.

'1' Screen in output.
'0' No screen in output.

CAT-ER Ongoing error indicator for current category.

' ' No error.
'E' Error.

CURPOS Cursor position on the screen in 'reception', with CPOSL = line number, and CPOSC = column number.

CPOSN 'Absolute' cursor position on the screen (the '0' position corresponds to CPOSL = 1, and CPOSC = 1).

INA Number of Data Elements in the screen-top category.

INR INA + Number of Data Elements in the repetitive category.

INZ INR + Number of Data Elements in the screen-bottom category.

IRR Number of repetitions in the repetitive category.

INT Number of input fields.

IER Number of error messages on the screen.

DEL-ER Memorizes Data Element error (work variable).

The 'CONSTANTS' level is also generated for all programs. It contains:

. The compilation date of the on-line generator (PACE30 and PACE80), as well as the date of the related skeleton (these appear as comment lines),

. Information on the program and work areas generated according to the procedures executed in the program:

SESSI Session number of the generated program.
LIBRA Code of the library.
DATGN Generated program date.
PROGR System program code.
PROGE COBOL program-id.
TIMGN Generated program time.
USERCO User code.
COBASE Database code.

If a request for HELP documentation is entered on the Screen Definition screen, the following fields are generated:

PRDOC: External name of the 'HELP SCREEN' program.

5-scrn-PROGE: Field containing the name of called program.
This field is filled during a screen branching operation ('scrn' = the last four characters of the screen code).

5-scrn-PROGE

This field must be filled by the user before a transfer to another screen (OPER = 'O'), except if it is an automatic branch (UPDATE OPTION = 'G' on the Screen Call of Elements (-CE).

DATCE This field includes the CENTUR field (containing the value of the current century) and a blank date area (DATOR) in which the user can store the processing date in a year-month-day format (DATOA-DATOM-DATOJ).

Note: if the year is less than '61', the CENTUR field is automatically set to '20'.

DAT6 Fields for date formatting (MMDDYY or DDMMYY) and
DAT7 printing (for example DD/MM/YY).
DAT8 These fields are generated if a date processing operator is used in the '-P' lines of the program or if a variable data element ('V') has a date format.

DATSEP This field contains the separator used for dates. The default value ('/') can be modified by via Procedural Code (-P) lines.

DATSET This field contains the separator used for the Gregorian date.

The default value ('-') can be modified via Procedural Code (-P) lines.

DATCTY Field for century loading.

DAT6C Field for non-formatted date with century.

DAT7C Field for non-formatted date with century.

DAT8C Field for formatted date with century (DD/MM/CCYY).

DAT8G Field for the Gregorian type of date -- with century also -- (CCYY-MM-DD).

TIMCO Field for time loading.

TIMDAY Field for time formatting (HH:MM:SS).

GENERATED PROGRAM 2
BEGINNING OF WORKING-STORAGE 2

```
    WORKING-STORAGE SECTION.                                          DO0030
    01   WSS-BEGIN.                                                   DO0030
         05 FILLER PICTURE X(7) VALUE 'WORKING'.                      DO0030
         05 IK     PICTURE X.                                        DO0030
         05 BLANC  PICTURE X VALUE SPACE.                            DO0030
         05 OPER   PICTURE X.                                        DO0030
         05 OPERD  PICTURE X VALUE SPACE.                            DO0030
         05 CATX   PICTURE X.                                        DO0030
         05 CATM   PICTURE X.                                        DO0030
         05 ICATR  PICTURE 99.                                       DO0030
         05 SCR-ER PICTURE X.                                        DO0030
         05 FT     PICTURE X.                                        DO0030
         05 ICF    PICTURE X.                                        DO0030
         05 OCF    PICTURE X.                                        DO0030
         05 CAT-ER PICTURE X.                                        DO0030
         05 GREQ   PICTURE XX   VALUE '>='.                          DO0030
         05 CURPOS.                                                  DO0030
         10 CPOSL    PICTURE S9(4) COMPUTATIONAL.                    DO0030
         10 CPOSC    PICTURE S9(4) COMPUTATIONAL.                    DO0030
         05 CPOSN    PICTURE S9(4) COMPUTATIONAL.                    DO0030
         05 INA    PICTURE 999 VALUE 008.                            DO0030
         05 INR    PICTURE 999 VALUE 012.                            DO0030
         05 INZ    PICTURE 999 VALUE 013.                            DO0030
         05 IRR     PICTURE 99 VALUE 09.                             DO0030
         05 INT    PICTURE 999 VALUE 045.                            DO0030
         05 IER     PICTURE 99 VALUE 01.                             DO0030
         05 DEL-ER  PICTURE X.                                       DO0030
    01   PACBASE-CONSTANTS.                                           DO0030
    * OLSD DATES PACE30 : /02/93                                      DO0030
    *            PACE80 : 05/03/93   PAC7SG : 930225                 DO0030
         05 SESSI  PICTURE X(5) VALUE '0335 '.                       DO0030
         05 LIBRA  PICTURE X(3) VALUE 'AIM'.                         DO0030
         05 DATGN  PICTURE X(8) VALUE '04/30/93'.                    DO0030
         05 PROGR  PICTURE X(6) VALUE 'DO0030'.                      DO0030
         05 PROGE  PICTURE X(8) VALUE 'IMD030P '.                    DO0030
         05 TIMGN  PICTURE X(8) VALUE '15:32:31'.                    DO0030
         05 USERCO PICTURE X(8) VALUE 'PDCL    '.                    DO0030
         05 PRDOC  PICTURE X(8) VALUE 'DOP050'.                      DO0030
         05      5-0030-PROGE  PICTURE X(8).                        DO0030
    01  DATCE.                                                       DO0030
      05  CENTUR   PICTURE XX VALUE '19'.                            DO0030
         05 DATOR.                                                   DO0030
         10 DATOA  PICTURE XX.                                       DO0030
         10 DATOM  PICTURE XX.                                       DO0030
         10 DATOJ  PICTURE XX.                                       DO0030
    01  DAT6.                                                        DO0030
         10 DAT61.                                                   DO0030
         15 DAT619 PICTURE 99.                                       DO0030
         10 DAT62.                                                   DO0030
         15 DAT629 PICTURE 99.                                       DO0030
         10 DAT63  PICTURE XX.                                       DO0030
    01  DAT7.                                                        DO0030
         10 DAT71  PICTURE XX.                                       DO0030
         10 DAT72  PICTURE XX.                                       DO0030
         10 DAT73  PICTURE XX.                                       DO0030
    01  DAT8.                                                        DO0030
         10 DAT81  PICTURE XX.                                       DO0030
         10 DAT8S1 PICTURE X.                                        DO0030
         10 DAT82  PICTURE XX.                                       DO0030
         10 DAT8S2 PICTURE X.                                        DO0030
         10 DAT83  PICTURE XX.                                       DO0030
    01  DATSEP     PICTURE X VALUE '/'.                              DO0030
    01  DATSET     PICTURE X VALUE '-'.                              DO0030
    01  DATCTY.                                                      DO0030
      05  DATCTY9  PICTURE 99.                                       DO0030
    01  DAT6C.                                                       DO0030
      10  DAT61C   PICTURE XX.                                       DO0030
      10  DAT62C   PICTURE XX.                                       DO0030
      10  DAT63C   PICTURE XX.                                       DO0030
      10  DAT64C   PICTURE XX.                                       DO0030
    01  DAT7C.                                                       DO0030
      10  DAT71C   PICTURE XX.                                       DO0030
      10  DAT72C   PICTURE XX.                                       DO0030
      10  DAT73C   PICTURE XX.                                       DO0030
      10  DAT74C   PICTURE XX.                                       DO0030
    01  DAT8C.                                                       DO0030
      10  DAT81C   PICTURE XX.                                       DO0030
```

```
     10  DAT8S1C  PICTURE X    VALUE '/'.                    DO0030
     10  DAT82C   PICTURE XX.                                DO0030
     10  DAT8S2C  PICTURE X    VALUE '/'.                    DO0030
     10  DAT83C   PICTURE XX.                                DO0030
     10  DAT84C   PICTURE XX.                                DO0030
   01  DAT8G.                                                DO0030
     10  DAT81G   PICTURE XX.                                DO0030
     10  DAT82G   PICTURE XX.                                DO0030
     10  DAT8S1G  PICTURE X    VALUE '-'.                    DO0030
     10  DAT83G   PICTURE XX.                                DO0030
     10  DAT8S2G  PICTURE X    VALUE '-'.                    DO0030
     10  DAT84G   PICTURE XX.                                DO0030
   01  TIMCO.                                                DO0030
    02  TIMCOG.                                             DO0030
      05  TIMCOH  PICTURE XX.                               DO0030
      05  TIMCOM  PICTURE XX.                               DO0030
      05  TIMCOS  PICTURE XX.                               DO0030
     02 TIMCOC    PICTURE XX.                               DO0030
   01  TIMDAY.                                               DO0030
      05  TIMHOU  PICTURE XX.                               DO0030
      05  TIMS1   PICTURE X    VALUE ':'.                   DO0030
      05  TIMMIN  PICTURE XX.                               DO0030
      05  TIMS2   PICTURE X    VALUE ':'.                   DO0030
      05  TIMSEC  PICTURE XX.                               DO0030
```

2.3. SEGMENT DESCRIPTION

SEGMENT DESCRIPTION

The segment description part of the program is generated when a segment is used in the screen.

The 'CONFIGURATIONS' level contains a 'ddss' variable per segment accessed in the program ('ddss' = the code of the segment in the generated program). This permits the access to each segment to be conditioned in the processing.

Type of segment description: specific part only.

NOTE: In this part of the program, the only segments described are those whose names are changed at the 'segment call' level.

```
01    CONFIGURATIONS.                                          DO0030
      05      CD05-CF      PICTURE X.                          DO0030
      05      CD10-CF      PICTURE X.                          DO0030
      05      CD20-CF      PICTURE X.                          DO0030
      05      FO10-CF      PICTURE X.                          DO0030
      05      HE10-CF      PICTURE X.                          DO0030
      05      ME00-CF      PICTURE X.                          DO0030
```

2.4. DESCRIPTION OF VALIDATION AREAS

DESCRIPTION OF VALIDATION AREAS

The validation processing part of the program is always generated in the WORKING-STORAGE SECTION. It includes all the work areas necessary for the generated validation processing.

LENGTH OF THE MOD

The L-XXNN field is the length of the MOD (Message Output Description). XXNN is the code of the screen in the dialogue.

GROUP-VARIABLES

If the chosen generation option is 'OFF' (value in the OPTIONS field on the Dialogue Complement (-O) screen), an additional description of variable data elements ('V) of the repetitive category is generated outside of the screen description.

This description is generated according to the rules that illustrated in the example:

```
02 T-0030-LINE
     05 T-0030-CODMVT
     05 T-0030-FOURNI
```

NUMERIC FIELDS OF THE SCREEN

The 'NUMERIC-FIELDS' level is generated when the screen includes at least one variable Data Element.

Field '9-scrn-delco' (scrn = last 4 characters of the screen code) is generated for each numeric Data Element. It contains the breakdown of the Data Element's VALUE in 'seedd' where:

s = ' ' non-signed Data Element.

'+' signed Data Element.

ee = number of digits in the integer part of the Data Element.

dd = number of digits in the decimal part of the Data Element.

VALIDATION VARIABLES

The 'VALIDATION-TABLE-FIELDS' level is always generated.

.DE-ERR Stores the presence and/or status of each data element on the screen.

A position in this table (coded ER-scrn-DELCO) is associated with each element. The table is generated at the '05' level ('scrn' = last 4 characters of the screen code).

According to the stages of validation, this position may have one of the following values:

.0 Data element absent
.1 Data element present
.2 Invalid absence of data element
.4 Erroneous class
.5 Invalid content.

This table of error positions is structured according to the categories defined on the screen and the group data elements, in the following manner:

A group level for the data elements from the screen-top is automatically generated under the name ER-scrn-BEGIN:

.03 ER-0030-BEGIN.

For a repetitive data element defining a repetitive area of the screen (NATURE = 'R'), the generation of the error positions is the following:

```
      .In the table of errors:

         .03  PS-30-LINE OCCURS 9.

           .05  FILLER  PICTURE X(0004).
```

```
In this example:

   .LINE is the code of the data element of nature 'R',
   .0004 is the number of data elements in the repetitive
         category,
   .9 is the number of repetitions.
```

Found after the table of errors is an area which contains error positions of the data elements from the repetitive category. This area is used to position the errors for each of the data elements of the repetitive category for each occurrence:

```
      .02  ER-0030-LINE.
        .05  ER-0030-CODMVT   PICTURE X.
        .05  ER-0030-FOURNI   PICTURE X.
        .05  ER-0030-QTMAC    PICTURE X.
```

For a repetitive data element whose NATURE is other than 'R', the generation in the table of error positions does not provide the descriptions of the 'FILLER' item, but only:

```
     05 FILLER OCCURS x (number of repetitions)

        10 ER-scrn-DELCO PICTURE X.
```

A group level for the data elements from the screen-bottom is generated using a data element with NATURE = 'Z', containing the error positions of data elements belonging to the screen-bottom category:

```
     .03  ER-0030-END.
       .05  ER-0030-EDIT  PICTURE X.
```

TT-DAT

The 'TT-DAT' level is generated if a variable Data Element (NATURE = 'V') contains a 'date' format. It is used in sub-function F8120-M for date formatting purposes.

LEAP-YEAR

The 'LEAP-YEAR' level is generated if a variable Data Element (NATURE = 'V') contains a 'date' format (always generated with CICS). It is used in F81-ER to determine whether or not the year is a leap year.

USERS-ERROR

The 'USERS-ERROR' level is always generated, and it contains:

XEMKY: Table position used to build the key, including:

'XPROGR' Name of the program or dialogue,
'XERCD' Error number and type of error,

T-XEMKY: Table of errors, corresponding to the number of error messages on the screen (default value = 1).

The 'PACBASE-INDEXES' level is always generated:

. K01, K02, K03, K04:

Indexes for automatic numeric class validation and error array testing.

. K50R, K50L, K50M:

Indexes associated with the table of user errors (the value assigned to K50M directly relates to the number of vertical repetitions of data element 'ERMSG' in the screen description).

. 5-FF00-LTH:

Length of longest segment of the data structure (common part + specific part).

. 5-FFEE-LTH:

Segment's length (not including the common part).

. 5-FFEE-LTHV:

Length of the longest segment of the data structure (including the common part).

. LTH:

Calculation area used during access to files with a Table or VSAM ORGANIZATION.

. 5-scrn-LENGTH:

Area containing the length of the communication area.

The 'NUMERIC-VALIDATION-FIELDS' level is generated if there is at least one numeric field on the screen. It contains the work areas necessary for the analysis and the formatting of numeric data elements in the screen (see Subchapter "PERFORMED VALIDATION FUNCTIONS (F81)").

```
01          L-0030        PICTURE S9(4) VALUE +932.           *AA050
01          VARIABLES-GROUPE.                                 *AA050
     02     T-0030-LINE.                                      *AA050
     05     T-0030-CODMVT PICTURE X(1).                       *AA050
     05     T-0030-FOURNI PICTURE X(3).                       *AA050
     05     T-0030-QTMAC  PICTURE X(2).                       *AA050
     05     T-0030-INFOR  PICTURE X(35).                      *AA050
01          NUMERIC-FIELDS.                                   *AA050
     05     9-0030-REMIS  PICTURE X(5) VALUE '+0402'.         *AA050
     05     9-0030-QTMAC  PICTURE X(5) VALUE ' 0200'.         *AA050
01          VALIDATION-TABLE-FIELDS.                          *AA150
     02     DE-ERR.                                           *AA150
     05      DE-ER        PICTURE X                           *AA150
                 OCCURS 045.                                  *AA150
     02     DE-E   REDEFINES DE-ERR.                          *AA150
     03    ER-0030-BEGIN.                                     *AA150
     05         ER-0030-MATE   PICTURE X.                     *AA150
     05         ER-0030-RELEA  PICTURE X.                     *AA150
     05         ER-0030-RUE    PICTURE X.                     *AA150
     05         ER-0030-COPOS  PICTURE X.                     *AA150
     05         ER-0030-REFCLI PICTURE X.                     *AA150
     05         ER-0030-DATE   PICTURE X.                     *AA150
     05         ER-0030-CORRES PICTURE X.                     *AA150
     05         ER-0030-REMIS  PICTURE X.                     *AA150
     03      PS-30-LINE   OCCURS 9.                           *AA150
     05     FILLER        PICTURE X(0004).                    *AA150
     03    ER-0030-END.                                       *AA150
     05         ER-0030-EDIT   PICTURE X.                     *AA150
     02    ER-0030-LINE.                                      *AA150
     05         ER-0030-CODMVT PICTURE X.                     *AA150
     05         ER-0030-FOURNI PICTURE X.                     *AA150
     05         ER-0030-QTMAC  PICTURE X.                     *AA150
     05         ER-0030-INFOR  PICTURE X.                     *AA150
01   TT-DAT.                                                  *AA200
     05 T-DAT      PICTURE X OCCURS 5.                        *AA200
01   LEAP-YEAR.                                               *AA200
     05 LEAP-FLAG  PICTURE X.                                 *AA200
     05 LEAP-REM   PICTURE 99.                                *AA200
01   USERS-ERROR.                                             *AA200
     05 XEMKY.                                                *AA200
        10 XPROGR   PICTURE X(6).                             *AA200
        10 XERCD    PICTURE X(4).                             *AA200
     05 T-XEMKY     OCCURS       01.                         *AA200
        10 T-XPROGR PICTURE X(6).                             *AA200
        10 T-XERCD  PICTURE X(4).                             *AA200
01   PACBASE-INDEXES COMPUTATIONAL SYNC.                      *AA200
     05 K01         PICTURE S9(4).                           *AA200
     05 K02         PICTURE S9(4).                           *AA200
     05 K03         PICTURE S9(4).                           *AA200
     05 K04         PICTURE S9(4).                           *AA200
     05 K50R        PICTURE S9(4) VALUE ZERO.                *AA200
     05 K50L        PICTURE S9(4) VALUE ZERO.                *AA200
     05 K50M        PICTURE S9(4)                            *AA200
                    VALUE       +01.                        *AA200
     05 IWP20L      PICTURE S9(4) VALUE  ZERO.               *AA200
     05 IWP20R      PICTURE S9(4) VALUE  ZERO.               *AA200
     05 IWP20M      PICTURE S9(4) VALUE +0009.               *AA200
     05    5-CD05-LTH  PICTURE S9(4) VALUE +0162.            *AA200
     05    5-CD10-LTH  PICTURE S9(4) VALUE +0142.            *AA200
     05    5-CD20-LTH  PICTURE S9(4) VALUE +0001.            *AA200
     05    5-CD30-LTH  PICTURE S9(4) VALUE +0006.            *AA200
     05    5-CL10-LTH  PICTURE S9(4) VALUE +0236.            *AA200
     05    5-CL20-LTH  PICTURE S9(4) VALUE +0009.            *AA200
     05    5-EM00-LTH  PICTURE S9(4) VALUE +0090.            *AA200
     05    5-FO10-LTH  PICTURE S9(4) VALUE +0057.            *AA200
     05    5-HE10-LTH  PICTURE S9(4) VALUE +1928.            *AA200
     05    5-ME00-LTH  PICTURE S9(4) VALUE +0082.            *AA200
     05    5-CA00-LTH  PICTURE S9(4) VALUE +0147.            *AA200
     05    5-CD05-LTHV PICTURE S9(4) VALUE +0162.            *AA200
     05    5-CD10-LTHV PICTURE S9(4) VALUE +0142.            *AA200
     05    5-CD20-LTHV PICTURE S9(4) VALUE +0001.            *AA200
     05    5-CD30-LTHV PICTURE S9(4) VALUE +0006.            *AA200
     05    5-CL10-LTHV PICTURE S9(4) VALUE +0236.            *AA200
     05    5-CL20-LTHV PICTURE S9(4) VALUE +0009.            *AA200
     05    5-FO10-LTHV PICTURE S9(4) VALUE +0057.            *AA200
     05    5-HE10-LTHV PICTURE S9(4) VALUE +1928.            *AA200
     05    LTH         PICTURE S9(4) VALUE ZERO.             *AA200
```

```
      05      5-0030-LENGTH PICTURE S9(4)                          *AA200
                        VALUE      +5190.                          *AA200
   01   NUMERIC-VALIDATION-FIELDS.                                  *AA200
        05 ZONUM1.                                                  *AA200
           10 C1       PICTURE X OCCURS 27.                        *AA200
        05 ZONUM2.                                                  *AA200
           10 C2       OCCURS 18.                                  *AA200
           15 C29      PICTURE S9.                                 *AA200
        05 ZONUM9      REDEFINES ZONUM2 PICTURE 9(18).             *AA200
        05 NUMPIC.                                                  *AA200
           10 SIGNE    PICTURE X.                                  *AA200
           10 NBCHA    PICTURE 99.                                 *AA200
           10 NBCHP    PICTURE 99.                                 *AA200
        05 C9          PICTURE S9.                                 *AA200
        05 C91         PICTURE X.                                  *AA200
        05 TPOINT      PICTURE X.                                  *AA200
        05 ZONUM3.                                                  *AA200
           10 C3       PICTURE X OCCURS 18.                        *AA200
        05 ZONUM4      REDEFINES ZONUM3 PICTURE 9(18).             *AA200
        05 ZONUM5      PICTURE S99   VALUE -10.                    *AA200
        05 ZONUM6      REDEFINES ZONUM5.                           *AA200
           10 FILLER   PICTURE X.                                  *AA200
           10 C4       PICTURE X.                                  *AA200
```

2.5. TABLE-OF-ATTRIBUTES AND SEGMENT VARIABLES

TABLE-OF-ATTRIBUTES AND SEGMENT VARIABLES

The 'TABLE-OF-ATTRIBUTES' level is generated if the screen includes at least one variable Data Element (NATURE = 'V').

The DE-ATT table is the image of DE-ERR repeated four times. It is used to store the attributes of the Data Elements on the screen.

It is used to set the error attributes (which have been defined at the screen level) for a Data Element in error (for the management of this table refer to Subchapter "ERROR PROCESSING (F70)", Chapter "GENERATED PROGRAM: PROCEDURE DIVISION").

The coding for each Data Element is formatted as follows:

```
   .A-scrn-MATE   (A) for non-repetitive Data Elements

   .B-scrn-LINE   (B) for the Data Elements defining a
                      repetitive category (Nature 'R').
```

NOTE: 'scrn' = the last four characters of the screen code.

The table positions correspond to the attributes:

A = 1 Intensity attribute.
A = 2 Presentation attribute.
A = 3 Color attribute.
A = 4 Cursor positioned on the Data Element.

After the Table-of-Attributes, there is an area detailing the attributes of the Data Elements of the repetitive category. This area is used to position the attributes of each occurrence of these Data Elements.

.02 A-0030-LINE OCCURS 4.
.05 A-0030-CODMVT PICTURE X.
.05 A-0030-FOURNI PICTURE X.
etc.

The 'STOP-FIELDS' level is generated if a display control break has been defined for at least one Data Element of the repetitive category (display control break 'C' for a Data Element of a Segment used on the screen):

```
.02  C-0030
.05  C-0030-COCARA   PICTURE X.
.05  C-0030-NUCOM    PICTURE 9(5).
```

These areas are used to store the value of a Data Element which must remain constant in the display.

The 'FIRST-ON-SEGMENT' level is generated when at least one Segment that is not preceded by an access to another Segment, is used on display in the repetitive category.

In this case, a variable is generated for each Segment, indicating the first access to the Segment (key to be loaded in order to read the Segment on display).

Example:

```
05  CD10-FST   PICTURE X.

  .'1' First on the Segment,
  .'0' Next read of the Segment.
```

```
01          TABLE-OF-ATTRIBUTES.                              *AA250
     02     DE-ATT.                                           *AA250
     03     DE-ATT1          OCCURS 4.                        *AA250
     05     DE-AT   PICTURE X                                 *AA250
                  OCCURS 045.                                 *AA250
     02     DE-A    REDEFINES DE-ATT.                         *AA250
     03     DE-ATT2          OCCURS 4.                        *AA250
     04     A-0030-BEGIN.                                     *AA250
     05     A-0030-MATE   PICTURE X.                          *AA250
     05     A-0030-RELEA  PICTURE X.                          *AA250
     05     A-0030-RUE    PICTURE X.                          *AA250
     05     A-0030-COPOS  PICTURE X.                          *AA250
     05     A-0030-REFCLI PICTURE X.                          *AA250
     05     A-0030-DATE   PICTURE X.                          *AA250
     05     A-0030-CORRES PICTURE X.                          *AA250
     05     A-0030-REMIS  PICTURE X.                          *AA250
     04     B-0030-LINE   OCCURS 9.                           *AA250
     05     FILLER        PICTURE X(0004).                    *AA250
     04     A-0030-END.                                       *AA250
     05     A-0030-EDIT   PICTURE X.                          *AA250
     02     A-0030-LINE       OCCURS 4.                       *AA250
     05     A-0030-CODMVT PICTURE X.                          *AA250
     05     A-0030-FOURNI PICTURE X.                          *AA250
     05     A-0030-QTMAC  PICTURE X.                          *AA250
     05     A-0030-INFOR  PICTURE X.                          *AA250
```

2.6. SSA

SSA

The use of DL/1 databases in programs developed with the OLSD function involves the generation of specific fields in the DATA DIVISION.

GENERATION OF SSA's

For each segment FFnn called on the '-CS' screen (and for each parent of a segment called in the PCB (indicated in the EXTERNAL NAME field)) in the program, the following is generated:

. A non-qualified SSA:

```
01  S-FFnn-SSA.
 10 S1-FFnn-SEGNAM PICTURE X(8) VALUE 'nnnnnnnn'.
 10 S1-FFnn-CCOM   PICTURE X    VALUE '*'.
 10 S-FFnn-CCOD    PICTURE X(5) VALUE '_____'.
 10 FILLER         PICTURE X    VALUE SPACE.
```

where 'nnnnnnnn' is the code entered in the VALUE OF RECORD TYPE ELEM. field on the Segment Definition.

. A qualified SSA for each data element that is referenced by an alphabetic character (X) in the description of segment FFnn, in the format:

```
01   S-FFXnn-SSA.
  09 S-FFXnn-SEGNAM PICTURE X(8) VALUE 'nnnnnnnn'.
  09 S-FFXnn-CCOM   PICTURE X    VALUE '*'.
  09 S-FFXnn-CCOD   PICTURE X(5) VALUE '_____'.
  09 S-FFXnn-FLDNAM PICTURE X(9) VALUE '(DATA-ELE)'.
  09 S-FFXnn-OPER   PICTURE X(2) VALUE ' ='.
  09 S-FFXnn-DELCO.
  pp S-FFXnn-DAELE  PICTURE X(..).

  (...)

  09 FILLER         PICTURE X    VALUE ')'.
```

where 'pp' is the generated level number for the data element 'DATA-ELE' in the description of segment FFnn.

NOTE: When the data element is a group, the data elements belonging to the group are also generated in the SSA (...)

. A qualified SSA for each data element referenced by a numeric character in the segment description. This SSA is identical to the preceding one except that the code of the generated data element is preceded by an 'X'.

```
...
09   FILLER        PICTURE X(9) VALUE '(XDAELE  '.
...
```

This allows access by a secondary index (if in the DBD description associated to the secondary index, the data element used as access key has been defined with the name 'XDAELE').

Since PACBASE automatically deduces the key filling mode (qualified SSA), it is not possible to use identical data element key codes for different segments of the same hierarchical sequence within a given PCB (parent segments).

```
01    FIRST-ON-SEGMENT.                                          *AA301
      05      CD10-FST    PICTURE X.                             *AA301
01              S-CD05-SSA.                                      *AA350
        10      S1-CD05-SEGNAM PICTURE X(8) VALUE                *AA350
                               'CD05    '.                       *AA350
        10      S1-CD05-CCOM   PICTURE X VALUE '*'.              *AA350
        10       S-CD05-CCOD   PICTURE X(5) VALUE '-----'.       *AA350
        10         FILLER      PICTURE X VALUE SPACE.           *AA350
01              S-CD10-SSA.                                      *AA350
        10      S1-CD10-SEGNAM PICTURE X(8) VALUE                *AA350
                               'CD10    '.                       *AA350
        10      S1-CD10-CCOM   PICTURE X VALUE '*'.              *AA350
        10       S-CD10-CCOD   PICTURE X(5) VALUE '-----'.       *AA350
        10         FILLER      PICTURE X VALUE SPACE.           *AA350
01              S-CD20-SSA.                                      *AA350
        10      S1-CD20-SEGNAM PICTURE X(8) VALUE                *AA350
                               'CD20    '.                       *AA350
        10      S1-CD20-CCOM   PICTURE X VALUE '*'.              *AA350
        10       S-CD20-CCOD   PICTURE X(5) VALUE '-----'.       *AA350
        10         FILLER      PICTURE X VALUE SPACE.           *AA350
01              S-EM00-SSA.                                      *AA350
        10      S1-EM00-SEGNAM PICTURE X(8) VALUE                *AA350
                               'EM00    '.                       *AA350
        10      S1-EM00-CCOM   PICTURE X VALUE '*'.              *AA350
        10       S-EM00-CCOD   PICTURE X(5) VALUE '-----'.       *AA350
        10         FILLER      PICTURE X VALUE SPACE.           *AA350
01              S-FO10-SSA.                                      *AA350
        10      S1-FO10-SEGNAM PICTURE X(8) VALUE                *AA350
                               'FO10    '.                       *AA350
        10      S1-FO10-CCOM   PICTURE X VALUE '*'.              *AA350
        10       S-FO10-CCOD   PICTURE X(5) VALUE '-----'.       *AA350
        10         FILLER      PICTURE X VALUE SPACE.           *AA350
01              S-HE10-SSA.                                      *AA350
        10      S1-HE10-SEGNAM PICTURE X(8) VALUE                *AA350
                               'HE10    '.                       *AA350
        10      S1-HE10-CCOM   PICTURE X VALUE '*'.              *AA350
        10       S-HE10-CCOD   PICTURE X(5) VALUE '-----'.       *AA350
        10         FILLER      PICTURE X VALUE SPACE.           *AA350
01              S-ME00-SSA.                                      *AA350
        10      S1-ME00-SEGNAM PICTURE X(8) VALUE                *AA350
                               'ME00    '.                       *AA350
        10      S1-ME00-CCOM   PICTURE X VALUE '*'.              *AA350
        10       S-ME00-CCOD   PICTURE X(5) VALUE '-----'.       *AA350
        10         FILLER      PICTURE X VALUE SPACE.           *AA350
01              S-CDU05-SSA.                                     *AA351
        09      S1-CDU05-SEGNAM PICTURE X(8) VALUE               *AA351
                               'CD05    '.                       *AA351
        09      S1-CDU05-CCOM   PICTURE X    VALUE '*'.          *AA351
        09       S-CDU05-CCOD   PICTURE X(5) VALUE '-----'.      *AA351
        09      S1-CDU05-FLDNAM PICTURE X(9) VALUE               *AA351
                               '(KEYCD   '.                     *AA351
        09       S-CDU05-OPER   PICTURE XX   VALUE ' ='.         *AA351
        09       S-CDU05-CORUB.                                  *AA351
        10       S-CDU05-KEYCD.                                  *AA351
         15      S-CDU05-NUCOM  PICTURE 9(5).                    *AA351
        09         FILLER      PICTURE X    VALUE ')'.          *AA351
01              S-CD105-SSA.                                     *AA351
        09      S1-CD105-SEGNAM PICTURE X(8) VALUE               *AA351
                               'CD05    '.                       *AA351
        09      S1-CD105-CCOM   PICTURE X    VALUE '*'.          *AA351
        09       S-CD105-CCOD   PICTURE X(5) VALUE '-----'.      *AA351
        09      S1-CD105-FLDNAM PICTURE X(9) VALUE               *AA351
                              '(XNUCOM'.                        *AA351
        09       S-CD105-OPER   PICTURE XX   VALUE ' ='.         *AA351
        09       S-CD105-CORUB.                                  *AA351
         15      S-CD105-NUCOM  PICTURE 9(5).                    *AA351
        09         FILLER      PICTURE X    VALUE ')'.          *AA351
01              S-CDU10-SSA.                                     *AA351
        09      S1-CDU10-SEGNAM PICTURE X(8) VALUE               *AA351
                               'CD10    '.                       *AA351
        09      S1-CDU10-CCOM   PICTURE X    VALUE '*'.          *AA351
        09       S-CDU10-CCOD   PICTURE X(5) VALUE '-----'.      *AA351
        09      S1-CDU10-FLDNAM PICTURE X(9) VALUE               *AA351
                               '(FOURNI  '.                     *AA351
        09       S-CDU10-OPER   PICTURE XX   VALUE ' ='.         *AA351
        09       S-CDU10-CORUB.                                  *AA351
        10       S-CDU10-FOURNI PICTURE X(3).                    *AA351
```

```
        09          FILLER      PICTURE X    VALUE ')'.          *AA351
    01               S-CDU20-SSA.                                *AA351
        09       S1-CDU20-SEGNAM PICTURE X(8) VALUE               *AA351
                                  'CD20    '.                    *AA351
        09       S1-CDU20-CCOM   PICTURE X    VALUE '*'.         *AA351
        09        S-CDU20-CCOD   PICTURE X(5) VALUE '-----'.     *AA351
        09       S1-CDU20-FLDNAM PICTURE X(9) VALUE               *AA351
                                  '(EDIT   '.                    *AA351
        09        S-CDU20-OPER   PICTURE XX   VALUE ' ='.        *AA351
        09        S-CDU20-CORUB.                                 *AA351
        10        S-CDU20-EDIT   PICTURE X.                      *AA351
        09           FILLER      PICTURE X    VALUE ')'.         *AA351
    01               S-EMU00-SSA.                                *AA351
        09       S1-EMU00-SEGNAM PICTURE X(8) VALUE               *AA351
                                  'EM00    '.                    *AA351
        09       S1-EMU00-CCOM   PICTURE X    VALUE '*'.         *AA351
        09        S-EMU00-CCOD   PICTURE X(5) VALUE '-----'.     *AA351
        09       S1-EMU00-FLDNAM PICTURE X(9) VALUE               *AA351
                                  '(CLELE  '.                    *AA351
        09        S-EMU00-OPER   PICTURE XX   VALUE ' ='.        *AA351
        09        S-EMU00-CORUB.                                 *AA351
        10        S-EMU00-CLELE.                                 *AA351
         15       S-EMU00-APPLI  PICTURE XXX.                    *AA351
         15       S-EMU00-TYPEN  PICTURE X.                      *AA351
         15       S-EMU00-XCLEF.                                 *AA351
          20      S-EMU00-PROGR  PICTURE X(6).                   *AA351
          20      S-EMU00-NUERR.                                 *AA351
           25     S-EMU00-NUERR9 PICTURE 999.                    *AA351
          20      S-EMU00-TYERR  PICTURE X.                      *AA351
         15       S-EMU00-NULIG  PICTURE 999.                    *AA351
         15       S-EMU00-GRAER  PICTURE X.                      *AA351
        09           FILLER      PICTURE X    VALUE ')'.         *AA351
    01               S-FOU10-SSA.                                *AA351
        09       S1-FOU10-SEGNAM PICTURE X(8) VALUE               *AA351
                                  'FO10    '.                    *AA351
        09       S1-FOU10-CCOM   PICTURE X    VALUE '*'.         *AA351
        09        S-FOU10-CCOD   PICTURE X(5) VALUE '-----'.     *AA351
        09       S1-FOU10-FLDNAM PICTURE X(9) VALUE               *AA351
                                  '(FOURNI '.                    *AA351
        09        S-FOU10-OPER   PICTURE XX   VALUE ' ='.        *AA351
        09        S-FOU10-CORUB.                                 *AA351
         15       S-FOU10-FOURNI PICTURE X(3).                   *AA351
        09           FILLER      PICTURE X    VALUE ')'.         *AA351
    01               S-FO110-SSA.                                *AA351
        09       S1-FO110-SEGNAM PICTURE X(8) VALUE               *AA351
                                  'FO10    '.                    *AA351
        09       S1-FO110-CCOM   PICTURE X    VALUE '*'.         *AA351
        09        S-FO110-CCOD   PICTURE X(5) VALUE '-----'.     *AA351
        09       S1-FO110-FLDNAM PICTURE X(9) VALUE               *AA351
                                 '(XRELEA'.                      *AA351
        09        S-FO110-OPER   PICTURE XX   VALUE ' ='.        *AA351
        09        S-FO110-CORUB.                                 *AA351
         15       S-FO110-RELEA  PICTURE X(3).                   *AA351
        09           FILLER      PICTURE X    VALUE ')'.         *AA351
    01               S-FO210-SSA.                                *AA351
        09       S1-FO210-SEGNAM PICTURE X(8) VALUE               *AA351
                                  'FO10    '.                    *AA351
        09       S1-FO210-CCOM   PICTURE X    VALUE '*'.         *AA351
        09        S-FO210-CCOD   PICTURE X(5) VALUE '-----'.     *AA351
        09       S1-FO210-FLDNAM PICTURE X(9) VALUE               *AA351
                                 '(XQTMAS'.                      *AA351
        09        S-FO210-OPER   PICTURE XX   VALUE ' ='.        *AA351
        09        S-FO210-CORUB.                                 *AA351
        10        S-FO210-QTMAS  PICTURE S9(4)                   *AA351
                                 COMPUTATIONAL.                  *AA351
        09           FILLER      PICTURE X    VALUE ')'.         *AA351
    01               S-FO310-SSA.                                *AA351
        09       S1-FO310-SEGNAM PICTURE X(8) VALUE               *AA351
                                  'FO10    '.                    *AA351
        09       S1-FO310-CCOM   PICTURE X    VALUE '*'.         *AA351
        09        S-FO310-CCOD   PICTURE X(5) VALUE '-----'.     *AA351
        09       S1-FO310-FLDNAM PICTURE X(9) VALUE               *AA351
                                 '(XLIBFO'.                      *AA351
        09        S-FO310-OPER   PICTURE XX   VALUE ' ='.        *AA351
        09        S-FO310-CORUB.                                 *AA351
        10        S-FO310-LIBFO  PICTURE X(20).                  *AA351
        09           FILLER      PICTURE X    VALUE ')'.         *AA351
```

```
01             S-HEU10-SSA.                                        *AA351
       09      S1-HEU10-SEGNAM PICTURE X(8) VALUE                  *AA351
                               'HE10    '.                         *AA351
       09      S1-HEU10-CCOM   PICTURE X    VALUE '*'.             *AA351
       09       S-HEU10-CCOD   PICTURE X(5) VALUE '-----'.         *AA351
       09      S1-HEU10-FLDNAM PICTURE X(9) VALUE                  *AA351
                               '(CLE    '.                         *AA351
       09       S-HEU10-OPER   PICTURE XX   VALUE ' ='.           *AA351
       09       S-HEU10-CORUB.                                     *AA351
       10       S-HEU10-CLE.                                       *AA351
        15      S-HEU10-XNMTE  PICTURE X(8).                       *AA351
       09          FILLER      PICTURE X    VALUE ')'.            *AA351
01             S-MEU00-SSA.                                        *AA351
       09      S1-MEU00-SEGNAM PICTURE X(8) VALUE                  *AA351
                               'ME00    '.                         *AA351
       09      S1-MEU00-CCOM   PICTURE X    VALUE '*'.             *AA351
       09       S-MEU00-CCOD   PICTURE X(5) VALUE '-----'.         *AA351
       09      S1-MEU00-FLDNAM PICTURE X(9) VALUE                  *AA351
                               '(CLEME   '.                       *AA351
       09       S-MEU00-OPER   PICTURE XX   VALUE ' ='.           *AA351
       09       S-MEU00-CORUB.                                     *AA351
       10       S-MEU00-CLEME.                                     *AA351
        15      S-MEU00-COPERS PICTURE X(5).                       *AA351
        15      S-MEU00-NUMORD PICTURE XX.                         *AA351
       09          FILLER      PICTURE X    VALUE ')'.            *AA351
01              WW10-QTMAR                                         *BB200
                      PICTURE 99                                   *BB200
                VALUE ZERO.                                        *BB201
01                WP00.                                            *WP000
 02               WP10.                                            *WP010
  05              FILLER PIC X(25) VALUE                           *WP020
                  '23400BRISBANE           '.                      *WP030
  05              FILLER PIC X(25) VALUE                           *WP040
                  '56400VICTORIA           '.                      *WP050
  05              FILLER PIC X(25) VALUE                           *WP060
                  '76500ALICE SPRINGS      '.                      *WP070
  05              FILLER PIC X(25) VALUE                           *WP080
                  '55300MELBOURNE          '.                      *WP090
  05              FILLER PIC X(25) VALUE                           *WP100
                  '11000CANBERRA           '.                      *WP110
  05              FILLER PIC X(25) VALUE                           *WP120
                  '34500PERTH              '.                      *WP130
  05              FILLER PIC X(25) VALUE                           *WP140
                  '85270DARWIN             '.                      *WP150
  05              FILLER PIC X(25) VALUE                           *WP160
                  '94000HOBART             '.                      *WP170
  05              FILLER PIC X(25) VALUE                           *WP180
                  '89300SYDNEY             '.                      *WP190
 02               WP20 REDEFINES WP10 OCCURS 9.                    *WP300
  05              WP20-COPOS                                       *WP320
                        PICTURE X(5).                              *WP320
  05              WP20-VILLE                                       *WP340
                        PICTURE X(20).                             *WP340
 02               WP30.                                            *WP400
  05              WP30-COPOS                                       *WP410
                        PICTURE X(5).                              *WP410
 02               WP40.                                            *WP500
  05              WP40-VILLE                                       *WP510
                        PICTURE X(20).                             *WP510
  05              WP40-VILLEL                                      *WP520
                        PICTURE X(20).                             *WP520
```

2.7. LINKAGE SECTION

LINKAGE SECTION

The areas generated in the LINKAGE SECTION are:

. The description of screen areas,
. The description of the common area,
. The description of segments,

etc.

The description of the Common Area in the LINKAGE SECTION can also depend on the structure of the Dialgoue (see Subchapter "DIALOGUE COMPLEMENT" in the OLSD Reference Manual).

In order to optimize the size of the 'LOAD MODULES', some areas are described in the WORKING-STORAGE SECTION in the monitor program and in the LINKAGE SECTION for each screen:

. Screen reception area (MID),

. Screen sending area (MOD),

. Display description of all the segments of the PSB.

The following fields must be described in the LINKAGE SECTION:

. SPA (useful part of the SPA),

. I/O PCB and DB/PCB,

. communication areas.

NOTE: Using the PACTABLE function within an IMS Dialogue entails the definition of two PCB's at the PSB level for the TV and TD databases.

```
LINKAGE SECTION.                                                    DO0030
01          S-IPCB.                                                 DO0030
       10    S-IPCB-XNMTE  PICTURE X(8).                            DO0030
       10    FILLER        PICTURE S9(4) COMPUTATIONAL.             DO0030
       10    S-IPCB-XCORET PICTURE XX.                              DO0030
       10    S-IPCB-XDMES  PICTURE S9(7) COMP-3.                    DO0030
       10    S-IPCB-XHMES  PICTURE S9(7) COMP-3.                    DO0030
       10    S-IPCB-XNMES  PICTURE S9(7) COMP.                      DO0030
       10    S-IPCB-XIMOD  PICTURE X(8).                            DO0030
       10    S-IPCB-XUSER  PICTURE X(20).                           DO0030
01                  S-ALTPCB.                                       DO0030
    05              S-ALTPCB-XNMTE  PICTURE X(8).                   DO0030
    05              FILLER          PICTURE S9(4) COMP.             DO0030
    05              S-ALTPCB-XCORET PICTURE XX.                     DO0030
    05              S-ALTPCB-XDMES  PICTURE S9(7) COMP-3.           DO0030
    05              S-ALTPCB-XHMES  PICTURE S9(7) COMP-3.           DO0030
    05              S-ALTPCB-XNMES  PICTURE S9(7) COMP.             DO0030
    05              S-ALTPCB-XIMOD  PICTURE X(8).                   DO0030
01                  S-DBDFOU.                                       DO0030
        05          FILLER PICTURE X(100).                          DO0030
01                  S-DBDMES.                                       DO0030
        05          FILLER PICTURE X(100).                          DO0030
01                  S-DBDCLI.                                       DO0030
        05          FILLER PICTURE X(100).                          DO0030
01                  S-DBDCDE.                                       DO0030
        05          FILLER PICTURE X(100).                          DO0030
01                  S-PCBIDX.                                       DO0030
        05          FILLER PICTURE X(100).                          DO0030
01                  S-DBDLER.                                       DO0030
        05          FILLER PICTURE X(100).                          DO0030
01                  S-DBDHEL.                                       DO0030
        05          FILLER PICTURE X(100).                          DO0030
```

2.8. DESCRIPTION OF CONVERSATION AREA

DESCRIPTION OF CONVERSATION AREA

The 'COMMON-AREA' level is generated according to the values entered on the Dialogue Complement (-O) screen, and the access keys of Segments used in display.

It makes up the area common to all of the screens of a dialogue.

K-S0030-PROGR

is always generated; it is used to store the screen code.

The following fields are generated if a call for documentation is entered on the Screen Definition screen:

K-S0030-DOC

HELP function indicator:

'0': No backup created for this Screen
'1': Backup created for this Screen
'2': Request for Screen documentation
'3': Request for Data Element documentation

K-S0030-PROGE

stores the external name of the calling Program.

K-S0030-CPOSL

stores the position of the cursor on the Screen.

K-S0030-PROLE

stores the external name of the Error Message file.

K-S0030-LIBRA

stores the Library code.

K-S0030-PROHE
K-S0030-ERCOD
K-S0030-ERTYP
K-S0030-LINUM

Technological fields reserved for the 'HELP' function Program.

CA00 Data Structure which describes the user Common-Area (if the Data Structure contains several Segments, they are described in REDEFINES clauses).

K-0030 Complementary field used for memorization of the dialogue (see Subchapter "DIALOGUE COMPLEMENT" in the OLSD Reference Manual).

The following fields are used to store the access keys of Segments used in display (without a preceding Segment).

K-A0030-BEGIN
Automatic generation of screen-top category.

K-ACD05-KEYCD
Key of the screen-top category.

K-R0030-DELCO OCCURS 2
Generated according to the data element defining the repetitive category (position 1 stores the key of the beginning of display, position 2 stores the key of the the read for a screen continuation).

K-RCD05-KEYCD + K-RCD10-FOURNI

Key for repetitive category.

K-Z0030-DELCO

Key of the screen-bottom category (generated according to data element defining the screen-bottom category).

K-ZME00-CLEME

Key of the screen-bottom category.

ZONES-VARIABLES
Generated if the generation option is 'OFF'. This level stores the input fields of the screen; the description of the fields belonging to the data element defining the repetitive category is generated after the screen description.

A 'FILLER' completes the length of both the K-0030 and ZONES-VARIABLES fields up to 100. This length is the default value, unless the user has specified a value in the COMPLEMENTARY COMMON AREA LENGTH field on the Dialogue Complement (-O) screen.

The COMMON-AREA level is generated in the LINKAGE SECTION for all the load-modules of the dialogue. It is generated in the WORKING-STORAGE SECTION for the monitor program whose address in the SPA is K-PROGR (see the GENERATED MONITOR).

```
*       ***  SPA LENGTH : 5212 BYTES  ***                          *00000
 01           COMMON-AREA.                                         *00000
      02     K-S0030-PROGR PICTURE X(6).                           *00000
      02     K-S0030-DOC   PICTURE X.                              *00000
      02     K-S0030-PROGE PICTURE X(8).                           *00000
      02     K-S0030-CPOSL PICTURE S9(4) COMPUTATIONAL.            *00000
      02     K-S0030-PROLE PICTURE X(8).                           *00000
      02     K-S0030-LIBRA PICTURE XXX.                            *00000
      02     K-S0030-PROHE PICTURE X(8).                           *00000
      02     K-S0030-ERCOD.                                        *00000
        05   K-S0030-ERCOD9 PICTURE 999.                          *00000
      02     K-S0030-ERTYP PICTURE X.                              *00000
      02     K-S0030-LINUM PICTURE 999.                            *00000
      02           CA00.                                          *00001
        10         CA00-CLECD.                                    *00001
         15        CA00-NUCOM  PICTURE 9(5).                      *00001
        10         CA00-CLECL1.                                   *00001
         15        CA00-NUCLIE PICTURE 9(8).                      *00001
        10         CA00-ME00.                                     *00001
         15        CA00-CLEME.                                    *00001
          20       CA00-COPERS PICTURE X(5).                      *00001
          20       CA00-NUMORD PICTURE XX.                        *00001
         15        CA00-MESSA  PICTURE X(75).                     *00001
        10         CA00-PREM   PICTURE X.                         *00001
        10         CA00-LANGU  PICTURE X.                         *00001
        10         CA00-RAISOC PICTURE X(50).                     *00001
      02      FILLER PICTURE X.                                   *00002
      02      K-0030.                                             *00002
      03     K-A0030-DEBUT.                                       *00002
       05        K-ACD05-KEYCD  PICTURE X(5).                    *00002
      03     K-R0030-LINE   OCCURS 2.                             *00002
       05        K-RCD05-KEYCD  PICTURE X(5).                    *00002
       05        K-RCD10-FOURNI PICTURE X(3).                    *00002
      03     K-Z0030-END.                                         *00002
       05        K-ZME00-CLEME  PICTURE X(7).                    *00002
      02      ZONES-VARIABLES.                                    *00002
      03      T-0030-BEGIN.                                       *00002
      05      T-0030-MATE   PICTURE X(8).                         *00002
      05      T-0030-RELEA  PICTURE X(3).                         *00002
      05      T-0030-RUE    PICTURE X(40).                        *00002
      05      T-0030-COPOS  PICTURE X(5).                         *00002
      05      T-0030-REFCLI PICTURE X(30).                        *00002
      05      T-0030-DATE   PICTURE X(6).                         *00002
      05      T-0030-CORRES PICTURE X(25).                        *00002
      05      T-0030-REMIS  PICTURE X(8).                         *00002
      03      U-0030-LINE   OCCURS 9.                             *00002
      05      FILLER        PICTURE X(0041).                      *00002
      03      T-0030-END.                                         *00002
      05      T-0030-EDIT   PICTURE X(1).                         *00002
      02      FILLER        PICTURE X(4476).                      *00002
```

2.9. SCREEN DESCRIPTION

SCREEN DESCRIPTION

The fields of the screen are generated according to the following rules (scrn: last four characaters of the screen code):

I-scrn	Screen on reception.
O-scrn	Screen on display.
I-scrn-MATE	Alphanumeric reception field.
E-scrn-REMIS	Alphanumeric definition of an I-scrn-REMIS field, which is numeric on reception.
F-scrn-QTMAC	Alphanumeric definition of an O-scrn-QTMAC field, which is numeric on display.
X-scrn-MATE	Attributes of the fields.
Y-scrn-MATE	Attributes of the fields.

The data element defining the repetitive category is coded in the screen description as follows:

.J-scrn-LINE OCCURS 9 on reception,

.P-scrn-LINE occurs 9 on display,

containing a FILLER.

The description of the fields belonging to the data element defining the repetitive category is generated outside of the screen description.

This description is made up of a 'FILLER' field which is filled in with each occurrence of the category and which is used to execute the procedures for each of the elementary data elements.

This description is generated according to the same rules as above, for example:

I-scrn-LINE Used for procedures on reception; it contains:

.I-scrn-FOURNI
.E-scrn-QTMAC
etc.

O-scrn-LINE Used for procedures on display; it contains:

.O-scrn-FOURNI
.O-scrn-QTMAC

An ordinary repetitive data element (which does not define a repetitive category) is described directly in the screen description in the following form:

```
.05 FILLER OCCURS 2.
 .10 I-scrn-LREF1      on reception

.05 FILLER OCCURS 2.
 .10 O-scrn-LREF1      on display
```

In this case, the procedures for each occurrence of the data element are not generated and are to be inserted by the user in Structured Code (validations, transfers, etc.), except if the 'REPET' option is indicated.

```
01          INPUT-SCREEN-FIELDS.                                *00050
    02      I-0030.                                             *00050
    05      I-0030-PROGR  PICTURE X(6).                         *00050
    05      I-FONCT.                                            *00050
      10    I-PFKEY       PICTURE XX.                           *00050
    05      I-0030-MATE   PICTURE X(8).                         *00050
    05      I-0030-RELEA  PICTURE X(3).                         *00050
    05      I-0030-RUE    PICTURE X(40).                        *00050
    05      I-0030-VILLE  PICTURE X(20).                        *00050
    05      I-0030-COPOS  PICTURE X(5).                         *00050
    05      I-0030-REFCLI PICTURE X(30).                        *00050
    05      I-0030-DATE   PICTURE X(6).                         *00050
    05      I-0030-CORRES PICTURE X(25).                        *00050
    05      E-0030-REMIS.                                       *00050
    10      I-0030-REMIS  PICTURE S9(4)V99.                     *00050
    10      FILLER        PICTURE X(2).                         *00050
    05      J-0030-LINE   OCCURS 9.                             *00050
    10      FILLER        PICTURE X(45).                        *00050
    05      I-0030-EDIT   PICTURE X.                            *00050
    05      I-CURPOS      PICTURE X(4).                         *00050
01          OUTPUT-SCREEN-FIELDS.                               *00050
    02      O-0030.                                             *00050
    05      O-0030L       PICTURE S9(4) COMP.                   *00050
    05      O-0030ZZ      PICTURE XX.                           *00050
    05      X-0030-PROGE  PICTURE X.                            *00050
    05      Y-0030-PROGE  PICTURE X.                            *00050
    05      O-0030-PROGE  PICTURE X(8).                         *00050
    05      X-0030-SESSI  PICTURE X.                            *00050
    05      Y-0030-SESSI  PICTURE X.                            *00050
    05      O-0030-SESSI  PICTURE X(5).                         *00050
    05      X-0030-DATEM  PICTURE X.                            *00050
    05      Y-0030-DATEM  PICTURE X.                            *00050
    05      O-0030-DATEM  PICTURE X(10).                        *00050
    05      X-0030-HEURE  PICTURE X.                            *00050
    05      Y-0030-HEURE  PICTURE X.                            *00050
    05      O-0030-HEURE  PICTURE X(8).                         *00050
    05      X-0030-NUCOM  PICTURE X.                            *00050
    05      Y-0030-NUCOM  PICTURE X.                            *00050
    05      O-0030-NUCOM  PICTURE 9(5).                         *00050
    05      X-0030-MATE   PICTURE X.                            *00050
    05      Y-0030-MATE   PICTURE X.                            *00050
    05      O-0030-MATE   PICTURE X(8).                         *00050
    05      X-0030-RELEA  PICTURE X.                            *00050
    05      Y-0030-RELEA  PICTURE X.                            *00050
    05      O-0030-RELEA  PICTURE X(3).                         *00050
    05      X-0030-RAISOC PICTURE X.                            *00050
    05      Y-0030-RAISOC PICTURE X.                            *00050
    05      O-0030-RAISOC PICTURE X(50).                        *00050
    05      X-0030-RUE    PICTURE X.                            *00050
    05      Y-0030-RUE    PICTURE X.                            *00050
    05      O-0030-RUE    PICTURE X(40).                        *00050
    05      X-0030-VILLE  PICTURE X.                            *00050
    05      Y-0030-VILLE  PICTURE X.                            *00050
    05      O-0030-VILLE  PICTURE X(20).                        *00050
    05      X-0030-COPOS  PICTURE X.                            *00050
    05      Y-0030-COPOS  PICTURE X.                            *00050
    05      O-0030-COPOS  PICTURE X(5).                         *00050
    05      X-0030-REFCLI PICTURE X.                            *00050
    05      Y-0030-REFCLI PICTURE X.                            *00050
    05      O-0030-REFCLI PICTURE X(30).                        *00050
    05      X-0030-DATE   PICTURE X.                            *00050
    05      Y-0030-DATE   PICTURE X.                            *00050
    05      O-0030-DATE   PICTURE X(6).                         *00050
    05      X-0030-CORRES PICTURE X.                            *00050
    05      Y-0030-CORRES PICTURE X.                            *00050
    05      O-0030-CORRES PICTURE X(25).                        *00050
    05      X-0030-REMIS  PICTURE X.                            *00050
    05      Y-0030-REMIS  PICTURE X.                            *00050
    05      F-0030-REMIS.                                       *00050
    10      O-0030-REMIS  PICTURE -(04)9,9(02).                 *00050
    05      P-0030-LINE   OCCURS 9.                             *00050
    10      FILLER        PICTURE X(57).                        *00050
    05      X-0030-EDIT   PICTURE X.                            *00050
    05      Y-0030-EDIT   PICTURE X.                            *00050
    05      O-0030-EDIT   PICTURE X.                            *00050
    05      X-0030-MESSA  PICTURE X.                            *00050
    05      Y-0030-MESSA  PICTURE X.                            *00050
```

```
         05      O-0030-MESSA  PICTURE X(75).                    *00050
         05      O-0030-ERMS.                                    *00050
         10      FILLER OCCURS 1.                                *00050
         15      X-0030-ERMSG  PICTURE X.                        *00050
         15      Y-0030-ERMSG  PICTURE X.                        *00050
         15      O-0030-ERMSG  PICTURE X(72).                    *00050
   02            REPEAT-LINE.                                    *00050
      03         I-0030-LINE.                                    *00050
         05      I-0030-CODMVT PICTURE X.                        *00050
         05      I-0030-FOURNI PICTURE X(3).                     *00050
         05      E-0030-QTMAC.                                   *00050
         10      I-0030-QTMAC  PICTURE 99.                       *00050
         05      I-0030-QTMAL  PICTURE 99.                       *00050
         05      I-0030-QTMAR  PICTURE 99.                       *00050
         05      I-0030-INFOR  PICTURE X(35).                    *00050
      03         O-0030-LINE.                                    *00050
         05      X-0030-CODMVT PICTURE X.                        *00050
         05      Y-0030-CODMVT PICTURE X.                        *00050
         05      O-0030-CODMVT PICTURE X.                        *00050
         05      X-0030-FOURNI PICTURE X.                        *00050
         05      Y-0030-FOURNI PICTURE X.                        *00050
         05      O-0030-FOURNI PICTURE X(3).                     *00050
         05      X-0030-QTMAC  PICTURE X.                        *00050
         05      Y-0030-QTMAC  PICTURE X.                        *00050
         05      F-0030-QTMAC.                                   *00050
         10      O-0030-QTMAC  PICTURE Z(01)9.                   *00050
         05      X-0030-QTMAL  PICTURE X.                        *00050
         05      Y-0030-QTMAL  PICTURE X.                        *00050
         05      O-0030-QTMAL  PICTURE 99.                       *00050
         05      X-0030-QTMAR  PICTURE X.                        *00050
         05      Y-0030-QTMAR  PICTURE X.                        *00050
         05      O-0030-QTMAR  PICTURE 99.                       *00050
         05      X-0030-INFOR  PICTURE X.                        *00050
         05      Y-0030-INFOR  PICTURE X.                        *00050
         05      O-0030-INFOR  PICTURE X(35).                    *00050
```

The formats used in the generated programs correspond to the following rules:

DATA ELEMENT WITH NATURE = 'F' or 'P'

Whether reception or display screen, the format is the internal format of the data element.

DATA ELEMENT WITH NATURE = 'V'

Reception screen:

. The format is the internal format of the data element.

Display screen:

. For alphanumeric data elements, it is the extended internal format of the data element,
. For numeric data elements, it is a print format based on the internal format, with replacement of non-significant leading zeros with spaces.

DATA ELEMENT WITH A CONVERSATIONAL FORMAT

(See the SPECIFICATIONS DICTIONARY Reference Manual, Chapter "DATA ELEMENTS", Subchapter "DESCRIPTION SCREEN").

Reception screen:

. The internal format is based on the conversational format entered on the Data Element (-D) Description screen.

```
EXAMPLE :    Conversational format    ZZZ99.99
             Internal format          9(5)v9(2)
```

Display screen:

. The format is the conversational format of the data element entered on the Data Element (-D) Description screen.

2.10. PSB

PSB

Under the 01 level 'PSB', all the segments belonging to the PSB indicated on the Dialogue Complement (-O) screen are described. This permits the user to save the contents of the segments accessed when passing from one screen to another during a given dialogue.

NOTE

If the segment name is changed at the segment call level, its description will be generated in the WORKING-STORAGE SECTION with the new name, and will be used in generation as an input/output area for DL/1 accesses.

The user must ensure the transfer of its contents after it is read, from the area defined in the WORKING-STORAGE SECTION to the area corresponding to the the segment code in the library:

```
01 PSB.
```

```
01     PSB.                                                          *00100
     02           CD05.                                            *00100
       10         CD05-KEYCD.                                      *00100
        15        CD05-NUCOM  PICTURE 9(5).                        *00100
       10         CD05-NUCLIE PICTURE 9(8).                        *00100
       10         CD05-DATE   PICTURE X(6).                        *00100
       10         CD05-RELEA  PICTURE X(3).                        *00100
       10         CD05-REFCLI PICTURE X(30).                       *00100
       10         CD05-RUE    PICTURE X(40).                       *00100
       10         CD05-COPOS  PICTURE X(5).                        *00100
       10         CD05-VILLE  PICTURE X(20).                       *00100
       10         CD05-CORRES PICTURE X(25).                       *00100
       10         CD05-REMIS  PICTURE S9(4)V99.                    *00100
       10         CD05-MATE   PICTURE X(8).                        *00100
       10         CD05-LANGU  PICTURE X.                           *00100
       10         CD05-FILLER PICTURE X(5).                        *00100
     02           CD10.                                            *00100
       10         CD10-FOURNI PICTURE X(3).                        *00100
       10         CD10-QTMAC  PICTURE 99.                          *00100
       10         CD10-QTMAL  PICTURE 99.                          *00100
       10         CD10-INFOR  PICTURE X(35).                       *00100
       10         CD10-ADFOU  PICTURE X(100).                      *00100
     02           CD20.                                            *00100
       10         CD20-EDIT   PICTURE X.                           *00100
     02           CD30.                                            *00100
       10         CD30-COCARA PICTURE X.                           *00100
       10         CD30-NUCOM  PICTURE 9(5).                        *00100
     02           CL10.                                            *00100
       10         CL10-CLECL1.                                     *00100
        15        CL10-NUCLIE PICTURE 9(8).                        *00100
       10         CL10-RAISOC.                                     *00100
        15        CL10-RAISO1 PICTURE X(25).                       *00100
        15        CL10-RAISO2 PICTURE X(25).                       *00100
       10         CL10-RUE    PICTURE X(40).                       *00100
       10         CL10-COPOS  PICTURE X(5).                        *00100
       10         CL10-VILLE  PICTURE X(20).                       *00100
       10         CL10-MATE   PICTURE X(8).                        *00100
       10         CL10-RELEA  PICTURE X(3).                        *00100
       10         CL10-REMIS  PICTURE S9(4)V99.                    *00100
       10         CL10-CORRES PICTURE X(25).                       *00100
       10         CL10-RAISOL.                                     *00100
        15        CL10-RUEL   PICTURE X(40).                       *00100
        15        CL10-COPOSL PICTURE X(5).                        *00100
       10         CL10-VILLEL PICTURE X(20).                       *00100
       10         CL10-LANGU  PICTURE X.                           *00100
       10         CL10-FILLER PICTURE X(5).                        *00100
     02           CL20.                                            *00100
       10         CL20-COCARA PICTURE X.                           *00100
       10         CL20-NUCLIE PICTURE 9(8).                        *00100
     02           EM00.                                            *00100
      03          EM00-00.                                         *00100
       10         EM00-CLELE.                                      *00100
        15        EM00-APPLI  PICTURE XXX.                         *00100
        15        EM00-TYPEN  PICTURE X.                           *00100
        15        EM00-XCLEF.                                      *00100
         20       EM00-PROGR  PICTURE X(6).                        *00100
         20       EM00-NUERR.                                      *00100
          25      EM00-NUERR9 PICTURE 999.                         *00100
         20       EM00-TYERR  PICTURE X.                           *00100
        15        EM00-NULIG  PICTURE 999.                         *00100
        15        EM00-GRAER  PICTURE X.                           *00100
       10         EM00-ERMSG.                                      *00100
        15        EM00-ERMSG1 PICTURE X(30).                       *00100
        15        EM00-ERMSG2 PICTURE X(36).                       *00100
       10         EM00-FILLER PICTURE X(6).                        *00100
     02           FO10.                                            *00100
       10         FO10-CLEFO.                                      *00100
        15        FO10-FOURNI PICTURE X(3).                        *00100
        15        FO10-MATE   PICTURE X(8).                        *00100
        15        FO10-RELEA  PICTURE X(3).                        *00100
        15        FO10-LANGU  PICTURE X.                           *00100
       10         FO10-QTMAS  PICTURE S9(4)                        *00100
                       COMPUTATIONAL.                             *00100
       10         FO10-QTMAM  PICTURE 9(4).                        *00100
       10         FO10-LIBFO  PICTURE X(20).                       *00100
       10         FO10-DATE   PICTURE X(6).                        *00100
       10         FO10-HEURE  PICTURE X(8).                        *00100
```

```
  10          FO10-FILLER PICTURE XX.                    *00100
02            HE10.                                      *00100
  10          HE10-CLE.                                  *00100
   15         HE10-XNMTE  PICTURE X(8).                  *00100
  10          HE10-XZONE  PICTURE X(1920).               *00100
02            ME00.                                      *00100
 03           ME00-00.                                   *00100
  10          ME00-CLEME.                                *00100
   15         ME00-COPERS PICTURE X(5).                  *00100
   15         ME00-NUMORD PICTURE XX.                    *00100
  10          ME00-MESSA  PICTURE X(75).                 *00100
```

2.11. COMMUNICATION AREA

COMMUNICATION AREA

PACBASE generates additional fields which are grouped under the 'COMMUNICATION-MONITOR' level. These fields are:

. A description of a test PCB (S-SPCB) which will be used for testing the values of the DL/1 return code,

. A function code (S-WPCB) which will be used in the generated accesses ('GU', 'GN', 'GHU', etc.),

. A set of fields (S-WWSS) which permits the program and the monitor to communicate as follows:

S-WWSS-OPER

is equivalent to the 'OPER' field.
The values received by the monitor are:

.'O' Transfer to another screen
.'E' End-of-conversation (re-display of the first screen of the dialogue)
.'X' DL/1 input/output error

Other values are interpreted as display commands ('M', 'A', 'P', etc.).

S-WWSS-SCR-ER

Indicates to the monitor that an error has been detected.

S-WWSS-PROGE

if OPER = 'O', indicates the external name of the program driving the requested screen (OSC operator).

S-WWSS-XIMOD

name of the MOD to display (automatically generated in F8Z10 in the 'LOAD-MODULES').

Various constants are also described at this level:

S-WWSS-CURS

Value to assign to the attribute of the field on which the cursor is positioned.

S-WWSS-PROT

Value to assign to the attribute of a field to dynamically protect it.

S-WWSS-3F

With the value '3F' in hexadecimal.

These last three constants are initialized in the Monitor in function 'F01' INITIALIZATIONS.

PCB LIST

The PCB list is generated in the PROCEDURE DIVISION. However the user may request that it be generated in the WORKING- STORAGE SECTION. In order to do this, a '-W' line must be created and the WORK AREA DESCRIPTION field must be entered as follows:

'$PCB' or '$PCB.' left-justified.

When '$PCB.' is entered, a period ('.') is generated at the end of the list.

```
01          COMMUNICATION-MONITOR.                              *00150
      02    S-SPCB.                                             *00150
      10    S-SPCB-XNMBD  PICTURE X(8).                         *00150
      10    S-SPCB-XNISEG PICTURE XX.                           *00150
      10    S-SPCB-XCORET PICTURE XX.                           *00150
      10    S-SPCB-XOPTRT PICTURE X(4).                         *00150
      10    FILLER        PICTURE S9(5) COMPUTATIONAL.          *00150
      10    S-SPCB-XNMSEG PICTURE X(8).                         *00150
      10    S-SPCB-XLGKEY PICTURE S9(5) COMPUTATIONAL.          *00150
      10    S-SPCB-XNBSEG PICTURE S9(5) COMPUTATIONAL.          *00150
      10    S-SPCB-XCLECO PICTURE X(70).                        *00150
      02    S-WPCB.                                             *00150
      10    S-WPCB-XFONC  PICTURE X(4).                         *00150
      02    S-WWSS.                                             *00150
      10    S-WWSS-OPER   PICTURE X.                            *00150
      10    S-WWSS-SCR-ER PICTURE X.                            *00150
      10    S-WWSS-PROT   PICTURE X.                            *00150
      10    S-WWSS-PROGE  PICTURE X(8).                         *00150
      10    S-WWSS-CURS   PICTURE X.                            *00150
      10    S-WWSS-3F     PICTURE X.                            *00150
      10    S-WWSS-SPAOC  PICTURE X.                            *00150
     10     S-WWSS-XIMOD  PICTURE X(8).                         *00150
```

3. GENERATED PROGRAM (PROCEDURE DIVISION)

3.1. STANDARD STRUCTURE OF THE PROCEDURE DIV.

STANDARD STRUCTURE OF THE PROCEDURE DIVISION

```
F0110  Initializations

-------------------------------------------------------

F05       RECEPTION     (ICF = '1')

F0510     Reception of the screen
F0510-A   PFkey positioning
F0512     Documentation call procedure
F0520     Validation of Operation Code (OPER)
F1010     Category processing                 <--------
F15       Validation of the Transaction Code    (CATM)!
F20       Data element validation                     !
F25       Segment access for validation               !
F30       Data element transfer                       !
F35       Segment access for update                   !
F3999-ITER-FN. GO TO F10.  ----------------------------
F3999-ITER-FT. EXIT.

F40       END-OF-RECEPTION PROCESSING

F4010     Set-up keys for new display
F4020     Set-up keys for screen paging
F4030     End of transaction
F4040     Transfer to another screen

END-OF-RECEPTION.  (F45-FN)

-------------------------------------------------------

F50       DISPLAY PREPARATION      (OCF = '1')

F5010     Initialization
F5510     Category processing                 <--------
F60       Segment access for display                  !
F65       Data element transfer                       !
F6999-ITER-FN. GO TO F55.  ----------------------------
F6999-ITER-FT. EXIT.

F7010     Error processing
F7020     Positioning of attributes

END-OF-DISPLAY.  (F78-FN)
```

```
-------------------------------------------------------

F8Z       DISPLAY AND END OF PROGRAM

F8Z05     Memorization of the screen
F8Z10     Display
F8Z20     End of program

------  Performed Functions ---------------------------

F80       PHYSICAL SEGMENT ACCESS ROUTINES
F8098     Error Message File Access
F81ER     Abnormal End Procedure
F81UT     Memorization of User's Errors
F8110     Numeric Validation
F8115     Initialization of the Variable Fields
F8120     Date Format Validation
F8125     Transfer to Display
F8130     Help Sub-function
F8135     Transfer to Reception
F8140     Cursor Position Calculation
```

3.2. INITIALIZATIONS (F01)

F01: INITIALIZATIONS

The INITIALIZATIONS (F01) function is always generated.

It initializes the work areas.

The COMMON-AREA field in the 'PROCEDURE DIVISION USING...' statement corresponds to the address of the K-PROGR field located in the 01 level 'SPA' in the WORKING-STORAGE SECTION of the Monitor.

INITIALIZATION MOD: X'3F' (hexadecimal)

The 'OPT=1' option at the format description level signifies that the fields have a fixed length and that they can be omitted or truncated by placing an X'3F' after the significant value. These fields will be completed according to the 'FILL' parameter of the MOD.

The 'FILL=PT' option is used to "blank out" the non-significant characters located after the value X'3F' of data that does not completely fill in the screen field. To leave a field unchanged on the screen, the value X'3F' must be placed in the first byte of the field at the program level. (PACBASE option in F0110).

The combination of these two options has the advantage of only transmitting useful characters to the screen.

It assures the branching to the physical display function after consultation of HELP documentation (if a documentation HELP character is entered on the Screen Definition screen).

It assures the cursor position location for the first display.

```
   PROCEDURE DIVISION USING                                          *99999
               S-IPCB                                                *99999
                        S-ALTPCB                                     *99999
                        S-DBDFOU                                     *99999
                        S-DBDMES                                     *99999
                        S-DBDCLI                                     *99999
                        S-DBDCDE                                     *99999
                        S-PCBIDX                                     *99999
                        S-DBDLER                                     *99999
                        S-DBDHEL                                     *99999
         COMMON-AREA INPUT-SCREEN-FIELDS OUTPUT-SCREEN-FIELDS        *99999
         PSB COMMUNICATION-MONITOR.                                  *99999
  *           ************************************                  DO0030
  *           *                                  *                  DO0030
  *           *  INITIALIZATIONS                 *                  DO0030
  *           *                                  *                  DO0030
  *           ************************************                  DO0030
   F01.          EXIT.                                              DO0030
   F0110.                                                           DO0030
          ACCEPT TIMCO FROM TIME.                                   DO0030
          ACCEPT  DATOR FROM DATE.                                  DO0030
          MOVE ZERO TO CATX FT K50L.                                DO0030
          MOVE '1' TO ICF OCF SCR-ER.                               DO0030
          MOVE ZERO TO VALIDATION-TABLE-FIELDS.                     DO0030
          MOVE SPACE TO CATM OPER OPERD CAT-ER.                     DO0030
          MOVE SPACE TO TABLE-OF-ATTRIBUTES.                        DO0030
          MOVE ZERO TO CONFIGURATIONS.                              DO0030
               IF PROGR    NOT =       K-S0030-PROGR                DO0030
                         MOVE   ZERO  TO   ICF.                     DO0030
          MOVE ALL SPACE         TO     O-0030.                    DO0030
          TRANSFORM O-0030 FROM SPACE TO S-WWSS-3F.                 DO0030
          IF ICF = ZERO PERFORM F8115 THRU F8115-FN.                DO0030
            IF K-S0030-DOC = '2'  OR   K-S0030-DOC = '3'            DO0030
          PERFORM F80-HELP-R  THRU F80-FN  GO TO F8Z05.             DO0030
          MOVE 'X' TO DE-AT (4, 009).                               DO0030
          MOVE SPACE      TO            O-0030-ERMSG (01).          DO0030
          MOVE LOW-VALUE  TO            X-0030-ERMSG (01).          DO0030
          MOVE LOW-VALUE  TO            Y-0030-ERMSG (01).          DO0030
   F0110-FN.    EXIT.                                               DO0030
   F0160.                                                           DO0030
          IF ICF = ZERO MOVE 'A' TO OPER                            DO0030
          GO TO F3999-ITER-FT.                                      DO0030
   F0160-FN.    EXIT.                                               DO0030
   F01-FN.      EXIT.                                               DO0030
  *            +----------------------------------+                P000
  * LEVEL 10    I INIT. NUMBER OF LOADED ITEMS      I               P000
  *            +----------------------------------+                P000
   F02CP.                                                           P000
       MOVE        IWP20M TO IWP20L.                                P100
   F02CP-FN.    EXIT.                                               P000
```

3.3. RECEPTION (F05)

F05: RECEPTION

The RECEPTION (F05) function contains the conditions for all of the procedures linked to the "reception" part of the program: from F05 to END-OF-RECEPTION (F45-FN).

As a rule, all automatic procedures within the F05 function are generated if there is at least one variable data element (NATURE = 'V') on the screen.

Sub-function F0510 contains the move of spaces to the screen fields which have not been entered, thus which have not been transmitted on the line (LOW VALUE). (In the validation processing, the data elements are compared to 'SPACE'.)

Sub-function F0512 is generated if a documentation HELP character has been entered on the Screen Definition. It initializes the fields that are necessary for branching to the HELP documentation screen.

Sub-function F0520 is generated if a variable data element of the screen, or the 'PFKEY' data element, is declared as an Operation Code on the Screen Call of Elements (-CE).

The internal Operation Code 'OPER' is set according to the value of:

. the screen data element that has been defined as an Operation Code (values specified with TYPE OF LINE = 'O' on the Data Element Description (-D) screen,

. the special 'PFKEY' data element (entered on the Screen Call of Elements (-CE)).

If the value of the Operation Code is erroneous, the subsequent reception procedures are not executed.

```
*           ************************************                DO0030
*           *                                  *                DO0030
*           *  RECEPTION                       *                DO0030
*           *                                  *                DO0030
*           ************************************                DO0030
 F05.   IF ICF = ZERO GO TO END-OF-RECEPTION.                    DO0030
 F0510.                                                          DO0030
        PERFORM F8140 THRU F8140-FN.                             DO0030
        PERFORM F8135 THRU F8135-FN                              DO0030
        EXAMINE I-0030 REPLACING ALL LOW-VALUE BY SPACE.         DO0030
        MOVE 'A' TO OPER  MOVE SPACE TO OPERD.                   DO0030
 F0510-FN.    EXIT.                                              DO0030
 F0512.     IF    I-PFKEY = '11'  OR  I-PFKEY = '10'            DO0030
            NEXT SENTENCE ELSE GO TO F0512-FN.                   DO0030
        MOVE '2'   TO K-S0030-DOC                                DO0030
        MOVE ZERO  TO K-S0030-CPOSL  K-S0030-LINUM               DO0030
        MOVE PROGE TO K-S0030-PROGE                              DO0030
        MOVE LIBRA TO K-S0030-LIBRA.                             DO0030
            IF    I-PFKEY = '11'                                 DO0030
        MOVE '3'  TO  K-S0030-DOC                                DO0030
        MOVE CPOSL TO K-S0030-CPOSL                              DO0030
        MOVE CPOSC TO K-S0030-LINUM.                             DO0030
        PERFORM F80-HELP-R  THRU F80-FN                          DO0030
        PERFORM F8130       THRU F8130-FN                        DO0030
        PERFORM F80-HELP-RW THRU F80-FN                          DO0030
        MOVE PRDOC TO  5-0030-PROGE  K-S0030-PROHE               DO0030
        MOVE 'O' TO OPER  GO TO F4040.                           DO0030
 F0512-FN.    EXIT.                                              DO0030
*           ************************************                DO0030
*           *                                  *                DO0030
*           *  VALIDATION OF OPERATION CODE    *                DO0030
*           *                                  *                DO0030
*           ************************************                DO0030
 F0520.                                                          DO0030
           IF      I-PFKEY      = '01'                           DO0030
            MOVE    'IMD000P '   TO   5-0030-PROGE              DO0030
        MOVE  'O'  TO  OPER       GO TO F40-A.                   DO0030
           IF      I-PFKEY      = '02'                           DO0030
            MOVE    'IMD010P '   TO   5-0030-PROGE              DO0030
        MOVE  'O'  TO  OPER       GO TO F40-A.                   DO0030
           IF      I-PFKEY      = '03'                           DO0030
            MOVE    'IMD020P '   TO   5-0030-PROGE              DO0030
        MOVE  'O'  TO  OPER       GO TO F40-A.                   DO0030
           IF      I-PFKEY      = '04'                           DO0030
            MOVE    'IMD040P '   TO   5-0030-PROGE              DO0030
        MOVE  'O'  TO  OPER       GO TO F40-A.                   DO0030
           IF      I-PFKEY      = '05'                           DO0030
            MOVE    'IMD050P '   TO   5-0030-PROGE              DO0030
        MOVE  'O'  TO  OPER       GO TO F40-A.                   DO0030
           IF      I-PFKEY      = '12'                           DO0030
            MOVE    'IMD070P '   TO   5-0030-PROGE              DO0030
        MOVE  'O'  TO  OPER       GO TO F40-A.                   DO0030
           IF      I-PFKEY      = '00'                           DO0030
        MOVE  'E'  TO  OPER       GO TO F40-A.                   DO0030
           IF      I-PFKEY      = '07'                           DO0030
        MOVE 'M' TO OPER GO TO F0520-900.                        DO0030
           IF      I-PFKEY      = '08'                           DO0030
        MOVE 'S' TO OPER GO TO F0520-900.                        DO0030
 F0520-900.                                                      DO0030
        IF OPER NOT = 'A' AND OPER NOT = 'M' AND OPER NOT = 'O'  DO0030
        GO TO F3999-ITER-FT.                                     DO0030
 F0520-FN.    EXIT.                                              DO0030
 F05-FN.      EXIT.                                              DO0030
*            +-----------------------------------+               P000
* LEVEL 10    I NO UPDATE ==> END OF RECEIVE      I            P000
*            +-----------------------------------+               P000
 F08BB.    IF    OPER NOT = 'M'                                  P000
           NEXT SENTENCE ELSE GO TO     F08BB-FN.                P000
     GO TO F3999-ITER-FT.                                        P100
 F08BB-FN.    EXIT.                                              P000
```

3.4. CATEGORY PROCESSING LOOP (F10)

F10 : CATEGORY POSITIONING

The CATEGORY POSITIONING function positions the category to be processed in 'RECEPTION' using the CATX indicator which may be set to one of the following values:

'0' Beginning of RECEPTION
' ' Screen-top category
'R' Repetitive category
'Z' Screen-bottom category

Procedures are generated according to the categories defined on the Screen Call of Elements ('-CE') screen.

If no category has been defined, the screen is considered to be a screen-top category.

For the repetitive category, this function includes the interaction between the line of the category to be processed and the input screen description field used to access each of the data elements on the line.

This function also includes the initialization and incrementation of the ICATR index, which manages the repetitive category.

If an error is detected (CAT-ER = 'E') once the processing of a category is complete (F15 to F3999-ITER-FI), SCR-ER is set and validation processing on the subsequent categories is not executed.

```
*           ************************************                DO0030
*           *                                  *                DO0030
*           *  CATEGORY PROCESSING LOOP        *                DO0030
*           *                                  *                DO0030
*           ************************************                DO0030
 F10.         EXIT.                                             DO0030
 F1010.     MOVE SPACE TO CATM.                                 DO0030
       IF CATX = 'R'                                            DO0030
       MOVE  O-0030-LINE            TO                          DO0030
             P-0030-LINE    (ICATR)                            DO0030
       MOVE  A-0030-LINE   (1)      TO                          DO0030
             B-0030-LINE   (1, ICATR)                           DO0030
       MOVE  A-0030-LINE   (2)      TO                          DO0030
             B-0030-LINE   (2, ICATR)                           DO0030
       MOVE  A-0030-LINE   (4)      TO                          DO0030
             B-0030-LINE   (4, ICATR)                           DO0030
       MOVE  I-0030-LINE            TO                          DO0030
             J-0030-LINE    (ICATR)                            DO0030
       MOVE  T-0030-LINE            TO                          DO0030
             U-0030-LINE   (ICATR)                              DO0030
       MOVE      ER-0030-LINE       TO                          DO0030
                   PS-30-LINE    (ICATR).                      DO0030
      IF CAT-ER = 'E' MOVE '4' TO SCR-ER GO TO F3999-ITER-FT.   DO0030
       MOVE SPACE TO CAT-ER.                                    DO0030
       IF CATX = '0' MOVE ' ' TO CATX GO TO F1010-FN.           DO0030
       IF CATX = ' ' MOVE 'R' TO CATX MOVE ZERO TO ICATR.       DO0030
       IF CATX = 'R' AND ICATR < IRR  ADD  1 TO ICATR           DO0030
       MOVE        PS-30-LINE   (ICATR) TO                      DO0030
                 ER-0030-LINE                                   DO0030
       MOVE  B-0030-LINE   (4, ICATR) TO                        DO0030
             A-0030-LINE   (4)                                  DO0030
       MOVE  P-0030-LINE    (ICATR) TO                          DO0030
             O-0030-LINE                                        DO0030
       MOVE  U-0030-LINE   (ICATR)    TO                        DO0030
             T-0030-LINE                                        DO0030
       MOVE  J-0030-LINE    (ICATR) TO                          DO0030
             I-0030-LINE    GO TO F1010-FN.                     DO0030
       IF CATX = 'R' MOVE 'Z' TO CATX GO TO F1010-FN.           DO0030
 F1010-A.   GO TO F3999-ITER-FT.                                DO0030
 F1010-FN.    EXIT.                                             DO0030
 F10-FN.      EXIT.                                             DO0030
```

3.5. VALIDATION OF TRANSACTION CODE (F15)

F15 : TRANSACTION CODE POSITIONING

The VALIDATION OF TRANSACTION CODE (F15) function is generated if at least one Data Element is defined as a Transaction Code in a category on the Screen Call of Elements ('-CE') screen.

The internal transaction code (CATM) is set according to the Data Element's value that is defined as a Transaction Code for the category. The value can be given to the Data Element on:

. the Data Element Description (-D) screen with TYPE OF LINE = 'I',

. the Screen Call of Elements (-CE) screen in the Transaction Code Data Element call line.

Depending on the categories defined on the screen (and for which a transaction code is indicated) the F15 function includes the following:

.F15A for the screen-top category,

.F15R for the repetitive category,

.F15Z for the screen-bottom category.

If the transaction code is wrong, the subsequent 'RECEPTION' procedures are not executed.

```
*           ************************************                DO0030
*           *                                  *                DO0030
*           *  VALIDATION OF TRANSACTION CODE  *                DO0030
*           *                                  *                DO0030
*           ************************************                DO0030
 F15.         EXIT.                                             DO0030
 F15R.  IF CATX NOT = 'R' GO TO F15R-FN.                        DO0030
        IF OPER NOT = 'M' MOVE SPACE TO CATM GO TO F15R-FN.     DO0030
        IF    I-0030-CODMVT     = SPACE GO TO F15-FN.           DO0030
        IF    I-0030-CODMVT     = 'C'                           DO0030
        MOVE 'C' TO CATM.                                       DO0030
        IF    I-0030-CODMVT     = 'M'                           DO0030
        MOVE 'M' TO CATM.                                       DO0030
        IF    I-0030-CODMVT     = 'S'                           DO0030
        MOVE 'A' TO CATM.                                       DO0030
        IF    CATM = SPACE                                      DO0030
        MOVE 5 TO    ER-0030-CODMVT  MOVE 'E' TO CAT-ER         DO0030
        GO TO F3999-ITER-FI.                                    DO0030
 F15R-FN.     EXIT.                                             DO0030
 F15Z.  IF CATX NOT = 'Z' GO TO F15Z-FN.                        DO0030
        IF OPER NOT = 'M' MOVE SPACE TO CATM GO TO F15Z-FN.     DO0030
        IF    I-0030-EDIT       = SPACE GO TO F15-FN.           DO0030
        IF    I-0030-EDIT       = 'O'                           DO0030
        MOVE 'X' TO CATM.                                       DO0030
        IF    CATM = SPACE                                      DO0030
        MOVE 5 TO    ER-0030-EDIT    MOVE 'E' TO CAT-ER         DO0030
        GO TO F3999-ITER-FI.                                    DO0030
 F15Z-FN.                                                       DO0030
*            +-----------------------------------+              P000
* LEVEL 10   I INITIALIZATION CATM (HEADING)     I              P000
*            +-----------------------------------+              P000
 F15AA.    IF    CATX = SPACE                                   P000
           AND   OPER = 'M'                                     P100
           NEXT SENTENCE ELSE GO TO     F15AA-FN.               P100
     MOVE        'M' TO CATM.                                   P100
 F15AA-FN.    EXIT.                                             P000
 F15-FN.      EXIT.                                             P000
```

3.6. DATA ELEMENT VALIDATION (F20)

F20 : DATA ELEMENT VALIDATION

The DATA ELEMENT VALIDATION (F20) function is generated when one variable Data Element has been specified on the screen.

Depending on which category or categories defined on the screen contain at least one Data Element to be validated, the F20 function includes the following:

. F20A for the screen-top category.
. F20R for the repetitive category.
. F20Z for the screen-bottom category.

The procedure for each category contains one sub-function per Data Element to be validated. The validation procedures are the following:

. Presence validation.

. Numeric class validation.

. Value validation according to the values or value ranges defined on the Data Element Description ('-D') screen, or on the Screen Call of Elements ('-CE') screen.

. Validation of date (via PERFORM) for Data Elements defined with a 'DATE' format.

. Validation of a sub-function (via PERFORM) defined by the user.

The conditioning of each sub-function is generated based on the procedure option of the Data Element.

The validation result for each Data Element is stored in a field coded ER-scrn-delcod (scrn: last four characters of the screen code; delcod: Data Element code), which takes the following values:

```
'0' : Data Element absent
'1' : Data Element present
'2' : invalid absence
'4' : invalid class
'5' : invalid value
```

'CAT-ER' is set when any Data Element (or user) error is detected.

NOTE: Sub-functions are numbered based on the number of Data Elements, their position on the screen, etc.

As a result, direct references should never be made to a label generated in specific procedures.
Use the Relative Positioning types *A, *P, and *R (see chapter "USE OF STRUCTURED CODE" in the ON-LINE SYSTEMS DEVELOPMENT Reference Manual).

```
*           ************************************                DO0030
*           *                                  *                DO0030
*           *  DATA ELEMENT VALIDATION         *                DO0030
*           *                                  *                DO0030
*           ************************************                DO0030
 F20.         EXIT.                                             DO0030
 F20A.  IF CATX NOT = ' ' GO TO F20A-FN.                        DO0030
 F20A2.       EXIT.                                             DO0030
 F20A2-FN.    EXIT.                                             DO0030
 F20B1.                                                         DO0030
          IF I-0030-MATE   NOT = SPACE                          DO0030
        MOVE '1' TO    ER-0030-MATE.                           DO0030
           IF     ER-0030-MATE     NOT = 1                     DO0030
                                       GO TO F20B1-FN.          DO0030
            IF  I-0030-MATE       = 'I1'                       DO0030
            OR  I-0030-MATE       = 'I2'                       DO0030
            OR  I-0030-MATE       = 'I3'                       DO0030
            OR  I-0030-MATE       = 'I4'                       DO0030
            OR  I-0030-MATE       = 'I5'                       DO0030
            OR  I-0030-MATE       = 'B7'                       DO0030
            OR  I-0030-MATE       = 'B8'                       DO0030
            OR  I-0030-MATE       = 'UN'                       DO0030
            OR  I-0030-MATE       = 'IC'                       DO0030
            OR  I-0030-MATE       = 'IBM.V.OS'                 DO0030
            OR  I-0030-MATE       = 'IBM.V.DO'                 DO0030
            OR  I-0030-MATE       = 'IBM.D.OS'                 DO0030
            OR  I-0030-MATE       = 'IBM.D.DO'                 DO0030
            OR  I-0030-MATE       = 'IBM.IMS '                 DO0030
            OR  I-0030-MATE       = 'DPS7    '                 DO0030
            OR  I-0030-MATE       = 'DPS8    '                 DO0030
            OR  I-0030-MATE       = 'UNISYS  '                 DO0030
            OR  I-0030-MATE       = 'ICL     '                 DO0030
            OR  I-0030-MATE       = 'SPECIAL'                  DO0030
             NEXT SENTENCE ELSE                                 DO0030
        MOVE '5' TO    ER-0030-MATE.                           DO0030
           IF     ER-0030-MATE   > '1'                         DO0030
        MOVE 'E' TO CAT-ER                  GO TO F20B1-FN.     DO0030
 F20B1-FN.    EXIT.                                             DO0030
 F20B2.                                                         DO0030
           IF I-0030-RELEA  NOT = SPACE                         DO0030
        MOVE '1' TO    ER-0030-RELEA                           DO0030
           ELSE                                                 DO0030
        MOVE '2' TO    ER-0030-RELEA                           DO0030
        MOVE 'E' TO CAT-ER                  GO TO F20B2-FN.     DO0030
          IF  I-0030-RELEA      = '7.2'                       DO0030
          OR  I-0030-RELEA      = '7.3'                       DO0030
          OR  I-0030-RELEA      = '8.0'                       DO0030
           NEXT SENTENCE ELSE                                 DO0030
        MOVE '5' TO    ER-0030-RELEA.                          DO0030
           IF     ER-0030-RELEA  > '1'                         DO0030
        MOVE 'E' TO CAT-ER                  GO TO F20B2-FN.     DO0030
 F20B2-FN.    EXIT.                                             DO0030
 F20B5.                                                         DO0030
           IF I-0030-RUE    NOT = SPACE                         DO0030
        MOVE '1' TO    ER-0030-RUE.                            DO0030
 F20B5-FN.    EXIT.                                             DO0030
 F20B7.                                                         DO0030
           IF I-0030-COPOS  NOT = SPACE                         DO0030
        MOVE '1' TO    ER-0030-COPOS                           DO0030
           ELSE                                                 DO0030
        MOVE '2' TO    ER-0030-COPOS                           DO0030
        MOVE 'E' TO CAT-ER                  GO TO F20B7-FN.     DO0030
        MOVE  I-0030-COPOS  TO WP30-COPOS                       DO0030
        MOVE      ER-0030-COPOS  TO DEL-ER                      DO0030
        PERFORM  F93CP  THRU  F93CP-FN                          DO0030
        MOVE    WP30-COPOS     TO                               DO0030
              I-0030-COPOS                                      DO0030
        MOVE DEL-ER TO    ER-0030-COPOS.                        DO0030
           IF     ER-0030-COPOS  > '1'                         DO0030
        MOVE 'E' TO CAT-ER                  GO TO F20B7-FN.     DO0030
 F20B7-FN.    EXIT.                                             DO0030
 F20B8.                                                         DO0030
           IF I-0030-REFCLI NOT = SPACE                         DO0030
        MOVE '1' TO    ER-0030-REFCLI.                         DO0030
 F20B8-FN.    EXIT.                                             DO0030
 F20B9.                                                         DO0030
           IF I-0030-DATE   NOT = SPACE                         DO0030
```

```
          MOVE '1' TO    ER-0030-DATE                                DO0030
             ELSE                                                     DO0030
          MOVE '2' TO    ER-0030-DATE                                DO0030
          MOVE 'E' TO CAT-ER                  GO TO F20B9-FN.        DO0030
          MOVE  I-0030-DATE   TO DAT7                                DO0030
          PERFORM  F8120-D THRU  F8120-FN                            DO0030
          MOVE DEL-ER TO    ER-0030-DATE                             DO0030
          IF DEL-ER > '1' MOVE 'E' TO CAT-ER GO TO F20B9-FN.         DO0030
   F20B9-FN.    EXIT.                                                DO0030
   F20C0.                                                           DO0030
             IF I-0030-CORRES NOT = SPACE                           DO0030
          MOVE '1' TO    ER-0030-CORRES.                           DO0030
             IF     ER-0030-CORRES   NOT = 1                        DO0030
                                      GO TO F20C0-FN.               DO0030
   F20C0-FN.    EXIT.                                               DO0030
   F20C1.                                                           DO0030
             IF E-0030-REMIS  NOT = SPACE                           DO0030
          MOVE '1' TO    ER-0030-REMIS.                            DO0030
          MOVE  E-0030-REMIS  TO ZONUM1                              DO0030
          MOVE  9-0030-REMIS  TO NUMPIC                              DO0030
          MOVE      ER-0030-REMIS  TO DEL-ER                         DO0030
          PERFORM F8110 THRU F8110-FN                                DO0030
          MOVE DEL-ER TO    ER-0030-REMIS                            DO0030
          IF DEL-ER > 1 MOVE 'E' TO CAT-ER  GO TO F20C1-FN.          DO0030
          MOVE ZONUM2 TO E-0030-REMIS.                               DO0030
          IF DEL-ER = '1'                                            DO0030
       MOVE I-0030-REMIS  TO  O-0030-REMIS.                          DO0030
   F20C1-FN.    EXIT.                                               DO0030
   F20A-FN.     EXIT.                                               DO0030
   F20R.  IF CATX NOT = 'R' GO TO F20R-FN.                          DO0030
   F20C3.                                                           DO0030
             IF I-0030-CODMVT NOT = SPACE                           DO0030
          MOVE '1' TO    ER-0030-CODMVT.                           DO0030
   F20C3-FN.    EXIT.                                               DO0030
  *             +-----------------------------------+              P000
  * LEVEL 10    I ITEM NOT AVAILABLE                I              P000
  *             +-----------------------------------+              P000
   F20BB.                                                           P000
             IF    I-0030-FOURNI = 'CLA'                            P100
             AND   CATM NOT = SPACE                                 P110
       MOVE 'A'   TO  ER-0030-FOURNI                                P100
       MOVE 'E' TO CAT-ER                                           P100
              GO TO F20C4-FN.                                       P110
   F20BB-FN.    EXIT.                                               P000
   F20C4.                                                           DO0030
          IF CATM  = SPACE                GO TO F20C4-FN.         DO0030
             IF I-0030-FOURNI NOT = SPACE                           DO0030
          MOVE '1' TO    ER-0030-FOURNI                            DO0030
             ELSE                                                   DO0030
          MOVE '2' TO    ER-0030-FOURNI                            DO0030
          MOVE 'E' TO CAT-ER                  GO TO F20C4-FN.       DO0030
            IF  I-0030-FOURNI     = 'DIC'                          DO0030
            OR  I-0030-FOURNI     = 'MER'                          DO0030
            OR  I-0030-FOURNI     = 'TAB'                          DO0030
            OR  I-0030-FOURNI     = 'DBD'                          DO0030
            OR  I-0030-FOURNI     = 'DSO'                          DO0030
            OR  I-0030-FOURNI     = 'LGS'                          DO0030
            OR  I-0030-FOURNI     = 'LGB'                          DO0030
            OR  I-0030-FOURNI     = 'DLG'                          DO0030
             NEXT SENTENCE ELSE                                     DO0030
          MOVE '5' TO    ER-0030-FOURNI.                           DO0030
             IF     ER-0030-FOURNI > '1'                            DO0030
          MOVE 'E' TO CAT-ER                  GO TO F20C4-FN.       DO0030
   F20C4-FN.    EXIT.                                               DO0030
   F20C5.                                                           DO0030
          IF CATM = 'A' OR CATM = SPACE     GO TO F20C5-FN.         DO0030
             IF E-0030-QTMAC  NOT = SPACE                           DO0030
          MOVE '1' TO    ER-0030-QTMAC                             DO0030
             ELSE                                                   DO0030
          MOVE '2' TO    ER-0030-QTMAC                             DO0030
          MOVE 'E' TO CAT-ER                  GO TO F20C5-FN.       DO0030
          MOVE  E-0030-QTMAC  TO ZONUM1                              DO0030
          MOVE  9-0030-QTMAC  TO NUMPIC                              DO0030
          MOVE      ER-0030-QTMAC  TO DEL-ER                         DO0030
          PERFORM F8110 THRU F8110-FN                                DO0030
          MOVE DEL-ER TO    ER-0030-QTMAC                            DO0030
          IF DEL-ER > 1 MOVE 'E' TO CAT-ER  GO TO F20C5-FN.          DO0030
```

```
           MOVE ZONUM2 TO E-0030-QTMAC.                              DO0030
           IF DEL-ER = '1'                                           DO0030
         MOVE I-0030-QTMAC  TO  O-0030-QTMAC.                        DO0030
              IF  I-0030-QTMAC  NOT <  01                            DO0030
              AND I-0030-QTMAC  NOT >     50                         DO0030
                NEXT SENTENCE ELSE                                   DO0030
           MOVE '5' TO    ER-0030-QTMAC.                             DO0030
              IF     ER-0030-QTMAC  > '1'                           DO0030
           MOVE 'E' TO CAT-ER                  GO TO F20C5-FN.       DO0030
       F20C5-FN.    EXIT.                                           DO0030
       F20C8.                                                       DO0030
           IF CATM = 'A' OR CATM = SPACE     GO TO F20C8-FN.        DO0030
              IF I-0030-INFOR  NOT = SPACE                           DO0030
           MOVE '1' TO    ER-0030-INFOR.                           DO0030
              IF     ER-0030-INFOR    NOT = 1                       DO0030
                                       GO TO F20C8-FN.              DO0030
       F20C8-FN.    EXIT.                                           DO0030
       F20R-FN.     EXIT.                                           DO0030
       F20Z.  IF CATX NOT = 'Z' GO TO F20Z-FN.                      DO0030
       F20D0.                                                       DO0030
              IF I-0030-EDIT   NOT = SPACE                          DO0030
           MOVE '1' TO    ER-0030-EDIT.                            DO0030
       F20D0-FN.    EXIT.                                           DO0030
       F20Z-FN.     EXIT.                                           DO0030
       F20-FN.      EXIT.                                           DO0030
```

3.7. SEGMENT ACCESS FOR VALIDATION (F25)

F25 : SEGMENT ACCESS FOR VALIDATION

The SEGMENT ACCESS FOR VALIDATION (F25) function is generated when there is a Segment to be accessed in reception.

Depending on the categories defined on the Screen for which a Segment is to be accessed in reception, the F25 function includes the following:

. F25A for the Screen-top category.

. F25R for the repetitive category.

. F25Z for the Screen-bottom category.

Within the processing of each category, there is a sub-function per Segment access including:

. Initialization of the key (if indicated on the '-CS'),

. Read or a Read with Update of the Segment, depending on the use of the Segment in the Screen (by a PERFORM of F80-ddss-R or RU),

. Positioning of the Segment variable 'ddss-CF' (to '1' if OK),

. Error processing, if necessary.

Within a category, the accesses are generated in alphabetical order according to the Segment codes, except for a Segment which has a 'preceding Segment'.

If the Segment is being updated, the access is conditionned by the value of CATM and not executed if the value of CATM is SPACE.

If the Segment has a 'preceding Segment', the access is only executed if the value of the 'ddss-CF' variable of the preceding Segment is '1'.

The other types of Reads are not conditioned.

Sub-function F2599 is generated if at least one of the Segments in the Read can be updated.

It contains the PERFORMs of the F80-ddss-UN functions, according to the Segments in use, as well as the positioning of the cursor on the first variable data element in the category, if there is an error on a Segment. (For the DL/1 databases that do not require unlocking, sub-function F80-ddss-UN only contains branching operation).

NOTE: Sub-functions are numbered according to the number of Segments, their positions on the '-CS' Screen, etc. Thus, it can vary.

A direct reference should never be made to a generated label in the specific procedures.
Use the Relative Positioning types '*A', '*P' and '*R' (see Chapter "USE OF STRUCTURED CODE" in the ON-LINE SYSTEMS DEVELOPMENT Reference Manual.)

```
*          ************************************                DO0030
*          *                                  *                DO0030
*          *  SEGMENT ACCESS FOR VALIDATION   *                DO0030
*          *                                  *                DO0030
*          ************************************                DO0030
 F25.      IF CAT-ER NOT = SPACE GO TO F25-FN.                  DO0030
 F25A.  IF CATX NOT = ' ' GO TO F25A-FN.                        DO0030
 F2501.                                                         DO0030
       MOVE '0' TO CD05-CF.                                     DO0030
       IF CATM = SPACE                 GO TO F2501-FN.          DO0030
       MOVE    CA00-NUCOM     TO                                DO0030
                S-CDU05-KEYCD                                   DO0030
       PERFORM F80-CD05-RU THRU F80-FN.                         DO0030
       IF IK = '0'                                              DO0030
       MOVE '1' TO CD05-CF.                                     DO0030
       IF CATM NOT = 'C' AND IK = '1'                           DO0030
                   MOVE  'F019' TO XERCD                        DO0030
                   PERFORM F81UT         GO TO F2501-FN.        DO0030
 F2501-FN.    EXIT.                                             DO0030
 F25A-FN.     EXIT.                                             DO0030
 F25R.  IF CATX NOT = 'R' GO TO F25R-FN.                        DO0030
 F2504.                                                         DO0030
       MOVE '0' TO CD10-CF.                                     DO0030
       IF CATM = SPACE                 GO TO F2504-FN.          DO0030
       MOVE    CA00-NUCOM     TO                                DO0030
                S-CDU05-KEYCD                                   DO0030
       MOVE  I-0030-FOURNI    TO                                DO0030
                S-CDU10-FOURNI                                  DO0030
       PERFORM F80-CD10-RU THRU F80-FN.                         DO0030
       IF IK = '0'                                              DO0030
       MOVE '1' TO CD10-CF.                                     DO0030
       IF CATM = 'X' AND IK = '1' MOVE 'C' TO CATM.             DO0030
       IF CATM = 'X' AND IK = '0' MOVE 'M' TO CATM.             DO0030
       IF CATM = 'C' AND IK = '0'                               DO0030
                   MOVE  'F048' TO XERCD                        DO0030
                   PERFORM F81UT         GO TO F2504-FN.        DO0030
       IF CATM NOT = 'C' AND IK = '1'                           DO0030
                   MOVE  'F049' TO XERCD                        DO0030
                   PERFORM F81UT         GO TO F2504-FN.        DO0030
*            +-----------------------------------+              P000
* LEVEL 12   I ACCESS TO FO10                     I              P000
*            +-----------------------------------+              P000
 F25BB.                                                         P000
     MOVE        '1' TO CD10-CF.                                P100
 F25BB-FN.    EXIT.                                             P000
 F2504-FN.    EXIT.                                             P000
 F2505.                                                         DO0030
       MOVE '0' TO FO10-CF.                                     DO0030
       IF          CD10-CF NOT = '1'   GO TO   F2505-FN.        DO0030
       IF CATM = SPACE                   GO TO F2505-FN.        DO0030
       MOVE  I-0030-FOURNI    TO                                DO0030
                S-FOU10-CLEFO                                   DO0030
       MOVE  I-0030-RELEA     TO                                DO0030
                S-FOU10-RELEA                                   DO0030
       PERFORM F80-FO10-RU THRU F80-FN.                         DO0030
       IF IK = '0'                                              DO0030
       MOVE '1' TO FO10-CF.                                     DO0030
       IF IK = '1' MOVE  'F059' TO XERCD                        DO0030
                   PERFORM F81UT         GO TO F2505-FN.        DO0030
 F2505-FN.    EXIT.                                             DO0030
 F25R-FN.     EXIT.                                             DO0030
 F25Z.  IF CATX NOT = 'Z' GO TO F25Z-FN.                        DO0030
 F2507.                                                         DO0030
       MOVE '0' TO CD20-CF.                                     DO0030
       IF CATM = SPACE                 GO TO F2507-FN.          DO0030
       MOVE    CA00-NUCOM     TO                                DO0030
                S-CDU05-KEYCD                                   DO0030
       MOVE    'O'            TO                                DO0030
                S-CDU20-EDIT                                    DO0030
       PERFORM F80-CD20-RU THRU F80-FN.                         DO0030
       IF IK = '0'                                              DO0030
       MOVE '1' TO CD20-CF.                                     DO0030
       IF CATM = 'X' AND IK = '1' MOVE 'C' TO CATM.             DO0030
       IF CATM = 'X' AND IK = '0' MOVE 'M' TO CATM.             DO0030
       IF CATM = 'C' AND IK = '0'                               DO0030
                   MOVE  'F078' TO XERCD                        DO0030
                   PERFORM F81UT         GO TO F2507-FN.        DO0030
```

```
           IF CATM NOT = 'C' AND IK = '1'                          DO0030
                      MOVE  'F079' TO XERCD                        DO0030
                      PERFORM F81UT         GO TO F2507-FN.        DO0030
    F2507-FN.    EXIT.                                            DO0030
    F25Z-FN.     EXIT.                                            DO0030
    F2599.     IF CAT-ER = SPACE GO TO F2599-FN.                  DO0030
           IF          CD05-CF = '1'                             DO0030
           PERFORM F80-CD05-UN THRU F80-FN.                       DO0030
           IF          CD10-CF = '1'                             DO0030
           PERFORM F80-CD10-UN THRU F80-FN.                       DO0030
           IF          FO10-CF = '1'                             DO0030
           PERFORM F80-FO10-UN THRU F80-FN.                       DO0030
           IF          CD20-CF = '1'                             DO0030
           PERFORM F80-CD20-UN THRU F80-FN.                       DO0030
           IF CATX = ' ' AND DE-AT (4, 009) = 'X'                 DO0030
           MOVE  ' '   TO  DE-AT (4, 009).                       DO0030
           IF CATX = ' '                                          DO0030
           MOVE  'X'   TO A-0030-MATE   (4).                      DO0030
           IF CATX = 'R' AND DE-AT (4, 009) = 'X'                 DO0030
           MOVE  ' '   TO  DE-AT (4, 009).                       DO0030
           IF CATX = 'R'                                          DO0030
           MOVE  'X'   TO A-0030-CODMVT (4).                      DO0030
           IF CATX = 'Z' AND DE-AT (4, 009) = 'X'                 DO0030
           MOVE  ' '   TO  DE-AT (4, 009).                       DO0030
           IF CATX = 'Z'                                          DO0030
           MOVE  'X'   TO A-0030-EDIT   (4).                      DO0030
    F2599-FN.    EXIT.                                            DO0030
    F25-FN.      EXIT.                                            DO0030
   *             +-----------------------------------+            P000
   * LEVEL 10    I STOCK UPD.: ORDER DELETION/UPD    I            P000
   *             +-----------------------------------+            P000
    F28BH.     IF    (CATM = 'A' OR 'M')                         P000
               AND   CATX = 'R'                                  P100
               AND   CAT-ER = SPACES                             P120
               NEXT SENTENCE ELSE GO TO     F28BH-FN.            P120
        ADD          CD10-QTMAL TO FO10-QTMAS.                   P100
    F28BH-FN.    EXIT.                                           P000
```

3.8. DATA ELEMENT TRANSFER (F30)

F30: DATA ELEMENT TRANSFER

The DATA ELEMENT TRANSFER (F30) function ensures the transfer of Data Elements on the screen to the corresponding Data Elements in the Segments.

Depending on which categories defined on the screen contain at least one Data Element transfer on reception, the F30 function includes the following:

. F30A for the screen-top category.

. F30R for the repetitive category.

. F30Z for the screen-bottom category.

The condition of the transfer is generated based on the use of the Segment on reception, or the value of the PRESENCE VALIDATION OF DATA ELEMENT field on the Screen Call of Elements ('-CE') screen.

```
*           ************************************                DO0030
*           *                                  *                DO0030
*           *  DATA ELEMENT TRANSFER           *                DO0030
*           *                                  *                DO0030
*           ************************************                DO0030
 F30.       IF CAT-ER NOT = SPACE GO TO F30-FN.                  DO0030
 F30A.  IF CATX NOT = ' ' GO TO F30A-FN.                         DO0030
        MOVE     I-0030-RELEA       TO     CD05-RELEA.          DO0030
        MOVE     I-0030-COPOS       TO     CD05-COPOS.          DO0030
        MOVE     I-0030-REFCLI      TO     CD05-REFCLI.         DO0030
        MOVE     I-0030-DATE        TO     CD05-DATE.           DO0030
        MOVE     I-0030-REMIS       TO     CD05-REMIS.          DO0030
           IF     ER-0030-MATE   = '1'                          DO0030
        MOVE     I-0030-MATE        TO     CD05-MATE.           DO0030
           IF     ER-0030-CORRES = '1'                          DO0030
        MOVE     I-0030-CORRES      TO     CD05-CORRES.         DO0030
 F30A-FN.     EXIT.                                             DO0030
 F30R.  IF CATX NOT = 'R' GO TO F30R-FN.                         DO0030
           IF     ER-0030-INFOR  = '1'                          DO0030
        MOVE     I-0030-INFOR       TO     CD10-INFOR.          DO0030
        IF CATM NOT = SPACE                                     DO0030
        MOVE     I-0030-FOURNI      TO     CD00-FOURNI.         DO0030
        IF CATM NOT = SPACE AND CATM NOT = 'A'                  DO0030
        MOVE     I-0030-QTMAC       TO     CD10-QTMAC           DO0030
        ADD      I-0030-QTMAC       TO     FO10-QTMAM.          DO0030
*             +-----------------------------------+             P000
* LEVEL 10    I QUANTITY PROCESSING               I             P000
*             +-----------------------------------+             P000
 F30BD.                                                         P000
*             +-----------------------------------+             P000
* LEVEL 12    I CALC. DELIV. QUANT.   STOCK UPD.  I             P000
*             +-----------------------------------+             P000
 F30BF.    IF    CATM = 'C' OR 'M'                              P000
           NEXT SENTENCE ELSE GO TO     F30BF-FN.                P000
           IF    FO10-QTMAS NOT <                               P100
                 I-0030-QTMAC                                   P110
     MOVE        I-0030-QTMAC TO CD10-QTMAL                     P100
           ELSE                                                 P120
     MOVE        FO10-QTMAS TO CD10-QTMAL.                      P120
     SUBTRACT    CD10-QTMAL FROM FO10-QTMAS                     P130
     MOVE        CD10-QTMAL TO O-0030-QTMAL.                    P140
 F30BF-FN.    EXIT.                                             P000
 F30BD-FN.    EXIT.                                             P000
 F30R-FN.     EXIT.                                             DO0030
 F30Z.  IF CATX NOT = 'Z' GO TO F30Z-FN.                         DO0030
        MOVE     I-0030-EDIT        TO     CD20-EDIT.           DO0030
 F30Z-FN.     EXIT.                                             DO0030
 F30-FN.      EXIT.                                             DO0030
```

3.9. SEGMENT ACCESS FOR UPDATE (F35)

F35: SEGMENT ACCESS FOR UPDATE

This function ensures Segment updates. If an error has been detected by the error checks (CAT-ER), this function is not executed.

Depending on which categories contain a Segment to be updated, the SEGMENT ACCESS FOR UPDATE (F35) function includes the following:

. F35A for the screen-top category.

. F35R for the repetitive category.

. F35Z for the screen-bottom category.

In the processing for each category there is one sub-function per Segment to be updated, possibly including several types of access.

The function is accessed by executing a PERFORM of the appropriate subfunction in F80.

For a Segment that does not follow an access to another Segment (i.e. the PRECEDING SEGMENT field in the Screen Call of Segments ('-CS') screen is left blank), access is conditioned by the value of the internal Transaction Code (CATM) found in the category, which corresponds to one of the following operations:

. Creation: writing (F80-ddss-R).

. Deletion: suppression (F80-ddss-D).

. Other cases: rewriting (F80-ddss-RW)

The user must manage the access to other transactions if the rewrite option does not correspond to user needs.

For a Segment that follows an access to another Segment (i.e. a Segment is listed in the PRECEDING SEGMENT field on the Screen Call of Segments ('-CS') screen), access is conditioned by the Segment configuration, which is either:

. ddss-CF = 0, writing, or
. ddss-CF = 1, rewriting.

If a Data Element was defined as a Transaction Code on the Screen Call of Elements ('-CE') screen (in the VALIDATION CONDITIONS/SET VARIABLES field), it is set to blanks.

Paragraph F3999-ITER-FI returns to the beginning of the 'RECEPTION' iteration.

NOTE: Sub-functions are numbered based on the number of segments, their positions on the '-CS' screen, etc. As a result, a direct reference should never be made to a generated label in the specific procedures.

Use the Relative Positioning types '*A', '*P' and '*R' (see chapter "USE OF STRUCTURED CODE" in the ON-LINE SYSTEMS DEVELOPMENT Reference Manual.)

```
*           ************************************                DO0030
*           *                                  *                DO0030
*           *  SEGMENT ACCESS FOR UPDATE       *                DO0030
*           *                                  *                DO0030
*           ************************************                DO0030
 F35.     IF CAT-ER NOT = SPACE OR CATM = SPACE GO TO F35-FN.    DO0030
 F35A.  IF CATX NOT = ' ' GO TO F35A-FN.                        DO0030
 F3501.                                                         DO0030
        IF CATM NOT = 'C' AND CATM NOT = 'A'                    DO0030
        PERFORM F80-CD05-RW THRU F80-FN.                        DO0030
 F3501-FN.    EXIT.                                             DO0030
 F35A-FN.     EXIT.                                             DO0030
 F35R.  IF CATX NOT = 'R' GO TO F35R-FN.                        DO0030
 F3504.                                                         DO0030
        IF CATM = 'C'                                           DO0030
        PERFORM F80-CD10-W  THRU F80-FN.                        DO0030
        IF CATM = 'A'                                           DO0030
        PERFORM F80-CD10-D  THRU F80-FN.                        DO0030
        IF CATM NOT = 'C' AND CATM NOT = 'A'                    DO0030
        PERFORM F80-CD10-RW THRU F80-FN.                        DO0030
 F3504-FN.    EXIT.                                             DO0030
 F3505.                                                         DO0030
        IF          FO10-CF = '1'                               DO0030
        PERFORM F80-FO10-RW THRU F80-FN.                        DO0030
 F3505-FN.    EXIT.                                             DO0030
 F35R-C3.   MOVE   SPACE     TO       O-0030-CODMVT.            DO0030
            MOVE   SPACE     TO       T-0030-CODMVT.            DO0030
 F35R-FN.     EXIT.                                             DO0030
 F35Z.  IF CATX NOT = 'Z' GO TO F35Z-FN.                        DO0030
 F3507.                                                         DO0030
        IF CATM = 'C'                                           DO0030
        PERFORM F80-CD20-W  THRU F80-FN.                        DO0030
        IF CATM NOT = 'C' AND CATM NOT = 'A'                    DO0030
        PERFORM F80-CD20-RW THRU F80-FN.                        DO0030
 F3507-FN.    EXIT.                                             DO0030
 F35Z-D0.   MOVE   SPACE     TO       O-0030-EDIT.              DO0030
            MOVE   SPACE     TO       T-0030-EDIT.              DO0030
 F35Z-FN.     EXIT.                                             DO0030
 F35-FN.      EXIT.                                             DO0030
 F3999-ITER-FI.  GO TO F10.                                     DO0030
 F3999-ITER-FT.     EXIT.                                       DO0030
 F3999-FN.    EXIT.                                             DO0030
```

3.10. END-OF-RECEPTION PROCESSING (F40)

F40: END-OF-RECEPTION PROCESSING

The END-OF-RECEPTION PROCESSING (F40) function contains the procedures for the end-of-reception processing of the program. It is executed as long as no errors have been found.

Within this function, there are four sub-functions which correspond to four automatically generated procedures which are conditioned by the value of the Operation Code.

The Operation Code can be updated by the deferred operation code 'OPERD', if necessary.

SET-UP KEYS FOR NEW DISPLAY (F4010)

This is executed for a "display" or "update" operation. The keys to the segments with no preceding segment, or which are used in display, are given a value here.

Depending on the categories defined on the screen, the memorization of the access key to the display segment is found in:

. F40A for the screen-top category.

. F40R for the repetitive category.

. F40Z for the screen-bottom category.

SET-UP KEYS FOR SCREEN PAGING (F4020)

This is executed for a "screen continuation" operation. It contains the memorization of the first key for the display of the screen continuation, ilf the segment is used in the repetitive category.

END OF TRANSACTION (F4030)

This is executed for an end-of-conversation operation. It includes:

. the transfer of the Operation Code under the 'COMMUNICATION-MONITOR' level.

. the return to the Monitor which will end the conversation by "blanking out" the transaction code and re-displaying the first screen of the dialogue (specified on the Dialogue Complement (-O) screen).

TRANSFER TO ANOTHER SCREEN (F4040)

This is executed for a transfer to another screen operation. It includes:

. the transfer of the name of the program which processes the next screen (entered beforehand by the user in the 5-scrn-PROGE field), and of the Operation Code ('O'), under the 'COMMUNICATION-MONITOR' level.

. the return to the Monitor.

```
 F40.       IF SCR-ER > '1'  MOVE 'A' TO OPER  GO TO F40-FN.      DO0030
 F40-A.     IF OPERD NOT = SPACE   MOVE OPERD TO OPER.            DO0030
*           ************************************                  DO0030
*           *                                  *                  DO0030
*           *  SET-UP KEYS FOR NEW DISPLAY     *                  DO0030
*           *                                  *                  DO0030
*           ************************************                  DO0030
 F4010.     IF OPER NOT = 'A' AND NOT = 'M' GO TO F4010-FN.       DO0030
 F40A.                                                            DO0030
        MOVE    CA00-NUCOM     TO                                 DO0030
                S-CDU05-KEYCD                                     DO0030
        MOVE    S-CDU05-KEYCD  TO   K-ACD05-KEYCD.                DO0030
 F40A-FN.    EXIT.                                                DO0030
 F40R.                                                            DO0030
        MOVE  J-0030-LINE   (1) TO                                DO0030
              I-0030-LINE.                                        DO0030
        MOVE    CA00-NUCOM     TO                                 DO0030
                S-CDU05-KEYCD                                     DO0030
        MOVE    SPACES         TO                                 DO0030
                S-CDU10-FOURNI                                    DO0030
        MOVE    S-CDU05-KEYCD  TO   K-RCD05-KEYCD  (1).           DO0030
        MOVE    S-CDU10-FOURNI TO   K-RCD10-FOURNI (1).           DO0030
 F40R-FN.    EXIT.                                                DO0030
 F40Z.                                                            DO0030
        MOVE    CA00-CLEME     TO                                 DO0030
                S-MEU00-CLEME                                     DO0030
        MOVE    S-MEU00-CLEME  TO   K-ZME00-CLEME.                DO0030
 F40Z-FN.    EXIT.                                                DO0030
 F4010-FN.   EXIT.                                                DO0030
*           ************************************                  DO0030
*           *                                  *                  DO0030
*           *  SET-UP KEYS FOR SCREEN PAGING   *                  DO0030
*           *                                  *                  DO0030
*           ************************************                  DO0030
 F4020.     IF OPER NOT = 'S' GO TO F4020-FN.                     DO0030
        MOVE    K-RCD05-KEYCD  (2) TO                             DO0030
                K-RCD05-KEYCD  (1).                               DO0030
        MOVE    K-RCD10-FOURNI (2) TO                             DO0030
                K-RCD10-FOURNI (1).                               DO0030
 F4020-FN.   EXIT.                                                DO0030
*           ************************************                  DO0030
*           *                                  *                  DO0030
*           *  END OF TRANSACTION              *                  DO0030
*           *                                  *                  DO0030
*           ************************************                  DO0030
 F4030.     IF OPER NOT = 'E' GO TO F4030-FN.                     DO0030
        PERFORM F80-HELP-D  THRU F80-FN.                          DO0030
        MOVE OPER TO S-WWSS-OPER GOBACK.                          DO0030
 F4030-FN.   EXIT.                                                DO0030
*           ************************************                  DO0030
*           *                                  *                  DO0030
*           *  TRANSFER TO ANOTHER SCREEN      *                  DO0030
*           *                                  *                  DO0030
*           ************************************                  DO0030
 F4040.     IF OPER NOT = 'O' GO TO F4040-FN.                     DO0030
        MOVE  5-0030-PROGE TO S-WWSS-PROGE                        DO0030
        MOVE OPER TO S-WWSS-OPER GOBACK.                          DO0030
 F4040-FN.   EXIT.                                                DO0030
 F40-FN.     EXIT.                                                DO0030
 END-OF-RECEPTION.      EXIT.                                     DO0030
```

3.11. DISPLAY PREPARATION (F50)

F50: DISPLAY PREPARATION

The DISPLAY PREPATATION (F50) function contains the conditions for the set of procedures used for the 'display' part of the program: F50 to F78-FN (End-of-Display).

Sub-function F5010 is always generated. It ensures the initialization of work areas and of the display screen description.

If an error is detected, a branch to the error processing function is executed. The fields of valid data elements remain unchanged and are not transmitted to the line (X'3F' in the first byte in F0110).

If not, the MOD is reinitialized to low-values (suppression of the X'3F'), signifying the re-display of all screen data elements initialized in the subsequent functions (F65 to F6999-FN).

```
*           ************************************                DO0030
*           *                                  *                DO0030
*           *  DISPLAY PREPARATION             *                DO0030
*           *                                  *                DO0030
*           ************************************                DO0030
 F50.      IF OCF = '0' GO TO END-OF-DISPLAY.                   DO0030
 F5010.                                                         DO0030
       MOVE ZERO TO CATX.                                       DO0030
       MOVE ZERO TO CONFIGURATIONS.                             DO0030
       MOVE ALL '1' TO FIRST-ON-SEGMENT.                        DO0030
    IF SCR-ER NOT > '1' MOVE LOW-VALUE TO O-0030.               DO0030
       IF SCR-ER > '1'  GO TO F6999-ITER-FT.                    DO0030
       PERFORM F8115 THRU F8115-FN.                             DO0030
       MOVE K-R0030-LINE   (1)  TO                              DO0030
            K-R0030-LINE   (2).                                 DO0030
 F5010-FN.    EXIT.                                             DO0030
 F50-FN.      EXIT.                                             DO0030
```

3.12. CATEGORY PROCESSING LOOP (F55)

F55: CATEGORY PROCESSING LOOP

The CATEGORY PROCESSING LOOP (F55) function positions the category to be processed in 'DISPLAY' based on the CATX indicator, which can have the following values:

. '0' Beginning of display.

. ' ' Screen-top category.

. 'R' Repetitive category.

. 'Z' Screen-bottom category.

The procedures are generated based on the categories defined on the Call of Elements ('-CE') screen.

If no category is defined, the screen is considered a screen-top category.

For the repetitive category this function includes:

. The interaction between the line of the category to be processed, and the output screen description field used to access each of the data elements of the line,

. The initialization and incrementation of the ICATR indicator which manages the repetitive category.

```
*           ************************************                DO0030
*           *                                  *                DO0030
*           *  CATEGORY PROCESSING LOOP        *                DO0030
*           *                                  *                DO0030
*           ************************************                DO0030
 F55.         EXIT.                                             DO0030
 F5510.                                                         DO0030
       MOVE SPACE TO CAT-ER.                                    DO0030
       IF CATX = '0' MOVE ' ' TO CATX GO TO F5510-FN.           DO0030
       IF CATX = ' ' MOVE 'R' TO CATX MOVE ZERO TO ICATR.       DO0030
       IF CATX NOT = 'R' OR  ICATR > IRR GO TO F5510-R.         DO0030
       IF ICATR > ZERO                                          DO0030
       MOVE  O-0030-LINE            TO                          DO0030
             P-0030-LINE    (ICATR)                           DO0030
       MOVE      ER-0030-LINE       TO                        DO0030
                   PS-30-LINE    (ICATR).                     DO0030
       ADD 1 TO ICATR.                                          DO0030
       IF ICATR NOT > IRR                                       DO0030
       MOVE  P-0030-LINE    (ICATR) TO                          DO0030
             O-0030-LINE                                        DO0030
       MOVE        PS-30-LINE    (ICATR) TO                    DO0030
                 ER-0030-LINE.                                  DO0030
       GO TO F5510-FN.                                          DO0030
 F5510-R.     EXIT.                                             DO0030
 F5510-Z.                                                       DO0030
       IF CATX = 'R' MOVE 'Z' TO CATX GO TO F5510-FN.           DO0030
 F5510-900. GO TO F6999-ITER-FT.                                DO0030
 F5510-FN.    EXIT.                                             DO0030
 F55-FN.      EXIT.                                             DO0030
```

3.13. SEGMENT ACCESS FOR DISPLAY (F60)

F60: SEGMENT ACCESS FOR DISPLAY

The SEGMENT ACCESS FOR DISPLAY (F60) function is generated when there is a segment to be accessed for display.

Depending on which categories defined on the screen contain a segment to be accessed for display, the F60 function includes the following:

. F60A for the screen-top category,

. F60R for the repetitive category,

. F60Z for the screen-bottom category.

To process each category, there is one sub-function per access to a segment, including:

. Loading of the key from the 'K-cddss-KEY' field stored in function F40. For the first display (OCF = '1'), the user must ensure that the 'K-' field is loaded.

. Access by a PERFORM to the appropriate F80 sub-function depending on the category:

- Direct read (F80-ddss-R),

- Sequential Read after positioning (repetitive) (F80-ddss-P and F80-ddss-RN) based on the use of the segment (indicated on the '-CS').

. The positioning of the Segment 'ddss-CF' variable.

. Error processing, if necessary.

If a segment has a preceding segment, its Read will always be a Direct Read, even in the Repetitive category.

NOTE: Sub-functions are numbered based on the number of segments, their positions on the '-CS' screen, etc. As a result, a direct reference should never be made to a generated label in the specific procedures.

Use the Relative Positioning types '*A', '*P' and '*R' (see chapter "USE OF STRUCTURED CODE" in the ON-LINE SYSTEMS DEVELOPMENT Reference Manual.)

```
*           ************************************                DO0030
*           *                                  *                DO0030
*           *  SEGMENT ACCESS FOR DISPLAY      *                DO0030
*           *                                  *                DO0030
*           ************************************                DO0030
 F60.         EXIT.                                             DO0030
 F60A.  IF CATX NOT = ' ' GO TO F60A-FN.                        DO0030
 F6002.                                                         DO0030
        MOVE '0' TO CD05-CF.                                    DO0030
        MOVE     K-ACD05-KEYCD      TO                          DO0030
                 S-CDU05-KEYCD          CD05-KEYCD              DO0030
        PERFORM F80-CD05-R  THRU F80-FN.                        DO0030
        IF IK = '1' MOVE  'G029' TO XERCD                       DO0030
        PERFORM F81UT THRU F81UT-FN       GO TO F6002-FN.       DO0030
        MOVE '1' TO CD05-CF.                                    DO0030
 F6002-FN.    EXIT.                                             DO0030
 F60A-FN.     EXIT.                                             DO0030
 F60R.  IF CATX NOT = 'R' OR FT = '1' GO TO F60R-FN.            DO0030
 F6005.                                                         DO0030
        MOVE '0' TO CD10-CF.                                    DO0030
        IF          CD10-FST = '1'                              DO0030
        MOVE     K-RCD05-KEYCD  (1) TO                          DO0030
                 S-CDU05-KEYCD          CD05-KEYCD              DO0030
        MOVE     K-RCD10-FOURNI (1) TO                          DO0030
                 S-CDU10-FOURNI         CD10-FOURNI             DO0030
        PERFORM F80-CD10-P  THRU F80-FN                         DO0030
        MOVE ZERO TO   CD10-FST ELSE                            DO0030
        PERFORM F80-CD10-RN THRU F80-FN.                        DO0030
        IF IK = '1' MOVE  'G059' TO XERCD MOVE '1' TO FT        DO0030
        PERFORM F81UT THRU F81UT-FN       GO TO F6005-FN.       DO0030
        MOVE '1' TO CD10-CF.                                    DO0030
        MOVE        CD10-FOURNI   TO K-RCD10-FOURNI (2).        DO0030
 F6005-FN.    EXIT.                                             DO0030
 F60R-FN.     EXIT.                                             DO0030
 F60Z.  IF CATX NOT = 'Z' GO TO F60Z-FN.                        DO0030
 F6008.                                                         DO0030
        MOVE '0' TO ME00-CF.                                    DO0030
        MOVE     K-ZME00-CLEME      TO                          DO0030
                 S-MEU00-CLEME          ME00-CLEME              DO0030
        PERFORM F80-ME00-R  THRU F80-FN.                        DO0030
        IF IK = '1' MOVE  'G089' TO XERCD                       DO0030
        PERFORM F81UT THRU F81UT-FN       GO TO F6008-FN.       DO0030
        MOVE '1' TO ME00-CF.                                    DO0030
 F6008-FN.    EXIT.                                             DO0030
 F60Z-FN.                                                       DO0030
 F60-FN.      EXIT.                                             DO0030
*            +-----------------------------------+              P000
* LEVEL 10    I PREPARATION DISPLAY DATE/HOUR     I            P000
*            +-----------------------------------+              P000
 F64DA.    IF    CATX = ' '                                     P000
           NEXT SENTENCE ELSE GO TO     F64DA-FN.               P000
     ACCEPT  DATOR  FROM DATE                                   P040
     MOVE            DATOR                                      P040
     TO DAT6 DAT8                                               P040
     MOVE DAT63 TO DAT61 MOVE DAT81 TO DAT63                    P040
     MOVE      DATOR                                            P080
     TO  DAT6                                                   P080
     PERFORM F8120-I  THRU F8120-Z                              P080
     MOVE  DAT8C TO   DAT8C.                                    P080
     ACCEPT  TIMCO  FROM  TIME                                  P120
     MOVE            TIMCOG                                     P160
          TO TIMCOG                                             P160
     MOVE TIMCOH TO TIMHOU                                      P160
     MOVE TIMCOM TO TIMMIN                                      P160
     MOVE TIMCOS TO TIMSEC                                      P160
     MOVE ':'    TO TIMS1  TIMS2                                P160
     MOVE TIMDAY TO   TIMDAY.                                   P160
 F64DA-FN.    EXIT.                                             P000
```

3.14. DATA ELEMENT TRANSFER TO DISPLAY (F65)

F65: DATA ELEMENT TRANSFER

The DATA ELEMENT TRANSFER (F65) function ensures the transfer of the segment data elements to the corresponding data elements on the screen.

Depending on which categories defined on the screen contain at least one transfer of a data element for display, the F65 function includes:

. F65A for the screen-top category,

. F65R for the repetitive category,

. F65Z for the screen-bottom category.

If the data element is filled from a segment, the transfer is conditioned by the segment configuration variable (ddss-CF=1).

Paragraph 'F6999-ITER-FI' contains the return to the beginning of the display iteration.

```
*           ************************************                DO0030
*           *                                  *                DO0030
*           *  DATA ELEMENT TRANSFER           *                DO0030
*           *                                  *                DO0030
*           ************************************                DO0030
 F65.         EXIT.                                             DO0030
 F65A.  IF CATX NOT = ' ' GO TO F65A-FN.                        DO0030
        MOVE    PROGE           TO                              DO0030
              O-0030-PROGE.                                     DO0030
        MOVE    SESSI           TO                              DO0030
              O-0030-SESSI.                                     DO0030
        MOVE    DAT8C           TO                              DO0030
              O-0030-DATEM.                                     DO0030
        MOVE    TIMDAY          TO                              DO0030
              O-0030-HEURE.                                     DO0030
 F65A-A7.                                                       DO0030
        MOVE    CA00-NUCOM      TO                              DO0030
              O-0030-NUCOM.                                     DO0030
 F65A-A7-FN. EXIT.                                              DO0030
 F65A-A8.                                                       DO0030
        MOVE    CA00-RAISOC     TO                              DO0030
              O-0030-RAISOC.                                    DO0030
 F65A-A8-FN. EXIT.                                              DO0030
 F65A-CD05.                                                     DO0030
        IF      CD05-CF   NOT = '1' GO  TO  F65A-CD05-FN.       DO0030
        MOVE    CD05-MATE       TO                              DO0030
              O-0030-MATE.                                      DO0030
 F65A-B0.                                                       DO0030
        MOVE    CD05-RELEA      TO                              DO0030
              O-0030-RELEA.                                     DO0030
 F65A-B0-FN. EXIT.                                              DO0030
 F65A-B1.                                                       DO0030
        MOVE    CD05-VILLE      TO                              DO0030
              O-0030-VILLE.                                     DO0030
 F65A-B1-FN. EXIT.                                              DO0030
 F65A-B2.                                                       DO0030
        MOVE    CD05-COPOS      TO                              DO0030
              O-0030-COPOS.                                     DO0030
 F65A-B2-FN. EXIT.                                              DO0030
 F65A-B3.                                                       DO0030
        MOVE    CD05-REFCLI     TO                              DO0030
              O-0030-REFCLI.                                    DO0030
 F65A-B3-FN. EXIT.                                              DO0030
 F65A-B4.                                                       DO0030
        MOVE    CD05-DATE       TO                              DO0030
              O-0030-DATE.                                      DO0030
 F65A-B4-FN. EXIT.                                              DO0030
 F65A-B5.                                                       DO0030
        MOVE    CD05-CORRES     TO                              DO0030
              O-0030-CORRES.                                    DO0030
 F65A-B5-FN. EXIT.                                              DO0030
 F65A-B6.                                                       DO0030
        MOVE    CD05-REMIS      TO                              DO0030
              O-0030-REMIS.                                     DO0030
 F65A-B6-FN. EXIT.                                              DO0030
 F65A-CD05-FN. EXIT.                                            DO0030
 F65A-FN.     EXIT.                                             DO0030
 F65R.  IF CATX NOT = 'R' OR FT = '1' GO TO F65R-FN.            DO0030
                     IF ICATR > IRR GO TO F65R-FN.              DO0030
 F65R-A5.                                                       DO0030
        MOVE    CD00-FOURNI     TO                              DO0030
              O-0030-FOURNI.                                    DO0030
 F65R-A5-FN. EXIT.                                              DO0030
 F65R-CD10.                                                     DO0030
        IF      CD10-CF   NOT = '1' GO  TO  F65R-CD10-FN.       DO0030
        MOVE    CD10-QTMAC      TO                              DO0030
              O-0030-QTMAC.                                     DO0030
 F65R-A7.                                                       DO0030
        MOVE    CD10-QTMAL      TO                              DO0030
              O-0030-QTMAL.                                     DO0030
 F65R-A7-FN. EXIT.                                              DO0030
 F65R-A8.                                                       DO0030
        MOVE    CD10-INFOR      TO                              DO0030
              O-0030-INFOR.                                     DO0030
 F65R-A8-FN. EXIT.                                              DO0030
 F65R-CD10-FN. EXIT.                                            DO0030
*            +----------------------------------+                P000
```

```
* LEVEL 10    I REMAINS TO BE DELIVERED           I              P000
*            +-----------------------------------+              P000
 F65BB.                                                         P000
          IF    CD10-QTMAL NOT = ZERO                           P100
     COMPUTE    WW10-QTMAR =                                    P100
                CD10-QTMAC - CD10-QTMAL                         P110
     MOVE       WW10-QTMAR TO O-0030-QTMAR.                     P120
 F65BB-FN.    EXIT.                                             P000
 F65R-FN.     EXIT.                                             DO0030
 F65Z.  IF CATX NOT = 'Z' GO TO F65Z-FN.                        DO0030
 F65Z-ME00.                                                     DO0030
       IF      ME00-CF   NOT = '1' GO  TO  F65Z-ME00-FN.        DO0030
       MOVE    ME00-MESSA       TO                             DO0030
             O-0030-MESSA.                                      DO0030
 F65Z-ME00-FN. EXIT.                                            DO0030
 F65Z-FN.     EXIT.                                             DO0030
 F65-FN.      EXIT.                                             DO0030
 F6999-ITER-FI.  GO TO F55.                                     DO0030
 F6999-ITER-FT.     EXIT.                                       DO0030
 F6999-FN.    EXIT.                                             DO0030
```

3.15. ERROR PROCESSING (F70)

F70: ERROR PROCESSING

The ERROR PROCESSING (F70) function is always generated.

Sub-function F7010 contains:

. in F7010-A, testing of DE-ERR, positioning of the error attributes, access to the error message file, and coding of the error message on the screen.

. in F7010-B, testing of T-XEMKY, access to the error message file, and coding of the error message on the screen.

Sub-function F7020 is generated if at least one variable field exists on the Screen Call of Elements (-CE).

This sub-function positions the attributes of the fields on the screen in display.

An 'invisible' field ('DARK' attribute) retains this attribute, even if it is erroneous (for ex., with passwords).

```
 F70.        EXIT.                                                  DO0030
*           ************************************                    DO0030
*           *                                  *                    DO0030
*           *  ERROR PROCESSING                *                    DO0030
*           *                                  *                    DO0030
*           ************************************                    DO0030
 F7010.     MOVE ZERO TO K01 K02 K04 MOVE 1 TO K03.                 DO0030
       MOVE LIBRA TO EM00-LIBRA MOVE PROGR TO EM00-PROGR            DO0030
       MOVE ZERO TO EM00-LINUM MOVE 'H' TO EM00-ENTYP.              DO0030
 F7010-A.   IF K02 = INR AND K03 < IRR MOVE INA TO K02              DO0030
       ADD 1 TO K03. ADD 1 TO K01 K02.                              DO0030
       IF DE-ER (K01) > '1' OR < '0' MOVE 'Y' TO DE-AT (4, K01)     DO0030
       MOVE 'N' TO DE-AT (1, K01)                                   DO0030
       MOVE 'N' TO DE-AT (2, K01)                                   DO0030
       MOVE 'W' TO DE-AT (3, K01)                                   DO0030
          IF K04 < IER MOVE DE-ER (K01) TO EM00-ERTYP               DO0030
       MOVE K02 TO EM00-ERCOD9 MOVE EM00-XEMKY TO EM00-ERMSG        DO0030
       PERFORM F80-EM00-R THRU F80-FN ADD 1 TO K04                  DO0030
       MOVE  EM00-ERMSG  TO    O-0030-ERMSG (K04).                  DO0030
       IF K01 < INT      GO TO F7010-A.                             DO0030
       MOVE ZERO TO K50R.                                           DO0030
 F7010-B.                                                           DO0030
        ADD 1 TO K50R IF K50R > K50L OR K04 NOT < IER GO TO          DO0030
        F7010-FN. MOVE T-XEMKY (K50R) TO EM00-XEMKY EM00-ERMSG      DO0030
        PERFORM F80-EM00-R THRU F80-FN. ADD 1 TO K04                DO0030
       MOVE  EM00-ERMSG  TO    O-0030-ERMSG (K04)                   DO0030
       GO TO F7010-B.                                               DO0030
 F7010-FN.    EXIT.                                                 DO0030
*           ************************************                    DO0030
*           *                                  *                    DO0030
*           *  POSITIONING OF ATTRIBUTES       *                    DO0030
*           *                                  *                    DO0030
*           ************************************                    DO0030
 F7020.                                                             DO0030
       TRANSFORM DE-ATT1 (1) FROM 'NBD' TO 'AIE'.                   DO0030
       MOVE  ZERO TO TALLY                                          DO0030
       EXAMINE DE-ATT1 (4) TALLYING UNTIL FIRST 'Y'.                DO0030
                   IF TALLY NOT <   0045                            DO0030
       MOVE ZERO TO TALLY                                           DO0030
       EXAMINE DE-ATT1 (4) TALLYING UNTIL FIRST 'Z'.                DO0030
                   IF TALLY NOT <   0045                            DO0030
       MOVE ZERO TO TALLY                                           DO0030
       EXAMINE DE-ATT1 (4) TALLYING UNTIL FIRST 'X'.                DO0030
                   IF TALLY NOT <   0045                            DO0030
       MOVE ZERO TO TALLY.                                          DO0030
       MOVE LOW-VALUE TO DE-ATT1 (4) ADD 1 TO TALLY                 DO0030
       MOVE S-WWSS-CURS TO DE-AT (4, TALLY).                        DO0030
 F7020-A.                                                           DO0030
       MOVE  A-0030-MATE   (1)  TO   Y-0030-MATE.                   DO0030
       MOVE  A-0030-MATE   (4 )  TO                                 DO0030
             X-0030-MATE.                                           DO0030
       MOVE  A-0030-RELEA  (1)  TO   Y-0030-RELEA.                  DO0030
       MOVE  A-0030-RELEA  (4 )  TO                                 DO0030
             X-0030-RELEA.                                          DO0030
       MOVE  A-0030-RUE    (1)  TO   Y-0030-RUE.                    DO0030
       MOVE  A-0030-RUE    (4 )  TO                                 DO0030
             X-0030-RUE.                                            DO0030
       MOVE  A-0030-COPOS  (1)  TO   Y-0030-COPOS.                  DO0030
       MOVE  A-0030-COPOS  (4 )  TO                                 DO0030
             X-0030-COPOS.                                          DO0030
       MOVE  A-0030-REFCLI (1)  TO   Y-0030-REFCLI.                 DO0030
       MOVE  A-0030-REFCLI (4 )  TO                                 DO0030
             X-0030-REFCLI.                                         DO0030
       MOVE  A-0030-DATE   (1)  TO   Y-0030-DATE.                   DO0030
       MOVE  A-0030-DATE   (4 )  TO                                 DO0030
             X-0030-DATE.                                           DO0030
       MOVE  A-0030-CORRES (1)  TO   Y-0030-CORRES.                 DO0030
       MOVE  A-0030-CORRES (4 )  TO                                 DO0030
             X-0030-CORRES.                                         DO0030
       MOVE  A-0030-REMIS  (1)  TO   Y-0030-REMIS.                  DO0030
       MOVE  A-0030-REMIS  (4 )  TO                                 DO0030
             X-0030-REMIS.                                          DO0030
       MOVE ZERO TO ICATR.                                          DO0030
 F7020-R.   ADD 1 TO ICATR                                          DO0030
       MOVE  P-0030-LINE   (ICATR)    TO                            DO0030
             O-0030-LINE                                            DO0030
       MOVE  B-0030-LINE   (1, ICATR) TO                            DO0030
```

```
            A-0030-LINE   (1)                                  DO0030
          MOVE  B-0030-LINE   (4, ICATR) TO                    DO0030
            A-0030-LINE   (4)                                  DO0030
          MOVE  A-0030-CODMVT (1)  TO   Y-0030-CODMVT.         DO0030
          MOVE  A-0030-CODMVT (4 )  TO                         DO0030
            X-0030-CODMVT.                                     DO0030
          MOVE  A-0030-FOURNI (1)  TO   Y-0030-FOURNI.         DO0030
          MOVE  A-0030-FOURNI (4 )  TO                         DO0030
            X-0030-FOURNI.                                     DO0030
          MOVE  A-0030-QTMAC  (1)  TO   Y-0030-QTMAC.          DO0030
          MOVE  A-0030-QTMAC  (4 )  TO                         DO0030
            X-0030-QTMAC.                                      DO0030
          MOVE  A-0030-INFOR  (1)  TO   Y-0030-INFOR.          DO0030
          MOVE  A-0030-INFOR  (4 )  TO                         DO0030
            X-0030-INFOR.                                      DO0030
          MOVE  O-0030-LINE             TO                   DO0030
            P-0030-LINE   (ICATR)                              DO0030
          IF ICATR < IRR GO TO F7020-R.                        DO0030
      F7020-Z.                                                 DO0030
          MOVE  A-0030-EDIT   (1)  TO   Y-0030-EDIT.           DO0030
          MOVE  A-0030-EDIT   (4 )  TO                         DO0030
            X-0030-EDIT.                                       DO0030
      F7020-FN.    EXIT.                                       DO0030
      F70-FN.      EXIT.                                       DO0030
      END-OF-DISPLAY.    EXIT.                                 DO0030
```

3.16. DISPLAY AND END OF PROGRAM (F8Z)

F8Z: DISPLAY AND END OF PROGRAM

The DISPLAY AND END-OF-PROGRAM (F8Z) function is always generated.

Sub-function F8Z05 is generated if a documentation HELP character has been entered on the Screen Definition screen.

It ensures the memorization of the screen fields.

Sub-function F8Z10 contains the moves of the information needed by the monitor for display of the MOD:

. it loads the length and name of the MOD,

. during the first iteration (if SCR-ER = 1), it backs up the name of the program used in the SPA; the variables positioned in F0110 can be stored, and the validations processed when these variables are set to '1'.

If it involves an initial display, it carries out a PERFORM of the F7020 (positionning of the attributes) after taking cursor placement into account (in conjunction with F0110).

Sub-function F8Z20 contains the end of the program.

. If no branching was performed (OPER not = '0') the same program is executed.

. The Operation Code is saved in the COMMUNICATION-MONITOR Area.

. Return to the EXIT of the monitor 'F2899' (refer to Chapter "GENERATED MONITOR").

```
 F8Z.         EXIT.                                              DO0030
 F8Z05.   IF SCR-ER = '1'                                        DO0030
        NEXT SENTENCE ELSE GO TO F8Z05-FN.                       DO0030
          IF K-S0030-DOC NOT = '2'                               DO0030
         AND K-S0030-DOC NOT = '3'     GO TO F8Z05-A.            DO0030
        MOVE '1' TO K-S0030-DOC                                  DO0030
        MOVE K-S0030-ERCOD9 TO K01 K02.                          DO0030
        IF K02 > INR                                             DO0030
        COMPUTE K02 = K01 + (INR - INA) * (IRR - 1).             DO0030
        IF K02 < 1 OR K02 > INT MOVE 1 TO K02.                   DO0030
        MOVE 'X'  TO DE-AT (4, K02)                              DO0030
        PERFORM F7020 THRU F7020-FN.                             DO0030
 F8Z05-A.                                                        DO0030
          IF K-S0030-DOC = ZERO                                  DO0030
        MOVE '1' TO K-S0030-DOC                                  DO0030
        PERFORM F80-HELP-D  THRU F80-FN                          DO0030
        PERFORM F80-HELP-W  THRU F80-FN  GO TO F8Z05-FN.          DO0030
          IF K-S0030-DOC = '1'                                   DO0030
        PERFORM F80-HELP-RW THRU F80-FN.                         DO0030
 F8Z05-FN.    EXIT.                                              DO0030
*           ************************************                 DO0030
*           *                                  *                 DO0030
*           *  DISPLAY                         *                 DO0030
*           *                                  *                 DO0030
*           ************************************                 DO0030
 F8Z10.                                                          DO0030
        IF SCR-ER  NOT > '1'                                     DO0030
        AND DE-AT (4, 009) = 'X'                                 DO0030
        PERFORM F7020 THRU F7020-FN.                             DO0030
     MOVE     L-0030    TO            O-0030L.                   DO0030
            MOVE          'OIMD3M   '   TO                       DO0030
                 S-WWSS-XIMOD.                                   DO0030
        IF SCR-ER NOT > '1'                                      DO0030
        MOVE PROGR     TO          K-S0030-PROGR                 DO0030
        PERFORM F8125 THRU F8125-FN                              DO0030
        MOVE 0 TO S-WWSS-SCR-ER.                                 DO0030
        IF SCR-ER > '1'                                          DO0030
        MOVE 1 TO S-WWSS-SCR-ER.                                 DO0030
 F8Z10-FN.    EXIT.                                              DO0030
*           ************************************                 DO0030
*           *                                  *                 DO0030
*           *  END OF PROGRAM                  *                 DO0030
*           *                                  *                 DO0030
*           ************************************                 DO0030
 F8Z20.                                                          DO0030
      MOVE  'IMD030P '  TO S-WWSS-PROGE.                         DO0030
        MOVE OPER TO S-WWSS-OPER GOBACK.                         DO0030
 F8Z20-FN.    EXIT.                                              DO0030
 F8Z-FN.      EXIT.                                              DO0030
```

3.17. PHYSICAL SEGMENT ACCESS ROUTINES (F80)

F80: PHYSICAL SEGMENT ACCESS ROUTINES

The PHYSICAL SEGMENT ACCESS ROUTINES (F80) function is generated when at least one segment is defined for the screen.

It contains the physical accesses to the segments.

These procedures depend on the access method to the segments in use.

The coding for these access sub-functions is illustrated in the following example. The segment code in the program in this example is CD20.

```
F80-CD20-R   Direct read.                        'GU'

F80-CD20-RU  Direct read with update.          'GHU'

F80-CD20-P   Positioning of a sequential read.  'GU'
             (DL/1 operator: '>=')

F80-CD20-RN  Sequential read.                   'GN'

F80-CD20-W   Write.                            'ISRT'

F80-CD20-RW  Rewrite.                          'REPL'

F80-CD20-D   Deletion.                         'DLET'

F80-CD20-UN  Unlocking of record (except for DL1).
```

If a documentation call is entered on the Screen Definition screen, the labels of the following sub-functions are generated. However, the user has to manually code these sub-functions.

```
F80-HELP-W   Write.

F80-HELP-RW  Rewrite.

F80-HELP-R   Direct read.

F80-HELP-D   Deletion.
```

If the user is programming the access methods, see Chapter "USE OF STRUCTURED CODE" in the OLSD Reference Manual specific to your environment.

```
*           ************************************                DO0030
*           *                                  *                DO0030
*           *  PHYSICAL SEGMENT ACCESS ROUTINES *                DO0030
*           *                                  *                DO0030
*           ************************************                DO0030
 F80.         EXIT.                                             DO0030
 F80-CD05-R.                                                    DO0030
        MOVE 'GU'   TO S-WPCB-XFONC   GO TO F80-CD05-1.         DO0030
 F80-CD05-RU.                                                   DO0030
        MOVE 'GHU'  TO S-WPCB-XFONC   GO TO F80-CD05-1.         DO0030
 F80-CD05-RW.                                                   DO0030
        MOVE 'REPL' TO S-WPCB-XFONC   GO TO F80-CD05-3.         DO0030
 F80-CD05-UN.                                                   DO0030
          GO TO F80-OK.                                         DO0030
 F80-CD05-1.                                                    DO0030
                CALL 'CBLTDLI'  USING                           DO0030
                   S-WPCB-XFONC S-DBDCDE     CD05             DO0030
                                S-CDU05-SSA                     DO0030
              MOVE  ' ='    TO        S-CDU05-OPER            DO0030
        MOVE S-DBDCDE     TO S-SPCB    GO TO F80-ER.          DO0030
 F80-CD05-3.    CALL 'CBLTDLI'  USING                           DO0030
                   S-WPCB-XFONC S-DBDCDE     CD05             DO0030
        MOVE S-DBDCDE     TO S-SPCB    GO TO F80-ER.          DO0030
 F8001-FN.    EXIT.                                             DO0030
 F80-CD10-R.                                                    DO0030
        MOVE 'GU'   TO S-WPCB-XFONC   GO TO F80-CD10-1.         DO0030
 F80-CD10-RU.                                                   DO0030
        MOVE 'GHU'  TO S-WPCB-XFONC   GO TO F80-CD10-1.         DO0030
 F80-CD10-P.                                                    DO0030
              MOVE  GREQ    TO        S-CDU10-OPER            DO0030
        MOVE 'GU'   TO S-WPCB-XFONC   GO TO F80-CD10-1.         DO0030
 F80-CD10-RN.                                                   DO0030
        MOVE 'GN'   TO S-WPCB-XFONC   GO TO F80-CD10-2.         DO0030
 F80-CD10-W.                                                    DO0030
        MOVE 'ISRT' TO S-WPCB-XFONC   GO TO F80-CD10-2.         DO0030
 F80-CD10-RW.                                                   DO0030
        MOVE 'REPL' TO S-WPCB-XFONC   GO TO F80-CD10-3.         DO0030
 F80-CD10-D.                                                    DO0030
        MOVE 'DLET' TO S-WPCB-XFONC   GO TO F80-CD10-3.         DO0030
 F80-CD10-UN.                                                   DO0030
          GO TO F80-OK.                                         DO0030
 F80-CD10-1.                                                    DO0030
                CALL 'CBLTDLI'  USING                           DO0030
                   S-WPCB-XFONC S-DBDCDE     CD10             DO0030
                                S-CDU05-SSA                     DO0030
                                S-CDU10-SSA                     DO0030
              MOVE  ' ='    TO        S-CDU10-OPER            DO0030
        MOVE S-DBDCDE     TO S-SPCB    GO TO F80-ER.          DO0030
 F80-CD10-2.                                                    DO0030
                CALL 'CBLTDLI'  USING                           DO0030
                   S-WPCB-XFONC S-DBDCDE     CD10             DO0030
                                S-CDU05-SSA                     DO0030
                                 S-CD10-SSA                     DO0030
        MOVE S-DBDCDE     TO S-SPCB    GO TO F80-ER.          DO0030
 F80-CD10-3.    CALL 'CBLTDLI'  USING                           DO0030
                   S-WPCB-XFONC S-DBDCDE     CD10             DO0030
        MOVE S-DBDCDE     TO S-SPCB    GO TO F80-ER.          DO0030
 F8002-FN.    EXIT.                                             DO0030
 F80-CD20-RU.                                                   DO0030
        MOVE 'GHU'  TO S-WPCB-XFONC   GO TO F80-CD20-1.         DO0030
 F80-CD20-W.                                                    DO0030
        MOVE 'ISRT' TO S-WPCB-XFONC   GO TO F80-CD20-2.         DO0030
 F80-CD20-RW.                                                   DO0030
        MOVE 'REPL' TO S-WPCB-XFONC   GO TO F80-CD20-3.         DO0030
 F80-CD20-UN.                                                   DO0030
          GO TO F80-OK.                                         DO0030
 F80-CD20-1.                                                    DO0030
                CALL 'CBLTDLI'  USING                           DO0030
                   S-WPCB-XFONC S-DBDCDE     CD20             DO0030
                                S-CDU05-SSA                     DO0030
                                S-CDU20-SSA                     DO0030
              MOVE  ' ='    TO        S-CDU20-OPER            DO0030
        MOVE S-DBDCDE     TO S-SPCB    GO TO F80-ER.          DO0030
 F80-CD20-2.                                                    DO0030
                CALL 'CBLTDLI'  USING                           DO0030
                   S-WPCB-XFONC S-DBDCDE     CD20             DO0030
                                S-CDU05-SSA                     DO0030
```

```
                                S-CD20-SSA                          DO0030
       MOVE S-DBDCDE     TO S-SPCB    GO TO F80-ER.                DO0030
F80-CD20-3.    CALL 'CBLTDLI'  USING                                DO0030
                  S-WPCB-XFONC S-DBDCDE     CD20                   DO0030
       MOVE S-DBDCDE     TO S-SPCB    GO TO F80-ER.                DO0030
F8003-FN.    EXIT.                                                  DO0030
F80-FO10-RU.                                                        DO0030
       MOVE 'GHU'  TO S-WPCB-XFONC   GO TO F80-FO10-1.              DO0030
F80-FO10-RW.                                                        DO0030
       MOVE 'REPL' TO S-WPCB-XFONC   GO TO F80-FO10-3.              DO0030
F80-FO10-UN.                                                        DO0030
         GO TO F80-OK.                                              DO0030
F80-FO10-1.                                                         DO0030
               CALL 'CBLTDLI'  USING                                DO0030
                  S-WPCB-XFONC S-DBDFOU     FO10                   DO0030
                               S-FOU10-SSA                          DO0030
             MOVE  ' ='    TO        S-FOU10-OPER                  DO0030
       MOVE S-DBDFOU     TO S-SPCB    GO TO F80-ER.                DO0030
F80-FO10-3.    CALL 'CBLTDLI'  USING                                DO0030
                  S-WPCB-XFONC S-DBDFOU     FO10                   DO0030
       MOVE S-DBDFOU     TO S-SPCB    GO TO F80-ER.                DO0030
F8004-FN.    EXIT.                                                  DO0030
F80-ME00-R.                                                         DO0030
       MOVE 'GU'   TO S-WPCB-XFONC   GO TO F80-ME00-1.              DO0030
F80-ME00-1.                                                         DO0030
               CALL 'CBLTDLI'  USING                                DO0030
                  S-WPCB-XFONC S-DBDMES     ME00                   DO0030
                               S-MEU00-SSA                          DO0030
             MOVE  ' ='    TO        S-MEU00-OPER                  DO0030
       MOVE S-DBDMES     TO S-SPCB    GO TO F80-ER.                DO0030
F8006-FN.    EXIT.                                                  DO0030
F80-ER. IF S-SPCB-XCORET NOT = '  ' AND 'GE' AND 'GA'               DO0030
       AND 'GK' AND 'GB' AND 'II' AND 'GG'                          DO0030
       GO TO F81ER. IF S-SPCB-XCORET = SPACE GO TO F80-OK           DO0030
       ELSE GO TO F80-KO.                                           DO0030
*            +-----------------------------------+                  P000
* LEVEL 10   I ACCESS TO HELP DATABASE           I                  P000
*            +-----------------------------------+                  P000
F8095.       EXIT.                                                  P000
F80-HELP-R.                                                         P200
    MOVE        'GU' TO S-WPCB-XFONC                                P210
    MOVE        S-IPCB-XNMTE TO                                     P220
                S-HEU10-CLE                                         P225
    CALL        'CBLTDLI' USING                                     P230
                S-WPCB-XFONC S-DBDHEL                               P240
                HE10 S-HEU10-SSA                                    P250
    MOVE        ' =' TO S-HEU10-OPER                                P260
    MOVE        S-DBDHEL TO S-SPCB                                  P270
    MOVE        HE10-XZONE TO OUTPUT-SCREEN-FIELDS                  P280
    GO TO F80-ER.                                                   P290
F80-HELP-W.                                                         P300
    MOVE        'ISRT' TO S-WPCB-XFONC                              P310
    MOVE        S-IPCB-XNMTE TO                                     P320
                S-HEU10-CLE HE10-CLE                                P325
    MOVE        OUTPUT-SCREEN-FIELDS TO HE10-XZONE                  P330
    CALL        'CBLTDLI' USING                                     P340
                S-WPCB-XFONC S-DBDHEL                               P350
                HE10 S-HE10-SSA                                     P360
    MOVE        S-DBDHEL TO S-SPCB                                  P370
    GO TO F80-ER.                                                   P380
F80-HELP-RW.                                                        P500
    MOVE        'GHU' TO S-WPCB-XFONC                               P510
    MOVE        S-IPCB-XNMTE TO                                     P520
                S-HEU10-CLE                                         P525
    CALL        'CBLTDLI' USING                                     P530
                S-WPCB-XFONC S-DBDHEL                               P540
                HE10 S-HEU10-SSA                                    P550
    MOVE        ' =' TO S-HEU10-OPER                                P560
    MOVE        S-DBDHEL TO S-SPCB.                                 P570
          IF    S-SPCB-XCORET NOT = '  '                            P580
          AND   'GE' AND 'GA' AND 'GK'                              P590
          AND   'GB' AND 'II'                                       P600
    GO TO F81ER.                                                    P580
          IF    S-SPCB-XCORET NOT = SPACE                           P610
    GO TO F80-KO.                                                   P610
    MOVE        'REPL' TO S-WPCB-XFONC                              P620
    MOVE        OUTPUT-SCREEN-FIELDS TO HE10-XZONE                  P630
```

```
       CALL        'CBLTDLI' USING                                  P640
                   S-WPCB-XFONC S-DBDHEL HE10                       P650
       MOVE        S-DBDHEL TO S-SPCB                               P660
       GO TO F80-ER.                                                P670
   F80-HELP-D.                                                      P700
       MOVE        'GHU' TO S-WPCB-XFONC                            P710
       MOVE        S-IPCB-XNMTE TO                                  P720
                   S-HEU10-CLE                                      P725
       CALL        'CBLTDLI' USING                                  P730
                   S-WPCB-XFONC S-DBDHEL                            P740
                   HE10 S-HEU10-SSA                                 P750
       MOVE        ' =' TO S-HEU10-OPER                             P760
       MOVE        S-DBDHEL TO S-SPCB.                              P770
             IF    S-SPCB-XCORET NOT = '  '                         P780
             AND   'GE' AND 'GA' AND 'GK'                           P790
             AND   'GB' AND 'II'                                    P800
       GO TO F81ER.                                                 P780
             IF    S-SPCB-XCORET NOT = SPACE                        P810
       GO TO F80-KO.                                                P810
       MOVE        'DLET' TO S-WPCB-XFONC                           P820
       CALL        'CBLTDLI' USING                                  P830
                   S-WPCB-XFONC S-DBDHEL                            P840
                   HE10                                             P850
       MOVE        S-DBDHEL TO S-SPCB                               P870
       GO TO F80-ER.                                                P880
   F8095-FN.    EXIT.                                               P000
   F80-EM00-R.  MOVE EM00-EMKEY TO S-EMU00-EMKEY.                   DO0030
       MOVE 'GU' TO S-WPCB-XFONC CALL 'CBLTDLI' USING S-WPCB-XFONC  DO0030
                                 S-DBDLER   EM00 S-EMU00-SSA        DO0030
       MOVE S-DBDLER   TO S-SPCB GO TO F80-ER.                      DO0030
   F8098-FN.    EXIT.                                               DO0030
   F80-OK.  MOVE '0' TO IK MOVE PROGR TO XPROGR GO TO F80-FN.       DO0030
   F80-KO.  MOVE '1' TO IK MOVE PROGR TO XPROGR.                    DO0030
   F8099-FN.    EXIT.                                               DO0030
   F80-FN.      EXIT.                                               DO0030
```

3.18. PERFORMED VALIDATION FUNCTIONS (F81)

F81: PERFORMED VALIDATION FUNCTIONS

The PERFORMED VALIDATION FUNCTIONS (F81) function is always generated.

The F81ER sub-function contains the procedure to be executed in case of an abnormal DL/1 return code, which prevents the continuity of the procedures (examples: AC, AD, AI, AJ, etc.).

NOTE: The DL/1 return codes tested in F80-ER do not prevent the normal processing of the program. Therefore, they should be tested by the user (S-SPCB-XCORET) if they contain specific processing.

The F81UT sub-function contains the memorization of user errors.

The F8110 sub-function is generated when a numeric field exists on the screen.

This function contains the procedures which format the field to be validated in the work area, the numeric class validation, any positioning of error messages, and the formatting of the area for the next display.

The F8115 sub-function insures the initialization of the variables according to the initialization character indicated on the Dialogue or Screen Definition, and/or according to the initialization values indicated at the data element level.

The F8120 sub-function is generated if at least one variable data element (NATURE = 'V') on the screen contains a 'DATE' format.
It is also generated if the 'AD' operator is used in the program.

Sub-function F8125 is generated if the chosen generation option is 'OFF'. It ensures the transfer of screen's variable fields to the memorization fields.

Sub-function F8130 is generated if a documentation HELP character is entered on the Screen Definition. It prepares the field to be backed-up.

Sub-function F8135 is generated if the chosen generation option is 'OFF'. It ensures that the fields in reception are filled in.

Sub-function F8140 contains the cursor position calculation for the screen.

```
 F81.         EXIT.                                              DO0030
*             ************************************               DO0030
*             *                                  *               DO0030
*             *  ABNORMAL END PROCEDURE          *               DO0030
*             *                                  *               DO0030
*             ************************************               DO0030
 F81ER.                                                          DO0030
        MOVE 'X' TO S-WWSS-OPER GOBACK.                          DO0030
 F81ER-FN.    EXIT.                                              DO0030
*             ************************************               DO0030
*             *                                  *               DO0030
*             *  MEMORIZATION OF USER'S ERRORS   *               DO0030
*             *                                  *               DO0030
*             ************************************               DO0030
 F81UT.      IF K50L < K50M ADD 1 TO K50L                        DO0030
        MOVE XEMKY TO T-XEMKY (K50L). MOVE 'E' TO CAT-ER.        DO0030
 F81UT-FN.    EXIT.                                              DO0030
*             ************************************               DO0030
*             *                                  *               DO0030
*             *  NUMERIC VALIDATION              *               DO0030
*             *                                  *               DO0030
*             ************************************               DO0030
 F8110.   MOVE ZERO TO TPOINT K01 K02 K03 ZONUM3 ZONUM2          DO0030
                    C9 C91.                                      DO0030
 F8110-1.   IF K01 > 26 OR K02 > 17 GO TO F8110-5.               DO0030
        ADD 1 TO K01.                                            DO0030
        IF C1 (K01) = SPACE OR C1 (K01) = '.' GO TO F8110-1.     DO0030
      IF C1 (K01) NOT = '-' AND C1 (K01) NOT = '+' GO TO F8110-2. DO0030
        IF C9 NOT = ZERO                                         DO0030
        MOVE '5' TO DEL-ER GO TO F8110-FN.                       DO0030
        IF K02 = ZERO MOVE '1' TO C91.                           DO0030
        IF C1 (K01) = '+' MOVE 1 TO C9   GO TO F8110-1.          DO0030
        IF SIGNE = ' ' MOVE '5' TO DEL-ER GO TO F8110-FN.        DO0030
        MOVE -1 TO C9 GO TO F8110-1.                             DO0030
 F8110-2. IF C1 (K01) NOT = ',' GO TO F8110-4.                   DO0030
        IF TPOINT = '1' OR NBCHP = 0                             DO0030
        MOVE '5' TO DEL-ER GO TO F8110-FN.                       DO0030
 F8110-3. IF K02 > NBCHA MOVE '5' TO DEL-ER GO TO F8110-FN.      DO0030
        COMPUTE K04 = 18 - NBCHA + K02 MOVE 1 TO C3 (K04)        DO0030
        DIVIDE ZONUM4 INTO ZONUM9 MOVE NBCHA TO K02              DO0030
        MOVE '1' TO TPOINT GO TO F8110-1.                        DO0030
 F8110-4. IF C1 (K01) NOT NUMERIC MOVE '4' TO DEL-ER             DO0030
        GO TO F8110-FN.                                          DO0030
        IF C9 NOT = ZERO AND C91 = ZERO                          DO0030
        MOVE '5' TO DEL-ER  GO TO F8110-FN.                      DO0030
        IF C1 (K01) = '0' AND K02 = ZERO AND TPOINT = '0'        DO0030
        GO TO F8110-1. ADD 1 TO K02 MOVE C1 (K01) TO C2 (K02).   DO0030
        IF TPOINT = '1' ADD 1 TO K03. IF K03 > NBCHP MOVE '5'    DO0030
        TO DEL-ER GO TO F8110-FN. GO TO F8110-1.                 DO0030
 F8110-5. IF TPOINT = '0' AND K02 > ZERO GO TO F8110-3.          DO0030
        IF SIGNE NOT =  '+' GO TO F8110-FN.                      DO0030
        IF C9 = ZERO MOVE 1 TO C9.                               DO0030
        ADD NBCHA NBCHP GIVING K01 MULTIPLY C9 BY C29 (K01).     DO0030
        IF C29 (K01) = ZERO AND C9 = -1 MOVE C4 TO C2 (K01).     DO0030
 F8110-FN.    EXIT.                                              DO0030
 F8115.                                                          DO0030
        MOVE '..__..'                                            DO0030
          TO  O-0030-DATE.                                       DO0030
        MOVE  ZERO  TO  ICATR.                                   DO0030
 F8115-GRP.   ADD 1 TO  ICATR                                    DO0030
        MOVE  P-0030-LINE  (ICATR) TO O-0030-LINE                DO0030
        MOVE  O-0030-LINE          TO P-0030-LINE  (ICATR).      DO0030
     IF ICATR  < IRR GO TO F8115-GRP.                            DO0030
 F8115-FN.    EXIT.                                              DO0030
*             ************************************               DO0030
*             *                                  *               DO0030
*             *  VALIDATION AND SETTING OF DATE  *               DO0030
*             *                                  *               DO0030
*             ************************************               DO0030
 F8120.       EXIT.                                              DO0030
 F8120-C. MOVE DAT73C TO DATCTY.                                 DO0030
          MOVE DAT71C TO DAT71.                                  DO0030
          MOVE DAT72C TO DAT72.                                  DO0030
          MOVE DAT74C TO DAT73.                                  DO0030
          MOVE '00111' TO TT-DAT GO TO F8120-T.                  DO0030
 F8120-D. MOVE CENTUR TO DATCTY DAT73C.                          DO0030
          MOVE DAT71 TO DAT71C.                                  DO0030
```

```
           MOVE DAT72 TO DAT72C                                        DO0030
           MOVE DAT73 TO DAT74C.                                       DO0030
           MOVE '00111' TO TT-DAT GO TO F8120-T.                       DO0030
   F8120-E. MOVE CENTUR TO DATCTY DAT83C.                              DO0030
           MOVE DAT81 TO DAT81C.                                       DO0030
           MOVE DAT82 TO DAT82C.                                       DO0030
           MOVE DAT83 TO DAT84C  MOVE DATSEP TO DAT8S1C DAT8S2C.       DO0030
           MOVE '01011' TO TT-DAT GO TO F8120-T.                       DO0030
   F8120-G. MOVE DAT81G TO DATCTY.                                     DO0030
           MOVE DAT82G TO DAT61.                                       DO0030
           MOVE DAT83G TO DAT62.                                       DO0030
           MOVE DAT84G TO DAT63.                                       DO0030
           MOVE '10110' TO TT-DAT GO TO F8120-T.                       DO0030
   F8120-I. MOVE CENTUR TO DATCTY DAT61C.                              DO0030
           MOVE DAT61 TO DAT62C.                                       DO0030
           MOVE DAT62 TO DAT63C.                                       DO0030
           MOVE DAT63 TO DAT64C.                                       DO0030
           MOVE '10101' TO TT-DAT GO TO F8120-T.                       DO0030
   F8120-M. MOVE DAT83C TO DATCTY.                                     DO0030
           MOVE DAT81C TO DAT81.                                       DO0030
           MOVE DAT82C TO DAT82.                                       DO0030
           MOVE DAT84C TO DAT83  MOVE DATSEP TO DAT8S1 DAT8S2.         DO0030
           MOVE '01011' TO TT-DAT GO TO F8120-T.                       DO0030
   F8120-S. MOVE DAT61C TO DATCTY.                                     DO0030
           MOVE DAT62C TO DAT61.                                       DO0030
           MOVE DAT63C TO DAT62.                                       DO0030
           MOVE DAT64C TO DAT63.                                       DO0030
           MOVE '10101' TO TT-DAT.                                     DO0030
   F8120-T. IF T-DAT (1) = '1'                                         DO0030
              MOVE DAT61 TO DAT73 DAT74C                               DO0030
              MOVE DAT62 TO DAT72 DAT72C                               DO0030
              MOVE DAT63 TO DAT71 DAT71C                               DO0030
              MOVE DATCTY TO DAT73C.                                   DO0030
           IF T-DAT (2) = '1'                                          DO0030
              MOVE DAT81 TO DAT71 DAT71C                               DO0030
              MOVE DAT82 TO DAT72 DAT72C                               DO0030
              MOVE DAT83 TO DAT73 DAT74C                               DO0030
              MOVE DATCTY TO  DAT73C.                                  DO0030
           IF T-DAT (3) = '1'                                          DO0030
              MOVE DAT71 TO DAT81 DAT81C                               DO0030
              MOVE DAT72 TO DAT82 DAT82C                               DO0030
              MOVE DAT73 TO DAT83 DAT84C                               DO0030
              MOVE DATSEP TO DAT8S1 DAT8S2 DAT8S1C DAT8S2C             DO0030
              MOVE DATCTY TO DAT83C.                                   DO0030
           IF T-DAT (4) = '1'                                          DO0030
              MOVE DAT71 TO DAT63 DAT64C                               DO0030
              MOVE DAT72 TO DAT62 DAT63C                               DO0030
              MOVE DAT73 TO DAT61 DAT62C                               DO0030
              MOVE DATCTY TO DAT61C.                                   DO0030
           IF T-DAT (5) = '1'                                          DO0030
              MOVE DAT61 TO DAT82G                                     DO0030
              MOVE DAT62 TO DAT83G                                     DO0030
              MOVE DAT63 TO DAT84G                                     DO0030
              MOVE DATSET TO DAT8S1G DAT8S2G                           DO0030
              MOVE DATCTY TO DAT81G.                                   DO0030
   F8120-Z.     EXIT.                                                  DO0030
   F8120-ER.   MOVE '1'   TO DEL-ER.                                   DO0030
           IF DAT6 NOT NUMERIC               GO TO F8120-KO.           DO0030
           IF DATCTY NOT NUMERIC             GO TO F8120-KO.           DO0030
           IF DAT62 > '12' OR DAT62 = '00' OR                          DO0030
              DAT63 > '31' OR DAT63 = '00'    GO TO F8120-KO.          DO0030
           IF DAT63 > '30' AND                                         DO0030
             (DAT62 = '04' OR DAT62 = '06' OR                          DO0030
              DAT62 = '09' OR DAT62 = '11')   GO TO F8120-KO.          DO0030
           IF DAT62 NOT = '02'               GO TO F8120-FN.           DO0030
           IF DAT63 > '29'                   GO TO F8120-KO.           DO0030
           IF   DAT619  = ZERO                                         DO0030
           DIVIDE  DATCTY9    BY 4 GIVING  LEAP-REM                    DO0030
           COMPUTE LEAP-REM = DATCTY9 - 4 * LEAP-REM                   DO0030
           ELSE DIVIDE DAT619  BY 4 GIVING LEAP-REM                    DO0030
           COMPUTE LEAP-REM = DAT619 - 4 * LEAP-REM.                   DO0030
           IF DAT63 < '29' OR LEAP-REM = ZERO GO TO F8120-FN.          DO0030
   F8120-KO. MOVE '5' TO DEL-ER.                                       DO0030
   F8120-FN.    EXIT.                                                  DO0030
  *          ************************************                      DO0030
  *          *                                  *                      DO0030
  *          *  DISPLAY TRANSFER                *                      DO0030
```

```
*           *                                   *                DO0030
*           *************************************                DO0030
 F8125.                                                          DO0030
        MOVE  O-0030-MATE          TO T-0030-MATE                DO0030
        MOVE  O-0030-RELEA         TO T-0030-RELEA               DO0030
        MOVE  O-0030-RUE           TO T-0030-RUE                 DO0030
        MOVE  O-0030-COPOS         TO T-0030-COPOS               DO0030
        MOVE  O-0030-REFCLI        TO T-0030-REFCLI              DO0030
        MOVE  O-0030-DATE          TO T-0030-DATE                DO0030
        MOVE  O-0030-CORRES        TO T-0030-CORRES              DO0030
        MOVE  F-0030-REMIS         TO T-0030-REMIS               DO0030
        MOVE  ZERO  TO  ICATR.                                   DO0030
 F8125-GRP.   ADD 1 TO  ICATR                                    DO0030
        MOVE  P-0030-LINE  (ICATR) TO O-0030-LINE                DO0030
        MOVE  U-0030-LINE  (ICATR) TO T-0030-LINE                DO0030
        MOVE  O-0030-CODMVT        TO T-0030-CODMVT              DO0030
        MOVE  O-0030-FOURNI        TO T-0030-FOURNI              DO0030
        MOVE  F-0030-QTMAC         TO T-0030-QTMAC               DO0030
        MOVE  O-0030-INFOR         TO T-0030-INFOR               DO0030
        MOVE  T-0030-LINE          TO U-0030-LINE  (ICATR).      DO0030
     IF ICATR  < IRR GO TO F8125-GRP.                            DO0030
        MOVE  O-0030-EDIT          TO T-0030-EDIT.               DO0030
 F8125-FN.    EXIT.                                              DO0030
*           *************************************                DO0030
*           *                                   *                DO0030
*           *  HELP SUB-FUNCTION                *                DO0030
*           *                                   *                DO0030
*           *************************************                DO0030
 F8130.                                                          DO0030
        MOVE  I-0030-MATE          TO O-0030-MATE.               DO0030
        MOVE  I-0030-RELEA         TO O-0030-RELEA.              DO0030
        MOVE  I-0030-RUE           TO O-0030-RUE.                DO0030
        MOVE  I-0030-COPOS         TO O-0030-COPOS.              DO0030
        MOVE  I-0030-REFCLI        TO O-0030-REFCLI.             DO0030
        MOVE  I-0030-DATE          TO O-0030-DATE.               DO0030
        MOVE  I-0030-CORRES        TO O-0030-CORRES.             DO0030
        MOVE  E-0030-REMIS         TO F-0030-REMIS.              DO0030
        MOVE  ZERO  TO  ICATR.                                   DO0030
 F8130-GRP.   ADD 1 TO  ICATR                                    DO0030
        MOVE  J-0030-LINE  (ICATR) TO I-0030-LINE                DO0030
        MOVE  P-0030-LINE  (ICATR) TO O-0030-LINE                DO0030
        MOVE  I-0030-CODMVT        TO O-0030-CODMVT.             DO0030
        MOVE  I-0030-FOURNI        TO O-0030-FOURNI.             DO0030
        MOVE  E-0030-QTMAC         TO F-0030-QTMAC.              DO0030
        MOVE  I-0030-INFOR         TO O-0030-INFOR.              DO0030
        MOVE  O-0030-LINE          TO P-0030-LINE  (ICATR).      DO0030
     IF ICATR  < IRR GO TO F8130-GRP.                            DO0030
        MOVE  I-0030-EDIT          TO O-0030-EDIT.               DO0030
 F8130-FN.    EXIT.                                              DO0030
*           *************************************                DO0030
*           *                                   *                DO0030
*           *  RECEPTION TRANSFER               *                DO0030
*           *                                   *                DO0030
*           *************************************                DO0030
 F8135.                                                          DO0030
          IF  I-0030-MATE   = LOW-VALUE                          DO0030
        MOVE  T-0030-MATE          TO I-0030-MATE   ELSE         DO0030
        MOVE  I-0030-MATE          TO T-0030-MATE.               DO0030
          IF  I-0030-RELEA  = LOW-VALUE                          DO0030
        MOVE  T-0030-RELEA         TO I-0030-RELEA  ELSE         DO0030
        MOVE  I-0030-RELEA         TO T-0030-RELEA.              DO0030
          IF  I-0030-RUE    = LOW-VALUE                          DO0030
        MOVE  T-0030-RUE           TO I-0030-RUE    ELSE         DO0030
        MOVE  I-0030-RUE           TO T-0030-RUE.                DO0030
          IF  I-0030-COPOS  = LOW-VALUE                          DO0030
        MOVE  T-0030-COPOS         TO I-0030-COPOS  ELSE         DO0030
        MOVE  I-0030-COPOS         TO T-0030-COPOS.              DO0030
          IF  I-0030-REFCLI = LOW-VALUE                          DO0030
        MOVE  T-0030-REFCLI        TO I-0030-REFCLI ELSE         DO0030
        MOVE  I-0030-REFCLI        TO T-0030-REFCLI.             DO0030
          IF  I-0030-DATE   = LOW-VALUE                          DO0030
        MOVE  T-0030-DATE          TO I-0030-DATE   ELSE         DO0030
        MOVE  I-0030-DATE          TO T-0030-DATE.               DO0030
          IF  I-0030-CORRES = LOW-VALUE                          DO0030
        MOVE  T-0030-CORRES        TO I-0030-CORRES ELSE         DO0030
        MOVE  I-0030-CORRES        TO T-0030-CORRES.             DO0030
          IF  E-0030-REMIS  = LOW-VALUE                          DO0030
```

```
          MOVE  T-0030-REMIS         TO E-0030-REMIS  ELSE          DO0030
          MOVE  E-0030-REMIS         TO T-0030-REMIS.              DO0030
          MOVE  ZERO  TO  ICATR.                                   DO0030
    F8135-GRP.   ADD 1 TO  ICATR                                   DO0030
          MOVE  J-0030-LINE  (ICATR) TO I-0030-LINE                DO0030
          MOVE  U-0030-LINE  (ICATR) TO T-0030-LINE                DO0030
            IF  I-0030-CODMVT = LOW-VALUE                          DO0030
          MOVE  T-0030-CODMVT        TO I-0030-CODMVT ELSE         DO0030
          MOVE  I-0030-CODMVT        TO T-0030-CODMVT.             DO0030
            IF  I-0030-FOURNI = LOW-VALUE                          DO0030
          MOVE  T-0030-FOURNI        TO I-0030-FOURNI ELSE         DO0030
          MOVE  I-0030-FOURNI        TO T-0030-FOURNI.             DO0030
            IF  E-0030-QTMAC  = LOW-VALUE                          DO0030
          MOVE  T-0030-QTMAC         TO E-0030-QTMAC  ELSE         DO0030
          MOVE  E-0030-QTMAC         TO T-0030-QTMAC.              DO0030
            IF  I-0030-INFOR  = LOW-VALUE                          DO0030
          MOVE  T-0030-INFOR         TO I-0030-INFOR  ELSE         DO0030
          MOVE  I-0030-INFOR         TO T-0030-INFOR.              DO0030
          MOVE  I-0030-LINE          TO J-0030-LINE  (ICATR).      DO0030
          MOVE  T-0030-LINE          TO U-0030-LINE  (ICATR).      DO0030
        IF ICATR  < IRR GO TO F8135-GRP.                           DO0030
            IF  I-0030-EDIT   = LOW-VALUE                          DO0030
          MOVE  T-0030-EDIT          TO I-0030-EDIT   ELSE         DO0030
          MOVE  I-0030-EDIT          TO T-0030-EDIT.               DO0030
    F8135-FN.    EXIT.                                             DO0030
   *           ************************************                DO0030
   *           *                                  *                DO0030
   *           *  CURSOR POSITION                 *                DO0030
   *           *                                  *                DO0030
   *           ************************************                DO0030
    F8140.                                                         DO0030
          MOVE  I-CURPOS  TO  CURPOS                               DO0030
          COMPUTE CPOSN = ((CPOSL - 1 ) * 080 ) + CPOSC - 1.       DO0030
    F8140-FN.    EXIT.                                             DO0030
    F81-FN.      EXIT.                                             DO0030
```

3.19. USER CALLED FUNCTIONS (F93)

```
*            +-----------------------------------+              P000
* LEVEL 10    I ZIP CODE VALIDATION               I              P000
*            +-----------------------------------+              P000
 F93CP.                                                         P000
     MOVE 1 TO     IWP20R.                                      P100
 F93CP-100. IF     IWP20R NOT >    IWP20L                       P100
     AND             WP20-COPOS   (IWP20R)                      P100
     NOT =             WP30-COPOS                               P100
     ADD  1 TO     IWP20R    GO TO F93CP-100.                   P100
           IF    IWP20R > IWP20L                                 P200
     MOVE        '5' TO DEL-ER                                  P200
            GO TO F93CP-FN.                                     P220
 F93CP-FN.    EXIT.                                             DO0030
```

4. 'MONITOFF' OPTION

4.1. INTRODUCTION

INTRODUCTION

The MONITOFF option can be explained by the following formula:

ONE SCREEN = ONE LOAD MODULE = ONE PSB = ONE TRANSACTION.

With one monitor, a single PSB is coded. This implies that the segments making up the PSB be described in the same way in all the screens of a given dialogue.

In addition, no priority can be assigned to a given screen.

No monitor is generated with the MONITOFF option. For each screen, a PSB must be coded on the associated On-Line Screen General Documentation screen. Otherwise, it is the PSB coded at the dialogue level that is taken into account.

The PSB MUST include a "MODIFY=YES" ALTERNATE PCB so that branching is done screen-by-screen according to the "PROG- TO-PROG" method.

In the maps, the transaction code is generated only for the first screen of the dialogue.

Access to the dialogue is ensured either by entering the transaction code associated with the first screen, or by entering '/FOR' followed by the MOD name of the first screen. In the latter case, the user should enter all the required input fields before the ENTER key is pressed for the first time.

```
!                    IMS DB/DC APPLICATION                      *PDLB.NDOC.AIM.1!
! DIALOGUE COMPLEMENT....:  DO PACBASE DOCUMENTATION MANAG.                     !
!                                                                               !
!                                                                               !
! COMMON AREA-DATA STRUCTURE CODE.......: CA                                    !
!                                                                               !
! ERROR MESSAGE FILE CHARACTERISTICS                                            !
!                       ORGANIZATION....: D                                     !
!                       EXTERNAL NAME...: DBDLER                                !
!                                                                               !
! FIRST SCREEN CODE OF THE DIALOGUE.....: 0060                                  !
!                                                                               !
! COMPLEMENTARY COMMON AREA LENGTH......: 5000                                  !
!                                                                               !
! CODE OF PSB OR SUB-SCHEMA.............: PSBDOC                                 !
!                                                                               !
!                                                                               !
! OPTIONS : OCF REPET OFF MONITOFF                                              !
!                                                                               !
!                                                                               !
!                                                                               !
! SESSION NUMBER     : 0132  LIBRARY      : AIM                                 !
!                                                                               !
! O: C1 CH: Odo O                       ACTION:                                 !
```

4.2. EXAMPLE OF GENERATED PROGRAM

```
     IDENTIFICATION DIVISION.
     PROGRAM-ID. IMD030P.                                              DO0030
     AUTHOR.     ***  ORDER INPUT SCREEN  ***.                         DO0030
     DATE-COMPILED. 04/30/93.                                          DO0030
     ENVIRONMENT DIVISION.                                             DO0030
     CONFIGURATION SECTION.                                            DO0030
     SOURCE-COMPUTER. IBM-370.                                         DO0030
     OBJECT-COMPUTER. IBM-370.                                         DO0030
     SPECIAL-NAMES.                                                    DO0030
          DECIMAL-POINT IS COMMA.                                      DO0030
     INPUT-OUTPUT SECTION.                                             DO0030
     FILE-CONTROL.                                                     DO0030
     DATA DIVISION.                                                    DO0030
     FILE SECTION.                                                     DO0030
     WORKING-STORAGE SECTION.                                          DO0030
     01   WSS-BEGIN.                                                  DO0030
          05 FILLER PICTURE X(7) VALUE 'WORKING'.                      DO0030
          05 IK     PICTURE X.                                         DO0030
          05 BLANC  PICTURE X VALUE SPACE.                             DO0030
          05 OPER   PICTURE X.                                         DO0030
          05 OPERD  PICTURE X VALUE SPACE.                             DO0030
          05 CATX   PICTURE X.                                         DO0030
          05 CATM   PICTURE X.                                         DO0030
          05 ICATR  PICTURE 99.                                        DO0030
          05 SCR-ER PICTURE X.                                         DO0030
          05 FT     PICTURE X.                                         DO0030
          05 OCF    PICTURE X.                                         DO0030
          05 CAT-ER PICTURE X.                                         DO0030
          05 GREQ   PICTURE XX   VALUE '>='.                           DO0030
          05 CURPOS.                                                   DO0030
          10 CPOSL    PICTURE S9(4) COMPUTATIONAL.                     DO0030
          10 CPOSC    PICTURE S9(4) COMPUTATIONAL.                     DO0030
          05 CPOSN    PICTURE S9(4) COMPUTATIONAL.                     DO0030
          05 INA    PICTURE 999 VALUE 008.                             DO0030
          05 INR    PICTURE 999 VALUE 012.                             DO0030
          05 INZ    PICTURE 999 VALUE 013.                             DO0030
          05 IRR     PICTURE 99 VALUE 09.                              DO0030
          05 INT    PICTURE 999 VALUE 045.                             DO0030
          05 IER     PICTURE 99 VALUE 01.                              DO0030
          05 DEL-ER  PICTURE X.                                        DO0030
     01   PACBASE-CONSTANTS.                                           DO0030
     * OLSD DATES PACE30 : /02/93                                      DO0030
     *            PACE80 : 05/03/93   PAC7SG : 930225                  DO0030
          05 SESSI  PICTURE X(5) VALUE '0335 '.                        DO0030
          05 LIBRA  PICTURE X(3) VALUE 'AIM'.                          DO0030
          05 DATGN  PICTURE X(8) VALUE '04/30/93'.                     DO0030
          05 PROGR  PICTURE X(6) VALUE 'DO0030'.                       DO0030
          05 PROGE  PICTURE X(8) VALUE 'DOTRA   '.                     DO0030
          05 TIMGN  PICTURE X(8) VALUE '15:40:54'.                     DO0030
          05 USERCO PICTURE X(8) VALUE 'PDCL    '.                     DO0030
          05 PRDOC  PICTURE X(8) VALUE 'DO50'.                         DO0030
          05      5-0030-PROGE  PICTURE X(8).                         DO0030
     01   SERVICE-ATTRIBUTES.                                          DO0030
          05   7-3F-1   PICTURE S9(4) COMP VALUE +63.                 DO0030
          05   7-3F-2   REDEFINES 7-3F-1.                             DO0030
           10  FILLER   PICTURE X.                                    DO0030
           10  7-3F     PICTURE X.                                    DO0030
          05   7-CURS-1 PICTURE S9(4) COMP VALUE +192.                DO0030
          05   7-CURS-2 REDEFINES 7-CURS-1.                           DO0030
           10  FILLER   PICTURE X.                                    DO0030
           10  7-CURS   PICTURE X.                                    DO0030
          05   7-PROT-1 PICTURE S9(4) COMP VALUE +225.                DO0030
          05   7-PROT-2 REDEFINES 7-PROT-1.                           DO0030
           10  FILLER   PICTURE X.                                    DO0030
           10  7-PROT   PICTURE X.                                    DO0030
     01  DATCE.                                                       DO0030
       05  CENTUR   PICTURE XX VALUE '19'.                            DO0030
          05 DATOR.                                                    DO0030
          10 DATOA  PICTURE XX.                                        DO0030
          10 DATOM  PICTURE XX.                                        DO0030
          10 DATOJ  PICTURE XX.                                        DO0030
     01  DAT6.                                                        DO0030
```

```
        10 DAT61.                                                  DO0030
        15 DAT619 PICTURE 99.                                      DO0030
        10 DAT62.                                                  DO0030
        15 DAT629 PICTURE 99.                                      DO0030
        10 DAT63  PICTURE XX.                                      DO0030
    01  DAT7.                                                     DO0030
        10 DAT71  PICTURE XX.                                      DO0030
        10 DAT72  PICTURE XX.                                      DO0030
        10 DAT73  PICTURE XX.                                      DO0030
    01  DAT8.                                                     DO0030
        10 DAT81  PICTURE XX.                                      DO0030
        10 DAT8S1 PICTURE X.                                       DO0030
        10 DAT82  PICTURE XX.                                      DO0030
        10 DAT8S2 PICTURE X.                                       DO0030
        10 DAT83  PICTURE XX.                                      DO0030
    01  DATSEP     PICTURE X VALUE '/'.                           DO0030
    01  DATSET     PICTURE X VALUE '-'.                           DO0030
    01  DATCTY.                                                   DO0030
      05  DATCTY9  PICTURE 99.                                    DO0030
    01  DAT6C.                                                    DO0030
      10  DAT61C   PICTURE XX.                                    DO0030
      10  DAT62C   PICTURE XX.                                    DO0030
      10  DAT63C   PICTURE XX.                                    DO0030
      10  DAT64C   PICTURE XX.                                    DO0030
    01  DAT7C.                                                    DO0030
      10  DAT71C   PICTURE XX.                                    DO0030
      10  DAT72C   PICTURE XX.                                    DO0030
      10  DAT73C   PICTURE XX.                                    DO0030
      10  DAT74C   PICTURE XX.                                    DO0030
    01  DAT8C.                                                    DO0030
      10  DAT81C   PICTURE XX.                                    DO0030
      10  DAT8S1C  PICTURE X    VALUE '/'.                        DO0030
      10  DAT82C   PICTURE XX.                                    DO0030
      10  DAT8S2C  PICTURE X    VALUE '/'.                        DO0030
      10  DAT83C   PICTURE XX.                                    DO0030
      10  DAT84C   PICTURE XX.                                    DO0030
    01  DAT8G.                                                    DO0030
      10  DAT81G   PICTURE XX.                                    DO0030
      10  DAT82G   PICTURE XX.                                    DO0030
      10  DAT8S1G  PICTURE X    VALUE '-'.                        DO0030
      10  DAT83G   PICTURE XX.                                    DO0030
      10  DAT8S2G  PICTURE X    VALUE '-'.                        DO0030
      10  DAT84G   PICTURE XX.                                    DO0030
    01  TIMCO.                                                    DO0030
     02  TIMCOG.                                                  DO0030
       05  TIMCOH  PICTURE XX.                                    DO0030
       05  TIMCOM  PICTURE XX.                                    DO0030
       05  TIMCOS  PICTURE XX.                                    DO0030
      02 TIMCOC    PICTURE XX.                                   DO0030
    01  TIMDAY.                                                   DO0030
       05  TIMHOU  PICTURE XX.                                    DO0030
       05  TIMS1   PICTURE X    VALUE ':'.                        DO0030
       05  TIMMIN  PICTURE XX.                                    DO0030
       05  TIMS2   PICTURE X    VALUE ':'.                        DO0030
       05  TIMSEC  PICTURE XX.                                    DO0030
    01    CONFIGURATIONS.                                         DO0030
         05      CD05-CF      PICTURE X.                         DO0030
         05      CD10-CF      PICTURE X.                         DO0030
         05      CD20-CF      PICTURE X.                         DO0030
         05      FO10-CF      PICTURE X.                         DO0030
         05      HE10-CF      PICTURE X.                         DO0030
         05      ME00-CF      PICTURE X.                         DO0030
    01           L-0030        PICTURE S9(4) VALUE +932.        *AA050
    01           VARIABLES-GROUPE.                              *AA050
         02      T-0030-LINE.                                   *AA050
         05      T-0030-CODMVT PICTURE X(1).                    *AA050
         05      T-0030-FOURNI PICTURE X(3).                    *AA050
         05      T-0030-QTMAC  PICTURE X(2).                    *AA050
         05      T-0030-INFOR  PICTURE X(35).                   *AA050
    01           NUMERIC-FIELDS.                                *AA050
         05      9-0030-REMIS  PICTURE X(5) VALUE '+0402'.      *AA050
         05      9-0030-QTMAC  PICTURE X(5) VALUE ' 0200'.      *AA050
    01           VALIDATION-TABLE-FIELDS.                       *AA150
         02      DE-ERR.                                        *AA150
         05       DE-ER        PICTURE X                        *AA150
                        OCCURS 045.                             *AA150
         02      DE-E   REDEFINES DE-ERR.                       *AA150
```

```
      03     ER-0030-BEGIN.                                    *AA150
      05          ER-0030-MATE   PICTURE X.                    *AA150
      05          ER-0030-RELEA  PICTURE X.                    *AA150
      05          ER-0030-RUE    PICTURE X.                    *AA150
      05          ER-0030-COPOS  PICTURE X.                    *AA150
      05          ER-0030-REFCLI PICTURE X.                    *AA150
      05          ER-0030-DATE   PICTURE X.                    *AA150
      05          ER-0030-CORRES PICTURE X.                    *AA150
      05          ER-0030-REMIS  PICTURE X.                    *AA150
      03       PS-30-LINE   OCCURS 9.                          *AA150
      05      FILLER        PICTURE X(0004).                   *AA150
      03     ER-0030-END.                                      *AA150
      05          ER-0030-EDIT   PICTURE X.                    *AA150
      02     ER-0030-LINE.                                     *AA150
      05          ER-0030-CODMVT PICTURE X.                    *AA150
      05          ER-0030-FOURNI PICTURE X.                    *AA150
      05          ER-0030-QTMAC  PICTURE X.                    *AA150
      05          ER-0030-INFOR  PICTURE X.                    *AA150
   01 TT-DAT.                                                  *AA200
      05 T-DAT      PICTURE X OCCURS 5.                       *AA200
   01 LEAP-YEAR.                                               *AA200
      05 LEAP-FLAG  PICTURE X.                                 *AA200
      05 LEAP-REM   PICTURE 99.                                *AA200
   01 USERS-ERROR.                                             *AA200
      05 XEMKY.                                                *AA200
         10 XPROGR   PICTURE X(6).                             *AA200
         10 XERCD    PICTURE X(4).                             *AA200
      05 T-XEMKY     OCCURS       01.                          *AA200
         10 T-XPROGR PICTURE X(6).                             *AA200
         10 T-XERCD  PICTURE X(4).                             *AA200
   01 PACBASE-INDEXES COMPUTATIONAL SYNC.                      *AA200
      05 K01         PICTURE S9(4).                            *AA200
      05 K02         PICTURE S9(4).                            *AA200
      05 K03         PICTURE S9(4).                            *AA200
      05 K04         PICTURE S9(4).                            *AA200
      05 K50R        PICTURE S9(4) VALUE ZERO.                 *AA200
      05 K50L        PICTURE S9(4) VALUE ZERO.                 *AA200
      05 K50M        PICTURE S9(4)                             *AA200
                     VALUE       +01.                         *AA200
      05 IWP20L      PICTURE S9(4) VALUE  ZERO.                *AA200
      05 IWP20R      PICTURE S9(4) VALUE  ZERO.                *AA200
      05 IWP20M      PICTURE S9(4) VALUE +0009.                *AA200
      05    5-CD05-LTH  PICTURE S9(4) VALUE +0162.             *AA200
      05    5-CD10-LTH  PICTURE S9(4) VALUE +0142.             *AA200
      05    5-CD20-LTH  PICTURE S9(4) VALUE +0001.             *AA200
      05    5-CD30-LTH  PICTURE S9(4) VALUE +0006.             *AA200
      05    5-CL10-LTH  PICTURE S9(4) VALUE +0236.             *AA200
      05    5-CL20-LTH  PICTURE S9(4) VALUE +0009.             *AA200
      05    5-EM00-LTH  PICTURE S9(4) VALUE +0090.             *AA200
      05    5-FO10-LTH  PICTURE S9(4) VALUE +0057.             *AA200
      05    5-HE10-LTH  PICTURE S9(4) VALUE +1928.             *AA200
      05    5-ME00-LTH  PICTURE S9(4) VALUE +0082.             *AA200
      05    5-CA00-LTH  PICTURE S9(4) VALUE +0147.             *AA200
      05    5-CD05-LTHV PICTURE S9(4) VALUE +0162.             *AA200
      05    5-CD10-LTHV PICTURE S9(4) VALUE +0142.             *AA200
      05    5-CD20-LTHV PICTURE S9(4) VALUE +0001.             *AA200
      05    5-CD30-LTHV PICTURE S9(4) VALUE +0006.             *AA200
      05    5-CL10-LTHV PICTURE S9(4) VALUE +0236.             *AA200
      05    5-CL20-LTHV PICTURE S9(4) VALUE +0009.             *AA200
      05    5-FO10-LTHV PICTURE S9(4) VALUE +0057.             *AA200
      05    5-HE10-LTHV PICTURE S9(4) VALUE +1928.             *AA200
      05    LTH         PICTURE S9(4) VALUE ZERO.              *AA200
      05      5-0030-LENGTH PICTURE S9(4)                      *AA200
                        VALUE      +5190.                      *AA200
   01 NUMERIC-VALIDATION-FIELDS.                               *AA200
      05 ZONUM1.                                               *AA200
         10 C1       PICTURE X OCCURS 27.                     *AA200
      05 ZONUM2.                                               *AA200
         10 C2       OCCURS 18.                               *AA200
         15 C29      PICTURE S9.                              *AA200
      05 ZONUM9      REDEFINES ZONUM2 PICTURE 9(18).           *AA200
      05 NUMPIC.                                               *AA200
         10 SIGNE    PICTURE X.                               *AA200
         10 NBCHA    PICTURE 99.                              *AA200
         10 NBCHP    PICTURE 99.                              *AA200
      05 C9          PICTURE S9.                              *AA200
      05 C91         PICTURE X.                               *AA200
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      05 TPOINT      PICTURE X.                                    *AA200
      05 ZONUM3.                                                   *AA200
         10 C3       PICTURE X OCCURS 18.                         *AA200
      05 ZONUM4      REDEFINES ZONUM3 PICTURE 9(18).              *AA200
      05 ZONUM5      PICTURE S99   VALUE -10.                     *AA200
      05 ZONUM6      REDEFINES ZONUM5.                            *AA200
         10 FILLER   PICTURE X.                                   *AA200
         10 C4       PICTURE X.                                   *AA200
01          TABLE-OF-ATTRIBUTES.                                  *AA250
      02    DE-ATT.                                              *AA250
      03    DE-ATT1          OCCURS 4.                           *AA250
      05    DE-AT   PICTURE X                                    *AA250
                    OCCURS 045.                                   *AA250
      02    DE-A    REDEFINES DE-ATT.                            *AA250
      03    DE-ATT2          OCCURS 4.                           *AA250
      04    A-0030-BEGIN.                                        *AA250
      05    A-0030-MATE   PICTURE X.                             *AA250
      05    A-0030-RELEA  PICTURE X.                             *AA250
      05    A-0030-RUE    PICTURE X.                             *AA250
      05    A-0030-COPOS  PICTURE X.                             *AA250
      05    A-0030-REFCLI PICTURE X.                             *AA250
      05    A-0030-DATE   PICTURE X.                             *AA250
      05    A-0030-CORRES PICTURE X.                             *AA250
      05    A-0030-REMIS  PICTURE X.                             *AA250
      04    B-0030-LINE   OCCURS 9.                              *AA250
      05    FILLER        PICTURE X(0004).                       *AA250
      04    A-0030-END.                                          *AA250
      05    A-0030-EDIT   PICTURE X.                             *AA250
      02    A-0030-LINE       OCCURS 4.                          *AA250
      05    A-0030-CODMVT PICTURE X.                             *AA250
      05    A-0030-FOURNI PICTURE X.                             *AA250
      05    A-0030-QTMAC  PICTURE X.                             *AA250
      05    A-0030-INFOR  PICTURE X.                             *AA250
01     FIRST-ON-SEGMENT.                                         *AA301
      05    CD10-FST    PICTURE X.                               *AA301
01             S-CD05-SSA.                                       *AA350
        10     S1-CD05-SEGNAM PICTURE X(8) VALUE                 *AA350
                              'CD05    '.                       *AA350
        10     S1-CD05-CCOM   PICTURE X VALUE '*'.               *AA350
        10      S-CD05-CCOD   PICTURE X(5) VALUE '-----'.        *AA350
        10        FILLER      PICTURE X VALUE SPACE.            *AA350
01              S-CD10-SSA.                                      *AA350
        10     S1-CD10-SEGNAM PICTURE X(8) VALUE                 *AA350
                              'CD10    '.                       *AA350
        10     S1-CD10-CCOM   PICTURE X VALUE '*'.               *AA350
        10      S-CD10-CCOD   PICTURE X(5) VALUE '-----'.        *AA350
        10        FILLER      PICTURE X VALUE SPACE.            *AA350
01              S-CD20-SSA.                                      *AA350
        10     S1-CD20-SEGNAM PICTURE X(8) VALUE                 *AA350
                              'CD20    '.                       *AA350
        10     S1-CD20-CCOM   PICTURE X VALUE '*'.               *AA350
        10      S-CD20-CCOD   PICTURE X(5) VALUE '-----'.        *AA350
        10        FILLER      PICTURE X VALUE SPACE.            *AA350
01              S-EM00-SSA.                                      *AA350
        10     S1-EM00-SEGNAM PICTURE X(8) VALUE                 *AA350
                              'EM00    '.                       *AA350
        10     S1-EM00-CCOM   PICTURE X VALUE '*'.               *AA350
        10      S-EM00-CCOD   PICTURE X(5) VALUE '-----'.        *AA350
        10        FILLER      PICTURE X VALUE SPACE.            *AA350
01              S-FO10-SSA.                                      *AA350
        10     S1-FO10-SEGNAM PICTURE X(8) VALUE                 *AA350
                              'FO10    '.                       *AA350
        10     S1-FO10-CCOM   PICTURE X VALUE '*'.               *AA350
        10      S-FO10-CCOD   PICTURE X(5) VALUE '-----'.        *AA350
        10        FILLER      PICTURE X VALUE SPACE.            *AA350
01              S-HE10-SSA.                                      *AA350
        10     S1-HE10-SEGNAM PICTURE X(8) VALUE                 *AA350
                              'HE10    '.                       *AA350
        10     S1-HE10-CCOM   PICTURE X VALUE '*'.               *AA350
        10      S-HE10-CCOD   PICTURE X(5) VALUE '-----'.        *AA350
        10        FILLER      PICTURE X VALUE SPACE.            *AA350
01              S-ME00-SSA.                                      *AA350
        10     S1-ME00-SEGNAM PICTURE X(8) VALUE                 *AA350
                              'ME00    '.                       *AA350
        10     S1-ME00-CCOM   PICTURE X VALUE '*'.               *AA350
        10      S-ME00-CCOD   PICTURE X(5) VALUE '-----'.        *AA350
        10        FILLER      PICTURE X VALUE SPACE.            *AA350
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01             S-CDU05-SSA.                                          *AA351
       09      S1-CDU05-SEGNAM PICTURE X(8) VALUE                    *AA351
                               'CD05    '.                           *AA351
       09      S1-CDU05-CCOM   PICTURE X    VALUE '*'.               *AA351
       09       S-CDU05-CCOD   PICTURE X(5) VALUE '-----'.           *AA351
       09      S1-CDU05-FLDNAM PICTURE X(9) VALUE                    *AA351
                               '(KEYCD  '.                           *AA351
       09       S-CDU05-OPER   PICTURE XX   VALUE ' ='.              *AA351
       09       S-CDU05-CORUB.                                       *AA351
       10       S-CDU05-KEYCD.                                       *AA351
        15      S-CDU05-NUCOM  PICTURE 9(5).                         *AA351
       09          FILLER      PICTURE X    VALUE ')'.               *AA351
01             S-CD105-SSA.                                          *AA351
       09      S1-CD105-SEGNAM PICTURE X(8) VALUE                    *AA351
                               'CD05    '.                           *AA351
       09      S1-CD105-CCOM   PICTURE X    VALUE '*'.               *AA351
       09       S-CD105-CCOD   PICTURE X(5) VALUE '-----'.           *AA351
       09      S1-CD105-FLDNAM PICTURE X(9) VALUE                    *AA351
                              '(XNUCOM'.                             *AA351
       09       S-CD105-OPER   PICTURE XX   VALUE ' ='.              *AA351
       09       S-CD105-CORUB.                                       *AA351
        15      S-CD105-NUCOM  PICTURE 9(5).                         *AA351
       09          FILLER      PICTURE X    VALUE ')'.               *AA351
01             S-CDU10-SSA.                                          *AA351
       09      S1-CDU10-SEGNAM PICTURE X(8) VALUE                    *AA351
                               'CD10    '.                           *AA351
       09      S1-CDU10-CCOM   PICTURE X    VALUE '*'.               *AA351
       09       S-CDU10-CCOD   PICTURE X(5) VALUE '-----'.           *AA351
       09      S1-CDU10-FLDNAM PICTURE X(9) VALUE                    *AA351
                               '(FOURNI '.                           *AA351
       09       S-CDU10-OPER   PICTURE XX   VALUE ' ='.              *AA351
       09       S-CDU10-CORUB.                                       *AA351
       10       S-CDU10-FOURNI PICTURE X(3).                         *AA351
       09          FILLER      PICTURE X    VALUE ')'.               *AA351
01             S-CDU20-SSA.                                          *AA351
       09      S1-CDU20-SEGNAM PICTURE X(8) VALUE                    *AA351
                               'CD20    '.                           *AA351
       09      S1-CDU20-CCOM   PICTURE X    VALUE '*'.               *AA351
       09       S-CDU20-CCOD   PICTURE X(5) VALUE '-----'.           *AA351
       09      S1-CDU20-FLDNAM PICTURE X(9) VALUE                    *AA351
                               '(EDIT   '.                           *AA351
       09       S-CDU20-OPER   PICTURE XX   VALUE ' ='.              *AA351
       09       S-CDU20-CORUB.                                       *AA351
       10       S-CDU20-EDIT   PICTURE X.                            *AA351
       09          FILLER      PICTURE X    VALUE ')'.               *AA351
01             S-EMU00-SSA.                                          *AA351
       09      S1-EMU00-SEGNAM PICTURE X(8) VALUE                    *AA351
                               'EM00    '.                           *AA351
       09      S1-EMU00-CCOM   PICTURE X    VALUE '*'.               *AA351
       09       S-EMU00-CCOD   PICTURE X(5) VALUE '-----'.           *AA351
       09      S1-EMU00-FLDNAM PICTURE X(9) VALUE                    *AA351
                               '(CLELE  '.                           *AA351
       09       S-EMU00-OPER   PICTURE XX   VALUE ' ='.              *AA351
       09       S-EMU00-CORUB.                                       *AA351
       10       S-EMU00-CLELE.                                       *AA351
        15      S-EMU00-APPLI  PICTURE XXX.                          *AA351
        15      S-EMU00-TYPEN  PICTURE X.                            *AA351
        15      S-EMU00-XCLEF.                                       *AA351
         20     S-EMU00-PROGR  PICTURE X(6).                         *AA351
         20     S-EMU00-NUERR.                                       *AA351
          25    S-EMU00-NUERR9 PICTURE 999.                          *AA351
         20     S-EMU00-TYERR  PICTURE X.                            *AA351
        15      S-EMU00-NULIG  PICTURE 999.                          *AA351
        15      S-EMU00-GRAER  PICTURE X.                            *AA351
       09          FILLER      PICTURE X    VALUE ')'.               *AA351
01             S-FOU10-SSA.                                          *AA351
       09      S1-FOU10-SEGNAM PICTURE X(8) VALUE                    *AA351
                               'FO10    '.                           *AA351
       09      S1-FOU10-CCOM   PICTURE X    VALUE '*'.               *AA351
       09       S-FOU10-CCOD   PICTURE X(5) VALUE '-----'.           *AA351
       09      S1-FOU10-FLDNAM PICTURE X(9) VALUE                    *AA351
                               '(FOURNI '.                           *AA351
       09       S-FOU10-OPER   PICTURE XX   VALUE ' ='.              *AA351
       09       S-FOU10-CORUB.                                       *AA351
        15      S-FOU10-FOURNI PICTURE X(3).                         *AA351
       09          FILLER      PICTURE X    VALUE ')'.               *AA351
01             S-FO110-SSA.                                          *AA351
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          09      S1-FO110-SEGNAM PICTURE X(8) VALUE               *AA351
                                   'FO10    '.                     *AA351
          09      S1-FO110-CCOM   PICTURE X    VALUE '*'.          *AA351
          09       S-FO110-CCOD   PICTURE X(5) VALUE '-----'.      *AA351
          09      S1-FO110-FLDNAM PICTURE X(9) VALUE               *AA351
                                  '(XRELEA'.                       *AA351
          09       S-FO110-OPER   PICTURE XX   VALUE ' ='.         *AA351
          09       S-FO110-CORUB.                                  *AA351
           15      S-FO110-RELEA  PICTURE X(3).                    *AA351
          09          FILLER      PICTURE X    VALUE ')'.          *AA351
      01               S-FO210-SSA.                                *AA351
          09      S1-FO210-SEGNAM PICTURE X(8) VALUE               *AA351
                                   'FO10    '.                     *AA351
          09      S1-FO210-CCOM   PICTURE X    VALUE '*'.          *AA351
          09       S-FO210-CCOD   PICTURE X(5) VALUE '-----'.      *AA351
          09      S1-FO210-FLDNAM PICTURE X(9) VALUE               *AA351
                                  '(XQTMAS'.                       *AA351
          09       S-FO210-OPER   PICTURE XX   VALUE ' ='.         *AA351
          09       S-FO210-CORUB.                                  *AA351
          10       S-FO210-QTMAS  PICTURE S9(4)                    *AA351
                       COMPUTATIONAL.                              *AA351
          09          FILLER      PICTURE X    VALUE ')'.          *AA351
      01               S-FO310-SSA.                                *AA351
          09      S1-FO310-SEGNAM PICTURE X(8) VALUE               *AA351
                                   'FO10    '.                     *AA351
          09      S1-FO310-CCOM   PICTURE X    VALUE '*'.          *AA351
          09       S-FO310-CCOD   PICTURE X(5) VALUE '-----'.      *AA351
          09      S1-FO310-FLDNAM PICTURE X(9) VALUE               *AA351
                                  '(XLIBFO'.                       *AA351
          09       S-FO310-OPER   PICTURE XX   VALUE ' ='.         *AA351
          09       S-FO310-CORUB.                                  *AA351
          10       S-FO310-LIBFO  PICTURE X(20).                   *AA351
          09          FILLER      PICTURE X    VALUE ')'.          *AA351
      01               S-HEU10-SSA.                                *AA351
          09      S1-HEU10-SEGNAM PICTURE X(8) VALUE               *AA351
                                   'HE10    '.                     *AA351
          09      S1-HEU10-CCOM   PICTURE X    VALUE '*'.          *AA351
          09       S-HEU10-CCOD   PICTURE X(5) VALUE '-----'.      *AA351
          09      S1-HEU10-FLDNAM PICTURE X(9) VALUE               *AA351
                                   '(CLE    '.                     *AA351
          09       S-HEU10-OPER   PICTURE XX   VALUE ' ='.         *AA351
          09       S-HEU10-CORUB.                                  *AA351
          10       S-HEU10-CLE.                                    *AA351
           15      S-HEU10-XNMTE  PICTURE X(8).                    *AA351
          09          FILLER      PICTURE X    VALUE ')'.          *AA351
      01               S-MEU00-SSA.                                *AA351
          09      S1-MEU00-SEGNAM PICTURE X(8) VALUE               *AA351
                                   'ME00    '.                     *AA351
          09      S1-MEU00-CCOM   PICTURE X    VALUE '*'.          *AA351
          09       S-MEU00-CCOD   PICTURE X(5) VALUE '-----'.      *AA351
          09      S1-MEU00-FLDNAM PICTURE X(9) VALUE               *AA351
                                   '(CLEME  '.                     *AA351
          09       S-MEU00-OPER   PICTURE XX   VALUE ' ='.         *AA351
          09       S-MEU00-CORUB.                                  *AA351
          10       S-MEU00-CLEME.                                  *AA351
           15      S-MEU00-COPERS PICTURE X(5).                    *AA351
           15      S-MEU00-NUMORD PICTURE XX.                      *AA351
          09          FILLER      PICTURE X    VALUE ')'.          *AA351
      01   D-SPCB.                                                 *AA360
           05   FILLER        PICTURE X(5) VALUE ' DBD '.          *AA360
           05   D-SPCB-XNMDBD PICTURE X(8) VALUE SPACE.            *AA360
           05   FILLER        PICTURE X(5) VALUE ' SEG '.          *AA360
           05   D-SPCB-XNMSEG PICTURE X(8) VALUE SPACE.            *AA360
           05   FILLER        PICTURE X(5) VALUE ' RET '.          *AA360
           05   D-SPCB-XCORET PICTURE X(8) VALUE SPACE.            *AA360
           05   FILLER        PICTURE X(5) VALUE ' ACT '.          *AA360
           05   D-SPCB-XOPTRT PICTURE X(4) VALUE SPACE.            *AA360
           05   FILLER        PICTURE X(4) VALUE SPACE.            *AA360
           05   D-SPCB-XCLECO PICTURE X(70) VALUE SPACE.           *AA360
      01             WW10-QTMAR                                    *BB200
                       PICTURE 99                                  *BB200
                   VALUE ZERO.                                     *BB201
      01             WP00.                                         *WP000
       02            WP10.                                         *WP010
        05           FILLER PIC X(25) VALUE                        *WP020
                     '23400BRISBANE           '.                   *WP030
        05           FILLER PIC X(25) VALUE                        *WP040
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                    '56400VICTORIA           '.                *WP050
     05             FILLER PIC X(25) VALUE                     *WP060
                    '76500ALICE SPRINGS      '.                *WP070
     05             FILLER PIC X(25) VALUE                     *WP080
                    '55300MELBOURNE          '.                *WP090
     05             FILLER PIC X(25) VALUE                     *WP100
                    '11000CANBERRA           '.                *WP110
     05             FILLER PIC X(25) VALUE                     *WP120
                    '34500PERTH              '.                *WP130
     05             FILLER PIC X(25) VALUE                     *WP140
                    '85270DARWIN             '.                *WP150
     05             FILLER PIC X(25) VALUE                     *WP160
                    '94000HOBART             '.                *WP170
     05             FILLER PIC X(25) VALUE                     *WP180
                    '89300SYDNEY             '.                *WP190
    02              WP20 REDEFINES WP10 OCCURS 9.              *WP300
     05             WP20-COPOS                                 *WP320
                          PICTURE X(5).                        *WP320
     05             WP20-VILLE                                 *WP340
                          PICTURE X(20).                       *WP340
    02              WP30.                                      *WP400
     05             WP30-COPOS                                 *WP410
                          PICTURE X(5).                        *WP410
    02              WP40.                                      *WP500
     05             WP40-VILLE                                 *WP510
                          PICTURE X(20).                       *WP510
     05             WP40-VILLEL                                *WP520
                          PICTURE X(20).                       *WP520
*       ***  SPA LENGTH : 5205 BYTES  ***                      *00000
 01   SPA.                                                     *00000
      02   SPALG    PICTURE S9(4) COMPUTATIONAL.               *00000
      02   SPAZZ    PICTURE XX.                                *00000
      02   SPACI    PICTURE XX.                                *00000
      02   TRAN   PICTURE X(8).                               *00000
      02     ICF PICTURE X.                                    *00000
      02     K-S0030-PROGR PICTURE X(6).                       *00000
      02     K-S0030-DOC   PICTURE X.                          *00000
      02     K-S0030-PROGE PICTURE X(8).                       *00000
      02     K-S0030-CPOSL PICTURE S9(4) COMPUTATIONAL.        *00000
      02     K-S0030-PROLE PICTURE X(8).                       *00000
      02     K-S0030-LIBRA PICTURE XXX.                        *00000
      02     K-S0030-PROHE PICTURE X(8).                       *00000
      02     K-S0030-ERCOD.                                    *00000
        05   K-S0030-ERCOD9 PICTURE 999.                      *00000
      02     K-S0030-ERTYP PICTURE X.                          *00000
      02     K-S0030-LINUM PICTURE 999.                        *00000
      02           CA00.                                       *00001
        10         CA00-CLECD.                                 *00001
         15        CA00-NUCOM  PICTURE 9(5).                   *00001
        10         CA00-CLECL1.                                *00001
         15        CA00-NUCLIE PICTURE 9(8).                   *00001
        10         CA00-ME00.                                  *00001
         15        CA00-CLEME.                                 *00001
          20       CA00-COPERS PICTURE X(5).                   *00001
          20       CA00-NUMORD PICTURE XX.                     *00001
         15        CA00-MESSA  PICTURE X(75).                  *00001
        10         CA00-PREM   PICTURE X.                      *00001
        10         CA00-LANGU  PICTURE X.                      *00001
        10         CA00-RAISOC PICTURE X(50).                  *00001
      02      FILLER PICTURE X.                                *00002
      02      K-0030.                                          *00002
      03     K-A0030-DEBUT.                                    *00002
       05        K-ACD05-KEYCD  PICTURE X(5).                  *00002
      03     K-R0030-LINE   OCCURS 2.                          *00002
       05        K-RCD05-KEYCD  PICTURE X(5).                  *00002
       05        K-RCD10-FOURNI PICTURE X(3).                  *00002
      03     K-Z0030-END.                                      *00002
       05        K-ZME00-CLEME  PICTURE X(7).                  *00002
      02      ZONES-VARIABLES.                                 *00002
      03      T-0030-BEGIN.                                    *00002
      05      T-0030-MATE   PICTURE X(8).                      *00002
      05      T-0030-RELEA  PICTURE X(3).                      *00002
      05      T-0030-RUE    PICTURE X(40).                     *00002
      05      T-0030-COPOS  PICTURE X(5).                      *00002
      05      T-0030-REFCLI PICTURE X(30).                     *00002
      05      T-0030-DATE   PICTURE X(6).                      *00002
      05      T-0030-CORRES PICTURE X(25).                     *00002
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        05      T-0030-REMIS  PICTURE X(8).                        *00002
        03      U-0030-LINE   OCCURS 9.                           *00002
        05      FILLER        PICTURE X(0041).                    *00002
        03      T-0030-END.                                       *00002
        05      T-0030-EDIT   PICTURE X(1).                       *00002
        02      FILLER        PICTURE X(4476).                    *00002
    01          INPUT-SCREEN-FIELDS.                              *00050
        02      I-0030.                                           *00050
        05      I-0030L      PICTURE S9(4) COMP.                  *00050
        05      I-0030ZZ     PICTURE XX.                          *00050
        05      I-0030-PROGR  PICTURE X(6).                       *00050
        05      I-FONCT.                                          *00050
          10    I-PFKEY       PICTURE XX.                         *00050
        05      I-0030-MATE   PICTURE X(8).                       *00050
        05      I-0030-RELEA  PICTURE X(3).                       *00050
        05      I-0030-RUE    PICTURE X(40).                      *00050
        05      I-0030-VILLE  PICTURE X(20).                      *00050
        05      I-0030-COPOS  PICTURE X(5).                       *00050
        05      I-0030-REFCLI PICTURE X(30).                      *00050
        05      I-0030-DATE   PICTURE X(6).                       *00050
        05      I-0030-CORRES PICTURE X(25).                      *00050
        05      E-0030-REMIS.                                     *00050
        10      I-0030-REMIS  PICTURE S9(4)V99.                   *00050
        10      FILLER        PICTURE X(2).                       *00050
        05      J-0030-LINE   OCCURS 9.                           *00050
        10      FILLER        PICTURE X(45).                      *00050
        05      I-0030-EDIT   PICTURE X.                          *00050
        05      I-CURPOS      PICTURE X(4).                       *00050
    01          OUTPUT-SCREEN-FIELDS.                             *00050
        02      O-0030.                                           *00050
        05      O-0030L       PICTURE S9(4) COMP.                 *00050
        05      O-0030ZZ      PICTURE XX.                         *00050
        05      X-0030-PROGE  PICTURE X.                          *00050
        05      Y-0030-PROGE  PICTURE X.                          *00050
        05      O-0030-PROGE  PICTURE X(8).                       *00050
        05      X-0030-SESSI  PICTURE X.                          *00050
        05      Y-0030-SESSI  PICTURE X.                          *00050
        05      O-0030-SESSI  PICTURE X(5).                       *00050
        05      X-0030-DATEM  PICTURE X.                          *00050
        05      Y-0030-DATEM  PICTURE X.                          *00050
        05      O-0030-DATEM  PICTURE X(10).                      *00050
        05      X-0030-HEURE  PICTURE X.                          *00050
        05      Y-0030-HEURE  PICTURE X.                          *00050
        05      O-0030-HEURE  PICTURE X(8).                       *00050
        05      X-0030-NUCOM  PICTURE X.                          *00050
        05      Y-0030-NUCOM  PICTURE X.                          *00050
        05      O-0030-NUCOM  PICTURE 9(5).                       *00050
        05      X-0030-MATE   PICTURE X.                          *00050
        05      Y-0030-MATE   PICTURE X.                          *00050
        05      O-0030-MATE   PICTURE X(8).                       *00050
        05      X-0030-RELEA  PICTURE X.                          *00050
        05      Y-0030-RELEA  PICTURE X.                          *00050
        05      O-0030-RELEA  PICTURE X(3).                       *00050
        05      X-0030-RAISOC PICTURE X.                          *00050
        05      Y-0030-RAISOC PICTURE X.                          *00050
        05      O-0030-RAISOC PICTURE X(50).                      *00050
        05      X-0030-RUE    PICTURE X.                          *00050
        05      Y-0030-RUE    PICTURE X.                          *00050
        05      O-0030-RUE    PICTURE X(40).                      *00050
        05      X-0030-VILLE  PICTURE X.                          *00050
        05      Y-0030-VILLE  PICTURE X.                          *00050
        05      O-0030-VILLE  PICTURE X(20).                      *00050
        05      X-0030-COPOS  PICTURE X.                          *00050
        05      Y-0030-COPOS  PICTURE X.                          *00050
        05      O-0030-COPOS  PICTURE X(5).                       *00050
        05      X-0030-REFCLI PICTURE X.                          *00050
        05      Y-0030-REFCLI PICTURE X.                          *00050
        05      O-0030-REFCLI PICTURE X(30).                      *00050
        05      X-0030-DATE   PICTURE X.                          *00050
        05      Y-0030-DATE   PICTURE X.                          *00050
        05      O-0030-DATE   PICTURE X(6).                       *00050
        05      X-0030-CORRES PICTURE X.                          *00050
        05      Y-0030-CORRES PICTURE X.                          *00050
        05      O-0030-CORRES PICTURE X(25).                      *00050
        05      X-0030-REMIS  PICTURE X.                          *00050
        05      Y-0030-REMIS  PICTURE X.                          *00050
        05      F-0030-REMIS.                                     *00050
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      10      O-0030-REMIS  PICTURE -(04)9,9(02).                *00050
      05      P-0030-LINE   OCCURS 9.                            *00050
      10      FILLER        PICTURE X(57).                       *00050
      05      X-0030-EDIT   PICTURE X.                           *00050
      05      Y-0030-EDIT   PICTURE X.                           *00050
      05      O-0030-EDIT   PICTURE X.                           *00050
      05      X-0030-MESSA  PICTURE X.                           *00050
      05      Y-0030-MESSA  PICTURE X.                           *00050
      05      O-0030-MESSA  PICTURE X(75).                       *00050
      05      O-0030-ERMS.                                       *00050
      10      FILLER OCCURS 1.                                   *00050
      15      X-0030-ERMSG  PICTURE X.                           *00050
      15      Y-0030-ERMSG  PICTURE X.                           *00050
      15      O-0030-ERMSG  PICTURE X(72).                       *00050
01            REPEAT-LINE.                                       *00050
      02      I-0030-LINE.                                       *00050
      05      I-0030-CODMVT PICTURE X.                           *00050
      05      I-0030-FOURNI PICTURE X(3).                        *00050
      05      E-0030-QTMAC.                                      *00050
      10      I-0030-QTMAC  PICTURE 99.                          *00050
      05      I-0030-QTMAL  PICTURE 99.                          *00050
      05      I-0030-QTMAR  PICTURE 99.                          *00050
      05      I-0030-INFOR  PICTURE X(35).                       *00050
      02      O-0030-LINE.                                       *00050
      05      X-0030-CODMVT PICTURE X.                           *00050
      05      Y-0030-CODMVT PICTURE X.                           *00050
      05      O-0030-CODMVT PICTURE X.                           *00050
      05      X-0030-FOURNI PICTURE X.                           *00050
      05      Y-0030-FOURNI PICTURE X.                           *00050
      05      O-0030-FOURNI PICTURE X(3).                        *00050
      05      X-0030-QTMAC  PICTURE X.                           *00050
      05      Y-0030-QTMAC  PICTURE X.                           *00050
      05      F-0030-QTMAC.                                      *00050
      10      O-0030-QTMAC  PICTURE Z(01)9.                      *00050
      05      X-0030-QTMAL  PICTURE X.                           *00050
      05      Y-0030-QTMAL  PICTURE X.                           *00050
      05      O-0030-QTMAL  PICTURE 99.                          *00050
      05      X-0030-QTMAR  PICTURE X.                           *00050
      05      Y-0030-QTMAR  PICTURE X.                           *00050
      05      O-0030-QTMAR  PICTURE 99.                          *00050
      05      X-0030-INFOR  PICTURE X.                           *00050
      05      Y-0030-INFOR  PICTURE X.                           *00050
      05      O-0030-INFOR  PICTURE X(35).                       *00050
01    PSB.                                                       *00100
      02            CD05.                                        *00100
        10          CD05-KEYCD.                                  *00100
         15         CD05-NUCOM  PICTURE 9(5).                    *00100
        10          CD05-NUCLIE PICTURE 9(8).                    *00100
        10          CD05-DATE   PICTURE X(6).                    *00100
        10          CD05-RELEA  PICTURE X(3).                    *00100
        10          CD05-REFCLI PICTURE X(30).                   *00100
        10          CD05-RUE    PICTURE X(40).                   *00100
        10          CD05-COPOS  PICTURE X(5).                    *00100
        10          CD05-VILLE  PICTURE X(20).                   *00100
        10          CD05-CORRES PICTURE X(25).                   *00100
        10          CD05-REMIS  PICTURE S9(4)V99.                *00100
        10          CD05-MATE   PICTURE X(8).                    *00100
        10          CD05-LANGU  PICTURE X.                       *00100
        10          CD05-FILLER PICTURE X(5).                    *00100
      02            CD10.                                        *00100
        10          CD10-FOURNI PICTURE X(3).                    *00100
        10          CD10-QTMAC  PICTURE 99.                      *00100
        10          CD10-QTMAL  PICTURE 99.                      *00100
        10          CD10-INFOR  PICTURE X(35).                   *00100
        10          CD10-ADFOU  PICTURE X(100).                  *00100
      02            CD20.                                        *00100
        10          CD20-EDIT   PICTURE X.                       *00100
      02            CD30.                                        *00100
        10          CD30-COCARA PICTURE X.                       *00100
        10          CD30-NUCOM  PICTURE 9(5).                    *00100
      02            CL10.                                        *00100
        10          CL10-CLECL1.                                 *00100
         15         CL10-NUCLIE PICTURE 9(8).                    *00100
        10          CL10-RAISOC.                                 *00100
         15         CL10-RAISO1 PICTURE X(25).                   *00100
         15         CL10-RAISO2 PICTURE X(25).                   *00100
        10          CL10-RUE    PICTURE X(40).                   *00100
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          10          CL10-COPOS  PICTURE X(5).                    *00100
          10          CL10-VILLE  PICTURE X(20).                   *00100
          10          CL10-MATE   PICTURE X(8).                    *00100
          10          CL10-RELEA  PICTURE X(3).                    *00100
          10          CL10-REMIS  PICTURE S9(4)V99.                *00100
          10          CL10-CORRES PICTURE X(25).                   *00100
          10          CL10-RAISOL.                                 *00100
           15         CL10-RUEL   PICTURE X(40).                   *00100
           15         CL10-COPOSL PICTURE X(5).                    *00100
          10          CL10-VILLEL PICTURE X(20).                   *00100
          10          CL10-LANGU  PICTURE X.                       *00100
          10          CL10-FILLER PICTURE X(5).                    *00100
        02            CL20.                                        *00100
          10          CL20-COCARA PICTURE X.                       *00100
          10          CL20-NUCLIE PICTURE 9(8).                    *00100
        02            EM00.                                        *00100
         03           EM00-00.                                     *00100
          10          EM00-CLELE.                                  *00100
           15         EM00-APPLI  PICTURE XXX.                     *00100
           15         EM00-TYPEN  PICTURE X.                       *00100
           15         EM00-XCLEF.                                  *00100
            20        EM00-PROGR  PICTURE X(6).                    *00100
            20        EM00-NUERR.                                  *00100
             25       EM00-NUERR9 PICTURE 999.                     *00100
            20        EM00-TYERR  PICTURE X.                       *00100
           15         EM00-NULIG  PICTURE 999.                     *00100
           15         EM00-GRAER  PICTURE X.                       *00100
          10          EM00-ERMSG.                                  *00100
           15         EM00-ERMSG1 PICTURE X(30).                   *00100
           15         EM00-ERMSG2 PICTURE X(36).                   *00100
          10          EM00-FILLER PICTURE X(6).                    *00100
        02            FO10.                                        *00100
          10          FO10-CLEFO.                                  *00100
           15         FO10-FOURNI PICTURE X(3).                    *00100
           15         FO10-MATE   PICTURE X(8).                    *00100
           15         FO10-RELEA  PICTURE X(3).                    *00100
           15         FO10-LANGU  PICTURE X.                       *00100
          10          FO10-QTMAS  PICTURE S9(4)                    *00100
                           COMPUTATIONAL.                          *00100
          10          FO10-QTMAM  PICTURE 9(4).                    *00100
          10          FO10-LIBFO  PICTURE X(20).                   *00100
          10          FO10-DATE   PICTURE X(6).                    *00100
          10          FO10-HEURE  PICTURE X(8).                    *00100
          10          FO10-FILLER PICTURE XX.                      *00100
        02            HE10.                                        *00100
          10          HE10-CLE.                                    *00100
           15         HE10-XNMTE  PICTURE X(8).                    *00100
          10          HE10-XZONE  PICTURE X(1920).                 *00100
        02            ME00.                                        *00100
         03           ME00-00.                                     *00100
          10          ME00-CLEME.                                  *00100
           15         ME00-COPERS PICTURE X(5).                    *00100
           15         ME00-NUMORD PICTURE XX.                      *00100
          10          ME00-MESSA  PICTURE X(75).                   *00100
01           COMMUNICATION-MONITOR.                                *00150
       02    S-SPCB.                                               *00150
       10    S-SPCB-XNMBD  PICTURE X(8).                           *00150
       10    S-SPCB-XNISEG PICTURE XX.                             *00150
       10    S-SPCB-XCORET PICTURE XX.                             *00150
       10    S-SPCB-XOPTRT PICTURE X(4).                           *00150
       10    FILLER        PICTURE S9(5) COMPUTATIONAL.            *00150
       10    S-SPCB-XNMSEG PICTURE X(8).                           *00150
       10    S-SPCB-XLGKEY PICTURE S9(5) COMPUTATIONAL.            *00150
       10    S-SPCB-XNBSEG PICTURE S9(5) COMPUTATIONAL.            *00150
       10    S-SPCB-XCLECO PICTURE X(70).                          *00150
       02    S-WPCB.                                               *00150
       10    S-WPCB-XFONC  PICTURE X(4).                           *00150
       02    S-WWSS.                                               *00150
       10    S-WWSS-OPER   PICTURE X.                              *00150
       10    S-WWSS-SCR-ER PICTURE X.                              *00150
       10    S-WWSS-PROT   PICTURE X.                              *00150
       10    S-WWSS-PROGE  PICTURE X(8).                           *00150
       10    S-WWSS-CURS   PICTURE X.                              *00150
       10    S-WWSS-3F     PICTURE X.                              *00150
       10    S-WWSS-SPAOC  PICTURE X.                              *00150
      10     S-WWSS-XIMOD  PICTURE X(8).                           *00150
LINKAGE SECTION.                                                   *00160
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01          S-IPCB.                                          *00160
      10    S-IPCB-XNMTE  PICTURE X(8).                      *00160
      10    FILLER        PICTURE S9(4) COMPUTATIONAL.       *00160
      10    S-IPCB-XCORET PICTURE XX.                        *00160
      10    S-IPCB-XDMES  PICTURE S9(7) COMP-3.              *00160
      10    S-IPCB-XHMES  PICTURE S9(7) COMP-3.              *00160
      10    S-IPCB-XNMES  PICTURE S9(7) COMP.                *00160
      10    S-IPCB-XIMOD  PICTURE X(8).                      *00160
      10    S-IPCB-XUSER  PICTURE X(20).                     *00160
01                  S-ALTPCB.                                *00160
    05              S-ALTPCB-XNMTE  PICTURE X(8).            *00160
    05              FILLER          PICTURE S9(4) COMP.      *00160
    05              S-ALTPCB-XCORET PICTURE XX.              *00160
    05              S-ALTPCB-XDMES  PICTURE S9(7) COMP-3.    *00160
    05              S-ALTPCB-XHMES  PICTURE S9(7) COMP-3.    *00160
    05              S-ALTPCB-XNMES  PICTURE S9(7) COMP.      *00160
    05              S-ALTPCB-XIMOD  PICTURE X(8).            *00160
01                  S-DBDFOU.                                *00160
     05             FILLER PICTURE X(100).                   *00160
01                  S-DBDMES.                                *00160
     05             FILLER PICTURE X(100).                   *00160
01                  S-DBDCLI.                                *00160
     05             FILLER PICTURE X(100).                   *00160
01                  S-DBDCDE.                                *00160
     05             FILLER PICTURE X(100).                   *00160
01                  S-PCBIDX.                                *00160
     05             FILLER PICTURE X(100).                   *00160
01                  S-DBDLER.                                *00160
     05             FILLER PICTURE X(100).                   *00160
01                  S-DBDHEL.                                *00160
     05             FILLER PICTURE X(100).                   *00160
PROCEDURE DIVISION USING                                     *99999
          S-IPCB                                             *99999
                  S-ALTPCB                                   *99999
                  S-DBDFOU                                   *99999
                  S-DBDMES                                   *99999
                  S-DBDCLI                                   *99999
                  S-DBDCDE                                   *99999
                  S-PCBIDX                                   *99999
                  S-DBDLER                                   *99999
                  S-DBDHEL.                                  *99999
*       ************************************                 DO0030
*       *                                  *                 DO0030
*       *  INITIALIZATIONS                 *                 DO0030
*       *                                  *                 DO0030
*       ************************************                 DO0030
 F01.                                                        DO0030
       MOVE 7-3F   TO S-WWSS-3F                              DO0030
       MOVE 7-PROT TO S-WWSS-PROT                            DO0030
       MOVE 7-CURS TO S-WWSS-CURS.                           DO0030
 F0110.                                                      DO0030
       ACCEPT TIMCO FROM TIME.                               DO0030
       ACCEPT  DATOR FROM DATE.                              DO0030
       MOVE '1' TO OCF SCR-ER.                               DO0030
       MOVE ZERO TO CATX FT K50L.                            DO0030
       MOVE ZERO TO VALIDATION-TABLE-FIELDS.                 DO0030
       MOVE SPACE TO CATM OPER OPERD CAT-ER.                 DO0030
       MOVE SPACE TO TABLE-OF-ATTRIBUTES.                    DO0030
       MOVE ZERO TO CONFIGURATIONS.                          DO0030
       MOVE ALL SPACE         TO     O-0030.                DO0030
       TRANSFORM O-0030 FROM SPACE TO S-WWSS-3F.             DO0030
 F0110-FN.    EXIT.                                         DO0030
 F0112.                                                      DO0030
       MOVE 'GU' TO S-WPCB-XFONC.                            DO0030
       CALL 'CBLTDLI' USING S-WPCB-XFONC S-IPCB SPA.         DO0030
       IF S-IPCB-XCORET = 'QC' GOBACK.                       DO0030
       IF S-IPCB-XCORET NOT = SPACE GO TO F81IO-IPCB.        DO0030
 F0112-FN.    EXIT.                                         DO0030
 F0116.                                                      DO0030
       IF ICF = ZERO GO TO F0116-FN.                         DO0030
       MOVE 'GN' TO S-WPCB-XFONC.                            DO0030
       CALL 'CBLTDLI' USING S-WPCB-XFONC S-IPCB              DO0030
       INPUT-SCREEN-FIELDS.                                  DO0030
       IF S-IPCB-XCORET NOT = SPACE GO TO F81IO-IPCB.        DO0030
 F0116-FN.    EXIT.                                         DO0030
 F0120.                                                      DO0030
       IF ICF = ZERO PERFORM F8115 THRU F8115-FN.            DO0030
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           IF K-S0030-DOC = '2'  OR   K-S0030-DOC = '3'          DO0030
         PERFORM F80-HELP-R  THRU F80-FN  GO TO F8Z05.           DO0030
         MOVE 'X' TO DE-AT (4, 009).                             DO0030
         MOVE SPACE      TO            O-0030-ERMSG (01).        DO0030
         MOVE LOW-VALUE  TO            X-0030-ERMSG (01).        DO0030
         MOVE LOW-VALUE  TO            Y-0030-ERMSG (01).        DO0030
 F0120-FN.    EXIT.                                              DO0030
 F0160.                                                          DO0030
         IF ICF = ZERO MOVE 'A' TO OPER                          DO0030
         GO TO F3999-ITER-FT.                                    DO0030
 F0160-FN.    EXIT.                                              DO0030
 F01-FN.      EXIT.                                              DO0030
*             +----------------------------------+               P000
* LEVEL 10    I INIT. NUMBER OF LOADED ITEMS      I              P000
*             +----------------------------------+               P000
 F02CP.                                                          P000
     MOVE        IWP20M TO IWP20L.                               P100
 F02CP-FN.    EXIT.                                              P000
*           ************************************                DO0030
*           *                                  *                DO0030
*           *  RECEPTION                       *                DO0030
*           *                                  *                DO0030
*           ************************************                DO0030
 F05.   IF ICF = ZERO GO TO END-OF-RECEPTION.                    DO0030
 F0510.                                                          DO0030
         PERFORM F8140 THRU F8140-FN.                            DO0030
         PERFORM F8135 THRU F8135-FN                             DO0030
         EXAMINE I-0030 REPLACING ALL LOW-VALUE BY SPACE.        DO0030
         MOVE 'A' TO OPER  MOVE SPACE TO OPERD.                  DO0030
 F0510-FN.    EXIT.                                              DO0030
 F0512.     IF    I-PFKEY = '11'  OR  I-PFKEY = '10'             DO0030
            NEXT SENTENCE ELSE GO TO F0512-FN.                   DO0030
         MOVE '2'   TO K-S0030-DOC                               DO0030
         MOVE ZERO  TO K-S0030-CPOSL  K-S0030-LINUM              DO0030
         MOVE PROGE TO K-S0030-PROGE                             DO0030
         MOVE LIBRA TO K-S0030-LIBRA.                            DO0030
            IF    I-PFKEY = '11'                                 DO0030
         MOVE '3'  TO  K-S0030-DOC                               DO0030
         MOVE CPOSL TO K-S0030-CPOSL                             DO0030
         MOVE CPOSC TO K-S0030-LINUM.                            DO0030
         PERFORM F80-HELP-R  THRU F80-FN                         DO0030
         PERFORM F8130       THRU F8130-FN                       DO0030
         PERFORM F80-HELP-RW THRU F80-FN                         DO0030
         MOVE PRDOC TO  5-0030-PROGE  K-S0030-PROHE              DO0030
         MOVE 'O' TO OPER  GO TO F4040.                          DO0030
 F0512-FN.    EXIT.                                              DO0030
*           ************************************                DO0030
*           *                                  *                DO0030
*           *  VALIDATION OF OPERATION CODE    *                DO0030
*           *                                  *                DO0030
*           ************************************                DO0030
 F0520.                                                          DO0030
           IF      I-PFKEY      = '01'                           DO0030
            MOVE    'IMD000P '   TO   5-0030-PROGE              DO0030
         MOVE  'O'  TO  OPER       GO TO F40-A.                  DO0030
           IF      I-PFKEY      = '02'                           DO0030
            MOVE    'DO0010  '   TO   5-0030-PROGE              DO0030
         MOVE  'O'  TO  OPER       GO TO F40-A.                  DO0030
           IF      I-PFKEY      = '03'                           DO0030
            MOVE    'DO0020  '   TO   5-0030-PROGE              DO0030
         MOVE  'O'  TO  OPER       GO TO F40-A.                  DO0030
           IF      I-PFKEY      = '04'                           DO0030
            MOVE    'DO0040  '   TO   5-0030-PROGE              DO0030
         MOVE  'O'  TO  OPER       GO TO F40-A.                  DO0030
           IF      I-PFKEY      = '05'                           DO0030
            MOVE    'DO0050  '   TO   5-0030-PROGE              DO0030
         MOVE  'O'  TO  OPER       GO TO F40-A.                  DO0030
           IF      I-PFKEY      = '12'                           DO0030
            MOVE    'DO0070  '   TO   5-0030-PROGE              DO0030
         MOVE  'O'  TO  OPER       GO TO F40-A.                  DO0030
           IF      I-PFKEY      = '00'                           DO0030
         MOVE  'E'  TO  OPER       GO TO F40-A.                  DO0030
           IF      I-PFKEY      = '07'                           DO0030
         MOVE 'M' TO OPER GO TO F0520-900.                       DO0030
           IF      I-PFKEY      = '08'                           DO0030
         MOVE 'S' TO OPER GO TO F0520-900.                       DO0030
 F0520-900.                                                      DO0030
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          IF OPER NOT = 'A' AND OPER NOT = 'M' AND OPER NOT = 'O'   DO0030
          GO TO F3999-ITER-FT.                                      DO0030
    F0520-FN.    EXIT.                                            DO0030
    F05-FN.      EXIT.                                            DO0030
   *             +---------------------------------+              P000
   * LEVEL 10    I NO UPDATE ==> END OF RECEIVE      I            P000
   *             +---------------------------------+              P000
    F08BB.    IF    OPER NOT = 'M'                                P000
              NEXT SENTENCE ELSE GO TO     F08BB-FN.              P000
        GO TO F3999-ITER-FT.                                      P100
    F08BB-FN.    EXIT.                                            P000
   *             ***********************************              DO0030
   *             *                                 *              DO0030
   *             *  CATEGORY PROCESSING LOOP       *              DO0030
   *             *                                 *              DO0030
   *             ***********************************              DO0030
    F10.           EXIT.                                          DO0030
    F1010.      MOVE SPACE TO CATM.                               DO0030
          IF CATX = 'R'                                           DO0030
          MOVE  O-0030-LINE           TO                          DO0030
                P-0030-LINE    (ICATR)                            DO0030
          MOVE  A-0030-LINE   (1)     TO                          DO0030
                B-0030-LINE   (1, ICATR)                          DO0030
          MOVE  A-0030-LINE   (2)     TO                          DO0030
                B-0030-LINE   (2, ICATR)                          DO0030
          MOVE  A-0030-LINE   (4)     TO                          DO0030
                B-0030-LINE   (4, ICATR)                          DO0030
          MOVE  I-0030-LINE           TO                          DO0030
                J-0030-LINE    (ICATR)                            DO0030
          MOVE  T-0030-LINE           TO                          DO0030
                U-0030-LINE   (ICATR)                             DO0030
          MOVE      ER-0030-LINE      TO                          DO0030
                      PS-30-LINE    (ICATR).                      DO0030
         IF CAT-ER = 'E' MOVE '4' TO SCR-ER GO TO F3999-ITER-FT.  DO0030
          MOVE SPACE TO CAT-ER.                                   DO0030
          IF CATX = '0' MOVE ' ' TO CATX GO TO F1010-FN.          DO0030
          IF CATX = ' ' MOVE 'R' TO CATX MOVE ZERO TO ICATR.      DO0030
          IF CATX = 'R' AND ICATR < IRR  ADD  1 TO ICATR          DO0030
          MOVE        PS-30-LINE   (ICATR) TO                     DO0030
                    ER-0030-LINE                                  DO0030
          MOVE  B-0030-LINE   (4, ICATR) TO                       DO0030
                A-0030-LINE   (4)                                 DO0030
          MOVE  P-0030-LINE    (ICATR) TO                         DO0030
                O-0030-LINE                                       DO0030
          MOVE  U-0030-LINE   (ICATR)    TO                       DO0030
                T-0030-LINE                                       DO0030
          MOVE  J-0030-LINE    (ICATR) TO                         DO0030
                I-0030-LINE    GO TO F1010-FN.                    DO0030
          IF CATX = 'R' MOVE 'Z' TO CATX GO TO F1010-FN.          DO0030
    F1010-A.   GO TO F3999-ITER-FT.                               DO0030
    F1010-FN.    EXIT.                                            DO0030
    F10-FN.      EXIT.                                            DO0030
   *             ***********************************              DO0030
   *             *                                 *              DO0030
   *             *  VALIDATION OF TRANSACTION CODE *              DO0030
   *             *                                 *              DO0030
   *             ***********************************              DO0030
    F15.           EXIT.                                          DO0030
    F15R.  IF CATX NOT = 'R' GO TO F15R-FN.                       DO0030
          IF OPER NOT = 'M' MOVE SPACE TO CATM GO TO F15R-FN.     DO0030
          IF    I-0030-CODMVT     = SPACE GO TO F15-FN.           DO0030
          IF    I-0030-CODMVT     = 'C'                           DO0030
          MOVE 'C' TO CATM.                                       DO0030
          IF    I-0030-CODMVT     = 'M'                           DO0030
          MOVE 'M' TO CATM.                                       DO0030
          IF    I-0030-CODMVT     = 'S'                           DO0030
          MOVE 'A' TO CATM.                                       DO0030
          IF    CATM = SPACE                                      DO0030
          MOVE 5 TO    ER-0030-CODMVT  MOVE 'E' TO CAT-ER        DO0030
          GO TO F3999-ITER-FI.                                    DO0030
    F15R-FN.     EXIT.                                            DO0030
    F15Z.  IF CATX NOT = 'Z' GO TO F15Z-FN.                       DO0030
          IF OPER NOT = 'M' MOVE SPACE TO CATM GO TO F15Z-FN.     DO0030
          IF    I-0030-EDIT       = SPACE GO TO F15-FN.           DO0030
          IF    I-0030-EDIT       = 'O'                           DO0030
          MOVE 'X' TO CATM.                                       DO0030
          IF    CATM = SPACE                                      DO0030
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          MOVE 5 TO    ER-0030-EDIT    MOVE 'E' TO CAT-ER          DO0030
          GO TO F3999-ITER-FI.                                     DO0030
    F15Z-FN.                                                       DO0030
   *             +----------------------------------+              P000
   * LEVEL 10    I INITIALIZATION CATM (HEADING)     I             P000
   *             +----------------------------------+              P000
    F15AA.    IF    CATX = SPACE                                   P000
              AND   OPER = 'M'                                     P100
              NEXT SENTENCE ELSE GO TO     F15AA-FN.               P100
        MOVE        'M' TO CATM.                                   P100
    F15AA-FN.    EXIT.                                           P000
    F15-FN.      EXIT.                                           P000
   *             ************************************             DO0030
   *             *                                  *             DO0030
   *             *  DATA ELEMENT VALIDATION         *             DO0030
   *             *                                  *             DO0030
   *             ************************************             DO0030
    F20.         EXIT.                                           DO0030
    F20A.  IF CATX NOT = ' ' GO TO F20A-FN.                      DO0030
    F20A2.       EXIT.                                           DO0030
    F20A2-FN.    EXIT.                                           DO0030
    F20B1.                                                       DO0030
             IF I-0030-MATE   NOT = SPACE                        DO0030
          MOVE '1' TO    ER-0030-MATE.                          DO0030
             IF     ER-0030-MATE     NOT = 1                     DO0030
                                        GO TO F20B1-FN.          DO0030
            IF  I-0030-MATE       = 'I1'                         DO0030
            OR  I-0030-MATE       = 'I2'                         DO0030
            OR  I-0030-MATE       = 'I3'                         DO0030
            OR  I-0030-MATE       = 'I4'                         DO0030
            OR  I-0030-MATE       = 'I5'                         DO0030
            OR  I-0030-MATE       = 'B7'                         DO0030
            OR  I-0030-MATE       = 'B8'                         DO0030
            OR  I-0030-MATE       = 'UN'                         DO0030
            OR  I-0030-MATE       = 'IC'                         DO0030
            OR  I-0030-MATE       = 'IBM.V.OS'                   DO0030
            OR  I-0030-MATE       = 'IBM.V.DO'                   DO0030
            OR  I-0030-MATE       = 'IBM.D.OS'                   DO0030
            OR  I-0030-MATE       = 'IBM.D.DO'                   DO0030
            OR  I-0030-MATE       = 'IBM.IMS '                   DO0030
            OR  I-0030-MATE       = 'DPS7    '                   DO0030
            OR  I-0030-MATE       = 'DPS8    '                   DO0030
            OR  I-0030-MATE       = 'UNISYS  '                   DO0030
            OR  I-0030-MATE       = 'ICL     '                   DO0030
            OR  I-0030-MATE       = 'SPECIAL'                    DO0030
              NEXT SENTENCE ELSE                                 DO0030
          MOVE '5' TO    ER-0030-MATE.                          DO0030
             IF     ER-0030-MATE   > '1'                         DO0030
          MOVE 'E' TO CAT-ER                  GO TO F20B1-FN.    DO0030
    F20B1-FN.    EXIT.                                           DO0030
    F20B2.                                                       DO0030
             IF I-0030-RELEA  NOT = SPACE                        DO0030
          MOVE '1' TO    ER-0030-RELEA                          DO0030
             ELSE                                                DO0030
          MOVE '2' TO    ER-0030-RELEA                          DO0030
          MOVE 'E' TO CAT-ER                  GO TO F20B2-FN.    DO0030
            IF  I-0030-RELEA      = '7.2'                        DO0030
            OR  I-0030-RELEA      = '7.3'                        DO0030
            OR  I-0030-RELEA      = '8.0'                        DO0030
              NEXT SENTENCE ELSE                                 DO0030
          MOVE '5' TO    ER-0030-RELEA.                         DO0030
             IF     ER-0030-RELEA  > '1'                         DO0030
          MOVE 'E' TO CAT-ER                  GO TO F20B2-FN.    DO0030
    F20B2-FN.    EXIT.                                           DO0030
    F20B5.                                                       DO0030
             IF I-0030-RUE    NOT = SPACE                        DO0030
          MOVE '1' TO    ER-0030-RUE.                           DO0030
    F20B5-FN.    EXIT.                                           DO0030
    F20B7.                                                       DO0030
             IF I-0030-COPOS  NOT = SPACE                        DO0030
          MOVE '1' TO    ER-0030-COPOS                          DO0030
             ELSE                                                DO0030
          MOVE '2' TO    ER-0030-COPOS                          DO0030
          MOVE 'E' TO CAT-ER                  GO TO F20B7-FN.    DO0030
          MOVE  I-0030-COPOS  TO WP30-COPOS                      DO0030
          MOVE      ER-0030-COPOS  TO DEL-ER                     DO0030
          PERFORM  F93CP  THRU  F93CP-FN                         DO0030
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           MOVE    WP30-COPOS     TO                                  DO0030
                 I-0030-COPOS                                        DO0030
           MOVE DEL-ER TO    ER-0030-COPOS.                          DO0030
              IF     ER-0030-COPOS  > '1'                            DO0030
           MOVE 'E' TO CAT-ER                  GO TO F20B7-FN.      DO0030
      F20B7-FN.    EXIT.                                             DO0030
      F20B8.                                                         DO0030
              IF I-0030-REFCLI NOT = SPACE                           DO0030
           MOVE '1' TO    ER-0030-REFCLI.                          DO0030
      F20B8-FN.    EXIT.                                             DO0030
      F20B9.                                                         DO0030
              IF I-0030-DATE   NOT = SPACE                           DO0030
           MOVE '1' TO    ER-0030-DATE                             DO0030
              ELSE                                                   DO0030
           MOVE '2' TO    ER-0030-DATE                             DO0030
           MOVE 'E' TO CAT-ER                  GO TO F20B9-FN.      DO0030
           MOVE  I-0030-DATE   TO DAT7                              DO0030
           PERFORM  F8120-D THRU  F8120-FN                          DO0030
           MOVE DEL-ER TO    ER-0030-DATE                           DO0030
           IF DEL-ER > '1' MOVE 'E' TO CAT-ER GO TO F20B9-FN.       DO0030
      F20B9-FN.    EXIT.                                             DO0030
      F20C0.                                                         DO0030
              IF I-0030-CORRES NOT = SPACE                           DO0030
           MOVE '1' TO    ER-0030-CORRES.                          DO0030
              IF     ER-0030-CORRES   NOT = 1                        DO0030
                                        GO TO F20C0-FN.              DO0030
      F20C0-FN.    EXIT.                                             DO0030
      F20C1.                                                         DO0030
              IF E-0030-REMIS  NOT = SPACE                           DO0030
           MOVE '1' TO    ER-0030-REMIS.                           DO0030
           MOVE  E-0030-REMIS  TO ZONUM1                            DO0030
           MOVE  9-0030-REMIS  TO NUMPIC                            DO0030
           MOVE      ER-0030-REMIS  TO DEL-ER                       DO0030
           PERFORM F8110 THRU F8110-FN                              DO0030
           MOVE DEL-ER TO    ER-0030-REMIS                          DO0030
           IF DEL-ER > 1 MOVE 'E' TO CAT-ER  GO TO F20C1-FN.        DO0030
           MOVE ZONUM2 TO E-0030-REMIS.                             DO0030
           IF DEL-ER = '1'                                          DO0030
          MOVE I-0030-REMIS  TO  O-0030-REMIS.                      DO0030
      F20C1-FN.    EXIT.                                             DO0030
      F20A-FN.     EXIT.                                             DO0030
      F20R.  IF CATX NOT = 'R' GO TO F20R-FN.                        DO0030
      F20C3.                                                         DO0030
              IF I-0030-CODMVT NOT = SPACE                           DO0030
           MOVE '1' TO    ER-0030-CODMVT.                          DO0030
      F20C3-FN.    EXIT.                                             DO0030
     *             +-----------------------------------+             P000
     * LEVEL 10    I ITEM NOT AVAILABLE                I             P000
     *             +-----------------------------------+             P000
      F20BB.                                                         P000
              IF    I-0030-FOURNI = 'CLA'                            P100
              AND   CATM NOT = SPACE                                 P110
          MOVE 'A'   TO  ER-0030-FOURNI                              P100
          MOVE 'E' TO CAT-ER                                         P100
               GO TO F20C4-FN.                                       P110
      F20BB-FN.    EXIT.                                             P000
      F20C4.                                                         DO0030
           IF CATM  = SPACE                GO TO F20C4-FN.         DO0030
              IF I-0030-FOURNI NOT = SPACE                           DO0030
           MOVE '1' TO    ER-0030-FOURNI                           DO0030
              ELSE                                                   DO0030
           MOVE '2' TO    ER-0030-FOURNI                           DO0030
           MOVE 'E' TO CAT-ER                  GO TO F20C4-FN.      DO0030
             IF  I-0030-FOURNI     = 'DIC'                         DO0030
             OR  I-0030-FOURNI     = 'MER'                         DO0030
             OR  I-0030-FOURNI     = 'TAB'                         DO0030
             OR  I-0030-FOURNI     = 'DBD'                         DO0030
             OR  I-0030-FOURNI     = 'DSO'                         DO0030
             OR  I-0030-FOURNI     = 'LGS'                         DO0030
             OR  I-0030-FOURNI     = 'LGB'                         DO0030
             OR  I-0030-FOURNI     = 'DLG'                         DO0030
              NEXT SENTENCE ELSE                                     DO0030
           MOVE '5' TO    ER-0030-FOURNI.                          DO0030
              IF     ER-0030-FOURNI > '1'                            DO0030
           MOVE 'E' TO CAT-ER                  GO TO F20C4-FN.      DO0030
      F20C4-FN.    EXIT.                                             DO0030
      F20C5.                                                         DO0030
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          IF CATM = 'A' OR CATM = SPACE     GO TO F20C5-FN.         DO0030
             IF E-0030-QTMAC  NOT = SPACE                           DO0030
          MOVE '1' TO    ER-0030-QTMAC                            DO0030
             ELSE                                                   DO0030
          MOVE '2' TO    ER-0030-QTMAC                            DO0030
          MOVE 'E' TO CAT-ER                  GO TO F20C5-FN.      DO0030
          MOVE  E-0030-QTMAC  TO ZONUM1                           DO0030
          MOVE  9-0030-QTMAC  TO NUMPIC                           DO0030
          MOVE      ER-0030-QTMAC  TO DEL-ER                      DO0030
          PERFORM F8110 THRU F8110-FN                             DO0030
          MOVE DEL-ER TO    ER-0030-QTMAC                         DO0030
          IF DEL-ER > 1 MOVE 'E' TO CAT-ER  GO TO F20C5-FN.       DO0030
          MOVE ZONUM2 TO E-0030-QTMAC.                            DO0030
          IF DEL-ER = '1'                                         DO0030
      MOVE I-0030-QTMAC  TO  O-0030-QTMAC.                        DO0030
           IF  I-0030-QTMAC  NOT <  01                            DO0030
           AND I-0030-QTMAC  NOT >     50                         DO0030
            NEXT SENTENCE ELSE                                    DO0030
          MOVE '5' TO    ER-0030-QTMAC.                           DO0030
             IF     ER-0030-QTMAC  > '1'                          DO0030
          MOVE 'E' TO CAT-ER                  GO TO F20C5-FN.      DO0030
   F20C5-FN.    EXIT.                                             DO0030
   F20C8.                                                         DO0030
          IF CATM = 'A' OR CATM = SPACE     GO TO F20C8-FN.       DO0030
             IF I-0030-INFOR  NOT = SPACE                         DO0030
          MOVE '1' TO    ER-0030-INFOR.                           DO0030
             IF     ER-0030-INFOR    NOT = 1                      DO0030
                                        GO TO F20C8-FN.           DO0030
   F20C8-FN.    EXIT.                                             DO0030
   F20R-FN.     EXIT.                                             DO0030
   F20Z.  IF CATX NOT = 'Z' GO TO F20Z-FN.                        DO0030
   F20D0.                                                         DO0030
             IF I-0030-EDIT   NOT = SPACE                         DO0030
          MOVE '1' TO    ER-0030-EDIT.                            DO0030
   F20D0-FN.    EXIT.                                             DO0030
   F20Z-FN.     EXIT.                                             DO0030
   F20-FN.      EXIT.                                             DO0030
  *           ************************************               DO0030
  *           *                                  *               DO0030
  *           *  SEGMENT ACCESS FOR VALIDATION   *               DO0030
  *           *                                  *               DO0030
  *           ************************************               DO0030
   F25.       IF CAT-ER NOT = SPACE GO TO F25-FN.                 DO0030
   F25A.  IF CATX NOT = ' ' GO TO F25A-FN.                        DO0030
   F2501.                                                         DO0030
          MOVE '0' TO CD05-CF.                                    DO0030
          IF CATM = SPACE                 GO TO F2501-FN.         DO0030
          MOVE    CA00-NUCOM     TO                               DO0030
                   S-CDU05-KEYCD                                  DO0030
          PERFORM F80-CD05-RU THRU F80-FN.                        DO0030
          IF IK = '0'                                             DO0030
          MOVE '1' TO CD05-CF.                                    DO0030
          IF CATM NOT = 'C' AND IK = '1'                          DO0030
                      MOVE  'F019' TO XERCD                       DO0030
                      PERFORM F81UT         GO TO F2501-FN.       DO0030
   F2501-FN.    EXIT.                                             DO0030
   F25A-FN.     EXIT.                                             DO0030
   F25R.  IF CATX NOT = 'R' GO TO F25R-FN.                        DO0030
   F2504.                                                         DO0030
          MOVE '0' TO CD10-CF.                                    DO0030
          IF CATM = SPACE                 GO TO F2504-FN.         DO0030
          MOVE    CA00-NUCOM     TO                               DO0030
                   S-CDU05-KEYCD                                  DO0030
          MOVE  I-0030-FOURNI    TO                               DO0030
                   S-CDU10-FOURNI                                 DO0030
          PERFORM F80-CD10-RU THRU F80-FN.                        DO0030
          IF IK = '0'                                             DO0030
          MOVE '1' TO CD10-CF.                                    DO0030
          IF CATM = 'X' AND IK = '1' MOVE 'C' TO CATM.            DO0030
          IF CATM = 'X' AND IK = '0' MOVE 'M' TO CATM.            DO0030
          IF CATM = 'C' AND IK = '0'                              DO0030
                      MOVE  'F048' TO XERCD                       DO0030
                      PERFORM F81UT         GO TO F2504-FN.       DO0030
          IF CATM NOT = 'C' AND IK = '1'                          DO0030
                      MOVE  'F049' TO XERCD                       DO0030
                      PERFORM F81UT         GO TO F2504-FN.       DO0030
  *            +-----------------------------------+              P000
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* LEVEL 12    I ACCESS TO FO10                    I              P000
*            +-----------------------------------+              P000
 F25BB.                                                         P000
     MOVE        '1' TO CD10-CF.                                P100
 F25BB-FN.    EXIT.                                             P000
 F2504-FN.    EXIT.                                             P000
 F2505.                                                         DO0030
        MOVE '0' TO FO10-CF.                                    DO0030
        IF          CD10-CF NOT = '1'   GO TO   F2505-FN.       DO0030
        IF CATM = SPACE                   GO TO F2505-FN.       DO0030
        MOVE  I-0030-FOURNI    TO                               DO0030
                 S-FOU10-CLEFO                                  DO0030
        MOVE  I-0030-RELEA     TO                               DO0030
                 S-FOU10-RELEA                                  DO0030
        PERFORM F80-FO10-RU THRU F80-FN.                        DO0030
        IF IK = '0'                                             DO0030
        MOVE '1' TO FO10-CF.                                    DO0030
        IF IK = '1' MOVE  'F059' TO XERCD                       DO0030
                    PERFORM F81UT         GO TO F2505-FN.       DO0030
 F2505-FN.    EXIT.                                             DO0030
 F25R-FN.     EXIT.                                             DO0030
 F25Z.  IF CATX NOT = 'Z' GO TO F25Z-FN.                        DO0030
 F2507.                                                         DO0030
        MOVE '0' TO CD20-CF.                                    DO0030
        IF CATM = SPACE                   GO TO F2507-FN.       DO0030
        MOVE    CA00-NUCOM     TO                               DO0030
                 S-CDU05-KEYCD                                  DO0030
        MOVE    'O'            TO                               DO0030
                 S-CDU20-EDIT                                   DO0030
        PERFORM F80-CD20-RU THRU F80-FN.                        DO0030
        IF IK = '0'                                             DO0030
        MOVE '1' TO CD20-CF.                                    DO0030
        IF CATM = 'X' AND IK = '1' MOVE 'C' TO CATM.            DO0030
        IF CATM = 'X' AND IK = '0' MOVE 'M' TO CATM.            DO0030
        IF CATM = 'C' AND IK = '0'                              DO0030
                    MOVE  'F078' TO XERCD                       DO0030
                    PERFORM F81UT         GO TO F2507-FN.       DO0030
        IF CATM NOT = 'C' AND IK = '1'                          DO0030
                    MOVE  'F079' TO XERCD                       DO0030
                    PERFORM F81UT         GO TO F2507-FN.       DO0030
 F2507-FN.    EXIT.                                             DO0030
 F25Z-FN.     EXIT.                                             DO0030
 F2599.     IF CAT-ER = SPACE GO TO F2599-FN.                   DO0030
        IF          CD05-CF = '1'                               DO0030
        PERFORM F80-CD05-UN THRU F80-FN.                        DO0030
        IF          CD10-CF = '1'                               DO0030
        PERFORM F80-CD10-UN THRU F80-FN.                        DO0030
        IF          FO10-CF = '1'                               DO0030
        PERFORM F80-FO10-UN THRU F80-FN.                        DO0030
        IF          CD20-CF = '1'                               DO0030
        PERFORM F80-CD20-UN THRU F80-FN.                        DO0030
        IF CATX = ' ' AND DE-AT (4, 009) = 'X'                  DO0030
        MOVE  ' '   TO  DE-AT (4, 009).                        DO0030
        IF CATX = ' '                                           DO0030
        MOVE  'X'   TO A-0030-MATE   (4).                       DO0030
        IF CATX = 'R' AND DE-AT (4, 009) = 'X'                  DO0030
        MOVE  ' '   TO  DE-AT (4, 009).                        DO0030
        IF CATX = 'R'                                           DO0030
        MOVE  'X'   TO A-0030-CODMVT (4).                       DO0030
        IF CATX = 'Z' AND DE-AT (4, 009) = 'X'                  DO0030
        MOVE  ' '   TO  DE-AT (4, 009).                        DO0030
        IF CATX = 'Z'                                           DO0030
        MOVE  'X'   TO A-0030-EDIT   (4).                       DO0030
 F2599-FN.    EXIT.                                             DO0030
 F25-FN.      EXIT.                                             DO0030
*            +-----------------------------------+              P000
* LEVEL 10    I STOCK UPD.: ORDER DELETION/UPD    I           P000
*            +-----------------------------------+              P000
 F28BH.    IF    (CATM = 'A' OR 'M')                           P000
           AND   CATX = 'R'                                    P100
           AND   CAT-ER = SPACES                               P120
           NEXT SENTENCE ELSE GO TO     F28BH-FN.              P120
     ADD         CD10-QTMAL TO FO10-QTMAS.                     P100
 F28BH-FN.    EXIT.                                             P000
*           ************************************               DO0030
*           *                                  *               DO0030
*           *  DATA ELEMENT TRANSFER           *               DO0030
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*           *                                   *                DO0030
*           ************************************                 DO0030
 F30.       IF CAT-ER NOT = SPACE GO TO F30-FN.                   DO0030
 F30A.  IF CATX NOT = ' ' GO TO F30A-FN.                          DO0030
        MOVE     I-0030-RELEA       TO     CD05-RELEA.           DO0030
        MOVE     I-0030-COPOS       TO     CD05-COPOS.           DO0030
        MOVE     I-0030-REFCLI      TO     CD05-REFCLI.          DO0030
        MOVE     I-0030-DATE        TO     CD05-DATE.            DO0030
        MOVE     I-0030-REMIS       TO     CD05-REMIS.           DO0030
           IF     ER-0030-MATE   = '1'                           DO0030
        MOVE     I-0030-MATE        TO     CD05-MATE.            DO0030
           IF     ER-0030-CORRES = '1'                           DO0030
        MOVE     I-0030-CORRES      TO     CD05-CORRES.          DO0030
 F30A-FN.     EXIT.                                             DO0030
 F30R.  IF CATX NOT = 'R' GO TO F30R-FN.                          DO0030
           IF     ER-0030-INFOR  = '1'                           DO0030
        MOVE     I-0030-INFOR       TO     CD10-INFOR.           DO0030
        IF CATM NOT = SPACE                                      DO0030
        MOVE     I-0030-FOURNI      TO     CD00-FOURNI.          DO0030
        IF CATM NOT = SPACE AND CATM NOT = 'A'                   DO0030
        MOVE     I-0030-QTMAC       TO     CD10-QTMAC            DO0030
        ADD      I-0030-QTMAC       TO     FO10-QTMAM.           DO0030
*             +-----------------------------------+               P000
* LEVEL 10    I QUANTITY PROCESSING               I              P000
*             +-----------------------------------+               P000
 F30BD.                                                          P000
*             +-----------------------------------+               P000
* LEVEL 12    I CALC. DELIV. QUANT.   STOCK UPD.  I              P000
*             +-----------------------------------+               P000
 F30BF.    IF    CATM = 'C' OR 'M'                               P000
           NEXT SENTENCE ELSE GO TO     F30BF-FN.                P000
           IF    FO10-QTMAS NOT <                                P100
                 I-0030-QTMAC                                    P110
     MOVE        I-0030-QTMAC TO CD10-QTMAL                      P100
           ELSE                                                  P120
     MOVE        FO10-QTMAS TO CD10-QTMAL.                       P120
     SUBTRACT    CD10-QTMAL FROM FO10-QTMAS                      P130
     MOVE        CD10-QTMAL TO O-0030-QTMAL.                     P140
 F30BF-FN.    EXIT.                                              P000
 F30BD-FN.    EXIT.                                              P000
 F30R-FN.     EXIT.                                             DO0030
 F30Z.  IF CATX NOT = 'Z' GO TO F30Z-FN.                        DO0030
        MOVE     I-0030-EDIT        TO     CD20-EDIT.           DO0030
 F30Z-FN.     EXIT.                                             DO0030
 F30-FN.      EXIT.                                             DO0030
*           ************************************                 DO0030
*           *                                   *                DO0030
*           *  SEGMENT ACCESS FOR UPDATE        *                DO0030
*           *                                   *                DO0030
*           ************************************                 DO0030
 F35.     IF CAT-ER NOT = SPACE OR CATM = SPACE GO TO F35-FN.    DO0030
 F35A.  IF CATX NOT = ' ' GO TO F35A-FN.                        DO0030
 F3501.                                                         DO0030
        IF CATM NOT = 'C' AND CATM NOT = 'A'                    DO0030
        PERFORM F80-CD05-RW THRU F80-FN.                        DO0030
 F3501-FN.    EXIT.                                             DO0030
 F35A-FN.     EXIT.                                             DO0030
 F35R.  IF CATX NOT = 'R' GO TO F35R-FN.                        DO0030
 F3504.                                                         DO0030
        IF CATM = 'C'                                           DO0030
        PERFORM F80-CD10-W  THRU F80-FN.                        DO0030
        IF CATM = 'A'                                           DO0030
        PERFORM F80-CD10-D  THRU F80-FN.                        DO0030
        IF CATM NOT = 'C' AND CATM NOT = 'A'                    DO0030
        PERFORM F80-CD10-RW THRU F80-FN.                        DO0030
 F3504-FN.    EXIT.                                             DO0030
 F3505.                                                         DO0030
        IF          FO10-CF = '1'                               DO0030
        PERFORM F80-FO10-RW THRU F80-FN.                        DO0030
 F3505-FN.    EXIT.                                             DO0030
 F35R-C3.   MOVE   SPACE     TO       O-0030-CODMVT.            DO0030
            MOVE   SPACE     TO       T-0030-CODMVT.            DO0030
 F35R-FN.     EXIT.                                             DO0030
 F35Z.  IF CATX NOT = 'Z' GO TO F35Z-FN.                        DO0030
 F3507.                                                         DO0030
        IF CATM = 'C'                                           DO0030
        PERFORM F80-CD20-W  THRU F80-FN.                        DO0030
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           IF CATM NOT = 'C' AND CATM NOT = 'A'                        DO0030
           PERFORM F80-CD20-RW THRU F80-FN.                            DO0030
    F3507-FN.    EXIT.                                                 DO0030
    F35Z-D0.   MOVE   SPACE     TO       O-0030-EDIT.                  DO0030
               MOVE   SPACE     TO       T-0030-EDIT.                  DO0030
    F35Z-FN.     EXIT.                                                 DO0030
    F35-FN.      EXIT.                                                 DO0030
    F3999-ITER-FI.  GO TO F10.                                         DO0030
    F3999-ITER-FT.     EXIT.                                           DO0030
    F3999-FN.    EXIT.                                                 DO0030
    F40.       IF SCR-ER > '1'  MOVE 'A' TO OPER  GO TO F40-FN.        DO0030
    F40-A.     IF OPERD NOT = SPACE   MOVE OPERD TO OPER.              DO0030
   *           ************************************                    DO0030
   *           *                                  *                    DO0030
   *           *  SET-UP KEYS FOR NEW DISPLAY     *                    DO0030
   *           *                                  *                    DO0030
   *           ************************************                    DO0030
    F4010.     IF OPER NOT = 'A' AND NOT = 'M' GO TO F4010-FN.          DO0030
    F40A.                                                              DO0030
           MOVE    CA00-NUCOM     TO                                  DO0030
                    S-CDU05-KEYCD                                      DO0030
           MOVE     S-CDU05-KEYCD  TO   K-ACD05-KEYCD.                DO0030
    F40A-FN.     EXIT.                                                 DO0030
    F40R.                                                              DO0030
           MOVE  J-0030-LINE   (1) TO                                  DO0030
                 I-0030-LINE.                                          DO0030
           MOVE    CA00-NUCOM     TO                                  DO0030
                    S-CDU05-KEYCD                                      DO0030
           MOVE    SPACES         TO                                  DO0030
                    S-CDU10-FOURNI                                     DO0030
           MOVE     S-CDU05-KEYCD  TO   K-RCD05-KEYCD  (1).           DO0030
           MOVE     S-CDU10-FOURNI TO   K-RCD10-FOURNI (1).           DO0030
    F40R-FN.     EXIT.                                                 DO0030
    F40Z.                                                              DO0030
           MOVE    CA00-CLEME     TO                                  DO0030
                    S-MEU00-CLEME                                      DO0030
           MOVE     S-MEU00-CLEME  TO   K-ZME00-CLEME.                DO0030
    F40Z-FN.     EXIT.                                                 DO0030
    F4010-FN.    EXIT.                                                 DO0030
   *           ************************************                    DO0030
   *           *                                  *                    DO0030
   *           *  SET-UP KEYS FOR SCREEN PAGING   *                    DO0030
   *           *                                  *                    DO0030
   *           ************************************                    DO0030
    F4020.     IF OPER NOT = 'S' GO TO F4020-FN.                        DO0030
           MOVE     K-RCD05-KEYCD  (2) TO                             DO0030
                    K-RCD05-KEYCD  (1).                               DO0030
           MOVE     K-RCD10-FOURNI (2) TO                             DO0030
                    K-RCD10-FOURNI (1).                               DO0030
    F4020-FN.    EXIT.                                                 DO0030
   *           ************************************                    DO0030
   *           *                                  *                    DO0030
   *           *  END OF TRANSACTION              *                    DO0030
   *           *                                  *                    DO0030
   *           ************************************                    DO0030
    F4030.     IF OPER NOT = 'E' GO TO F4030-FN.                        DO0030
           PERFORM F80-HELP-D  THRU F80-FN.                            DO0030
           MOVE SPACE TO TRAN                                          DO0030
           MOVE 5 TO O-0030L                                           DO0030
           MOVE 'ODO0060  ' TO S-WWSS-XIMOD                            DO0030
           GO TO F8Z20.                                                DO0030
    F4030-FN.    EXIT.                                                 DO0030
   *           ************************************                    DO0030
   *           *                                  *                    DO0030
   *           *  TRANSFER TO ANOTHER SCREEN      *                    DO0030
   *           *                                  *                    DO0030
   *           ************************************                    DO0030
    F4040.     IF OPER NOT = 'O' GO TO F4040-FN.                        DO0030
           MOVE  5-0030-PROGE TO TRAN                                  DO0030
           MOVE '0' TO ICF                                             DO0030
           MOVE 'CHNG' TO S-WPCB-XFONC                                 DO0030
           CALL 'CBLTDLI' USING S-WPCB-XFONC S-ALTPCB TRAN             DO0030
           IF S-ALTPCB-XCORET NOT = SPACE GO TO F81IO-APCB.            DO0030
           MOVE 'ISRT' TO S-WPCB-XFONC                                 DO0030
           CALL 'CBLTDLI' USING S-WPCB-XFONC S-ALTPCB SPA              DO0030
           IF S-ALTPCB-XCORET NOT = SPACE GO TO F81IO-APCB.            DO0030
           GO TO F0110.                                                DO0030
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 F4040-FN.    EXIT.                                                  DO0030
 F40-FN.      EXIT.                                                  DO0030
 END-OF-RECEPTION.      EXIT.                                        DO0030
*           ************************************                    DO0030
*           *                                  *                    DO0030
*           *  DISPLAY PREPARATION             *                    DO0030
*           *                                  *                    DO0030
*           ************************************                    DO0030
 F50.      IF OCF = '0' GO TO END-OF-DISPLAY.                        DO0030
 F5010.                                                              DO0030
        MOVE ZERO TO CATX.                                           DO0030
        MOVE ZERO TO CONFIGURATIONS.                                 DO0030
        MOVE ALL '1' TO FIRST-ON-SEGMENT.                            DO0030
     IF SCR-ER NOT > '1' MOVE LOW-VALUE TO O-0030.                   DO0030
        IF SCR-ER > '1'  GO TO F6999-ITER-FT.                        DO0030
        PERFORM F8115 THRU F8115-FN.                                 DO0030
        MOVE K-R0030-LINE   (1)  TO                                  DO0030
             K-R0030-LINE   (2).                                     DO0030
 F5010-FN.    EXIT.                                                  DO0030
 F50-FN.      EXIT.                                                  DO0030
*           ************************************                    DO0030
*           *                                  *                    DO0030
*           *  CATEGORY PROCESSING LOOP        *                    DO0030
*           *                                  *                    DO0030
*           ************************************                    DO0030
 F55.         EXIT.                                                  DO0030
 F5510.                                                              DO0030
        MOVE SPACE TO CAT-ER.                                        DO0030
        IF CATX = '0' MOVE ' ' TO CATX GO TO F5510-FN.               DO0030
        IF CATX = ' ' MOVE 'R' TO CATX MOVE ZERO TO ICATR.           DO0030
        IF CATX NOT = 'R' OR  ICATR > IRR GO TO F5510-R.             DO0030
        IF ICATR > ZERO                                              DO0030
        MOVE  O-0030-LINE            TO                              DO0030
              P-0030-LINE    (ICATR)                                 DO0030
        MOVE      ER-0030-LINE       TO                              DO0030
                    PS-30-LINE    (ICATR).                           DO0030
        ADD 1 TO ICATR.                                              DO0030
        IF ICATR NOT > IRR                                           DO0030
        MOVE  P-0030-LINE    (ICATR) TO                              DO0030
              O-0030-LINE                                            DO0030
        MOVE        PS-30-LINE    (ICATR) TO                         DO0030
                  ER-0030-LINE.                                      DO0030
        GO TO F5510-FN.                                              DO0030
 F5510-R.     EXIT.                                                  DO0030
 F5510-Z.                                                            DO0030
        IF CATX = 'R' MOVE 'Z' TO CATX GO TO F5510-FN.               DO0030
 F5510-900. GO TO F6999-ITER-FT.                                     DO0030
 F5510-FN.    EXIT.                                                  DO0030
 F55-FN.      EXIT.                                                  DO0030
*           ************************************                    DO0030
*           *                                  *                    DO0030
*           *  SEGMENT ACCESS FOR DISPLAY      *                    DO0030
*           *                                  *                    DO0030
*           ************************************                    DO0030
 F60.         EXIT.                                                  DO0030
 F60A.  IF CATX NOT = ' ' GO TO F60A-FN.                             DO0030
 F6002.                                                              DO0030
        MOVE '0' TO CD05-CF.                                         DO0030
        MOVE     K-ACD05-KEYCD      TO                               DO0030
                 S-CDU05-KEYCD          CD05-KEYCD                  DO0030
        PERFORM F80-CD05-R  THRU F80-FN.                             DO0030
        IF IK = '1' MOVE  'G029' TO XERCD                            DO0030
        PERFORM F81UT THRU F81UT-FN       GO TO F6002-FN.            DO0030
        MOVE '1' TO CD05-CF.                                         DO0030
 F6002-FN.    EXIT.                                                  DO0030
 F60A-FN.     EXIT.                                                  DO0030
 F60R.  IF CATX NOT = 'R' OR FT = '1' GO TO F60R-FN.                 DO0030
 F6005.                                                              DO0030
        MOVE '0' TO CD10-CF.                                         DO0030
        IF          CD10-FST = '1'                                   DO0030
        MOVE     K-RCD05-KEYCD  (1) TO                               DO0030
                 S-CDU05-KEYCD          CD05-KEYCD                  DO0030
        MOVE     K-RCD10-FOURNI (1) TO                               DO0030
                 S-CDU10-FOURNI         CD10-FOURNI                 DO0030
        PERFORM F80-CD10-P  THRU F80-FN                              DO0030
        MOVE ZERO TO   CD10-FST ELSE                                 DO0030
        PERFORM F80-CD10-RN THRU F80-FN.                             DO0030
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           IF IK = '1' MOVE  'G059' TO XERCD MOVE '1' TO FT          DO0030
           PERFORM F81UT THRU F81UT-FN       GO TO F6005-FN.         DO0030
           MOVE '1' TO CD10-CF.                                      DO0030
           MOVE        CD10-FOURNI   TO K-RCD10-FOURNI (2).          DO0030
    F6005-FN.    EXIT.                                               DO0030
    F60R-FN.     EXIT.                                               DO0030
    F60Z.  IF CATX NOT = 'Z' GO TO F60Z-FN.                          DO0030
    F6008.                                                           DO0030
           MOVE '0' TO ME00-CF.                                      DO0030
           MOVE     K-ZME00-CLEME      TO                            DO0030
                    S-MEU00-CLEME          ME00-CLEME                DO0030
           PERFORM F80-ME00-R  THRU F80-FN.                          DO0030
           IF IK = '1' MOVE  'G089' TO XERCD                         DO0030
           PERFORM F81UT THRU F81UT-FN       GO TO F6008-FN.         DO0030
           MOVE '1' TO ME00-CF.                                      DO0030
    F6008-FN.    EXIT.                                               DO0030
    F60Z-FN.                                                         DO0030
    F60-FN.      EXIT.                                               DO0030
   *             +----------------------------------+                P000
   * LEVEL 10    I PREPARATION DISPLAY DATE/HOUR     I               P000
   *             +----------------------------------+                P000
    F64DA.    IF    CATX = ' '                                       P000
              NEXT SENTENCE ELSE GO TO     F64DA-FN.                 P000
        ACCEPT  DATOR  FROM DATE                                     P040
        MOVE            DATOR                                        P040
        TO DAT6 DAT8                                                 P040
        MOVE DAT63 TO DAT61 MOVE DAT81 TO DAT63                      P040
        MOVE      DATOR                                              P080
        TO  DAT6                                                     P080
        PERFORM F8120-I  THRU F8120-Z                                P080
        MOVE  DAT8C TO   DAT8C.                                      P080
        ACCEPT  TIMCO  FROM  TIME                                    P120
        MOVE            TIMCOG                                       P160
             TO TIMCOG                                               P160
        MOVE TIMCOH TO TIMHOU                                        P160
        MOVE TIMCOM TO TIMMIN                                        P160
        MOVE TIMCOS TO TIMSEC                                        P160
        MOVE ':'    TO TIMS1  TIMS2                                  P160
        MOVE TIMDAY TO   TIMDAY.                                     P160
    F64DA-FN.    EXIT.                                               P000
   *           ************************************                  DO0030
   *           *                                  *                  DO0030
   *           *  DATA ELEMENT TRANSFER           *                  DO0030
   *           *                                  *                  DO0030
   *           ************************************                  DO0030
    F65.         EXIT.                                               DO0030
    F65A.  IF CATX NOT = ' ' GO TO F65A-FN.                          DO0030
           MOVE    PROGE           TO                                DO0030
                 O-0030-PROGE.                                       DO0030
           MOVE    SESSI           TO                                DO0030
                 O-0030-SESSI.                                       DO0030
           MOVE    DAT8C           TO                                DO0030
                 O-0030-DATEM.                                       DO0030
           MOVE    TIMDAY          TO                                DO0030
                 O-0030-HEURE.                                       DO0030
    F65A-A7.                                                         DO0030
           MOVE    CA00-NUCOM      TO                                DO0030
                 O-0030-NUCOM.                                       DO0030
    F65A-A7-FN. EXIT.                                                DO0030
    F65A-A8.                                                         DO0030
           MOVE    CA00-RAISOC     TO                                DO0030
                 O-0030-RAISOC.                                      DO0030
    F65A-A8-FN. EXIT.                                                DO0030
    F65A-CD05.                                                       DO0030
           IF      CD05-CF   NOT = '1' GO  TO  F65A-CD05-FN.         DO0030
           MOVE    CD05-MATE       TO                                DO0030
                 O-0030-MATE.                                        DO0030
    F65A-B0.                                                         DO0030
           MOVE    CD05-RELEA      TO                                DO0030
                 O-0030-RELEA.                                       DO0030
    F65A-B0-FN. EXIT.                                                DO0030
    F65A-B1.                                                         DO0030
           MOVE    CD05-VILLE      TO                                DO0030
                 O-0030-VILLE.                                       DO0030
    F65A-B1-FN. EXIT.                                                DO0030
    F65A-B2.                                                         DO0030
           MOVE    CD05-COPOS      TO                                DO0030
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              O-0030-COPOS.                                          DO0030
    F65A-B2-FN. EXIT.                                                DO0030
    F65A-B3.                                                         DO0030
           MOVE    CD05-REFCLI      TO                               DO0030
                  O-0030-REFCLI.                                     DO0030
    F65A-B3-FN. EXIT.                                                DO0030
    F65A-B4.                                                         DO0030
           MOVE    CD05-DATE        TO                               DO0030
                  O-0030-DATE.                                       DO0030
    F65A-B4-FN. EXIT.                                                DO0030
    F65A-B5.                                                         DO0030
           MOVE    CD05-CORRES      TO                               DO0030
                  O-0030-CORRES.                                     DO0030
    F65A-B5-FN. EXIT.                                                DO0030
    F65A-B6.                                                         DO0030
           MOVE    CD05-REMIS       TO                               DO0030
                  O-0030-REMIS.                                      DO0030
    F65A-B6-FN. EXIT.                                                DO0030
    F65A-CD05-FN. EXIT.                                              DO0030
    F65A-FN.     EXIT.                                               DO0030
    F65R.  IF CATX NOT = 'R' OR FT = '1' GO TO F65R-FN.              DO0030
                         IF ICATR > IRR GO TO F65R-FN.               DO0030
    F65R-A5.                                                         DO0030
           MOVE    CD00-FOURNI      TO                               DO0030
                  O-0030-FOURNI.                                     DO0030
    F65R-A5-FN. EXIT.                                                DO0030
    F65R-CD10.                                                       DO0030
           IF      CD10-CF   NOT = '1' GO  TO  F65R-CD10-FN.         DO0030
           MOVE    CD10-QTMAC       TO                              DO0030
                  O-0030-QTMAC.                                      DO0030
    F65R-A7.                                                         DO0030
           MOVE    CD10-QTMAL       TO                              DO0030
                  O-0030-QTMAL.                                      DO0030
    F65R-A7-FN. EXIT.                                                DO0030
    F65R-A8.                                                         DO0030
           MOVE    CD10-INFOR       TO                              DO0030
                  O-0030-INFOR.                                      DO0030
    F65R-A8-FN. EXIT.                                                DO0030
    F65R-CD10-FN. EXIT.                                              DO0030
   *              +-----------------------------------+              P000
   * LEVEL 10    I REMAINS TO BE DELIVERED           I              P000
   *              +-----------------------------------+              P000
    F65BB.                                                           P000
              IF    CD10-QTMAL NOT = ZERO                            P100
        COMPUTE     WW10-QTMAR =                                     P100
                    CD10-QTMAC - CD10-QTMAL                          P110
        MOVE        WW10-QTMAR TO O-0030-QTMAR.                      P120
    F65BB-FN.    EXIT.                                               P000
    F65R-FN.     EXIT.                                               DO0030
    F65Z.  IF CATX NOT = 'Z' GO TO F65Z-FN.                          DO0030
    F65Z-ME00.                                                       DO0030
           IF      ME00-CF   NOT = '1' GO  TO  F65Z-ME00-FN.         DO0030
           MOVE    ME00-MESSA       TO                              DO0030
                  O-0030-MESSA.                                      DO0030
    F65Z-ME00-FN. EXIT.                                              DO0030
    F65Z-FN.     EXIT.                                               DO0030
    F65-FN.      EXIT.                                               DO0030
    F6999-ITER-FI.  GO TO F55.                                       DO0030
    F6999-ITER-FT.     EXIT.                                         DO0030
    F6999-FN.    EXIT.                                               DO0030
    F70.         EXIT.                                               DO0030
   *           ************************************                 DO0030
   *           *                                  *                 DO0030
   *           *  ERROR PROCESSING                *                 DO0030
   *           *                                  *                 DO0030
   *           ************************************                 DO0030
    F7010.     MOVE ZERO TO K01 K02 K04 MOVE 1 TO K03.               DO0030
           MOVE LIBRA TO EM00-LIBRA MOVE PROGR TO EM00-PROGR         DO0030
           MOVE ZERO TO EM00-LINUM MOVE 'H' TO EM00-ENTYP.           DO0030
    F7010-A.   IF K02 = INR AND K03 < IRR MOVE INA TO K02            DO0030
           ADD 1 TO K03. ADD 1 TO K01 K02.                           DO0030
           IF DE-ER (K01) > '1' OR < '0' MOVE 'Y' TO DE-AT (4, K01)  DO0030
           MOVE 'N' TO DE-AT (1, K01)                                DO0030
           MOVE 'N' TO DE-AT (2, K01)                                DO0030
           MOVE 'W' TO DE-AT (3, K01)                                DO0030
              IF K04 < IER MOVE DE-ER (K01) TO EM00-ERTYP            DO0030
           MOVE K02 TO EM00-ERCOD9 MOVE EM00-XEMKY TO EM00-ERMSG     DO0030
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          PERFORM F80-EM00-R THRU F80-FN ADD 1 TO K04                DO0030
          MOVE  EM00-ERMSG  TO    O-0030-ERMSG (K04).               DO0030
          IF K01 < INT      GO TO F7010-A.                          DO0030
          MOVE ZERO TO K50R.                                        DO0030
    F7010-B.                                                        DO0030
           ADD 1 TO K50R IF K50R > K50L OR K04 NOT < IER GO TO       DO0030
           F7010-FN. MOVE T-XEMKY (K50R) TO EM00-XEMKY EM00-ERMSG   DO0030
           PERFORM F80-EM00-R THRU F80-FN. ADD 1 TO K04              DO0030
          MOVE  EM00-ERMSG  TO    O-0030-ERMSG (K04)                DO0030
          GO TO F7010-B.                                            DO0030
    F7010-FN.    EXIT.                                              DO0030
   *           ************************************               DO0030
   *           *                                  *               DO0030
   *           *  POSITIONING OF ATTRIBUTES       *               DO0030
   *           *                                  *               DO0030
   *           ************************************               DO0030
    F7020.                                                          DO0030
          TRANSFORM DE-ATT1 (1) FROM 'NBD' TO 'AIE'.                DO0030
          MOVE  ZERO TO TALLY                                       DO0030
          EXAMINE DE-ATT1 (4) TALLYING UNTIL FIRST 'Y'.             DO0030
                      IF TALLY NOT <   0045                         DO0030
          MOVE ZERO TO TALLY                                        DO0030
          EXAMINE DE-ATT1 (4) TALLYING UNTIL FIRST 'Z'.             DO0030
                      IF TALLY NOT <   0045                         DO0030
          MOVE ZERO TO TALLY                                        DO0030
          EXAMINE DE-ATT1 (4) TALLYING UNTIL FIRST 'X'.             DO0030
                      IF TALLY NOT <   0045                         DO0030
          MOVE ZERO TO TALLY.                                       DO0030
          MOVE LOW-VALUE TO DE-ATT1 (4) ADD 1 TO TALLY              DO0030
          MOVE S-WWSS-CURS TO DE-AT (4, TALLY).                     DO0030
    F7020-A.                                                        DO0030
          MOVE  A-0030-MATE   (1)  TO   Y-0030-MATE.                DO0030
          MOVE  A-0030-MATE   (4 )  TO                              DO0030
                X-0030-MATE.                                        DO0030
          MOVE  A-0030-RELEA  (1)  TO   Y-0030-RELEA.               DO0030
          MOVE  A-0030-RELEA  (4 )  TO                              DO0030
                X-0030-RELEA.                                       DO0030
          MOVE  A-0030-RUE    (1)  TO   Y-0030-RUE.                 DO0030
          MOVE  A-0030-RUE    (4 )  TO                              DO0030
                X-0030-RUE.                                         DO0030
          MOVE  A-0030-COPOS  (1)  TO   Y-0030-COPOS.               DO0030
          MOVE  A-0030-COPOS  (4 )  TO                              DO0030
                X-0030-COPOS.                                       DO0030
          MOVE  A-0030-REFCLI (1)  TO   Y-0030-REFCLI.              DO0030
          MOVE  A-0030-REFCLI (4 )  TO                              DO0030
                X-0030-REFCLI.                                      DO0030
          MOVE  A-0030-DATE   (1)  TO   Y-0030-DATE.                DO0030
          MOVE  A-0030-DATE   (4 )  TO                              DO0030
                X-0030-DATE.                                        DO0030
          MOVE  A-0030-CORRES (1)  TO   Y-0030-CORRES.              DO0030
          MOVE  A-0030-CORRES (4 )  TO                              DO0030
                X-0030-CORRES.                                      DO0030
          MOVE  A-0030-REMIS  (1)  TO   Y-0030-REMIS.               DO0030
          MOVE  A-0030-REMIS  (4 )  TO                              DO0030
                X-0030-REMIS.                                       DO0030
          MOVE ZERO TO ICATR.                                       DO0030
    F7020-R.   ADD 1 TO ICATR                                       DO0030
          MOVE  P-0030-LINE   (ICATR)    TO                         DO0030
                O-0030-LINE                                         DO0030
          MOVE  B-0030-LINE   (1, ICATR) TO                         DO0030
                A-0030-LINE   (1)                                   DO0030
          MOVE  B-0030-LINE   (4, ICATR) TO                         DO0030
                A-0030-LINE   (4)                                   DO0030
          MOVE  A-0030-CODMVT (1)  TO   Y-0030-CODMVT.              DO0030
          MOVE  A-0030-CODMVT (4 )  TO                              DO0030
                X-0030-CODMVT.                                      DO0030
          MOVE  A-0030-FOURNI (1)  TO   Y-0030-FOURNI.              DO0030
          MOVE  A-0030-FOURNI (4 )  TO                              DO0030
                X-0030-FOURNI.                                      DO0030
          MOVE  A-0030-QTMAC  (1)  TO   Y-0030-QTMAC.               DO0030
          MOVE  A-0030-QTMAC  (4 )  TO                              DO0030
                X-0030-QTMAC.                                       DO0030
          MOVE  A-0030-INFOR  (1)  TO   Y-0030-INFOR.               DO0030
          MOVE  A-0030-INFOR  (4 )  TO                              DO0030
                X-0030-INFOR.                                       DO0030
          MOVE  O-0030-LINE              TO                         DO0030
                P-0030-LINE   (ICATR)                               DO0030
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       IF ICATR < IRR GO TO F7020-R.                                    DO0030
 F7020-Z.                                                               DO0030
       MOVE  A-0030-EDIT   (1)  TO   Y-0030-EDIT.                       DO0030
       MOVE  A-0030-EDIT   (4 )  TO                                     DO0030
             X-0030-EDIT.                                               DO0030
 F7020-FN.    EXIT.                                                     DO0030
 F70-FN.      EXIT.                                                     DO0030
 END-OF-DISPLAY.    EXIT.                                               DO0030
 F8Z.         EXIT.                                                     DO0030
 F8Z05.   IF SCR-ER = '1'                                               DO0030
       NEXT SENTENCE ELSE GO TO F8Z05-FN.                               DO0030
         IF K-S0030-DOC NOT = '2'                                       DO0030
        AND K-S0030-DOC NOT = '3'     GO TO F8Z05-A.                    DO0030
       MOVE '1' TO K-S0030-DOC                                          DO0030
       MOVE K-S0030-ERCOD9 TO K01 K02.                                  DO0030
       IF K02 > INR                                                     DO0030
       COMPUTE K02 = K01 + (INR - INA) * (IRR - 1).                     DO0030
       IF K02 < 1 OR K02 > INT MOVE 1 TO K02.                           DO0030
       MOVE 'X'  TO DE-AT (4, K02)                                      DO0030
       PERFORM F7020 THRU F7020-FN.                                     DO0030
 F8Z05-A.                                                               DO0030
         IF K-S0030-DOC = ZERO                                          DO0030
       MOVE '1' TO K-S0030-DOC                                          DO0030
       PERFORM F80-HELP-D  THRU F80-FN                                  DO0030
       PERFORM F80-HELP-W  THRU F80-FN  GO TO F8Z05-FN.                 DO0030
         IF K-S0030-DOC = '1'                                           DO0030
       PERFORM F80-HELP-RW THRU F80-FN.                                 DO0030
 F8Z05-FN.    EXIT.                                                     DO0030
*           ************************************                         DO0030
*           *                                  *                         DO0030
*           *  DISPLAY                         *                         DO0030
*           *                                  *                         DO0030
*           ************************************                         DO0030
 F8Z10.                                                                 DO0030
       IF SCR-ER  NOT > '1'                                             DO0030
       AND DE-AT (4, 009) = 'X'                                         DO0030
       PERFORM F7020 THRU F7020-FN.                                     DO0030
     MOVE     L-0030    TO            O-0030L.                          DO0030
            MOVE          'OIMD3M   '   TO                             DO0030
                  S-WWSS-XIMOD.                                         DO0030
       IF SCR-ER NOT > '1'                                              DO0030
       MOVE PROGR     TO          K-S0030-PROGR                         DO0030
       PERFORM F8125 THRU F8125-FN                                      DO0030
       MOVE 0 TO S-WWSS-SCR-ER.                                         DO0030
       IF SCR-ER > '1'                                                  DO0030
       MOVE 1 TO S-WWSS-SCR-ER.                                         DO0030
 F8Z10-FN.    EXIT.                                                     DO0030
*           ************************************                         DO0030
*           *                                  *                         DO0030
*           *  END OF PROGRAM                  *                         DO0030
*           *                                  *                         DO0030
*           ************************************                         DO0030
 F8Z20.                                                                 DO0030
       MOVE '1' TO ICF                                                  DO0030
       MOVE LOW-VALUE TO O-0030ZZ                                       DO0030
       MOVE 'ISRT' TO S-WPCB-XFONC                                      DO0030
       CALL 'CBLTDLI' USING S-WPCB-XFONC S-IPCB SPA                     DO0030
       IF S-IPCB-XCORET NOT = SPACE GO TO F81IO-IPCB.                   DO0030
       CALL 'CBLTDLI' USING S-WPCB-XFONC S-IPCB                         DO0030
       OUTPUT-SCREEN-FIELDS S-WWSS-XIMOD                                DO0030
       IF S-IPCB-XCORET NOT = SPACE GO TO F81IO-IPCB.                   DO0030
       GO TO F0110.                                                     DO0030
 F8Z20-FN.    EXIT.                                                     DO0030
 F8Z-FN.      EXIT.                                                     DO0030
*           ************************************                         DO0030
*           *                                  *                         DO0030
*           *  PHYSICAL SEGMENT ACCESS ROUTINES *                       DO0030
*           *                                  *                         DO0030
*           ************************************                         DO0030
 F80.         EXIT.                                                     DO0030
 F80-CD05-R.                                                            DO0030
       MOVE 'GU'   TO S-WPCB-XFONC   GO TO F80-CD05-1.                  DO0030
 F80-CD05-RU.                                                           DO0030
       MOVE 'GHU'  TO S-WPCB-XFONC   GO TO F80-CD05-1.                  DO0030
 F80-CD05-RW.                                                           DO0030
       MOVE 'REPL' TO S-WPCB-XFONC   GO TO F80-CD05-3.                  DO0030
 F80-CD05-UN.                                                           DO0030
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         GO TO F80-OK.                                          DO0030
F80-CD05-1.                                                     DO0030
               CALL 'CBLTDLI'  USING                            DO0030
                  S-WPCB-XFONC S-DBDCDE     CD05                DO0030
                               S-CDU05-SSA                      DO0030
             MOVE  ' ='    TO        S-CDU05-OPER              DO0030
       MOVE S-DBDCDE     TO S-SPCB    GO TO F80-ER.            DO0030
F80-CD05-3.    CALL 'CBLTDLI'  USING                            DO0030
                  S-WPCB-XFONC S-DBDCDE     CD05                DO0030
       MOVE S-DBDCDE     TO S-SPCB    GO TO F80-ER.            DO0030
F8001-FN.    EXIT.                                              DO0030
F80-CD10-R.                                                     DO0030
       MOVE 'GU'   TO S-WPCB-XFONC   GO TO F80-CD10-1.          DO0030
F80-CD10-RU.                                                    DO0030
       MOVE 'GHU'  TO S-WPCB-XFONC   GO TO F80-CD10-1.          DO0030
F80-CD10-P.                                                     DO0030
             MOVE  GREQ    TO        S-CDU10-OPER              DO0030
       MOVE 'GU'   TO S-WPCB-XFONC   GO TO F80-CD10-1.          DO0030
F80-CD10-RN.                                                    DO0030
       MOVE 'GN'   TO S-WPCB-XFONC   GO TO F80-CD10-2.          DO0030
F80-CD10-W.                                                     DO0030
       MOVE 'ISRT' TO S-WPCB-XFONC   GO TO F80-CD10-2.          DO0030
F80-CD10-RW.                                                    DO0030
       MOVE 'REPL' TO S-WPCB-XFONC   GO TO F80-CD10-3.          DO0030
F80-CD10-D.                                                     DO0030
       MOVE 'DLET' TO S-WPCB-XFONC   GO TO F80-CD10-3.          DO0030
F80-CD10-UN.                                                    DO0030
         GO TO F80-OK.                                          DO0030
F80-CD10-1.                                                     DO0030
               CALL 'CBLTDLI'  USING                            DO0030
                  S-WPCB-XFONC S-DBDCDE     CD10                DO0030
                               S-CDU05-SSA                      DO0030
                               S-CDU10-SSA                      DO0030
             MOVE  ' ='    TO        S-CDU10-OPER              DO0030
       MOVE S-DBDCDE     TO S-SPCB    GO TO F80-ER.            DO0030
F80-CD10-2.                                                     DO0030
               CALL 'CBLTDLI'  USING                            DO0030
                  S-WPCB-XFONC S-DBDCDE     CD10                DO0030
                               S-CDU05-SSA                      DO0030
                                S-CD10-SSA                      DO0030
       MOVE S-DBDCDE     TO S-SPCB    GO TO F80-ER.            DO0030
F80-CD10-3.    CALL 'CBLTDLI'  USING                            DO0030
                  S-WPCB-XFONC S-DBDCDE     CD10                DO0030
       MOVE S-DBDCDE     TO S-SPCB    GO TO F80-ER.            DO0030
F8002-FN.    EXIT.                                              DO0030
F80-CD20-RU.                                                    DO0030
       MOVE 'GHU'  TO S-WPCB-XFONC   GO TO F80-CD20-1.          DO0030
F80-CD20-W.                                                     DO0030
       MOVE 'ISRT' TO S-WPCB-XFONC   GO TO F80-CD20-2.          DO0030
F80-CD20-RW.                                                    DO0030
       MOVE 'REPL' TO S-WPCB-XFONC   GO TO F80-CD20-3.          DO0030
F80-CD20-UN.                                                    DO0030
         GO TO F80-OK.                                          DO0030
F80-CD20-1.                                                     DO0030
               CALL 'CBLTDLI'  USING                            DO0030
                  S-WPCB-XFONC S-DBDCDE     CD20                DO0030
                               S-CDU05-SSA                      DO0030
                               S-CDU20-SSA                      DO0030
             MOVE  ' ='    TO        S-CDU20-OPER              DO0030
       MOVE S-DBDCDE     TO S-SPCB    GO TO F80-ER.            DO0030
F80-CD20-2.                                                     DO0030
               CALL 'CBLTDLI'  USING                            DO0030
                  S-WPCB-XFONC S-DBDCDE     CD20                DO0030
                               S-CDU05-SSA                      DO0030
                                S-CD20-SSA                      DO0030
       MOVE S-DBDCDE     TO S-SPCB    GO TO F80-ER.            DO0030
F80-CD20-3.    CALL 'CBLTDLI'  USING                            DO0030
                  S-WPCB-XFONC S-DBDCDE     CD20                DO0030
       MOVE S-DBDCDE     TO S-SPCB    GO TO F80-ER.            DO0030
F8003-FN.    EXIT.                                              DO0030
F80-FO10-RU.                                                    DO0030
       MOVE 'GHU'  TO S-WPCB-XFONC   GO TO F80-FO10-1.          DO0030
F80-FO10-RW.                                                    DO0030
       MOVE 'REPL' TO S-WPCB-XFONC   GO TO F80-FO10-3.          DO0030
F80-FO10-UN.                                                    DO0030
         GO TO F80-OK.                                          DO0030
F80-FO10-1.                                                     DO0030
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                CALL 'CBLTDLI'  USING                              DO0030
                   S-WPCB-XFONC S-DBDFOU     FO10                  DO0030
                                S-FOU10-SSA                        DO0030
             MOVE  ' ='    TO        S-FOU10-OPER                  DO0030
       MOVE S-DBDFOU     TO S-SPCB    GO TO F80-ER.               DO0030
   F80-FO10-3.    CALL 'CBLTDLI'  USING                           DO0030
                   S-WPCB-XFONC S-DBDFOU     FO10                  DO0030
       MOVE S-DBDFOU     TO S-SPCB    GO TO F80-ER.               DO0030
   F8004-FN.    EXIT.                                             DO0030
   F80-ME00-R.                                                    DO0030
       MOVE 'GU'   TO S-WPCB-XFONC   GO TO F80-ME00-1.            DO0030
   F80-ME00-1.                                                    DO0030
                CALL 'CBLTDLI'  USING                              DO0030
                   S-WPCB-XFONC S-DBDMES     ME00                  DO0030
                                S-MEU00-SSA                        DO0030
             MOVE  ' ='    TO        S-MEU00-OPER                  DO0030
       MOVE S-DBDMES     TO S-SPCB    GO TO F80-ER.               DO0030
   F8006-FN.    EXIT.                                             DO0030
   F80-ER. IF S-SPCB-XCORET NOT = '  ' AND 'GE' AND 'GA'          DO0030
          AND 'GK' AND 'GB' AND 'II' AND 'GG'                      DO0030
          GO TO F81ER. IF S-SPCB-XCORET = SPACE GO TO F80-OK       DO0030
          ELSE GO TO F80-KO.                                       DO0030
  *            +-----------------------------------+              P000
  * LEVEL 10    I ACCESS TO HELP DATABASE           I              P000
  *            +-----------------------------------+              P000
   F8095.       EXIT.                                             P000
   F80-HELP-R.                                                    P200
       MOVE        'GU' TO S-WPCB-XFONC                           P210
       MOVE        S-IPCB-XNMTE TO                                P220
                   S-HEU10-CLE                                    P225
       CALL        'CBLTDLI' USING                                P230
                   S-WPCB-XFONC S-DBDHEL                          P240
                   HE10 S-HEU10-SSA                               P250
       MOVE        ' =' TO S-HEU10-OPER                           P260
       MOVE        S-DBDHEL TO S-SPCB                             P270
       MOVE        HE10-XZONE TO OUTPUT-SCREEN-FIELDS             P280
       GO TO F80-ER.                                              P290
   F80-HELP-W.                                                    P300
       MOVE        'ISRT' TO S-WPCB-XFONC                         P310
       MOVE        S-IPCB-XNMTE TO                                P320
                   S-HEU10-CLE HE10-CLE                           P325
       MOVE        OUTPUT-SCREEN-FIELDS TO HE10-XZONE             P330
       CALL        'CBLTDLI' USING                                P340
                   S-WPCB-XFONC S-DBDHEL                          P350
                   HE10 S-HE10-SSA                                P360
       MOVE        S-DBDHEL TO S-SPCB                             P370
       GO TO F80-ER.                                              P380
   F80-HELP-RW.                                                   P500
       MOVE        'GHU' TO S-WPCB-XFONC                          P510
       MOVE        S-IPCB-XNMTE TO                                P520
                   S-HEU10-CLE                                    P525
       CALL        'CBLTDLI' USING                                P530
                   S-WPCB-XFONC S-DBDHEL                          P540
                   HE10 S-HEU10-SSA                               P550
       MOVE        ' =' TO S-HEU10-OPER                           P560
       MOVE        S-DBDHEL TO S-SPCB.                            P570
             IF    S-SPCB-XCORET NOT = '  '                       P580
             AND   'GE' AND 'GA' AND 'GK'                         P590
             AND   'GB' AND 'II'                                  P600
       GO TO F81ER.                                               P580
             IF    S-SPCB-XCORET NOT = SPACE                      P610
       GO TO F80-KO.                                              P610
       MOVE        'REPL' TO S-WPCB-XFONC                         P620
       MOVE        OUTPUT-SCREEN-FIELDS TO HE10-XZONE             P630
       CALL        'CBLTDLI' USING                                P640
                   S-WPCB-XFONC S-DBDHEL HE10                     P650
       MOVE        S-DBDHEL TO S-SPCB                             P660
       GO TO F80-ER.                                              P670
   F80-HELP-D.                                                    P700
       MOVE        'GHU' TO S-WPCB-XFONC                          P710
       MOVE        S-IPCB-XNMTE TO                                P720
                   S-HEU10-CLE                                    P725
       CALL        'CBLTDLI' USING                                P730
                   S-WPCB-XFONC S-DBDHEL                          P740
                   HE10 S-HEU10-SSA                               P750
       MOVE        ' =' TO S-HEU10-OPER                           P760
       MOVE        S-DBDHEL TO S-SPCB.                            P770
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            IF    S-SPCB-XCORET NOT = '  '                          P780
            AND   'GE' AND 'GA' AND 'GK'                           P790
            AND   'GB' AND 'II'                                    P800
        GO TO F81ER.                                               P780
            IF    S-SPCB-XCORET NOT = SPACE                        P810
        GO TO F80-KO.                                              P810
        MOVE        'DLET' TO S-WPCB-XFONC                         P820
        CALL        'CBLTDLI' USING                                P830
                    S-WPCB-XFONC S-DBDHEL                          P840
                    HE10                                           P850
        MOVE        S-DBDHEL TO S-SPCB                             P870
        GO TO F80-ER.                                              P880
    F8095-FN.    EXIT.                                             P000
    F80-EM00-R.  MOVE EM00-EMKEY TO S-EMU00-EMKEY.                 DO0030
        MOVE 'GU' TO S-WPCB-XFONC CALL 'CBLTDLI' USING S-WPCB-XFONC DO0030
                                  S-DBDLER   EM00 S-EMU00-SSA      DO0030
        MOVE S-DBDLER   TO S-SPCB GO TO F80-ER.                    DO0030
    F8098-FN.    EXIT.                                             DO0030
    F80-OK.  MOVE '0' TO IK MOVE PROGR TO XPROGR GO TO F80-FN.     DO0030
    F80-KO.  MOVE '1' TO IK MOVE PROGR TO XPROGR.                  DO0030
    F8099-FN.    EXIT.                                             DO0030
    F80-FN.      EXIT.                                             DO0030
    F81.         EXIT.                                             DO0030
   *           ************************************               DO0030
   *           *                                  *               DO0030
   *           *  ABNORMAL END PROCEDURE          *               DO0030
   *           *                                  *               DO0030
   *           ************************************               DO0030
    F81ER.                                                         DO0030
           MOVE S-SPCB-XCORET TO D-SPCB-XCORET.                    DO0030
           MOVE S-SPCB-XNMBD  TO D-SPCB-XNMDBD.                    DO0030
           MOVE S-SPCB-XNMSEG TO D-SPCB-XNMSEG.                    DO0030
           MOVE S-SPCB-XOPTRT TO D-SPCB-XOPTRT.                    DO0030
           MOVE S-SPCB-XCLECO TO D-SPCB-XCLECO.                    DO0030
           DISPLAY D-SPCB.                                         DO0030
           GO TO F0110.                                            DO0030
    F81ER-FN.    EXIT.                                             DO0030
    F81IO.       EXIT.                                             DO0030
    F81IO-APCB.                                                    DO0030
           MOVE S-ALTPCB-XCORET TO D-SPCB-XCORET.                  DO0030
           MOVE S-ALTPCB-XNMTE  TO D-SPCB-XNMDBD.                  DO0030
           MOVE 'TERMINAL' TO D-SPCB-XNMSEG.                       DO0030
           MOVE 'MOD'      TO D-SPCB-XOPTRT.                       DO0030
           MOVE S-ALTPCB-XIMOD  TO D-SPCB-XCLECO.                  DO0030
           DISPLAY  D-SPCB.                                        DO0030
           GO TO F0110.                                            DO0030
    F81IO-IPCB.                                                    DO0030
           MOVE S-IPCB-XCORET TO D-SPCB-XCORET.                    DO0030
           MOVE S-IPCB-XNMTE  TO D-SPCB-XNMDBD.                    DO0030
           MOVE 'TERMINAL'    TO D-SPCB-XNMSEG.                    DO0030
           MOVE 'MOD'         TO D-SPCB-XOPTRT.                    DO0030
           MOVE S-IPCB-XIMOD  TO D-SPCB-XCLECO.                    DO0030
           DISPLAY  D-SPCB.                                        DO0030
           GO TO F0110.                                            DO0030
    F81IO-FN.    EXIT.                                             DO0030
   *           ************************************               DO0030
   *           *                                  *               DO0030
   *           *  MEMORIZATION OF USER'S ERRORS   *               DO0030
   *           *                                  *               DO0030
   *           ************************************               DO0030
    F81UT.     IF K50L < K50M ADD 1 TO K50L                        DO0030
           MOVE XEMKY TO T-XEMKY (K50L). MOVE 'E' TO CAT-ER.       DO0030
    F81UT-FN.    EXIT.                                             DO0030
   *           ************************************               DO0030
   *           *                                  *               DO0030
   *           *  NUMERIC VALIDATION              *               DO0030
   *           *                                  *               DO0030
   *           ************************************               DO0030
    F8110.   MOVE ZERO TO TPOINT K01 K02 K03 ZONUM3 ZONUM2         DO0030
                        C9 C91.                                    DO0030
    F8110-1.   IF K01 > 26 OR K02 > 17 GO TO F8110-5.              DO0030
           ADD 1 TO K01.                                           DO0030
           IF C1 (K01) = SPACE OR C1 (K01) = '.' GO TO F8110-1.    DO0030
         IF C1 (K01) NOT = '-' AND C1 (K01) NOT = '+' GO TO F8110-2. DO0030
           IF C9 NOT = ZERO                                        DO0030
           MOVE '5' TO DEL-ER GO TO F8110-FN.                      DO0030
           IF K02 = ZERO MOVE '1' TO C91.                          DO0030
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          IF C1 (K01) = '+' MOVE 1 TO C9   GO TO F8110-1.          DO0030
          IF SIGNE = ' ' MOVE '5' TO DEL-ER GO TO F8110-FN.        DO0030
          MOVE -1 TO C9 GO TO F8110-1.                             DO0030
      F8110-2. IF C1 (K01) NOT = ',' GO TO F8110-4.                DO0030
          IF TPOINT = '1' OR NBCHP = 0                             DO0030
          MOVE '5' TO DEL-ER GO TO F8110-FN.                       DO0030
      F8110-3. IF K02 > NBCHA MOVE '5' TO DEL-ER GO TO F8110-FN.   DO0030
          COMPUTE K04 = 18 - NBCHA + K02 MOVE 1 TO C3 (K04)        DO0030
          DIVIDE ZONUM4 INTO ZONUM9 MOVE NBCHA TO K02              DO0030
          MOVE '1' TO TPOINT GO TO F8110-1.                        DO0030
      F8110-4. IF C1 (K01) NOT NUMERIC MOVE '4' TO DEL-ER          DO0030
          GO TO F8110-FN.                                          DO0030
          IF C9 NOT = ZERO AND C91 = ZERO                          DO0030
          MOVE '5' TO DEL-ER  GO TO F8110-FN.                      DO0030
          IF C1 (K01) = '0' AND K02 = ZERO AND TPOINT = '0'        DO0030
          GO TO F8110-1. ADD 1 TO K02 MOVE C1 (K01) TO C2 (K02).   DO0030
          IF TPOINT = '1' ADD 1 TO K03. IF K03 > NBCHP MOVE '5'    DO0030
          TO DEL-ER GO TO F8110-FN. GO TO F8110-1.                 DO0030
      F8110-5. IF TPOINT = '0' AND K02 > ZERO GO TO F8110-3.       DO0030
          IF SIGNE NOT =  '+' GO TO F8110-FN.                      DO0030
          IF C9 = ZERO MOVE 1 TO C9.                               DO0030
          ADD NBCHA NBCHP GIVING K01 MULTIPLY C9 BY C29 (K01).     DO0030
          IF C29 (K01) = ZERO AND C9 = -1 MOVE C4 TO C2 (K01).     DO0030
      F8110-FN.    EXIT.                                           DO0030
      F8115.                                                       DO0030
          MOVE '..__..'                                            DO0030
            TO  O-0030-DATE.                                       DO0030
          MOVE  ZERO  TO  ICATR.                                   DO0030
      F8115-GRP.   ADD 1 TO  ICATR                                 DO0030
          MOVE  P-0030-LINE  (ICATR) TO O-0030-LINE                DO0030
          MOVE  O-0030-LINE          TO P-0030-LINE  (ICATR).      DO0030
         IF ICATR  < IRR GO TO F8115-GRP.                          DO0030
      F8115-FN.    EXIT.                                           DO0030
     *           ************************************              DO0030
     *           *                                  *              DO0030
     *           *  VALIDATION AND SETTING OF DATE  *              DO0030
     *           *                                  *              DO0030
     *           ************************************              DO0030
      F8120.       EXIT.                                           DO0030
      F8120-C. MOVE DAT73C TO DATCTY.                              DO0030
               MOVE DAT71C TO DAT71.                               DO0030
               MOVE DAT72C TO DAT72.                               DO0030
               MOVE DAT74C TO DAT73.                               DO0030
               MOVE '00111' TO TT-DAT GO TO F8120-T.               DO0030
      F8120-D. MOVE CENTUR TO DATCTY DAT73C.                       DO0030
               MOVE DAT71 TO DAT71C.                               DO0030
               MOVE DAT72 TO DAT72C                                DO0030
               MOVE DAT73 TO DAT74C.                               DO0030
               MOVE '00111' TO TT-DAT GO TO F8120-T.               DO0030
      F8120-E. MOVE CENTUR TO DATCTY DAT83C.                       DO0030
               MOVE DAT81 TO DAT81C.                               DO0030
               MOVE DAT82 TO DAT82C.                               DO0030
               MOVE DAT83 TO DAT84C  MOVE DATSEP TO DAT8S1C DAT8S2C.  DO0030
               MOVE '01011' TO TT-DAT GO TO F8120-T.               DO0030
      F8120-G. MOVE DAT81G TO DATCTY.                              DO0030
               MOVE DAT82G TO DAT61.                               DO0030
               MOVE DAT83G TO DAT62.                               DO0030
               MOVE DAT84G TO DAT63.                               DO0030
               MOVE '10110' TO TT-DAT GO TO F8120-T.               DO0030
      F8120-I. MOVE CENTUR TO DATCTY DAT61C.                       DO0030
               MOVE DAT61 TO DAT62C.                               DO0030
               MOVE DAT62 TO DAT63C.                               DO0030
               MOVE DAT63 TO DAT64C.                               DO0030
               MOVE '10101' TO TT-DAT GO TO F8120-T.               DO0030
      F8120-M. MOVE DAT83C TO DATCTY.                              DO0030
               MOVE DAT81C TO DAT81.                               DO0030
               MOVE DAT82C TO DAT82.                               DO0030
               MOVE DAT84C TO DAT83  MOVE DATSEP TO DAT8S1 DAT8S2.   DO0030
               MOVE '01011' TO TT-DAT GO TO F8120-T.               DO0030
      F8120-S. MOVE DAT61C TO DATCTY.                              DO0030
               MOVE DAT62C TO DAT61.                               DO0030
               MOVE DAT63C TO DAT62.                               DO0030
               MOVE DAT64C TO DAT63.                               DO0030
               MOVE '10101' TO TT-DAT.                             DO0030
      F8120-T. IF T-DAT (1) = '1'                                  DO0030
                  MOVE DAT61 TO DAT73 DAT74C                       DO0030
                  MOVE DAT62 TO DAT72 DAT72C                       DO0030
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              MOVE DAT63 TO DAT71 DAT71C                          DO0030
              MOVE DATCTY TO DAT73C.                              DO0030
           IF T-DAT (2) = '1'                                     DO0030
              MOVE DAT81 TO DAT71 DAT71C                          DO0030
              MOVE DAT82 TO DAT72 DAT72C                          DO0030
              MOVE DAT83 TO DAT73 DAT74C                          DO0030
              MOVE DATCTY TO  DAT73C.                             DO0030
           IF T-DAT (3) = '1'                                     DO0030
              MOVE DAT71 TO DAT81 DAT81C                          DO0030
              MOVE DAT72 TO DAT82 DAT82C                          DO0030
              MOVE DAT73 TO DAT83 DAT84C                          DO0030
              MOVE DATSEP TO DAT8S1 DAT8S2 DAT8S1C DAT8S2C        DO0030
              MOVE DATCTY TO DAT83C.                              DO0030
           IF T-DAT (4) = '1'                                     DO0030
              MOVE DAT71 TO DAT63 DAT64C                          DO0030
              MOVE DAT72 TO DAT62 DAT63C                          DO0030
              MOVE DAT73 TO DAT61 DAT62C                          DO0030
              MOVE DATCTY TO DAT61C.                              DO0030
           IF T-DAT (5) = '1'                                     DO0030
              MOVE DAT61 TO DAT82G                                DO0030
              MOVE DAT62 TO DAT83G                                DO0030
              MOVE DAT63 TO DAT84G                                DO0030
              MOVE DATSET TO DAT8S1G DAT8S2G                      DO0030
              MOVE DATCTY TO DAT81G.                              DO0030
 F8120-Z.     EXIT.                                               DO0030
 F8120-ER.    MOVE '1'   TO DEL-ER.                               DO0030
           IF DAT6 NOT NUMERIC               GO TO F8120-KO.     DO0030
           IF DATCTY NOT NUMERIC             GO TO F8120-KO.     DO0030
           IF DAT62 > '12' OR DAT62 = '00' OR                    DO0030
              DAT63 > '31' OR DAT63 = '00'    GO TO F8120-KO.    DO0030
           IF DAT63 > '30' AND                                   DO0030
             (DAT62 = '04' OR DAT62 = '06' OR                    DO0030
              DAT62 = '09' OR DAT62 = '11')   GO TO F8120-KO.    DO0030
           IF DAT62 NOT = '02'               GO TO F8120-FN.     DO0030
           IF DAT63 > '29'                   GO TO F8120-KO.     DO0030
           IF   DAT619  = ZERO                                   DO0030
           DIVIDE  DATCTY9    BY 4 GIVING  LEAP-REM              DO0030
           COMPUTE LEAP-REM = DATCTY9 - 4 * LEAP-REM             DO0030
           ELSE DIVIDE DAT619  BY 4 GIVING LEAP-REM              DO0030
           COMPUTE LEAP-REM = DAT619 - 4 * LEAP-REM.             DO0030
           IF DAT63 < '29' OR LEAP-REM = ZERO GO TO F8120-FN.    DO0030
 F8120-KO. MOVE '5' TO DEL-ER.                                   DO0030
 F8120-FN.    EXIT.                                              DO0030
*           ************************************                DO0030
*           *                                  *                DO0030
*           *  DISPLAY TRANSFER                *                DO0030
*           *                                  *                DO0030
*           ************************************                DO0030
 F8125.                                                          DO0030
        MOVE  O-0030-MATE          TO T-0030-MATE               DO0030
        MOVE  O-0030-RELEA         TO T-0030-RELEA              DO0030
        MOVE  O-0030-RUE           TO T-0030-RUE                DO0030
        MOVE  O-0030-COPOS         TO T-0030-COPOS              DO0030
        MOVE  O-0030-REFCLI        TO T-0030-REFCLI             DO0030
        MOVE  O-0030-DATE          TO T-0030-DATE               DO0030
        MOVE  O-0030-CORRES        TO T-0030-CORRES             DO0030
        MOVE  F-0030-REMIS         TO T-0030-REMIS              DO0030
        MOVE  ZERO  TO  ICATR.                                  DO0030
 F8125-GRP.   ADD 1 TO  ICATR                                   DO0030
        MOVE  P-0030-LINE  (ICATR) TO O-0030-LINE               DO0030
        MOVE  U-0030-LINE  (ICATR) TO T-0030-LINE               DO0030
        MOVE  O-0030-CODMVT        TO T-0030-CODMVT             DO0030
        MOVE  O-0030-FOURNI        TO T-0030-FOURNI             DO0030
        MOVE  F-0030-QTMAC         TO T-0030-QTMAC              DO0030
        MOVE  O-0030-INFOR         TO T-0030-INFOR              DO0030
        MOVE  T-0030-LINE          TO U-0030-LINE  (ICATR).     DO0030
     IF ICATR  < IRR GO TO F8125-GRP.                           DO0030
        MOVE  O-0030-EDIT          TO T-0030-EDIT.              DO0030
 F8125-FN.    EXIT.                                              DO0030
*           ************************************                DO0030
*           *                                  *                DO0030
*           *  HELP SUB-FUNCTION               *                DO0030
*           *                                  *                DO0030
*           ************************************                DO0030
 F8130.                                                         DO0030
        MOVE  I-0030-MATE          TO O-0030-MATE.              DO0030
        MOVE  I-0030-RELEA         TO O-0030-RELEA.             DO0030
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          MOVE  I-0030-RUE           TO O-0030-RUE.                DO0030
          MOVE  I-0030-COPOS         TO O-0030-COPOS.              DO0030
          MOVE  I-0030-REFCLI        TO O-0030-REFCLI.             DO0030
          MOVE  I-0030-DATE          TO O-0030-DATE.               DO0030
          MOVE  I-0030-CORRES        TO O-0030-CORRES.             DO0030
          MOVE  E-0030-REMIS         TO F-0030-REMIS.              DO0030
          MOVE  ZERO  TO  ICATR.                                   DO0030
    F8130-GRP.   ADD 1 TO  ICATR                                   DO0030
          MOVE  J-0030-LINE  (ICATR) TO I-0030-LINE                DO0030
          MOVE  P-0030-LINE  (ICATR) TO O-0030-LINE                DO0030
          MOVE  I-0030-CODMVT        TO O-0030-CODMVT.             DO0030
          MOVE  I-0030-FOURNI        TO O-0030-FOURNI.             DO0030
          MOVE  E-0030-QTMAC         TO F-0030-QTMAC.              DO0030
          MOVE  I-0030-INFOR         TO O-0030-INFOR.              DO0030
          MOVE  O-0030-LINE          TO P-0030-LINE  (ICATR).      DO0030
       IF ICATR  < IRR GO TO F8130-GRP.                            DO0030
          MOVE  I-0030-EDIT          TO O-0030-EDIT.               DO0030
    F8130-FN.    EXIT.                                             DO0030
    *           ************************************               DO0030
    *           *                                  *               DO0030
    *           *  RECEPTION TRANSFER              *               DO0030
    *           *                                  *               DO0030
    *           ************************************               DO0030
    F8135.                                                         DO0030
            IF  I-0030-MATE   = LOW-VALUE                          DO0030
          MOVE  T-0030-MATE          TO I-0030-MATE   ELSE         DO0030
          MOVE  I-0030-MATE          TO T-0030-MATE.               DO0030
            IF  I-0030-RELEA  = LOW-VALUE                          DO0030
          MOVE  T-0030-RELEA         TO I-0030-RELEA  ELSE         DO0030
          MOVE  I-0030-RELEA         TO T-0030-RELEA.              DO0030
            IF  I-0030-RUE    = LOW-VALUE                          DO0030
          MOVE  T-0030-RUE           TO I-0030-RUE    ELSE         DO0030
          MOVE  I-0030-RUE           TO T-0030-RUE.                DO0030
            IF  I-0030-COPOS  = LOW-VALUE                          DO0030
          MOVE  T-0030-COPOS         TO I-0030-COPOS  ELSE         DO0030
          MOVE  I-0030-COPOS         TO T-0030-COPOS.              DO0030
            IF  I-0030-REFCLI = LOW-VALUE                          DO0030
          MOVE  T-0030-REFCLI        TO I-0030-REFCLI ELSE         DO0030
          MOVE  I-0030-REFCLI        TO T-0030-REFCLI.             DO0030
            IF  I-0030-DATE   = LOW-VALUE                          DO0030
          MOVE  T-0030-DATE          TO I-0030-DATE   ELSE         DO0030
          MOVE  I-0030-DATE          TO T-0030-DATE.               DO0030
            IF  I-0030-CORRES = LOW-VALUE                          DO0030
          MOVE  T-0030-CORRES        TO I-0030-CORRES ELSE         DO0030
          MOVE  I-0030-CORRES        TO T-0030-CORRES.             DO0030
            IF  E-0030-REMIS  = LOW-VALUE                          DO0030
          MOVE  T-0030-REMIS         TO E-0030-REMIS  ELSE         DO0030
          MOVE  E-0030-REMIS         TO T-0030-REMIS.              DO0030
          MOVE  ZERO  TO  ICATR.                                   DO0030
    F8135-GRP.   ADD 1 TO  ICATR                                   DO0030
          MOVE  J-0030-LINE  (ICATR) TO I-0030-LINE                DO0030
          MOVE  U-0030-LINE  (ICATR) TO T-0030-LINE                DO0030
            IF  I-0030-CODMVT = LOW-VALUE                          DO0030
          MOVE  T-0030-CODMVT        TO I-0030-CODMVT ELSE         DO0030
          MOVE  I-0030-CODMVT        TO T-0030-CODMVT.             DO0030
            IF  I-0030-FOURNI = LOW-VALUE                          DO0030
          MOVE  T-0030-FOURNI        TO I-0030-FOURNI ELSE         DO0030
          MOVE  I-0030-FOURNI        TO T-0030-FOURNI.             DO0030
            IF  E-0030-QTMAC  = LOW-VALUE                          DO0030
          MOVE  T-0030-QTMAC         TO E-0030-QTMAC  ELSE         DO0030
          MOVE  E-0030-QTMAC         TO T-0030-QTMAC.              DO0030
            IF  I-0030-INFOR  = LOW-VALUE                          DO0030
          MOVE  T-0030-INFOR         TO I-0030-INFOR  ELSE         DO0030
          MOVE  I-0030-INFOR         TO T-0030-INFOR.              DO0030
          MOVE  I-0030-LINE          TO J-0030-LINE  (ICATR).      DO0030
          MOVE  T-0030-LINE          TO U-0030-LINE  (ICATR).      DO0030
       IF ICATR  < IRR GO TO F8135-GRP.                            DO0030
            IF  I-0030-EDIT   = LOW-VALUE                          DO0030
          MOVE  T-0030-EDIT          TO I-0030-EDIT   ELSE         DO0030
          MOVE  I-0030-EDIT          TO T-0030-EDIT.               DO0030
    F8135-FN.    EXIT.                                             DO0030
    *           ************************************               DO0030
    *           *                                  *               DO0030
    *           *  CURSOR POSITION                 *               DO0030
    *           *                                  *               DO0030
    *           ************************************               DO0030
    F8140.                                                         DO0030
```

```
          MOVE  I-CURPOS  TO  CURPOS                                  DO0030
          COMPUTE CPOSN = ((CPOSL - 1 ) * 080 ) + CPOSC - 1.          DO0030
   F8140-FN.    EXIT.                                                 DO0030
   F81-FN.      EXIT.                                                 DO0030
  *             +----------------------------------+                  P000
  * LEVEL 10    I ZIP CODE VALIDATION              I                  P000
  *             +----------------------------------+                  P000
   F93CP.                                                            P000
       MOVE 1 TO     IWP20R.                                         P100
   F93CP-100. IF     IWP20R NOT >    IWP20L                          P100
       AND             WP20-COPOS   (IWP20R)                         P100
       NOT =            WP30-COPOS                                   P100
       ADD  1 TO     IWP20R    GO TO F93CP-100.                      P100
             IF    IWP20R > IWP20L                                   P200
       MOVE         '5' TO DEL-ER                                    P200
              GO TO F93CP-FN.                                         P220
   F93CP-FN.    EXIT.                                                DO0030
```

4.3. ADDITIONAL INFORMATION

ADDITIONAL INFORMATION

The parts of the generated program specific to the MONITOFF option are explained below.

SERVICE-ATTRIBUTES AREA

This area is generated for each screen and includes specific MFS parameters.

01 LEVEL D-SPCB

Systematic generation of a print layout line when an error is found on:

```
.a  DB-PCB,
.an IO-PCB,
.an ALTERNATE-PCB.
```

01 LEVEL SPA

The SPA is generated in the WORKING-STORAGE SECTION. It is made up of the same areas as a generated monitor. It also includes the ICF variable, through which a message can be detected when the transaction is initialized.

J-0000 AREA

02 J-0000 REDEFINES I-0000.
05 FILLER PICTURE X(5).
05 J-MID.

This area is used to store the MID during the first access to the first screen of the dialogue. This area is generated only for this screen.

FUNCTION F01

The first three lines of function F01 are related to the initialization of the MFS parameters contained in the SERVICE-ATTRIBUTES AREA.

F0112.
RECEPTION of SPA, generated for each screen.

F0114.
Generated only for the first screen of the dialogue. It sets the ICF variable to '2' when the screen is accessed for the first time.

F0116.
READ of the first message:

When the first screen of the dialogue is accessed for the first time, the message receiving field is either I-0000 or J-MID, depending on the value of the ICF variable. In addition, the ICF/OCF variables are repositioned according to the access method used: the transaction code, or '/FOR'. If the transaction code is used, there is no screen description message.

FUNCTION F40

Sub-function F4030.
End of Transaction: the transaction code is reset to blanks for the first time, and the first screen is re-displayed.

Sub-function F4040.
Transfer to another screen: the program's name overrides the transaction code. The ICF variable indicates that no message was sent, the other screen is accessed and the SPA written.

FUNCTION F8Z

Sub-function 8Z20.
Output message (MOD is sent after a WRITE in the SPA. The ICF variable is filled in, indicating the presence of a message. Then, a return to the READ of the SPA to ensure a continuous conversation.

FUNCTION F81

Sub-function F81ER.
Error display after an input/output error on a DB/PCB.

Sub-function F81IO-APCB.
Error display after a read or write error on the ALTERNATE- PCB.

Sub-function F81IO-IPCB.
Error display after a read or write error on the IO-PCB.

5. GENERATED MONITOR

5.1. INTRODUCTION

INTRODUCTION

A PACBASE dialogue is a conversation, thus the generated IMS transaction is conversational. A dialogue is associated with:

. One or more IMS conversational transactions;

. A transaction code (defined at the dialogue description line level and eventually for each sub-monitor);

. A PSB per transaction defining the databases used in the dialogue;

> The user must generate as many PSB's as sub-monitors defined in the conversation. The contents of these PSB's must be identical to those of the monitor PSB and the external name must correspond to that of the associated sub-monitor.

. One or more programs:

- The screen branching monitor making up the dialogue,

- The screen branching sub-monitor(s) making up all or part of the dialogue.

The branching monitors and sub-monitors are generated by the PACBASE system (one monitor per dialogue and eventually one or more sub-monitors). Their role consists of receiving and physically transmitting the messages (instructions GU => SPA, GN => MID, ISRT => SPA and MOD), which call the appropriate processing program, and thereafter transferring all the received data to it.

At the end of the program the system returns to the monitor or sub-monitor, and the first screen of the dialogue is re-displayed at the end of the conversation.

```
--------------------------------------------------------------------------------
!                   IMS DB/DC APPLICATION                      *PDLB.NDOC.AIM.1!
! ON-LINE DIALOGUE DEFINITION........: DO                                       !
!                                                                              !
! DIALOGUE NAME......................: PACBASE DOCUMENTATION MANAG.            !
!                                                                              !
! SCREEN SIZE (LINES, COLUMNS) ......:   24       080                         !
! LABEL TYPE, TABS, INITIALIZATION...:   L        01                          !
! HELP CHARACTER SCREEN, DATA ELEMENT:   10       11                          !
!                                                                              !
!                                    LABELS   DISPLAY  INPUT  ER.MESS. ER.FLD!
! INTENSITY ATTRIBUTE ...............:   N        N        N        N        N !
! PRESENTATION ATTRIBUTE ............:   N        N        N        N        N !
! COLOR ATTRIBUTE ...................:   W        W        W        W        W !
!                                                                              !
! TYPE OF COBOL AND MAP TO GENERATE..:   0   1     IBM OS IMS (PROG. & FOR. MFS!
! CONTROL CARD OPTIONS FRONT & BACK..:            (PROGRAM)      $$       (MAP)!
! EXTERNAL NAMES ....................:            (PROGRAM)               (MAP)!
! TRANSACTION CODE...................:   DOTRA                                 !
!                                                                              !
!                                                                              !
! EXPLICIT KEYWORDS..: DOC                                                     !
! SESSION NUMBER.....: 0021        LIBRARY......: AIM    LOCK....:             !
!                                                                              !
! O: C1 CH: Odo                         ACTION:                                !
--------------------------------------------------------------------------------
```

5.2. BEGINNING OF MONITOR

BEGINNING OF MONITOR

The user cannot modify the IDENTIFICATION DIVISION of the generated monitor program.

The ENVIRONMENT DIVISION is automatically adapted to the variant requested for the dialogue.

All other clauses that may be necessary in this part of the monitor are the user's responsibility.

All modifications to this part of the monitor must be done on the Beginning Insertions (-B) screen, or on Batch Form 'D', at the dialogue level.
(See the STRUCTURED CODE Reference Manual).

GENERATED MONITOR 5
BEGINNING OF MONITOR 2

```
    IDENTIFICATION DIVISION.
    PROGRAM-ID. DO.                                          DO
    AUTHOR.     PACBASE DOCUMENTATION MANAG.                 DO
    DATE-COMPILED. 04/30/93.                                 DO
    ENVIRONMENT DIVISION.                                    DO
    CONFIGURATION SECTION.                                   DO
    SOURCE-COMPUTER. IBM-370.                                DO
    OBJECT-COMPUTER. IBM-370.                                DO
    DATA DIVISION.                                           DO
```

5.3. BEGINNING OF WORKING-STORAGE

BEGINNING OF WORKING-STORAGE

The 'WSS-BEGIN' level is generated at the beginning of the WORKING-STORAGE SECTION.

The 'SERVICE-ATTRIBUTES' level contains the default values of parameters specific to MFS that are passed in the LINKAGE SECTION of all the load-modules of the dialogue:

. 7-3F: Corresponds to the second byte of the 7-3F-1 field and has a hexadecimal value of X'3F'.

The purpose of this value, which is transferred into each field of the MOD at the 'LOAD-MODULES' level, is to indicate to MFS the length of each field to transmit to the line (by recognizing this value) and thus to optimize transmission. (Also see F0101 of the Generated Program).

Example: A 10-character field of the MOD in which X'3F' was inserted at the 5th byte means that only the first 4 bytes will be transmitted. (X'3F' inserted in the first byte allows the field on the screen to remain unchanged).

. 7-CURS: Used to position the cursor on the first erroneous field of the screen.

. 7-PROT: Used to protect a field from being accessed.

The 'PACBASE-CONSTANTS' level is generated for all monitors and contains:

. SESSI : Session number of the PACBASE library

. LIBRA : Code of the PACBASE library

. DATGN : Generation date of the monitor

. PROGR : Program code (monitor) in the PACBASE library

. PROGE : External name of the generated program (monitor)

. TIMGN : Time of program generation

. DATOR : Year-month-day formatted machine date

. USERCO: User code

```
   WORKING-STORAGE SECTION.                                    DO
   01   WSS-BEGIN.                                            DO
        05 FILLER PICTURE X(7) VALUE 'WORKING'.                DO
        05 IK     PICTURE X.                                   DO
        05 BLANC  PICTURE X VALUE SPACE.                       DO
        05 CO     PICTURE X.                                   DO
        05 GREQ   PICTURE XX   VALUE '>='.                     DO
   01   SERVICE-ATTRIBUTES.                                   DO
        05   7-3F-1   PICTURE S9(4) COMP VALUE +63.           DO
        05   7-3F-2   REDEFINES 7-3F-1.                       DO
         10  FILLER   PICTURE X.                              DO
         10  7-3F     PICTURE X.                              DO
        05   7-CURS-1 PICTURE S9(4) COMP VALUE +192.          DO
        05   7-CURS-2 REDEFINES 7-CURS-1.                     DO
         10  FILLER   PICTURE X.                              DO
         10  7-CURS   PICTURE X.                              DO
        05   7-PROT-1 PICTURE S9(4) COMP VALUE +225.          DO
        05   7-PROT-2 REDEFINES 7-PROT-1.                     DO
         10  FILLER   PICTURE X.                              DO
         10  7-PROT   PICTURE X.                              DO
   01   PACBASE-CONSTANTS.                                    DO
        05 SESSI  PICTURE X(5) VALUE '0335 '.                  DO
        05 LIBRA  PICTURE X(3) VALUE 'AIM'.                    DO
        05 DATGN  PICTURE X(8) VALUE '04/30/93'.               DO
        05 PROGR  PICTURE X(6) VALUE 'DO    '.                 DO
        05 PROGE  PICTURE X(8) VALUE 'DO      '.               DO
        05 TIMGN  PICTURE X(8) VALUE '15:36:41'.               DO
        05 USERCO PICTURE X(8) VALUE 'PDCL    '.               DO
        05 DATOR.                                              DO
        10 DATOA  PICTURE XX.                                  DO
        10 DATOM  PICTURE XX.                                  DO
        10 DATOJ  PICTURE XX.                                  DO
```

5.4. SPA DESCRIPTION

SPA DESCRIPTION

The SPA is an area in which the temporary data assuring the continuity of the dialogue is backed up. It is defined in the following manner:

. SPAZZ : Validation area corresponding to certain specific terminals

. SPACI : Conversation identification area

. TRAN : Transaction code (maximum length : 8)

. 7-PROGE : Name of program to process.

. It is initialized in the monitor at the beginning of the conversation (PREM = LOW-VALUE) to the value of the External Name of the program defined on the first screen of the dialogue,
. Then, at the level of each 'LOAD-MODULE', it is initialized in the 'K-Sxxnn-PROGR' field in the LINKAGESECTION under the 'COMMUNICATION-MONITOR' level

(Also see F2920 of the monitor).

. K-PROGR : Address of the common conversation area defined as the 'COMMON-AREA' in the LOAD-MODULES.

```
*       ***  SPA LENGTH : 5212 BYTES  ***                          *AA001
 01   SPA.                                                         *AA001
      02   SPALG    PICTURE S9(4) COMPUTATIONAL.                   *AA001
      02   SPAZZ    PICTURE XX.                                    *AA001
      02   SPACI    PICTURE XX.                                    *AA001
      02   TRAN   PICTURE X(8).                                   *AA001
      02   7-PROGE.                                               *AA001
        10 PREM     PICTURE X.                                     *AA001
        10 FILLER   PICTURE X(7).                                  *AA001
      02   K-PROGR  PICTURE X(6).                                 *AA001
      02   K-SDOC   PICTURE X.                                    *AA001
      02   FILLER   PICTURE X(36).                                *AA001
      02            CA00.                                         *AA001
        10          CA00-CLECD.                                   *AA001
         15         CA00-NUCOM  PICTURE 9(5).                     *AA001
        10          CA00-CLECL1.                                  *AA001
         15         CA00-NUCLIE PICTURE 9(8).                     *AA001
        10          CA00-ME00.                                    *AA001
         15         CA00-CLEME.                                   *AA001
          20        CA00-COPERS PICTURE X(5).                     *AA001
          20        CA00-NUMORD PICTURE XX.                       *AA001
         15         CA00-MESSA  PICTURE X(75).                    *AA001
        10          CA00-PREM   PICTURE X.                        *AA001
        10          CA00-LANGU  PICTURE X.                        *AA001
        10          CA00-RAISOC PICTURE X(50).                    *AA001
      02  FILLER      PICTURE X(5000).                             *AA002
```

5.5. SCREEN DESCRIPTION

SCREEN DESCRIPTION

The coding of the INPUT-SCREEN-FIELDS and the OUTPUT- SCREEN-FIELDS is always the same.

The structure of the MID is the following:

. The length of the message plus 4 characters (assigned by IMS),

. Validation indicator for IMS

. Transaction code (followed by a blank), when processing the first screen of the conversation. This last one must be entered in 'VALUE' in the 'MFLD' macro-instruction of the MID of the first screen,

. The actual message.

The structure of the MOD is the following:

. Length of the message to transmit (see function F8Z10 'LOAD-MODULES'),

. The actual message.

GENERATED MONITOR 5
SCREEN DESCRIPTION 5

```
01          INPUT-SCREEN-FIELDS.                          *AA050
     02   L-MID    PICTURE S9(4) COMP.                    *AA050
     02   MIDZZ    PICTURE XX VALUE LOW-VALUE.            *AA050
     02   I-MID.                                          *AA050
      05  I-TRAN   PICTURE X(06).                         *AA050
      05  I-MID-1.                                        *AA050
       10 I-PROGR1 PICTURE X(6).                         *AA050
       10 FILLER   PICTURE X(2488).                      *AA050
     02   J-MID    REDEFINES I-MID.                       *AA050
      05  I-MID-2.                                        *AA050
       10 I-PROGR2 PICTURE X(6).                         *AA050
       10 FILLER   PICTURE X(2494).                      *AA050
01          OUTPUT-SCREEN-FIELDS.                         *AA050
     02   L-MOD    PICTURE S9(4) COMP.                    *AA050
     02   MODZZ    PICTURE XX VALUE LOW-VALUE.            *AA050
     02   FILLER   PICTURE X(3000).                       *AA050
```

5.6. VALIDATION AREA DESCRIPTION

VALIDATION AREA DESCRIPTION

The fields that are always generated contain:

. A print layout of a line in case of error:

- When reading the I/O PCB or a database

- When writing in the I/O PCB

. The lengths of all segments of the databases used in the dialogue (error messages included), of the complementary communication area and possibly the segment calls from the monitor level (-CS, -W lines).

5-FFnn-LTH : Length of the segment

5-FFnn-LTHV : Length of the longest segment of the data structure (common part included, where nn is any value other than zero).

```
01   D-SPCB.                                                    *AA155
     05   FILLER        PICTURE X(5) VALUE ' DBD '.             *AA155
     05   D-SPCB-XNMDBD PICTURE X(8) VALUE SPACE.               *AA155
     05   FILLER        PICTURE X(5) VALUE ' SEG '.             *AA155
     05   D-SPCB-XNMSEG PICTURE X(8) VALUE SPACE.               *AA155
     05   FILLER        PICTURE X(5) VALUE ' RET '.             *AA155
     05   D-SPCB-XCORET PICTURE X(8) VALUE SPACE.               *AA155
     05   FILLER        PICTURE X(5) VALUE ' ACT '.             *AA155
     05   D-SPCB-XOPTRT PICTURE X(4) VALUE SPACE.               *AA155
     05   FILLER        PICTURE X(4) VALUE SPACE.               *AA155
     05   D-SPCB-XCLECO PICTURE X(70) VALUE SPACE.              *AA155
01   PACBASE-INDEXES COMPUTATIONAL SYNC.                        *AA200
     05 K01         PICTURE S9(4) VALUE ZERO.                   *AA200
     05    5-CD05-LTH  PICTURE S9(4) VALUE +0162.               *AA200
     05    5-CD10-LTH  PICTURE S9(4) VALUE +0142.               *AA200
     05    5-CD20-LTH  PICTURE S9(4) VALUE +0001.               *AA200
     05    5-CD30-LTH  PICTURE S9(4) VALUE +0006.               *AA200
     05    5-CL10-LTH  PICTURE S9(4) VALUE +0236.               *AA200
     05    5-CL20-LTH  PICTURE S9(4) VALUE +0009.               *AA200
     05    5-EM00-LTH  PICTURE S9(4) VALUE +0090.               *AA200
     05    5-FO10-LTH  PICTURE S9(4) VALUE +0057.               *AA200
     05    5-HE10-LTH  PICTURE S9(4) VALUE +1928.               *AA200
     05    5-ME00-LTH  PICTURE S9(4) VALUE +0082.               *AA200
     05    5-CA00-LTH  PICTURE S9(4) VALUE +0147.               *AA200
     05    5-CD05-LTHV PICTURE S9(4) VALUE +0162.               *AA200
     05    5-CD10-LTHV PICTURE S9(4) VALUE +0142.               *AA200
     05    5-CD20-LTHV PICTURE S9(4) VALUE +0001.               *AA200
     05    5-CD30-LTHV PICTURE S9(4) VALUE +0006.               *AA200
     05    5-CL10-LTHV PICTURE S9(4) VALUE +0236.               *AA200
     05    5-CL20-LTHV PICTURE S9(4) VALUE +0009.               *AA200
     05    5-FO10-LTHV PICTURE S9(4) VALUE +0057.               *AA200
     05    5-HE10-LTHV PICTURE S9(4) VALUE +1928.               *AA200
```

5.7. SSA GENERATION

SSA GENERATION

Two SSA's are generated for the error messages file if the data structure, and the corresponding data elements, have been defined at the dialogue level.
The SSA's are described as follows:

.A non-qualified SSA in the format:

```
01 S-EM00-SSA.
 10 S1-EM00-SEGNAM PIC X(8) VALUE 'nnnnnnnn'.
 10 S1-EM00-CCOM   PIC X    VALUE '*'.
 10 S-EM00-CCOD    PIC X(5) VALUE '-----'.
 10 FILLER         PIC X    VALUE SPACES.
```

where 'nnnnnnnn' is the code which appears in the CODE OF RECORD TYPE ELEM. field of the Segment Definition.

.A qualified SSA for the data element CLELE in the format:

```
01 S-EMU00-SSA.
 09 S1-EMU00-SEGNAM PIC X(8) VALUE 'nnnnnnnn'.
 09 S1-EMU00-CCOM   PIC X    VALUE '*'.
 09 S-EMU00-CCOD    PIC X(5) VALUE '-----'.
 09 S1-EMU00-FLDNAM PIC X(9) VALUE '(DAELE   '.
 09 S-EMU00-OPER    PIC XX   VALUE '='.
 09 S-EMU00-CORUB.
 pp S-EMU00-CLELE   PIC X(..).
 (...)
 09 FILLER          PIC X    VALUE ')'.
```

where pp is the level number generated for the data element CLELE in the segment description EM00.

NOTE: CLELE is a group field, the corresponding data elements are also generated in the SSA (...).

```
01              S-EM00-SSA.                                      *AA350
      10       S1-EM00-SEGNAM PICTURE X(8) VALUE                 *AA350
                               'EM00    '.                       *AA350
      10       S1-EM00-CCOM   PICTURE X VALUE '*'.               *AA350
      10        S-EM00-CCOD   PICTURE X(5) VALUE '-----'.        *AA350
      10          FILLER      PICTURE X VALUE SPACE.            *AA350
01              S-EMU00-SSA.                                     *AA351
      09       S1-EMU00-SEGNAM PICTURE X(8) VALUE                *AA351
                               'EM00    '.                       *AA351
      09       S1-EMU00-CCOM   PICTURE X    VALUE '*'.          *AA351
      09        S-EMU00-CCOD   PICTURE X(5) VALUE '-----'.       *AA351
      09       S1-EMU00-FLDNAM PICTURE X(9) VALUE                *AA351
                               '(CLELE   '.                     *AA351
      09        S-EMU00-OPER   PICTURE XX   VALUE ' ='.         *AA351
      09        S-EMU00-CORUB.                                   *AA351
      10        S-EMU00-CLELE.                                   *AA351
       15       S-EMU00-APPLI  PICTURE XXX.                      *AA351
       15       S-EMU00-TYPEN  PICTURE X.                        *AA351
       15       S-EMU00-XCLEF.                                   *AA351
        20      S-EMU00-PROGR  PICTURE X(6).                     *AA351
        20      S-EMU00-NUERR.                                   *AA351
         25     S-EMU00-NUERR9 PICTURE 999.                      *AA351
        20      S-EMU00-TYERR  PICTURE X.                        *AA351
       15       S-EMU00-NULIG  PICTURE 999.                      *AA351
       15       S-EMU00-GRAER  PICTURE X.                        *AA351
      09          FILLER      PICTURE X    VALUE ')'.          *AA351
```

5.8. COMMUNICATION AREA

COMMUNICATION AREA

PACBASE generates additional fields which are grouped under the 'COMMUNICATION-MONITOR' level. These fields are:

. A description of a test PCB (S-SPCB) which will be used for testing the values of the DL/1 return code,

. A function code (S-WPCB) which will be used in the generated accesses ('GU', 'GN', 'GHU', etc.),

. A set of fields (S-WWSS) which permits the program and the monitor to communicate as follows:

S-WWSS-OPER
is equivalent to the 'OPER' field.
The values received by the monitor are:

.'O' Transfer to another screen
.'E' End-of-conversation (re-display of the first screen of the dialogue)
.'X' DL/1 input/output error

Other values are interpreted as display commands ('M', 'A', 'P', etc.).

S-WWSS-SCR-ER

Indicates to the monitor that an error has been detected.

S-WWSS-PROGE

if OPER = 'O', indicates the external name of the program driving the requested screen (OSC operator).

S-WWSS-XIMOD

name of the MOD to display (automatically generated in F8Z10 in the 'LOAD-MODULES').

Various constants are also described at this level:

S-WWSS-CURS

Value to assign to the attribute of the field on which the cursor is positioned.

S-WWSS-PROT

Value to assign to the attribute of a field to dynamically protect it.

S-WWSS-3F

With the value '3F' in hexadecimal.

These last three constants are initialized in the Monitor in function 'F01' INITIALIZATIONS.

PCB LIST

The PCB list is generated in the PROCEDURE DIVISION. However the user may request that it be generated in the WORKING- STORAGE SECTION. In order to do this, a '-W' line must be created and the WORK AREA DESCRIPTION field must be entered as follows:

'$PCB' or '$PCB.' left-justified.

When '$PCB.' is entered, a period ('.') is generated at the end of the list.

GENERATED MONITOR 5
COMMUNICATION AREA 8

```
01          COMMUNICATION-MONITOR.                          *AA352
      02    S-SPCB.                                         *AA352
      10    S-SPCB-XNMBD  PICTURE X(8).                     *AA352
      10    S-SPCB-XNISEG PICTURE XX.                       *AA352
      10    S-SPCB-XCORET PICTURE XX.                       *AA352
      10    S-SPCB-XOPTRT PICTURE X(4).                     *AA352
      10    FILLER        PICTURE S9(5) COMPUTATIONAL.      *AA352
      10    S-SPCB-XNMSEG PICTURE X(8).                     *AA352
      10    S-SPCB-XLGKEY PICTURE S9(5) COMPUTATIONAL.      *AA352
      10    S-SPCB-XNBSEG PICTURE S9(5) COMPUTATIONAL.      *AA352
      10    S-SPCB-XCLECO PICTURE X(70).                    *AA352
      02    S-WPCB.                                         *AA352
      10    S-WPCB-XFONC  PICTURE X(4).                     *AA352
      02    S-WWSS.                                         *AA352
      10    S-WWSS-OPER   PICTURE X.                        *AA352
      10    S-WWSS-SCR-ER PICTURE X.                        *AA352
      10    S-WWSS-PROT   PICTURE X.                        *AA352
      10    S-WWSS-PROGE  PICTURE X(8).                     *AA352
      10    S-WWSS-CURS   PICTURE X.                        *AA352
      10    S-WWSS-3F     PICTURE X.                        *AA352
      10    S-WWSS-SPAOC  PICTURE X.                        *AA352
     10     S-WWSS-XIMOD  PICTURE X(8).                     *AA352
```

5.9. PSB

PSB

Under the 01 level 'PSB', all the segments belonging to the PSB indicated on the Dialogue Complement (-O) screen are described. This permits the user to save the contents of the segments accessed when passing from one screen to another during a given dialogue.

NOTE

If the segment name is changed at the segment call level, its description will be generated in the WORKING-STORAGE SECTION with the new name, and will be used in generation as an input/output area for DL/1 accesses.

The user must ensure the transfer of its contents after it is read, from the area defined in the WORKING-STORAGE SECTION to the area corresponding to the the segment code in the library:

```
01 PSB.
```

```
01     PSB.                                                    *AA354
     02           CD05.                                       *AA354
       10         CD05-KEYCD.                                 *AA354
        15        CD05-NUCOM  PICTURE 9(5).                   *AA354
       10         CD05-NUCLIE PICTURE 9(8).                   *AA354
       10         CD05-DATE   PICTURE X(6).                   *AA354
       10         CD05-RELEA  PICTURE X(3).                   *AA354
       10         CD05-REFCLI PICTURE X(30).                  *AA354
       10         CD05-RUE    PICTURE X(40).                  *AA354
       10         CD05-COPOS  PICTURE X(5).                   *AA354
       10         CD05-VILLE  PICTURE X(20).                  *AA354
       10         CD05-CORRES PICTURE X(25).                  *AA354
       10         CD05-REMIS  PICTURE S9(4)V99.               *AA354
       10         CD05-MATE   PICTURE X(8).                   *AA354
       10         CD05-LANGU  PICTURE X.                      *AA354
       10         CD05-FILLER PICTURE X(5).                   *AA354
     02           CD10.                                       *AA354
       10         CD10-FOURNI PICTURE X(3).                   *AA354
       10         CD10-QTMAC  PICTURE 99.                     *AA354
       10         CD10-QTMAL  PICTURE 99.                     *AA354
       10         CD10-INFOR  PICTURE X(35).                  *AA354
       10         CD10-ADFOU  PICTURE X(100).                 *AA354
     02           CD20.                                       *AA354
       10         CD20-EDIT   PICTURE X.                      *AA354
     02           CD30.                                       *AA354
       10         CD30-COCARA PICTURE X.                      *AA354
       10         CD30-NUCOM  PICTURE 9(5).                   *AA354
     02           CL10.                                       *AA354
       10         CL10-CLECL1.                                *AA354
        15        CL10-NUCLIE PICTURE 9(8).                   *AA354
       10         CL10-RAISOC.                                *AA354
        15        CL10-RAISO1 PICTURE X(25).                  *AA354
        15        CL10-RAISO2 PICTURE X(25).                  *AA354
       10         CL10-RUE    PICTURE X(40).                  *AA354
       10         CL10-COPOS  PICTURE X(5).                   *AA354
       10         CL10-VILLE  PICTURE X(20).                  *AA354
       10         CL10-MATE   PICTURE X(8).                   *AA354
       10         CL10-RELEA  PICTURE X(3).                   *AA354
       10         CL10-REMIS  PICTURE S9(4)V99.               *AA354
       10         CL10-CORRES PICTURE X(25).                  *AA354
       10         CL10-RAISOL.                                *AA354
        15        CL10-RUEL   PICTURE X(40).                  *AA354
        15        CL10-COPOSL PICTURE X(5).                   *AA354
       10         CL10-VILLEL PICTURE X(20).                  *AA354
       10         CL10-LANGU  PICTURE X.                      *AA354
       10         CL10-FILLER PICTURE X(5).                   *AA354
     02           CL20.                                       *AA354
       10         CL20-COCARA PICTURE X.                      *AA354
       10         CL20-NUCLIE PICTURE 9(8).                   *AA354
     02           EM00.                                       *AA354
      03          EM00-00.                                    *AA354
       10         EM00-CLELE.                                 *AA354
        15        EM00-APPLI  PICTURE XXX.                    *AA354
        15        EM00-TYPEN  PICTURE X.                      *AA354
        15        EM00-XCLEF.                                 *AA354
         20       EM00-PROGR  PICTURE X(6).                   *AA354
         20       EM00-NUERR.                                 *AA354
          25      EM00-NUERR9 PICTURE 999.                    *AA354
         20       EM00-TYERR  PICTURE X.                      *AA354
        15        EM00-NULIG  PICTURE 999.                    *AA354
        15        EM00-GRAER  PICTURE X.                      *AA354
       10         EM00-ERMSG.                                 *AA354
        15        EM00-ERMSG1 PICTURE X(30).                  *AA354
        15        EM00-ERMSG2 PICTURE X(36).                  *AA354
       10         EM00-FILLER PICTURE X(6).                   *AA354
     02           FO10.                                       *AA354
       10         FO10-CLEFO.                                 *AA354
        15        FO10-FOURNI PICTURE X(3).                   *AA354
        15        FO10-MATE   PICTURE X(8).                   *AA354
        15        FO10-RELEA  PICTURE X(3).                   *AA354
        15        FO10-LANGU  PICTURE X.                      *AA354
       10         FO10-QTMAS  PICTURE S9(4)                   *AA354
                       COMPUTATIONAL.                        *AA354
       10         FO10-QTMAM  PICTURE 9(4).                   *AA354
       10         FO10-LIBFO  PICTURE X(20).                  *AA354
       10         FO10-DATE   PICTURE X(6).                   *AA354
       10         FO10-HEURE  PICTURE X(8).                   *AA354
```

```
  10          FO10-FILLER PICTURE XX.                    *AA354
02            HE10.                                      *AA354
  10          HE10-CLE.                                  *AA354
   15         HE10-XNMTE  PICTURE X(8).                  *AA354
  10          HE10-XZONE  PICTURE X(1920).               *AA354
02            ME00.                                      *AA354
 03           ME00-00.                                   *AA354
  10          ME00-CLEME.                                *AA354
   15         ME00-COPERS PICTURE X(5).                  *AA354
   15         ME00-NUMORD PICTURE XX.                    *AA354
  10          ME00-MESSA  PICTURE X(75).                 *AA354
```

5.10. LINKAGE SECTION MONITOR

LINKAGE SECTION MONITOR

The PSB of the dialogue is generated in the LINKAGE SECTION of the monitor program. It contains:

. The I/O PCB used to obtain the messages to be processed and to send the corresponding results to each logical terminal,

. The ALTERNATE PCB used to simultaneoulsly process, for several programs, all information related to a given screen by the transmission of a first processed message, that is not transmitted to a logical terminal but to a transaction, and which will be processed by another program which can in turn send another message to another transaction and so on ... up to the transmission of the last message to the terminal,

. The DB-PCB groups the PCB's of the databases used in the dialogue.

GENERATED MONITOR 5
LINKAGE SECTION MONITOR 10

```
LINKAGE SECTION.                                                  DO
01          S-IPCB.                                               DO
      10    S-IPCB-XNMTE  PICTURE X(8).                           DO
      10    FILLER        PICTURE S9(4) COMPUTATIONAL.            DO
      10    S-IPCB-XCORET PICTURE XX.                             DO
      10    S-IPCB-XDMES  PICTURE S9(7) COMP-3.                   DO
      10    S-IPCB-XHMES  PICTURE S9(7) COMP-3.                   DO
      10    S-IPCB-XNMES  PICTURE S9(7) COMP.                     DO
      10    S-IPCB-XIMOD  PICTURE X(8).                           DO
      10    S-IPCB-XUSER  PICTURE X(20).                          DO
01          S-APCB.                                               DO
      10    S-APCB-XNMTE  PICTURE X(8).                           DO
      10    FILLER        PICTURE S9(4) COMPUTATIONAL.            DO
      10    S-APCB-XCORET PICTURE XX.                             DO
      10    S-APCB-XDMES  PICTURE S9(7) COMPUTATIONAL.            DO
      10    S-APCB-XHMES  PICTURE S9(7) COMP-3.                   DO
      10    S-APCB-XNMES  PICTURE S9(7) COMP-3.                   DO
      10    S-APCB-XIMOD  PICTURE X(8).                           DO
01                S-ALTPCB.                                       DO
   05             S-ALTPCB-XNMTE  PICTURE X(8).                   DO
   05             FILLER          PICTURE S9(4) COMP.             DO
   05             S-ALTPCB-XCORET PICTURE XX.                     DO
   05             S-ALTPCB-XDMES  PICTURE S9(7) COMP-3.           DO
   05             S-ALTPCB-XHMES  PICTURE S9(7) COMP-3.           DO
   05             S-ALTPCB-XNMES  PICTURE S9(7) COMP.             DO
   05             S-ALTPCB-XIMOD  PICTURE X(8).                   DO
01                S-DBDFOU.                                       DO
       05         FILLER PICTURE X(100).                          DO
01                S-DBDMES.                                       DO
       05         FILLER PICTURE X(100).                          DO
01                S-DBDCLI.                                       DO
       05         FILLER PICTURE X(100).                          DO
01                S-DBDCDE.                                       DO
       05         FILLER PICTURE X(100).                          DO
01                S-PCBIDX.                                       DO
       05         FILLER PICTURE X(100).                          DO
01                S-DBDLER.                                       DO
       05         FILLER PICTURE X(100).                          DO
01                S-DBDHEL.                                       DO
       05         FILLER PICTURE X(100).                          DO
```

5.11. STRUCTURE OF THE PROCEDURE DIVISION

STRUCTURE OF THE PROCEDURE DIVISION

```
F0110     Initialization of MFS variables

-------------------------------------------------

F05       BEGIN ITERATION  <------------------------+
F0510     Read of the SPA                           !
F0520     Read of the MID                           !
                                                    !
F10       Begin dialogue                            !
F1010     First screen                              !
                                                    !
F28       Concatenation of 'LOAD-MODULES'           !
F28AA     Initializations       <---------+         !
F2899     Call program                    !         !
F2899-FN  Return program                  !         !
F29       DB error processing             !         !
F2910     End of conversation             !         !
F2920     Request other screen    --------+         !
F2930     Write SPA                                 !
F2940     Write MOD                                 !
F2980     END ITERATION   --------------------------+

---------------  Performed functions  --------------

F81ER     Errors detected in the databases
F81IO     Errors detected in the I/O PCB
```

5.12. INITIALIZATION OF THE MONITOR (F01)

INITIALIZATION OF THE MONITOR

PCB LIST

The PCB list is generated in the PROCEDURE DIVISION. However the user may request that it be generated in the WORKING- STORAGE SECTION. In order to this, a '-W' line must be created and the WORK AREA DESCRIPTION field must be entered as follows:

'$PCB' or '$PCB.' left-justified.

When '$PCB.' is entered, a period is generated at the end of the list.

FUNCTION F01

This function is used to initialize certain MFS constants located in the 'COMMUNICATION-MONITOR' area and used in the 'LOAD-MODULES'. (Also see Subchapter "BEGINNING OF WORKING- STORAGE".)

```
PROCEDURE DIVISION USING                                    *99999
            S-IPCB                                          *99999
                     S-ALTPCB                               *99999
                     S-DBDFOU                               *99999
                     S-DBDMES                               *99999
                     S-DBDCLI                               *99999
                     S-DBDCDE                               *99999
                     S-PCBIDX                               *99999
                     S-DBDLER                               *99999
                     S-DBDHEL.                              *99999
F01.                                                        DO
       MOVE 7-3F   TO S-WWSS-3F                             DO
       MOVE 7-PROT TO S-WWSS-PROT                           DO
       MOVE 7-CURS TO S-WWSS-CURS.                          DO
F01-FN.      EXIT.                                          DO
```

5.13. I/O PCB READS (F05)

I/O PCB READS

Function F0510 is used to receive the SPA using the 'GU' command on the I/O PCB. This is done in order to ensure a continuous conversation.

The return-code 'QC' indicates the end of the conversation. Control is given back to IMS (GOBACK).

Function F0520 is used to receive the MID to be processed by the load-modules.

In these two sub-functions, a return code other than 'blank' causes a branch to an error sub-function.

```
F05.         EXIT.                                              DO
F0510.                                                          DO
       MOVE 'GU'   TO S-WPCB-XFONC.                             DO
       CALL 'CBLTDLI' USING S-WPCB-XFONC S-IPCB SPA.            DO
       IF S-IPCB-XCORET = 'QC' GOBACK.                          DO
       IF S-IPCB-XCORET NOT = SPACE   GO TO F81IO.              DO
F0510-FN.    EXIT.                                              DO
F0520.                                                          DO
       MOVE 'GN' TO S-WPCB-XFONC.                               DO
       CALL 'CBLTDLI' USING S-WPCB-XFONC S-IPCB                 DO
       INPUT-SCREEN-FIELDS.                                     DO
       IF  S-IPCB-XCORET NOT = SPACE                            DO
       AND S-IPCB-XCORET NOT = 'QD'  GO TO F81IO.               DO
F0520-FN.    EXIT.                                              DO
F05-FN.      EXIT.                                              DO
```

5.14. BEGINNING OF THE DIALOGUE (F10)

BEGINNING OF THE DIALOGUE

The purpose of this function is to prepare the execution of the first program that processes the first screen of a dialogue.

In sub-function F1010, the user will find:

. The 'CO' variable set to '0', if the dialogue begins for a given user (or terminal),

. The loading of the name of the first program of the dialogue into 7-PROGE if it is the beginning (SPA initialized to LOW-VALUES by IMS).

```
F10.         EXIT.                                              DO
F1010.                                                          DO
       IF I-TRAN = 'DOTRA   '                                   DO
            MOVE '1' TO CO                                      DO
       ELSE MOVE '0' TO CO. MOVE '1' TO S-WWSS-SPAOC.           DO
       IF PREM = LOW-VALUE                                      DO
     MOVE ZERO TO K-SDOC                                        DO
       MOVE 'IMD060P ' TO S-WWSS-PROGE 7-PROGE.                 DO
F1010-FN.    EXIT.                                              DO
F10-FN.      EXIT.                                              DO
```

5.15. CONCATENATION OF THE PROGRAMS (F28)

CONCATENATION OF THE PROGRAMS

The following pointers are passed to 'LOAD MODULES':

. The I/O PCB

. All the DB PCB's

. The conversation area (or COMMON-AREA)

. The MID (received in F0520)

. The MOD (which will be formatted in F2940)

Specifications for the MID

At the beginning of the conversation, IMS separates the message received after the first 'transmit' into two parts:

. The first part constitutes the SPA beginning with the transaction code defined at the beginning of the first MID of the first screen (the rest of the SPA is initialized to LOW-VALUES).

. The second part constitutes the MID for which the transaction code will have been deleted, and only in case of initialization of the conversation.

The result is that at the beginning of the conversation, (CO = '0'), the address of I-MID-2 constitutes the pointer of the MID, and that during the conversation (CO = 1), the address of I-MID-1 becomes the new pointer of the MID.

```
F28.         EXIT.                                                  DO
F28AA.                                                              DO
       MOVE  'A'  TO  S-WWSS-OPER.                                  DO
       MOVE  '1'  TO  S-WWSS-SPAOC.                                 DO
F28AA-FN.    EXIT.                                                  DO
F2899.                                                              DO
       IF CO = '1'  CALL 'CALL'  USING  7-PROGE S-IPCB              DO
                      S-ALTPCB                                      DO
                      S-DBDFOU                                      DO
                      S-DBDMES                                      DO
                      S-DBDCLI                                      DO
                      S-DBDCDE                                      DO
                      S-PCBIDX                                      DO
                      S-DBDLER                                      DO
                      S-DBDHEL                                      DO
       K-PROGR I-MID-1 OUTPUT-SCREEN-FIELDS                         DO
       PSB COMMUNICATION-MONITOR                                    DO
       ELSE         CALL 'CALL'  USING  7-PROGE S-IPCB              DO
                      S-ALTPCB                                      DO
                      S-DBDFOU                                      DO
                      S-DBDMES                                      DO
                      S-DBDCLI                                      DO
                      S-DBDCDE                                      DO
                      S-PCBIDX                                      DO
                      S-DBDLER                                      DO
                      S-DBDHEL                                      DO
       K-PROGR I-MID-2 OUTPUT-SCREEN-FIELDS                         DO
       PSB COMMUNICATION-MONITOR.                                   DO
       CALL 'CANCEL' USING 7-PROGE.                                 DO
F2899-FN.    EXIT.                                                  DO
F28-FN.      EXIT.                                                  DO
```

5.16. PROGRAM RETURN PROCESSING (F29)

PROGRAM RETURN PROCESSING

Depending on the Operation Code OPER sent by the program in the field S-WWSS-OPER, the following procedures will be executed:

. OPER = X (F29): An abnormal return code was detected on a database, resulting in a branch to the sub- function that prints the corresponding information.

. OPER = E (F2910): End of requested conversation, resulting in the blanking out of the transaction code (which is the end of conversation for IMS), and preparation for re-display of the first screen of the dialogue.

. OPER = O (F2920): Request for the display of another screen, so branch to the corresponding sub-function.

Should OPER be other than the above mentioned values, the following procedures will be executed:

. F2930: Write of the SPA to save the data to be used in the following step of the conversation.

. F2940: Display of the MOD formatted in the program.

. F2980: Return to function F05. Control is given back to IMS (GOBACK) if no other conversation of the same type is being executed.

The number of iterations, before the processing area is freed-up, depends on the PROCLIM parameter of the macro-instruction TRANSACT defined by the systems manager.

```
F29.                                                          DO
       IF S-WWSS-OPER = 'X' GO TO F81ER.                      DO
F2910.     IF S-WWSS-OPER = 'E'                               DO
       MOVE SPACE TO TRAN MOVE 1 TO S-WWSS-SPAOC              DO
       MOVE 'ODO0060  ' TO S-WWSS-XIMOD                       DO
       MOVE LOW-VALUE TO OUTPUT-SCREEN-FIELDS                 DO
       MOVE 5 TO L-MOD  MOVE 'A' TO S-WWSS-OPER.              DO
F2910-FN.    EXIT.                                            DO
F2920.     IF S-WWSS-OPER = 'O'                               DO
       MOVE S-WWSS-PROGE TO 7-PROGE  GO TO F28.               DO
F2920-FN.    EXIT.                                            DO
F2930.     IF S-WWSS-SPAOC = '1'                              DO
       MOVE 'ISRT' TO S-WPCB-XFONC                            DO
       CALL 'CBLTDLI' USING S-WPCB-XFONC S-IPCB SPA.          DO
       IF S-IPCB-XCORET NOT = SPACE  GO TO F81IO.             DO
F2930-FN.    EXIT.                                            DO
F2940.                                                        DO
       MOVE LOW-VALUE TO MODZZ                                DO
       MOVE 'ISRT' TO S-WPCB-XFONC                            DO
       CALL 'CBLTDLI' USING S-WPCB-XFONC S-IPCB               DO
       OUTPUT-SCREEN-FIELDS S-WWSS-XIMOD.                     DO
       IF S-IPCB-XCORET NOT = SPACE  GO TO F81IO.             DO
F2940-FN.    EXIT.                                            DO
F2980.     GO TO F05.                                         DO
F2980-FN.    EXIT.                                            DO
F29-FN.      EXIT.                                            DO
```

5.17. DATABASE OR I/O PCB ERRORS (F81)

DATABASE OR I/O PCB ERRORS

This function, called by a PERFORM, includes two error displays:

. The first is called after an input-output error on a database (F81ER),

. The second is called after an erroneous read or write on the I/O-PCB (F81IO).

```
F81ER.                                                    DO
       MOVE S-SPCB-XCORET TO D-SPCB-XCORET                DO
       MOVE S-SPCB-XNMBD  TO D-SPCB-XNMDBD                DO
       MOVE S-SPCB-XNMSEG TO D-SPCB-XNMSEG                DO
       MOVE S-SPCB-XOPTRT TO D-SPCB-XOPTRT                DO
       MOVE S-SPCB-XCLECO TO D-SPCB-XCLECO                DO
       DISPLAY D-SPCB.             GOBACK.                DO
F81ER-FN.    EXIT.                                        DO
F81IO.                                                    DO
       MOVE S-IPCB-XNMTE  TO D-SPCB-XNMDBD                DO
       MOVE 'TERMINAL'    TO D-SPCB-XNMSEG                DO
       MOVE S-IPCB-XCORET TO D-SPCB-XCORET                DO
       MOVE   'MOD'       TO D-SPCB-XOPTRT                DO
       MOVE S-IPCB-XIMOD  TO D-SPCB-XCLECO.               DO
       DISPLAY D-SPCB.             GOBACK.                DO
F81IO-FN.    EXIT.                                        DO
```

6. GENERATED SUB-MONITOR

6.1. INTRODUCTION

INTRODUCTION

Sub-monitors in the conversation allow for:

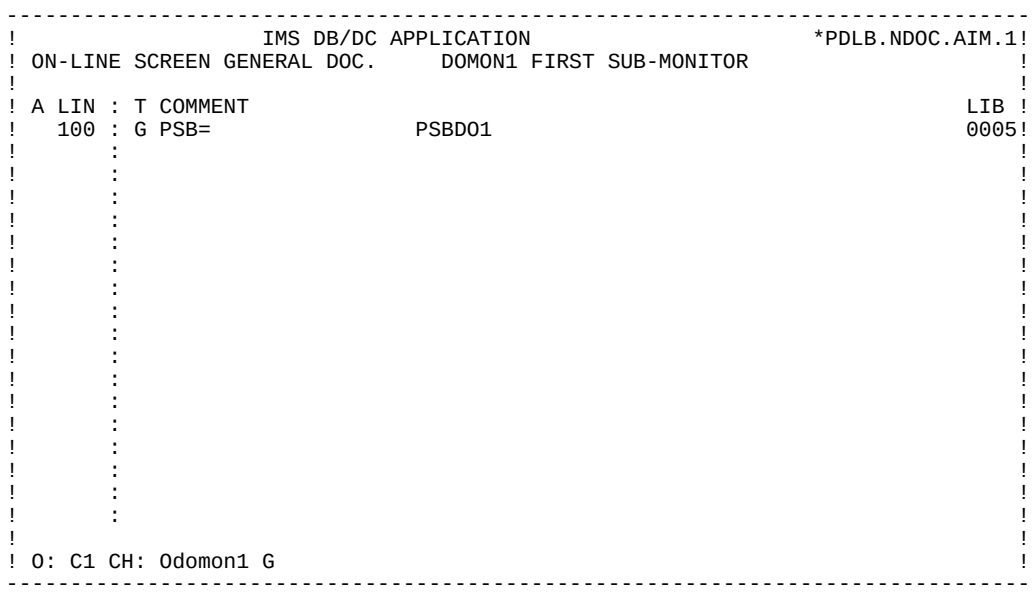
. The dividing of the initial dialogue defined by the user into logical 'sub-dialogues' (consultations, updates) characterized by a transaction code, a PSB, and screen branchings.

. The "static" call of all or some of the screens composing a given dialogue.

The generation of a sub-monitor requires the definition of a screen for which the TYPE OF COBOL AND MAP TO GENERATE value is '4'.

All generated sub-monitors may be modified (add specific processing to the dialogue, etc...) by the use of structured code (CH: -B, -P, -W, and -CP). These modifications must be added at the 'sub-monitor definition' level.

```
--------------------------------------------------------------------------------
!                   IMS DB/DC APPLICATION                    *PDLB.NDOC.AIM.1!
! ON-LINE SCREEN DEFINITION.........: DOMON1                                   !
!                                                                              !
! SCREEN NAME.......................: FIRST SUB-MONITOR                       !
!                                                                              !
! SCREEN SIZE (LINES, COLUMNS) .....:   24       080                           !
! LABEL TYPE, TABS, INITIALIZATION...:   L        01                            !
! HELP CHARACTER SCREEN, DATA ELEMENT:   10       11                            !
!                                                                              !
!                                    LABELS   DISPLAY  INPUT  ER.MESS. ER.FLD!
! INTENSITY ATTRIBUTE ..............:   N        N        N        N        N !
! PRESENTATION ATTRIBUTE ...........:   N        N        N        N        N !
! COLOR ATTRIBUTE ..................:   W        W        W        W        W !
!                                                                              !
! TYPE OF COBOL AND MAP TO GENERATE..:   0 * 4     IBM OS IMS MONITOR          !
! CONTROL CARD OPTIONS FRONT & BACK..:            (PROGRAM)      $$       (MAP)!
! EXTERNAL NAMES ...................:   JIPSMB   (PROGRAM)               (MAP)!
! TRANSACTION CODE..................: * JITRB                                 !
!                                                                              !
!                                                                              !
! EXPLICIT KEYWORDS..:                                                         !
! SESSION NUMBER.....: 0005        LIBRARY......: AIM    LOCK....:             !
!                                                                              !
! O: C1 CH: Odomon1                    ACTION:                                 !
--------------------------------------------------------------------------------
```



6.2. DIALOGUE WORK AREA DESCRIPTION

DIALOGUE WORK AREA DESCRIPTION

In this example, two sub-monitors are generated, DOMON1 and DOMON2. They are identified by a TYPE OF LINE value 'M'.

The sub-monitor DOMON1 calls the screens:

- DO0000 (Dynamic call 'D')
- DO0020 (Static call 'S')
- DO0030 (Dynamic call 'D')
- DO0040 (Static call 'S')
- DOHELP (Dynamic call 'D')

The screens are identified by a TYPE OF LINE value 'C'.

IMPORTANT:

1. To activate the sub-monitors, the user must enter the conversation of the dialogue either by the transaction code of one of the sub-monitors or by /FOR MODNAME, after MFS format compilation of the 1st screen of the dialogue. In the latter case, replace the transaction code indicated on the Definition screen of the 1st screen of the dialogue by one of the transaction codes of one of the sub-monitors belonging to the dialogue.

2. The main monitor (monitor of the dialogue containing only dynamic calls) can, in no case, take control of the conversation in progress. Therefore, each screen of the dialogue must absolutely be called by at least one sub-monitor.

Additionally, the first screen of the dialogue must also be called by at least one sub-monitor.

It is possible to use the monitor and the submonitors together, only if the MFS format is compiled with the option 'NOTRAC' defined on the Dialogue Complement (-O) screen. Such a usage requires an entry into the dialogue by code (monitor or sub-monitor).

Lastly, the first screen of the dialogue is displayed again at the end of the conversation.

GENERATED SUB-MONITOR 6
DIALOGUE WORK AREA DESCRIPTION 2

```
-------------------------------------------------------------------------------
!                   IMS DB/DC APPLICATION                      *PDLB.NDOC.AIM.1!
! WORK AREAS.........ENTITY TYPE O DO     PACBASE DOCUMENTATION MANAG.         !
!                                                                              !
! CODE FOR PLACEMENT..:      AA                                                !
! A LIN T LEVEL OR SECTION WORK AREA DESCRIPTION                       OCCURS!
!   100 M DOMON1                                                               !
!   105 C DO0000 D                                                             !
!   110 C DO0020 S                                                             !
!   120 C DO0030 D                                                             !
!   130 C DO0040 S                                                             !
!   140 C DOHELP D                                                             !
!   150 C DO0050 D                                                             !
!   160 C DO0070 D                                                             !
!   170 C DO0060 D                                                             !
!   200 M DOMON2                                                               !
!   205 C DO0000 S                                                             !
!   210 C DO0010 S                                                             !
!   220 C DO0020 D                                                             !
!   230 C DOHELP D                                                             !
!   240 C DO0070 D                                                             !
!   250 C DO0050 D                                                             !
!   260 C DO0060 D                                                             !
! *** END ***                                                                  !
! O: C1 CH: Odo W                                                              !
-------------------------------------------------------------------------------
```

GENERATED SUB-MONITOR 6
DIALOGUE WORK AREA DESCRIPTION 2

```
--------------------------------------------------------------------------------
!                   IMS DB/DC APPLICATION                    *PDLB.NDOC.AIM.1!
! WORK AREAS.........ENTITY TYPE O DOMON1 FIRST SUB-MONITOR                     !
!                                                                              !
! CODE FOR PLACEMENT..:      BB                                                !
! A LIN T LEVEL OR SECTION WORK AREA DESCRIPTION                       OCCURS!
! * 000   01               7-YW05-XFONC PIC XXXX.                              !
! * 100   01               7-YW05-IPCB  PIC X(32).                             !
!                                                                              !
!                                                                              !
!                                                                              !
!                                                                              !
!                                                                              !
!                                                                              !
!                                                                              !
!                                                                              !
!                                                                              !
!                                                                              !
!                                                                              !
!                                                                              !
!                                                                              !
!                                                                              !
! O: C1 CH: Odomon1 W                                                          !
--------------------------------------------------------------------------------
```

6.3. PROCESSING

```
-------------------------------------------------------------------------------
!                  IMS DB/DC APPLICATION                     *PDLB.NDOC.AIM.1!
! PROCEDURAL CODE       O DOMON1 FIRST SUB-MONITOR             FUNCTION: 81   !
!                                                                             !
! A SF LIN OPE OPERANDS                         LVTY CONDITION                !
! *        N   PROVOKED ABEND                   05BL                          !
! - -- --- --- -------------------------------- ---- --------------------------!
! * ER     N   ERROR ON DATABASE                10BL                          !
! * ER  20 M   'ROLB' 7-YW05-XFONC                                            !
! * ER  30 CAL 'CBLTDLI' USING 7-YW05-XFONC                                   !
! * ER  40     S-IPCB                                                         !
! * ER  90 GT  05                                                             !
! - -- --- --- -------------------------------- ---- --------------------------!
! * IO     N   OTHER ERROR                      10BL                          !
! * IO  20 M   S-IPCB     S-SPCB                                              !
! * IO  30 M   'MOD'      S-SPCB-XOPTRT                                       !
! * IO  40 M   'TERMINAL' S-SPCB-XNMSEG                                       !
! - -- --- --- -------------------------------- ---- --------------------------!
!                                                                             !
!                                                                             !
!                                                                             !
!                                                                             !
!                                                                             !
!                                                                             !
! O: C1 CH: Odomon1 P                                                         !
-------------------------------------------------------------------------------
```

GENERATED SUB-MONITOR 6
PROCESSING 3

```
!                   IMS DB/DC APPLICATION                      *PDLB.NDOC.AIM.1!
! PROCEDURAL CODE       O DOMON1 FIRST SUB-MONITOR              FUNCTION: 82   !
!                                                                               !
! A SF LIN OPE OPERANDS                          LVTY CONDITION                 !
! *        N   ABEND MAP CALL                    05BL                           !
! *     20 M   S-IPCB 7-YW05-IPCB                                               !
! *     30 M   PACBASE-CONSTANTS S-IPCB                                         !
! *     40 M   'PSTABEND' 7-PROGE                                               !
! *     50 CAL 'CALL' USING 7-PROGE S-IPCB                                      !
! *     60      K-PROGR I-MID-2                                                 !
! *     70      OUTPUT-SCREEN-FIELDS PSB                                        !
! *     80      COMMUNICATION-MONITOR                                           !
! *    100 M   7-YW05-IPCB S-IPCB                                               !
! *    130 M   'ISRT' S-WPCB-XFONC                                              !
! *    140 M   SPACE TRAN                                                       !
! *    145 CAL 'CBLTDLI' USING S-WPCB-XFONC                                     !
! *    150     S-IPCB SPA                                                       !
! *    160 M   LOW-VALUE MODZZ                                                  !
! *    180 CAL 'CBLTDLI' USING S-WPCB-XFONC                                     !
! *    190     S-IPCB OUTPUT-SCREEN-FIELDS                                      !
! *    200     S-WWSS-XIMOD                                                     !
! *    999 COB  GO TO F05.                                                      !
! *** END ***                                                                   !
! O: C1 CH:                                                                     !
```

6.4. BEGINNING OF PROGRAM

```
      IDENTIFICATION DIVISION.
      PROGRAM-ID. JIPSMB.                                          DOMON1
      AUTHOR.     FIRST SUB-MONITOR.                               DOMON1
      DATE-COMPILED. 04/30/93.                                     DOMON1
      ENVIRONMENT DIVISION.                                        DOMON1
      CONFIGURATION SECTION.                                       DOMON1
      SOURCE-COMPUTER. IBM-370.                                    DOMON1
      OBJECT-COMPUTER. IBM-370.                                    DOMON1
      DATA DIVISION.                                               DOMON1
      WORKING-STORAGE SECTION.                                     DOMON1
      01   WSS-BEGIN.                                             DOMON1
           05 FILLER PICTURE X(7) VALUE 'WORKING'.                 DOMON1
           05 IK     PICTURE X.                                    DOMON1
           05 BLANC  PICTURE X VALUE SPACE.                        DOMON1
           05 CO     PICTURE X.                                    DOMON1
           05 GREQ   PICTURE XX   VALUE '>='.                      DOMON1
      01   SERVICE-ATTRIBUTES.                                    DOMON1
           05   7-3F-1   PICTURE S9(4) COMP VALUE +63.            DOMON1
           05   7-3F-2   REDEFINES 7-3F-1.                        DOMON1
            10  FILLER   PICTURE X.                               DOMON1
            10  7-3F     PICTURE X.                               DOMON1
           05   7-CURS-1 PICTURE S9(4) COMP VALUE +192.           DOMON1
           05   7-CURS-2 REDEFINES 7-CURS-1.                       DOMON1
            10  FILLER   PICTURE X.                               DOMON1
            10  7-CURS   PICTURE X.                               DOMON1
           05   7-PROT-1 PICTURE S9(4) COMP VALUE +225.           DOMON1
           05   7-PROT-2 REDEFINES 7-PROT-1.                       DOMON1
            10  FILLER   PICTURE X.                               DOMON1
            10  7-PROT   PICTURE X.                               DOMON1
           05   7-TYPPCB PICTURE X.                               DOMON1
      01   PACBASE-CONSTANTS.                                     DOMON1
           05 SESSI  PICTURE X(5) VALUE '0335 '.                   DOMON1
           05 LIBRA  PICTURE X(3) VALUE 'AIM'.                     DOMON1
           05 DATGN  PICTURE X(8) VALUE '04/30/93'.                DOMON1
           05 PROGR  PICTURE X(6) VALUE 'DOMON1'.                  DOMON1
           05 PROGE  PICTURE X(8) VALUE 'JIPSMB  '.                DOMON1
           05 TIMGN  PICTURE X(8) VALUE '16:47:45'.                DOMON1
           05 USERCO PICTURE X(8) VALUE 'PDCL    '.                DOMON1
           05 DATOR.                                               DOMON1
           10 DATOA  PICTURE XX.                                   DOMON1
           10 DATOM  PICTURE XX.                                   DOMON1
           10 DATOJ  PICTURE XX.                                   DOMON1
      *      ***  SPA LENGTH : 5212 BYTES  ***                     *AA001
      01   SPA.                                                    *AA001
           02   SPALG    PICTURE S9(4) COMPUTATIONAL.              *AA001
           02   SPAZZ    PICTURE XX.                               *AA001
           02   SPACI    PICTURE XX.                               *AA001
           02   TRAN   PICTURE X(8).                              *AA001
           02   7-PROGE.                                          *AA001
             10 PREM     PICTURE X.                               *AA001
             10 FILLER   PICTURE X(7).                           *AA001
           02   K-PROGR  PICTURE X(6).                           *AA001
           02   K-SDOC   PICTURE X.                              *AA001
           02   FILLER   PICTURE X(36).                          *AA001
           02            CA00.                                    *AA001
             10          CA00-CLECD.                              *AA001
              15         CA00-NUCOM  PICTURE 9(5).                *AA001
             10          CA00-CLECL1.                             *AA001
              15         CA00-NUCLIE PICTURE 9(8).                *AA001
             10          CA00-ME00.                               *AA001
              15         CA00-CLEME.                              *AA001
               20        CA00-COPERS PICTURE X(5).                *AA001
               20        CA00-NUMORD PICTURE XX.                  *AA001
              15         CA00-MESSA  PICTURE X(75).               *AA001
             10          CA00-PREM   PICTURE X.                   *AA001
             10          CA00-LANGU  PICTURE X.                   *AA001
             10          CA00-RAISOC PICTURE X(50).               *AA001
           02  FILLER      PICTURE X(5000).                       *AA002
      01           INPUT-SCREEN-FIELDS.                           *AA050
           02   L-MID    PICTURE S9(4) COMP.                       *AA050
           02   MIDZZ    PICTURE XX VALUE LOW-VALUE.               *AA050
           02   I-MID.                                            *AA050
```

```
         05  I-TRAN   PICTURE X(06).                          *AA050
         05  I-MID-1.                                         *AA050
          10 I-PROGR1 PICTURE X(6).                           *AA050
          10 FILLER   PICTURE X(2488).                        *AA050
        02   J-MID    REDEFINES I-MID.                       *AA050
         05  I-MID-2.                                         *AA050
          10 I-PROGR2 PICTURE X(6).                           *AA050
          10 FILLER   PICTURE X(2494).                        *AA050
  01           OUTPUT-SCREEN-FIELDS.                         *AA050
        02   L-MOD    PICTURE S9(4) COMP.                    *AA050
        02   MODZZ    PICTURE XX VALUE LOW-VALUE.            *AA050
        02   FILLER   PICTURE X(3000).                       *AA050
```

6.5. SUB-MONITOR TABLE (D-WWSS)

SUB-MONITOR TABLE

The D-WWSS table generated in the WORKING-STORAGE SECTION, regroups all the sub-monitor transaction codes defined in the work areas of the dialogue.

The external name and the name of the group of dependent screens of each sub-monitor are associated to these transaction codes.

(Refer to Chapter "THE GENERATED PROGRAM", Subchapter "BEGINNING OF WORKING-STORAGE" in this manual.)

A redefinition of this table (D-WWSS-TABLE) will allow it to operate in Function F28BB.

```
01   D-WWSS.                                                    *AA153
      10  FILLER  PICTURE X(6) VALUE 'DO0000'.                  *AA153
      10  FILLER  PICTURE X(8) VALUE 'JITRB   '.                *AA153
      10  FILLER  PICTURE X(8) VALUE 'IMD000P '.                *AA153
      10  FILLER  PICTURE X(6) VALUE 'DO0020'.                  *AA153
      10  FILLER  PICTURE X(8) VALUE 'JITRB   '.                *AA153
      10  FILLER  PICTURE X(8) VALUE 'IMD020P '.                *AA153
      10  FILLER  PICTURE X(6) VALUE 'DO0030'.                  *AA153
      10  FILLER  PICTURE X(8) VALUE 'JITRB   '.                *AA153
      10  FILLER  PICTURE X(8) VALUE 'IMD030P '.                *AA153
      10  FILLER  PICTURE X(6) VALUE 'DO0040'.                  *AA153
      10  FILLER  PICTURE X(8) VALUE 'JITRB   '.                *AA153
      10  FILLER  PICTURE X(8) VALUE 'IMD040P '.                *AA153
      10  FILLER  PICTURE X(6) VALUE 'DOHELP'.                  *AA153
      10  FILLER  PICTURE X(8) VALUE 'JITRB   '.                *AA153
      10  FILLER  PICTURE X(8) VALUE 'DOP050  '.                *AA153
      10  FILLER  PICTURE X(6) VALUE 'DO0050'.                  *AA153
      10  FILLER  PICTURE X(8) VALUE 'JITRB   '.                *AA153
      10  FILLER  PICTURE X(8) VALUE 'IMD050P '.                *AA153
      10  FILLER  PICTURE X(6) VALUE 'DO0070'.                  *AA153
      10  FILLER  PICTURE X(8) VALUE 'JITRB   '.                *AA153
      10  FILLER  PICTURE X(8) VALUE 'IMD070P '.                *AA153
      10  FILLER  PICTURE X(6) VALUE 'DO0060'.                  *AA153
      10  FILLER  PICTURE X(8) VALUE 'JITRB   '.                *AA153
      10  FILLER  PICTURE X(8) VALUE 'IMD060P '.                *AA153
      10  FILLER  PICTURE X(6) VALUE 'DO0000'.                  *AA153
      10  FILLER  PICTURE X(8) VALUE 'JITRC   '.                *AA153
      10  FILLER  PICTURE X(8) VALUE 'IMD000P '.                *AA153
      10  FILLER  PICTURE X(6) VALUE 'DO0010'.                  *AA153
      10  FILLER  PICTURE X(8) VALUE 'JITRC   '.                *AA153
      10  FILLER  PICTURE X(8) VALUE 'IMD010P '.                *AA153
      10  FILLER  PICTURE X(6) VALUE 'DO0020'.                  *AA153
      10  FILLER  PICTURE X(8) VALUE 'JITRC   '.                *AA153
      10  FILLER  PICTURE X(8) VALUE 'IMD020P '.                *AA153
      10  FILLER  PICTURE X(6) VALUE 'DOHELP'.                  *AA153
      10  FILLER  PICTURE X(8) VALUE 'JITRC   '.                *AA153
      10  FILLER  PICTURE X(8) VALUE 'DOP050  '.                *AA153
      10  FILLER  PICTURE X(6) VALUE 'DO0070'.                  *AA153
      10  FILLER  PICTURE X(8) VALUE 'JITRC   '.                *AA153
      10  FILLER  PICTURE X(8) VALUE 'IMD070P '.                *AA153
      10  FILLER  PICTURE X(6) VALUE 'DO0050'.                  *AA153
      10  FILLER  PICTURE X(8) VALUE 'JITRC   '.                *AA153
      10  FILLER  PICTURE X(8) VALUE 'IMD050P '.                *AA153
      10  FILLER  PICTURE X(6) VALUE 'DO0060'.                  *AA153
      10  FILLER  PICTURE X(8) VALUE 'JITRC   '.                *AA153
      10  FILLER  PICTURE X(8) VALUE 'IMD060P '.                *AA153
01   D-WWSS-TABLE  REDEFINES D-WWSS.                            *AA153
     05   D-WWSS-GROUP  OCCURS  015.                            *AA153
      10  D-WWSS-PROGR  PICTURE X(6).                           *AA153
      10  D-WWSS-TRAN   PICTURE X(8).                           *AA153
      10  D-WWSS-PROGE  PICTURE X(8).                           *AA153
```

6.6. DESCRIPTION OF VALIDATION AREA

```
01   D-SPCB.
     05   FILLER        PICTURE X(5) VALUE ' DBD '.
     05   D-SPCB-XNMDBD PICTURE X(8) VALUE SPACE.
     05   FILLER        PICTURE X(5) VALUE ' SEG '.
     05   D-SPCB-XNMSEG PICTURE X(8) VALUE SPACE.
     05   FILLER        PICTURE X(5) VALUE ' RET '.
     05   D-SPCB-XCORET PICTURE X(8) VALUE SPACE.
     05   FILLER        PICTURE X(5) VALUE ' ACT '.
     05   D-SPCB-XOPTRT PICTURE X(4) VALUE SPACE.
     05   FILLER        PICTURE X(4) VALUE SPACE.
     05   D-SPCB-XCLECO PICTURE X(70) VALUE SPACE.
01   PACBASE-INDEXES COMPUTATIONAL SYNC.
     05 K01         PICTURE S9(4) VALUE ZERO.
     05    5-CD05-LTH  PICTURE S9(4) VALUE +0162.
     05    5-CD10-LTH  PICTURE S9(4) VALUE +0142.
     05    5-CD20-LTH  PICTURE S9(4) VALUE +0001.
     05    5-CD30-LTH  PICTURE S9(4) VALUE +0006.
     05    5-CL10-LTH  PICTURE S9(4) VALUE +0236.
     05    5-CL20-LTH  PICTURE S9(4) VALUE +0009.
     05    5-EM00-LTH  PICTURE S9(4) VALUE +0090.
     05    5-FO10-LTH  PICTURE S9(4) VALUE +0057.
     05    5-HE10-LTH  PICTURE S9(4) VALUE +1928.
     05    5-ME00-LTH  PICTURE S9(4) VALUE +0082.
     05    5-CA00-LTH  PICTURE S9(4) VALUE +0147.
     05    5-CD05-LTHV PICTURE S9(4) VALUE +0162.
     05    5-CD10-LTHV PICTURE S9(4) VALUE +0142.
     05    5-CD20-LTHV PICTURE S9(4) VALUE +0001.
     05    5-CD30-LTHV PICTURE S9(4) VALUE +0006.
     05    5-CL10-LTHV PICTURE S9(4) VALUE +0236.
     05    5-CL20-LTHV PICTURE S9(4) VALUE +0009.
     05    5-FO10-LTHV PICTURE S9(4) VALUE +0057.
     05    5-HE10-LTHV PICTURE S9(4) VALUE +1928.
```

6.7. SSA

SSA GENERATION

Two SSA's are generated for the error messages file if the data structure, and the corresponding data elements, have been defined at the dialogue level.
The SSA's are described as follows:

.A non-qualified SSA in the format:

```
01 S-EM00-SSA.
 10 S1-EM00-SEGNAM PIC X(8) VALUE 'nnnnnnnn'.
 10 S1-EM00-CCOM   PIC X    VALUE '*'.
 10 S-EM00-CCOD    PIC X(5) VALUE '-----'.
 10 FILLER         PIC X    VALUE SPACES.
```

where 'nnnnnnnn' is the code which appears in the CODE OF RECORD TYPE ELEM. field of the Segment Definition.

.A qualified SSA for the data element CLELE in the format:

```
01 S-EMU00-SSA.
 09 S1-EMU00-SEGNAM PIC X(8) VALUE 'nnnnnnnn'.
 09 S1-EMU00-CCOM   PIC X    VALUE '*'.
 09 S-EMU00-CCOD    PIC X(5) VALUE '-----'.
 09 S1-EMU00-FLDNAM PIC X(9) VALUE '(DAELE   '.
 09 S-EMU00-OPER    PIC XX   VALUE '='.
 09 S-EMU00-CORUB.
 pp S-EMU00-CLELE   PIC X(..).
 (...)
 09 FILLER          PIC X    VALUE ')'.
```

where pp is the level number generated for the data element CLELE in the segment description EM00.

NOTE: CLELE is a group field, the corresponding data elements are also generated in the SSA (...).

```
01              S-EM00-SSA.                                      *AA350
      10       S1-EM00-SEGNAM PICTURE X(8) VALUE                 *AA350
                               'EM00    '.                       *AA350
      10       S1-EM00-CCOM   PICTURE X VALUE '*'.               *AA350
      10        S-EM00-CCOD   PICTURE X(5) VALUE '-----'.        *AA350
      10          FILLER      PICTURE X VALUE SPACE.            *AA350
01              S-EMU00-SSA.                                     *AA351
      09       S1-EMU00-SEGNAM PICTURE X(8) VALUE                *AA351
                               'EM00    '.                       *AA351
      09       S1-EMU00-CCOM   PICTURE X    VALUE '*'.          *AA351
      09        S-EMU00-CCOD   PICTURE X(5) VALUE '-----'.       *AA351
      09       S1-EMU00-FLDNAM PICTURE X(9) VALUE                *AA351
                               '(CLELE   '.                     *AA351
      09        S-EMU00-OPER   PICTURE XX   VALUE ' ='.         *AA351
      09        S-EMU00-CORUB.                                   *AA351
      10        S-EMU00-CLELE.                                   *AA351
       15       S-EMU00-APPLI  PICTURE XXX.                      *AA351
       15       S-EMU00-TYPEN  PICTURE X.                        *AA351
       15       S-EMU00-XCLEF.                                   *AA351
        20      S-EMU00-PROGR  PICTURE X(6).                     *AA351
        20      S-EMU00-NUERR.                                   *AA351
         25     S-EMU00-NUERR9 PICTURE 999.                      *AA351
        20      S-EMU00-TYERR  PICTURE X.                        *AA351
       15       S-EMU00-NULIG  PICTURE 999.                      *AA351
       15       S-EMU00-GRAER  PICTURE X.                        *AA351
      09          FILLER      PICTURE X    VALUE ')'.          *AA351
```

6.8. COMMUNICATION AREA

```
01          COMMUNICATION-MONITOR.                              *AA352
      02    S-SPCB.                                             *AA352
      10    S-SPCB-XNMBD  PICTURE X(8).                         *AA352
      10    S-SPCB-XNISEG PICTURE XX.                           *AA352
      10    S-SPCB-XCORET PICTURE XX.                           *AA352
      10    S-SPCB-XOPTRT PICTURE X(4).                         *AA352
      10    FILLER        PICTURE S9(5) COMPUTATIONAL.          *AA352
      10    S-SPCB-XNMSEG PICTURE X(8).                         *AA352
      10    S-SPCB-XLGKEY PICTURE S9(5) COMPUTATIONAL.          *AA352
      10    S-SPCB-XNBSEG PICTURE S9(5) COMPUTATIONAL.          *AA352
      10    S-SPCB-XCLECO PICTURE X(70).                        *AA352
      02    S-WPCB.                                             *AA352
      10    S-WPCB-XFONC  PICTURE X(4).                         *AA352
      02    S-WWSS.                                             *AA352
      10    S-WWSS-OPER   PICTURE X.                            *AA352
      10    S-WWSS-SCR-ER PICTURE X.                            *AA352
      10    S-WWSS-PROT   PICTURE X.                            *AA352
      10    S-WWSS-PROGE  PICTURE X(8).                         *AA352
      10    S-WWSS-CURS   PICTURE X.                            *AA352
      10    S-WWSS-3F     PICTURE X.                            *AA352
      10    S-WWSS-SPAOC  PICTURE X.                            *AA352
     10     S-WWSS-XIMOD  PICTURE X(8).                         *AA352
```

6.9. PSB

```
 01      PSB.                                                 *AA354
      02             CD05.                                    *AA354
        10           CD05-KEYCD.                              *AA354
         15          CD05-NUCOM  PICTURE 9(5).                *AA354
        10           CD05-NUCLIE PICTURE 9(8).                *AA354
        10           CD05-DATE   PICTURE X(6).                *AA354
        10           CD05-RELEA  PICTURE X(3).                *AA354
        10           CD05-REFCLI PICTURE X(30).               *AA354
        10           CD05-RUE    PICTURE X(40).               *AA354
        10           CD05-COPOS  PICTURE X(5).                *AA354
        10           CD05-VILLE  PICTURE X(20).               *AA354
        10           CD05-CORRES PICTURE X(25).               *AA354
        10           CD05-REMIS  PICTURE S9(4)V99.            *AA354
        10           CD05-MATE   PICTURE X(8).                *AA354
        10           CD05-LANGU  PICTURE X.                   *AA354
        10           CD05-FILLER PICTURE X(5).                *AA354
      02             CD10.                                    *AA354
        10           CD10-FOURNI PICTURE X(3).                *AA354
        10           CD10-QTMAC  PICTURE 99.                  *AA354
        10           CD10-QTMAL  PICTURE 99.                  *AA354
        10           CD10-INFOR  PICTURE X(35).               *AA354
        10           CD10-ADFOU  PICTURE X(100).              *AA354
      02             CD20.                                    *AA354
        10           CD20-EDIT   PICTURE X.                   *AA354
      02             CD30.                                    *AA354
        10           CD30-COCARA PICTURE X.                   *AA354
        10           CD30-NUCOM  PICTURE 9(5).                *AA354
      02             CL10.                                    *AA354
        10           CL10-CLECL1.                             *AA354
         15          CL10-NUCLIE PICTURE 9(8).                *AA354
        10           CL10-RAISOC.                             *AA354
         15          CL10-RAISO1 PICTURE X(25).               *AA354
         15          CL10-RAISO2 PICTURE X(25).               *AA354
        10           CL10-RUE    PICTURE X(40).               *AA354
        10           CL10-COPOS  PICTURE X(5).                *AA354
        10           CL10-VILLE  PICTURE X(20).               *AA354
        10           CL10-MATE   PICTURE X(8).                *AA354
        10           CL10-RELEA  PICTURE X(3).                *AA354
        10           CL10-REMIS  PICTURE S9(4)V99.            *AA354
        10           CL10-CORRES PICTURE X(25).               *AA354
        10           CL10-RAISOL.                             *AA354
         15          CL10-RUEL   PICTURE X(40).               *AA354
         15          CL10-COPOSL PICTURE X(5).                *AA354
        10           CL10-VILLEL PICTURE X(20).               *AA354
        10           CL10-LANGU  PICTURE X.                   *AA354
        10           CL10-FILLER PICTURE X(5).                *AA354
      02             CL20.                                    *AA354
        10           CL20-COCARA PICTURE X.                   *AA354
        10           CL20-NUCLIE PICTURE 9(8).                *AA354
      02             EM00.                                    *AA354
       03            EM00-00.                                 *AA354
        10           EM00-CLELE.                              *AA354
         15          EM00-APPLI  PICTURE XXX.                 *AA354
         15          EM00-TYPEN  PICTURE X.                   *AA354
         15          EM00-XCLEF.                              *AA354
          20         EM00-PROGR  PICTURE X(6).                *AA354
          20         EM00-NUERR.                              *AA354
           25        EM00-NUERR9 PICTURE 999.                 *AA354
          20         EM00-TYERR  PICTURE X.                   *AA354
         15          EM00-NULIG  PICTURE 999.                 *AA354
         15          EM00-GRAER  PICTURE X.                   *AA354
        10           EM00-ERMSG.                              *AA354
         15          EM00-ERMSG1 PICTURE X(30).               *AA354
         15          EM00-ERMSG2 PICTURE X(36).               *AA354
        10           EM00-FILLER PICTURE X(6).                *AA354
      02             FO10.                                    *AA354
        10           FO10-CLEFO.                              *AA354
         15          FO10-FOURNI PICTURE X(3).                *AA354
         15          FO10-MATE   PICTURE X(8).                *AA354
         15          FO10-RELEA  PICTURE X(3).                *AA354
         15          FO10-LANGU  PICTURE X.                   *AA354
        10           FO10-QTMAS  PICTURE S9(4)                *AA354
```

```
                    COMPUTATIONAL.                          *AA354
      10          FO10-QTMAM  PICTURE 9(4).                 *AA354
      10          FO10-LIBFO  PICTURE X(20).                *AA354
      10          FO10-DATE   PICTURE X(6).                 *AA354
      10          FO10-HEURE  PICTURE X(8).                 *AA354
      10          FO10-FILLER PICTURE XX.                   *AA354
    02            HE10.                                     *AA354
      10          HE10-CLE.                                 *AA354
       15         HE10-XNMTE  PICTURE X(8).                 *AA354
      10          HE10-XZONE  PICTURE X(1920).              *AA354
    02            ME00.                                     *AA354
     03           ME00-00.                                  *AA354
      10          ME00-CLEME.                               *AA354
       15         ME00-COPERS PICTURE X(5).                 *AA354
       15         ME00-NUMORD PICTURE XX.                   *AA354
      10          ME00-MESSA  PICTURE X(75).                *AA354
01              7-YW05-XFONC PIC XXXX.                      *BB000
01              7-YW05-IPCB  PIC X(32).                     *BB100
```

6.10. LINKAGE SECTION

```
LINKAGE SECTION.                                                        DOMON1
01          S-IPCB.                                                     DOMON1
       10    S-IPCB-XNMTE  PICTURE X(8).                                DOMON1
       10    FILLER        PICTURE S9(4) COMPUTATIONAL.                 DOMON1
       10    S-IPCB-XCORET PICTURE XX.                                  DOMON1
       10    S-IPCB-XDMES  PICTURE S9(7) COMP-3.                        DOMON1
       10    S-IPCB-XHMES  PICTURE S9(7) COMP-3.                        DOMON1
       10    S-IPCB-XNMES  PICTURE S9(7) COMP.                          DOMON1
       10    S-IPCB-XIMOD  PICTURE X(8).                                DOMON1
       10    S-IPCB-XUSER  PICTURE X(20).                               DOMON1
01          S-APCB.                                                     DOMON1
       10    S-APCB-XNMTE  PICTURE X(8).                                DOMON1
       10    FILLER        PICTURE S9(4) COMPUTATIONAL.                 DOMON1
       10    S-APCB-XCORET PICTURE XX.                                  DOMON1
       10    S-APCB-XDMES  PICTURE S9(7) COMPUTATIONAL.                 DOMON1
       10    S-APCB-XHMES  PICTURE S9(7) COMP-3.                        DOMON1
       10    S-APCB-XNMES  PICTURE S9(7) COMP-3.                        DOMON1
       10    S-APCB-XIMOD  PICTURE X(8).                                DOMON1
01                  S-ALTPCB.                                           DOMON1
    05              S-ALTPCB-XNMTE  PICTURE X(8).                       DOMON1
    05              FILLER          PICTURE S9(4) COMP.                 DOMON1
    05              S-ALTPCB-XCORET PICTURE XX.                         DOMON1
    05              S-ALTPCB-XDMES  PICTURE S9(7) COMP-3.               DOMON1
    05              S-ALTPCB-XHMES  PICTURE S9(7) COMP-3.               DOMON1
    05              S-ALTPCB-XNMES  PICTURE S9(7) COMP.                 DOMON1
    05              S-ALTPCB-XIMOD  PICTURE X(8).                       DOMON1
01                  S-DBDFOU.                                           DOMON1
        05          FILLER PICTURE X(100).                              DOMON1
01                  S-DBDMES.                                           DOMON1
        05          FILLER PICTURE X(100).                              DOMON1
01                  S-DBDCLI.                                           DOMON1
        05          FILLER PICTURE X(100).                              DOMON1
01                  S-DBDCDE.                                           DOMON1
        05          FILLER PICTURE X(100).                              DOMON1
01                  S-PCBIDX.                                           DOMON1
        05          FILLER PICTURE X(100).                              DOMON1
01                  S-DBDLER.                                           DOMON1
        05          FILLER PICTURE X(100).                              DOMON1
01                  S-DBDHEL.                                           DOMON1
        05          FILLER PICTURE X(100).                              DOMON1
```

6.11. BEGINNING OF PROCEDURE DIVISION

```
PROCEDURE DIVISION USING                                          *99999
            S-IPCB                                                *99999
                     S-ALTPCB                                     *99999
                     S-DBDFOU                                     *99999
                     S-DBDMES                                     *99999
                     S-DBDCLI                                     *99999
                     S-DBDCDE                                     *99999
                     S-PCBIDX                                     *99999
                     S-DBDLER                                     *99999
                     S-DBDHEL.                                    *99999
F01.                                                              DOMON1
       MOVE 7-3F   TO S-WWSS-3F                                   DOMON1
       MOVE 7-PROT TO S-WWSS-PROT                                 DOMON1
       MOVE 7-CURS TO S-WWSS-CURS.                                DOMON1
F01-FN.      EXIT.                                                DOMON1
F05.         EXIT.                                                DOMON1
F0510.                                                            DOMON1
       MOVE SPACE  TO 7-TYPPCB.                                   DOMON1
       MOVE 'GU'   TO S-WPCB-XFONC.                               DOMON1
       CALL 'CBLTDLI' USING S-WPCB-XFONC S-IPCB SPA.              DOMON1
       IF S-IPCB-XCORET = 'QC' GOBACK.                            DOMON1
       IF S-IPCB-XCORET NOT = SPACE   GO TO F81IO.                DOMON1
F0510-FN.    EXIT.                                                DOMON1
F0520.                                                            DOMON1
       MOVE SPACE  TO 7-TYPPCB.                                   DOMON1
       MOVE 'GN' TO S-WPCB-XFONC.                                 DOMON1
       CALL 'CBLTDLI' USING S-WPCB-XFONC S-IPCB                   DOMON1
       INPUT-SCREEN-FIELDS.                                       DOMON1
       IF  S-IPCB-XCORET NOT = SPACE                              DOMON1
       AND S-IPCB-XCORET NOT = 'QD'  GO TO F81IO.                 DOMON1
F0520-FN.    EXIT.                                                DOMON1
F05-FN.      EXIT.                                                DOMON1
F10.         EXIT.                                                DOMON1
F1010.                                                            DOMON1
       IF I-TRAN = 'JITRB   '                                     DOMON1
       OR I-TRAN = 'DOTRA   '                                     DOMON1
       OR I-TRAN = 'JITRC   '                                     DOMON1
            MOVE '1' TO CO                                        DOMON1
       ELSE MOVE '0' TO CO. MOVE '1' TO S-WWSS-SPAOC.             DOMON1
       IF PREM = LOW-VALUE                                        DOMON1
     MOVE ZERO TO K-SDOC                                          DOMON1
       MOVE 'IMD060P ' TO S-WWSS-PROGE 7-PROGE.                   DOMON1
F1010-FN.    EXIT.                                                DOMON1
F10-FN.      EXIT.                                                DOMON1
```

6.12. PREPARING PROGRAM CALL (F28BB)

PREPARING PROGRAM CALL

The F28BB sub-function is broken down in the following way:

F28BB-A: This sub-function searches the D-WWSS table for the screen to be processed, depending on the transaction code of the sub-monitor which controls the dialogue. This search is done using two criteria -- the screen name and the transaction code of the monitor.

If the search succeeds, the same sub-monitor keeps control of the conversation and a branch to sub-function F2801 is executed.
If the search fails, sub-function F28BB-B is executed.

F28BB-B: This sub-function ensures a new search from the beginning of the table, with the screen name as the only search criterion this time. If this screen is called by several transactions (or sub-monitors), it is the code of the 1st transaction which concerns the screen that is processed.

Thus, the control of the dialogue goes from one sub-monitor to another.

In order to do so, a CALL 'CHG' of the new transaction code is executed on the alternate PCB, followed by an 'ISRT' of the SPA on the same alternate PCB. Thereafter, control is given to IMS via the return code 'QC' on the transaction in progress, after a return to sub-function F0510.

IMPORTANT

The alternate PCB must have been declared by using the PSB description lines (CH: -DH), with 'A' in the 'TYPE' field and '(CHG)' in the 'COMMENT' field. Also, the 'MODIFY=YES' option must exist, which is indicated in the 'COMMENT' field of the General Documentation (-G) line of the alternate PCB call line (CH: -DHnnnG).

```
F28.         EXIT.                                                  DOMON1
F28AA.                                                              DOMON1
       MOVE  'A'  TO  S-WWSS-OPER.                                  DOMON1
       MOVE  '1'  TO  S-WWSS-SPAOC.                                 DOMON1
F28AA-FN.    EXIT.                                                  DOMON1
F28BB. MOVE 1 TO K01.                                               DOMON1
F28BB-A. IF  D-WWSS-PROGE (K01) = 7-PROGE  AND                      DOMON1
       D-WWSS-TRAN (K01) = 'JITRB   '   GO TO F28BB-FN.            DOMON1
         IF   K01    <    015                                      DOMON1
       ADD 1 TO K01    GO TO F28BB-A.                               DOMON1
       MOVE 1 TO K01.                                               DOMON1
F28BB-B.    IF   K01   >  015   GO TO F28BB-FN.                     DOMON1
       IF  D-WWSS-PROGE (K01) NOT = 7-PROGE                         DOMON1
       ADD  1  TO K01    GO TO F28BB-B.                             DOMON1
       MOVE D-WWSS-TRAN (K01) TO TRAN                               DOMON1
       MOVE 'CHNG'  TO S-WPCB-XFONC                                 DOMON1
       MOVE 'A'    TO 7-TYPPCB                                      DOMON1
       CALL 'CBLTDLI' USING S-WPCB-XFONC S-ALTPCB TRAN.             DOMON1
       IF S-ALTPCB-XCORET NOT = SPACE                               DOMON1
       GO TO F81IO.                                                 DOMON1
       MOVE 'ISRT'  TO S-WPCB-XFONC                                 DOMON1
       CALL 'CBLTDLI' USING S-WPCB-XFONC S-ALTPCB SPA.              DOMON1
       IF S-ALTPCB-XCORET NOT = SPACE                               DOMON1
       GO TO F81IO. GO TO F0510.                                    DOMON1
```

6.13. PROGRAM CALL (F2801-F29)

PROGRAM CALL

Sub-functions F2801 through F2898 are generated for each static call requested at the work area levels of the dialogue and only for the sub-monitor concerned.

The sub-function F2899 is always generated and corresponds to the dynamic calls of the other screens of the sub-monitor.

```
F28BB-FN.    EXIT.                                              DOMON1
F2801. IF  7-PROGE  =   'IMD020P '                              DOMON1
       NEXT SENTENCE ELSE GO TO F2801-FN.                       DOMON1
       IF CO = '1' CALL 'IMD020P'  USING S-IPCB                 DOMON1
                     S-ALTPCB                                   DOMON1
                     S-DBDFOU                                   DOMON1
                     S-DBDMES                                   DOMON1
                     S-DBDCLI                                   DOMON1
                     S-DBDCDE                                   DOMON1
                     S-PCBIDX                                   DOMON1
                     S-DBDLER                                   DOMON1
                     S-DBDHEL                                   DOMON1
       K-PROGR I-MID-1 OUTPUT-SCREEN-FIELDS                     DOMON1
       PSB COMMUNICATION-MONITOR                                DOMON1
       ELSE        CALL 'IMD020P'  USING S-IPCB                 DOMON1
                     S-ALTPCB                                   DOMON1
                     S-DBDFOU                                   DOMON1
                     S-DBDMES                                   DOMON1
                     S-DBDCLI                                   DOMON1
                     S-DBDCDE                                   DOMON1
                     S-PCBIDX                                   DOMON1
                     S-DBDLER                                   DOMON1
                     S-DBDHEL                                   DOMON1
       K-PROGR I-MID-2 OUTPUT-SCREEN-FIELDS                     DOMON1
       PSB COMMUNICATION-MONITOR.                               DOMON1
       GO TO F28-FN.                                            DOMON1
F2801-FN.    EXIT.                                              DOMON1
F2802. IF  7-PROGE  =   'IMD040P '                              DOMON1
       NEXT SENTENCE ELSE GO TO F2802-FN.                       DOMON1
       IF CO = '1' CALL 'IMD040P'  USING S-IPCB                 DOMON1
                     S-ALTPCB                                   DOMON1
                     S-DBDFOU                                   DOMON1
                     S-DBDMES                                   DOMON1
                     S-DBDCLI                                   DOMON1
                     S-DBDCDE                                   DOMON1
                     S-PCBIDX                                   DOMON1
                     S-DBDLER                                   DOMON1
                     S-DBDHEL                                   DOMON1
       K-PROGR I-MID-1 OUTPUT-SCREEN-FIELDS                     DOMON1
       PSB COMMUNICATION-MONITOR                                DOMON1
       ELSE        CALL 'IMD040P'  USING S-IPCB                 DOMON1
                     S-ALTPCB                                   DOMON1
                     S-DBDFOU                                   DOMON1
                     S-DBDMES                                   DOMON1
                     S-DBDCLI                                   DOMON1
                     S-DBDCDE                                   DOMON1
                     S-PCBIDX                                   DOMON1
                     S-DBDLER                                   DOMON1
                     S-DBDHEL                                   DOMON1
       K-PROGR I-MID-2 OUTPUT-SCREEN-FIELDS                     DOMON1
       PSB COMMUNICATION-MONITOR.                               DOMON1
       GO TO F28-FN.                                            DOMON1
F2802-FN.    EXIT.                                              DOMON1
F2899.                                                          DOMON1
       IF CO = '1'  CALL 'CALL'  USING  7-PROGE S-IPCB          DOMON1
                     S-ALTPCB                                   DOMON1
                     S-DBDFOU                                   DOMON1
                     S-DBDMES                                   DOMON1
                     S-DBDCLI                                   DOMON1
                     S-DBDCDE                                   DOMON1
                     S-PCBIDX                                   DOMON1
                     S-DBDLER                                   DOMON1
                     S-DBDHEL                                   DOMON1
       K-PROGR I-MID-1 OUTPUT-SCREEN-FIELDS                     DOMON1
       PSB COMMUNICATION-MONITOR                                DOMON1
       ELSE         CALL 'CALL'  USING  7-PROGE S-IPCB          DOMON1
                     S-ALTPCB                                   DOMON1
                     S-DBDFOU                                   DOMON1
                     S-DBDMES                                   DOMON1
                     S-DBDCLI                                   DOMON1
                     S-DBDCDE                                   DOMON1
                     S-PCBIDX                                   DOMON1
                     S-DBDLER                                   DOMON1
                     S-DBDHEL                                   DOMON1
       K-PROGR I-MID-2 OUTPUT-SCREEN-FIELDS                     DOMON1
       PSB COMMUNICATION-MONITOR.                               DOMON1
       CALL 'CANCEL' USING 7-PROGE.                             DOMON1
```

```
F2899-FN.    EXIT.                                                  DOMON1
F28-FN.      EXIT.                                                  DOMON1
F29.                                                                DOMON1
       IF S-WWSS-OPER = 'X' GO TO F81ER.                            DOMON1
F2910.     IF S-WWSS-OPER = 'E'                                     DOMON1
       MOVE SPACE TO TRAN MOVE 1 TO S-WWSS-SPAOC                    DOMON1
       MOVE 'ODO0060  ' TO S-WWSS-XIMOD                             DOMON1
       MOVE LOW-VALUE TO OUTPUT-SCREEN-FIELDS                       DOMON1
       MOVE 5 TO L-MOD  MOVE 'A' TO S-WWSS-OPER.                    DOMON1
F2910-FN.    EXIT.                                                  DOMON1
F2920.     IF S-WWSS-OPER = 'O'                                     DOMON1
       MOVE S-WWSS-PROGE TO 7-PROGE  GO TO F28.                     DOMON1
F2920-FN.    EXIT.                                                  DOMON1
F2930.     IF S-WWSS-SPAOC = '1'                                    DOMON1
       MOVE SPACE  TO 7-TYPPCB                                      DOMON1
       MOVE 'ISRT' TO S-WPCB-XFONC                                  DOMON1
       CALL 'CBLTDLI' USING S-WPCB-XFONC S-IPCB SPA.                DOMON1
       IF S-IPCB-XCORET NOT = SPACE  GO TO F81IO.                   DOMON1
F2930-FN.    EXIT.                                                  DOMON1
F2940.                                                              DOMON1
       MOVE LOW-VALUE TO MODZZ                                      DOMON1
       MOVE 'ISRT' TO S-WPCB-XFONC                                  DOMON1
       MOVE SPACE  TO 7-TYPPCB                                      DOMON1
       CALL 'CBLTDLI' USING S-WPCB-XFONC S-IPCB                     DOMON1
       OUTPUT-SCREEN-FIELDS S-WWSS-XIMOD.                           DOMON1
       IF S-IPCB-XCORET NOT = SPACE  GO TO F81IO.                   DOMON1
F2940-FN.    EXIT.                                                  DOMON1
F2980.     GO TO F05.                                               DOMON1
F2980-FN.    EXIT.                                                  DOMON1
F29-FN.      EXIT.                                                  DOMON1
```

6.14. DATABASE, I/O OR ALT PCB ERRORS (F81)

```
*           +-----------------------------------+               P000
*           I                                   I               P000
* LEVEL 05  I PROVOKED ABEND                    I               P000
*           I                                   I               P000
*           +-----------------------------------+               P000
 F81.                                                           P000
*             +-----------------------------------+             P000
* LEVEL 10    I ERROR ON DATABASE                 I             P000
*             +-----------------------------------+             P000
 F81ER.                                                         P000
     MOVE        'ROLB' TO 7-YW05-XFONC                         P020
     CALL        'CBLTDLI' USING 7-YW05-XFONC                   P030
                 S-IPCB                                         P040
               GO TO F81-FN.                                    P090
 F81ER-FN.     EXIT.                                            P000
*             +-----------------------------------+             P000
* LEVEL 10    I OTHER ERROR                       I             P000
*             +-----------------------------------+             P000
 F81IO.                                                         P000
     MOVE        S-IPCB TO S-SPCB                               P020
     MOVE        'MOD' TO S-SPCB-XOPTRT                         P030
     MOVE        'TERMINAL' TO S-SPCB-XNMSEG.                   P040
 F81IO-FN.     EXIT.                                            P000
 F81-FN.       EXIT.                                            P000
*           +-----------------------------------+               P000
*           I                                   I               P000
* LEVEL 05  I ABEND MAP CALL                    I               P000
*           I                                   I               P000
*           +-----------------------------------+               P000
 F82.                                                           P000
     MOVE        S-IPCB TO 7-YW05-IPCB                          P020
     MOVE        PACBASE-CONSTANTS TO S-IPCB                    P030
     MOVE        'PSTABEND' TO 7-PROGE                          P040
     CALL        'CALL' USING 7-PROGE S-IPCB                    P050
                 K-PROGR I-MID-2                                P060
                 OUTPUT-SCREEN-FIELDS PSB                       P070
                 COMMUNICATION-MONITOR                          P080
     MOVE        7-YW05-IPCB TO S-IPCB                          P100
     MOVE        'ISRT' TO S-WPCB-XFONC                         P130
     MOVE        SPACE TO TRAN                                  P140
     CALL        'CBLTDLI' USING S-WPCB-XFONC                   P145
                 S-IPCB SPA                                     P150
     MOVE        LOW-VALUE TO MODZZ                             P160
     CALL        'CBLTDLI' USING S-WPCB-XFONC                   P180
                 S-IPCB OUTPUT-SCREEN-FIELDS                    P190
                 S-WWSS-XIMOD                                   P200
      GO TO F05.                                                P999
 F82-FN.       EXIT.                                            P000
```

7. "HELP" FUNCTION

INTRODUCTION

The HELP function permits the user of an application to dynamically access help documentation for a data element or screen.

Its role is to display the messages contained in the Error Messages file.

In order to call the help documentation associated with a given screen or data element, please refer to Chapter "DEFINITION AND DESCRIPTION OF A DIALOGUE OR SCREEN", Subchapter "DIALOGUE OR SCREEN DEFINITION" in the ON-LINE SYSTEMS DEVELOPMENT Reference Manual.

USING THE "HELP" FUNCTION

The use of the specifications of the "HELP" function in a dialogue requires the definition of an additional screen.

This screen belongs to the dialogue to be documented. Thus, the first two characters of its code must be the same as those for the corresponding dialogue and followed by the "HELP" screen code. For a dialogue XX, the "HELP" screen would have the code 'XXHELP'.

The 'XXHELP' screen must be defined but not described (only its Definition screen must be created). It must have the same variants as the dialogue. Coding the external names (MAP and PROGRAM) is not restricted and depends upon the user's preference.

The user must generate and then compile the 'XXHELP' program. (The generated COBOL program has the same structure as a dialogue screen.)

The call of this screen by sub-monitors may be either dynamic or static.

The "HELP" program ensures the display of the help documentation as follows:

-For Screen-level help documentation:

. Error messages assigned to Segment accesses,

. Documentation (-G) lines related to the Screen (please refer to Chapter "ERROR MESSAGES - HELP FUNCTION", Subchapter "HELP MESSAGES: INTRODUCTION" in the OLSD Reference Manual).

-For Data Element help documentation:

. Standard error messages generated by the system,

. Explicit manual error messages,

. Data Element Description lines (CH: E.....D),

. Screen General Documentation lines associated with specific screen data elements (CH: O.....G).

(Please refer to Chapter "ERROR MESSAGES - HELP FUNCTION", Subchapter "HELP MESSAGES: CODING" in the OLSD Reference Manual).

The "HELP" program does not ensure the backup of any fields entered before a branch to the "HELP" function.

This backup possibility is the responsibility of the user who may describe a mono-record database with an organization of his/her choice in which the 'MOD' of the screen will be stored. The access key to this record may be, for example, the terminal code. (Refer to Chapter "GENERATED PROGRAM" Subchapter "PSB", record HE10.)

The physical accesses to this database may be described in the form of a macro-structure inserted in Function F8095 of each screen of the dialogue by reusing the F80-... labels.

If the Error Messages file is generated with the C1 option, only error messages appear. When using the C2 option, comments and documentation lines associated with the Screen and the Data Elements appear in addition to the error messages.

For the coding of error messages, please refer to Chapter "ERROR MESSAGES: HELP FUNCTION" in the OLSD Reference Manual.

7.1. 'DOHELP' SCREEN

```
-------------------------------------------------------------------------------
!                  IMS DB/DC APPLICATION                    *PDLB.NDOC.AIM.1!
! ON-LINE SCREEN DEFINITION.....: DOHELP                                      !
!                                                                             !
! SCREEN NAME.....................: HELP FUNCTION SCREEN                      !
!                                                                             !
! SCREEN SIZE (LINES, COLUMNS) ......:   24       080                        !
! LABEL TYPE, TABS, INITIALIZATION...:   L        01                         !
! HELP CHARACTER SCREEN, DATA ELEMENT:   10       11                         !
!                                                                             !
!                                    LABELS   DISPLAY  INPUT  ER.MESS. ER.FLD!
! INTENSITY ATTRIBUTE ..............:   N        N        N        N        N !
! PRESENTATION ATTRIBUTE ...........:   N        N        N        N        N !
! COLOR ATTRIBUTE ..................:   W        W        W        W        W !
!                                                                             !
! TYPE OF COBOL AND MAP TO GENERATE..:   0   1     IBM OS IMS (PROG. & FOR. MFS!
! CONTROL CARD OPTIONS FRONT & BACK..:            (PROGRAM)      $$       (MAP)!
! EXTERNAL NAMES ...................:   DOP050   (PROGRAM)      DOM050   (MAP)!
! TRANSACTION CODE..................: * DO50                                  !
!                                                                             !
!                                                                             !
! EXPLICIT KEYWORDS..: DO                                                     !
! SESSION NUMBER.....: 0002        LIBRARY......: ACC    LOCK....:            !
! *** END ***                                                                 !
! O: C1 CH: Odohelp                   ACTION:                                 !
-------------------------------------------------------------------------------
```

```
--------------------------------------------------------------------------------
!                   IMS DB/DC APPLICATION                      *PDLB.NDOC.AIM.1!
! ON-LINE SCREEN GENERAL DOC.     DO0030 ***  ORDER INPUT SCREEN  ***           !
!                                                                              !
! A LIN : T COMMENT                                                       LIB !
! . 020 : C      THIS SCREEN ALLOWS TO ENTER AN ORDER FOR                 *ACC!
! . 030 : C      DOCUMENTATION PLACED BY A REFERENCED CLIENT.             *ACC!
! . 050 : C      FROM THIS SCREEN, YOU MAY ACCESS ANY OTHER SCREEN OF     *ACC!
! . 055 : C      THE DIALOG BY ENTERING THE CORRESPONDING CHOICE FIELD    *ACC!
! . 060 : C      VALUE. THE DIFFERENT VALUES ARE DISPLAYED IN THE         *ACC!
! . 070 : C      BOTTOM PART OF ALL THE DIALOG'S SCREENS.                 *ACC!
! . 120 : S CD05                                                          *ACC!
! . 122 : U F  8 TECHNICAL PROBLEM  CALL E.D.P. DEPT.(CODE 030-CD05 F8)   *ACC!
! . 124 : U F  9 TECHNICAL PROBLEM  CALL E.D.P. DEPT.(CODE 030-CD05 F9)   *ACC!
! . 130 : U G  9 TECHNICAL PROBLEM  CALL E.D.P. DEPT.(CODE 030-CD05 G9)   *ACC!
! . 150 : S CD10 R                                                        *ACC!
! . 152 : U F  8 INCORRECT UPDATE REQUEST.                                *ACC!
! . 154 : U F  9 INCORRECT REQUEST FOR CREATION.                          *ACC!
! . 160 : U G  9 END OF DISPLAY FOR THIS ORDER.                           *ACC!
! . 180 : S ME00 Z                                                        *ACC!
! . 190 : U G  9 TECHNICAL PROBLEM  CALL E.D.P. DEPT.(CODE 030-ME00 G9)   *ACC!
! . 200 : S FO10 R                                                        *ACC!
! . 210 : U F  9 MANUAL DOES NOT BELONG TO DOCUMENTATION.                 *ACC!
!                                                                              !
! O: C1 CH: Odohelp G                                                          !
--------------------------------------------------------------------------------
```

"HELP" FUNCTION 7
'DOHELP' SCREEN 1

```
--------------------------------------------------------------------------------
!                   IMS DB/DC APPLICATION                      *PDLB.NDOC.AIM.1!
! ON-LINE SCREEN GENERAL DOC.     DO0030 ***  ORDER INPUT SCREEN  ***           !
!                                                                              !
! A LIN : T COMMENT                                                       LIB !
! . 350 : F CODMVT                                                        *ACC!
! . 360 : C      AN ACTION CODE MUST BE ENTERED.                          *ACC!
! . 400 : F FOURNI                                                        *ACC!
! . 402 : C      THE FIELD 'ITEM' IS ENTERED WITH THE 3-CHARACTER CODE    *ACC!
! . 403 : C      OF THE MANUAL. IT IS NOT POSSIBLE TO ENTER               *ACC!
! . 404 : C      REQUESTS CONCERNING THE BINDERS.                         *ACC!
! . 430 : U    A THIS PROCEDURE DOES NOT PERMIT TO ORDER BINDERS.         *ACC!
! . 450 : F MATE                                                          *ACC!
! . 451 : T    0 DOCUM DD                                                 *ACC!
! . 453 : U    5 THIS TYPE OF HARDWARE IS NOT SUPPORTED BY PACBASE.       *ACC!
! . 500 : F QTMAC                                                         *ACC!
! . 510 : C      THE 'QUANTITY ORDERED' FIELD MUST BE ENTERED WITH THE    *ACC!
! . 520 : C      NUMBER OF COPIES NEEDED FOR THE SPECIFIED MANUAL.        *ACC!
! . 530 : C      ACCORDING TO STOCK AVAILABILITY, THE SYSTEM FILLS IN     *ACC!
! . 540 : C      THE 'QUANTITY DELIVERED' AND, IF NEEDED, THE 'QUANTITY   *ACC!
! . 541 : C      OUTSTANDING'.                                            *ACC!
! . 600 : F INFOR                                                         *ACC!
! . 610 : C      THE 'REMARKS' COLUMN ALLOWS TO ENTER SPECIFICS           *ACC!
! . 625 : C      CONCERNING THE LEAD TIMES OF OUTSTANDING ORDERS.         *ACC!
! O: C1 CH:                                                                    !
--------------------------------------------------------------------------------
```

"HELP" FUNCTION 7
'DOHELP' SCREEN 1

```
--------------------------------------------------------------------------------
!                  IMS DB/DC APPLICATION                      *PDLB.NDOC.AIM.1!
! PROCEDURAL CODE       O DOMON1 FIRST SUB-MONITOR             FUNCTION: 82   !
!                                                                              !
! A SF LIN OPE OPERANDS                          LVTY CONDITION                !
! *        N   ABEND MAP CALL                    05BL                          !
! *     20 M   S-IPCB 7-YW05-IPCB                                              !
! *     30 M   PACBASE-CONSTANTS S-IPCB                                        !
! *     40 M   'PSTABEND' 7-PROGE                                              !
! *     50 CAL 'CALL' USING 7-PROGE S-IPCB                                     !
! *     60      K-PROGR I-MID-2                                                !
! *     70      OUTPUT-SCREEN-FIELDS PSB                                       !
! *     80      COMMUNICATION-MONITOR                                          !
! *    100 M   7-YW05-IPCB S-IPCB                                              !
! *    130 M   'ISRT' S-WPCB-XFONC                                             !
! *    140 M   SPACE TRAN                                                      !
! *    145 CAL 'CBLTDLI' USING S-WPCB-XFONC                                    !
! *    150     S-IPCB SPA                                                      !
! *    160 M   LOW-VALUE MODZZ                                                 !
! *    180 CAL 'CBLTDLI' USING S-WPCB-XFONC                                    !
! *    190     S-IPCB OUTPUT-SCREEN-FIELDS                                     !
! *    200     S-WWSS-XIMOD                                                    !
! *    999 COB  GO TO F05.                                                     !
! *** END ***                                                                  !
! O: C1 CH:                                                                    !
--------------------------------------------------------------------------------
```

```
!                                                                              !
!DOCUMENTATION OF THE SCREEN   ***  ORDER INPUT SCREEN  ***                     !
!                                                                              !
!                                                                              !
!        THIS SCREEN ALLOWS TO ENTER AN ORDER FOR                              !
!        DOCUMENTATION PLACED BY ANY REFERENCED CLIENT.                        !
!        FROM THIS SCREEN, YOU MAY ACCESS ANY OTHER SCREEN OF                  !
!        THE DIALOG BY ENTERING THE CORRESPONDING CHOICE FIELD                 !
!        VALUE. THE DIFFERENT VALUES ARE DISPLAYED IN THE                      !
!        BOTTOM PART OF ALL THE DIALOG'S SCREENS.                              !
!                                                                              !
! F018E TECHNICAL PROBLEM  CALL E.D.P. DEPT.(CODE 030-CD05 F8)                 !
!                                                                              !
! F019E TECHNICAL PROBLEM  CALL E.D.P. DEPT.(CODE 030-CD05 F9)                 !
!                                                                              !
! F028E INCORRECT UPDATE REQUEST.                                              !
!                                                                              !
! F029E INCORRECT CREATION REQUEST.                                            !
!                                                                              !
! F038E INVALID CREATION RECORD       MANUALS                                  !
!                                                                              !
!CHOICE...........: S    (E: END - T: TOP - S: NEXT)                          !
!                                                                              !
```

"HELP" FUNCTION 7
'DOHELP' SCREEN 1

```
!                                                                              !
!DOCUMENTATION OF DATA ELEMENT: QUANTITY ORDERED                                !
!                                                                              !
!                                                                              !
!      THE 'QUANTITY ORDERED' FIELD MUST BE ENTERED WITH THE                   !
!      NUMBER OF COPIES NEEDED FOR THE SPECIFIED MANUAL.                       !
!      ACCORDING TO STOCK AVAILABILITY, THE SYSTEM FILLS IN                    !
!      THE 'QUANTITY DELIVERED' AND, IF NEEDED, THE 'QUANTITY                  !
!      OUTSTANDING'.                                                           !
!                                                                              !
! (01 50)      ABOVE 50 SHIP VIA OTHER CHANNEL                                 !
!                                                                              !
! 0122 INVALID ABSENCE FOR THE FIELD QUANTITY ORDERED                          !
!                                                                              !
! 0124 NON-NUMERICAL CLASS FIELD     QUANTITY ORDERED                          !
!                                                                              !
! 0125 INVALID VALUE FOR THE FIELD   QUANTITY ORDERED                          !
!                                                                              !
!                                                                              !
!                                                                              !
!                                                                              !
!CHOICE...........: S    (E: END - T: TOP - S: NEXT)                          !
!                                                                              !
```

7.2. GENERATED HELP PROGRAM

```
    IDENTIFICATION DIVISION.
    PROGRAM-ID. DOP050.                                                  DOHELP
    AUTHOR.     HELP FUNCTION SCREEN.                                    DOHELP
    DATE-COMPILED. 04/30/93.                                             DOHELP
    ENVIRONMENT DIVISION.                                                DOHELP
    CONFIGURATION SECTION.                                               DOHELP
    SOURCE-COMPUTER. IBM-370.                                            DOHELP
    OBJECT-COMPUTER. IBM-370.                                            DOHELP
    SPECIAL-NAMES.                                                       DOHELP
         DECIMAL-POINT IS COMMA.                                         DOHELP
    INPUT-OUTPUT SECTION.                                                DOHELP
    FILE-CONTROL.                                                        DOHELP
    DATA DIVISION.                                                       DOHELP
    FILE SECTION.                                                        DOHELP
    WORKING-STORAGE SECTION.                                             DOHELP
    01   WSS-BEGIN.                                                      DOHELP
         05 FILLER PICTURE X(7) VALUE 'WORKING'.                         DOHELP
         05 IK     PICTURE X.                                            DOHELP
         05 BLANC  PICTURE X VALUE SPACE.                                DOHELP
         05 OPER   PICTURE X.                                            DOHELP
         05 OPERD  PICTURE X VALUE SPACE.                                DOHELP
         05 CATX   PICTURE X.                                            DOHELP
         05 CATM   PICTURE X.                                            DOHELP
         05 ICATR  PICTURE 99.                                           DOHELP
         05 SCR-ER PICTURE X.                                            DOHELP
         05 FT     PICTURE X.                                            DOHELP
         05 ICF    PICTURE X.                                            DOHELP
         05 OCF    PICTURE X.                                            DOHELP
         05 CAT-ER PICTURE X.                                            DOHELP
         05 GREQ   PICTURE XX   VALUE '>='.                              DOHELP
         05 CURPOS.                                                      DOHELP
         10 CPOSL    PICTURE S9(4) COMPUTATIONAL.                        DOHELP
         10 CPOSC    PICTURE S9(4) COMPUTATIONAL.                        DOHELP
         05 CPOSN    PICTURE S9(4) COMPUTATIONAL.                        DOHELP
         05 INA    PICTURE 999 VALUE 000.                                DOHELP
         05 INR    PICTURE 999 VALUE 000.                                DOHELP
         05 INZ    PICTURE 999 VALUE 001.                                DOHELP
         05 IRR     PICTURE 99 VALUE 17.                                 DOHELP
         05 INT    PICTURE 999 VALUE 001.                                DOHELP
         05 IER     PICTURE 99 VALUE 01.                                 DOHELP
         05 DEL-ER  PICTURE X.                                           DOHELP
    01   PACBASE-CONSTANTS.                                              DOHELP
    * OLSD DATES PACE30 : /02/93                                         DOHELP
    *            PACE80 : 05/03/93   PAC7SG : 930225                     DOHELP
         05 SESSI  PICTURE X(5) VALUE '0335 '.                           DOHELP
         05 LIBRA  PICTURE X(3) VALUE 'AIM'.                             DOHELP
         05 DATGN  PICTURE X(8) VALUE '04/30/93'.                        DOHELP
         05 PROGR  PICTURE X(6) VALUE 'DOHELP'.                          DOHELP
         05 PROGE  PICTURE X(8) VALUE 'DOP050  '.                        DOHELP
         05 TIMGN  PICTURE X(8) VALUE '15:50:54'.                        DOHELP
         05 USERCO PICTURE X(8) VALUE 'PDCL    '.                        DOHELP
         05      5-HELP-PROGE  PICTURE X(8).                            DOHELP
    01  DATCE.                                                          DOHELP
      05  CENTUR   PICTURE XX VALUE '19'.                               DOHELP
         05 DATOR.                                                       DOHELP
         10 DATOA  PICTURE XX.                                           DOHELP
         10 DATOM  PICTURE XX.                                           DOHELP
         10 DATOJ  PICTURE XX.                                           DOHELP
    01  DAT6.                                                           DOHELP
         10 DAT61.                                                       DOHELP
         15 DAT619 PICTURE 99.                                           DOHELP
         10 DAT62.                                                       DOHELP
         15 DAT629 PICTURE 99.                                           DOHELP
         10 DAT63  PICTURE XX.                                           DOHELP
    01  DAT7.                                                           DOHELP
         10 DAT71  PICTURE XX.                                           DOHELP
         10 DAT72  PICTURE XX.                                           DOHELP
         10 DAT73  PICTURE XX.                                           DOHELP
    01  DAT8.                                                           DOHELP
         10 DAT81  PICTURE XX.                                           DOHELP
         10 DAT8S1 PICTURE X.                                            DOHELP
         10 DAT82  PICTURE XX.                                           DOHELP
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     10 DAT8S2 PICTURE X.                                    DOHELP
     10 DAT83  PICTURE XX.                                   DOHELP
01  DATSEP     PICTURE X VALUE '/'.                         DOHELP
01  DATSET     PICTURE X VALUE '-'.                         DOHELP
01  DATCTY.                                                 DOHELP
  05  DATCTY9  PICTURE 99.                                  DOHELP
01  DAT6C.                                                  DOHELP
  10  DAT61C   PICTURE XX.                                  DOHELP
  10  DAT62C   PICTURE XX.                                  DOHELP
  10  DAT63C   PICTURE XX.                                  DOHELP
  10  DAT64C   PICTURE XX.                                  DOHELP
01  DAT7C.                                                  DOHELP
  10  DAT71C   PICTURE XX.                                  DOHELP
  10  DAT72C   PICTURE XX.                                  DOHELP
  10  DAT73C   PICTURE XX.                                  DOHELP
  10  DAT74C   PICTURE XX.                                  DOHELP
01  DAT8C.                                                  DOHELP
  10  DAT81C   PICTURE XX.                                  DOHELP
  10  DAT8S1C  PICTURE X    VALUE '/'.                      DOHELP
  10  DAT82C   PICTURE XX.                                  DOHELP
  10  DAT8S2C  PICTURE X    VALUE '/'.                      DOHELP
  10  DAT83C   PICTURE XX.                                  DOHELP
  10  DAT84C   PICTURE XX.                                  DOHELP
01  DAT8G.                                                  DOHELP
  10  DAT81G   PICTURE XX.                                  DOHELP
  10  DAT82G   PICTURE XX.                                  DOHELP
  10  DAT8S1G  PICTURE X    VALUE '-'.                      DOHELP
  10  DAT83G   PICTURE XX.                                  DOHELP
  10  DAT8S2G  PICTURE X    VALUE '-'.                      DOHELP
  10  DAT84G   PICTURE XX.                                  DOHELP
01  TIMCO.                                                  DOHELP
 02  TIMCOG.                                                DOHELP
   05  TIMCOH  PICTURE XX.                                  DOHELP
   05  TIMCOM  PICTURE XX.                                  DOHELP
   05  TIMCOS  PICTURE XX.                                  DOHELP
  02 TIMCOC    PICTURE XX.                                  DOHELP
01  TIMDAY.                                                 DOHELP
   05  TIMHOU  PICTURE XX.                                  DOHELP
   05  TIMS1   PICTURE X    VALUE ':'.                      DOHELP
   05  TIMMIN  PICTURE XX.                                  DOHELP
   05  TIMS2   PICTURE X    VALUE ':'.                      DOHELP
   05  TIMSEC  PICTURE XX.                                  DOHELP
01    CONFIGURATIONS.                                       DOHELP
     05      EM00-CF      PICTURE X.                       DOHELP
01              K-HELP-CLE.                                 *AA010
     03         K-RHELP-LIGNE  OCCURS 1.                    *AA010
     10         K-REM00-EMKEY  PICTURE X(17).               *AA010
01          L-HELP        PICTURE S9(4) VALUE +1496.       *AA050
01          VALIDATION-TABLE-FIELDS.                        *AA150
     02     DE-ERR.                                         *AA150
     05      DE-ER        PICTURE X                        *AA150
                  OCCURS 001.                               *AA150
     02     DE-E   REDEFINES DE-ERR.                        *AA150
     03    ER-HELP-ENDRE.                                   *AA150
     05         ER-HELP-OPDOC  PICTURE X.                   *AA150
01   TT-DAT.                                                *AA200
     05 T-DAT      PICTURE X OCCURS 5.                      *AA200
01   USERS-ERROR.                                           *AA200
     05 XEMKY.                                             *AA200
        10 XPROGR   PICTURE X(6).                           *AA200
        10 XERCD    PICTURE X(4).                           *AA200
     05 T-XEMKY     OCCURS       01.                       *AA200
        10 T-XPROGR PICTURE X(6).                           *AA200
        10 T-XERCD  PICTURE X(4).                           *AA200
01   PACBASE-INDEXES COMPUTATIONAL SYNC.                    *AA200
     05 K01         PICTURE S9(4).                         *AA200
     05 K02         PICTURE S9(4).                         *AA200
     05 K03         PICTURE S9(4).                         *AA200
     05 K04         PICTURE S9(4).                         *AA200
     05 K50R        PICTURE S9(4) VALUE ZERO.              *AA200
     05 K50L        PICTURE S9(4) VALUE ZERO.              *AA200
     05 K50M        PICTURE S9(4)                          *AA200
                   VALUE       +01.                       *AA200
     05    5-CD05-LTH  PICTURE S9(4) VALUE +0162.          *AA200
     05    5-CD10-LTH  PICTURE S9(4) VALUE +0142.          *AA200
     05    5-CD20-LTH  PICTURE S9(4) VALUE +0001.          *AA200
     05    5-CD30-LTH  PICTURE S9(4) VALUE +0006.          *AA200
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      05    5-CL10-LTH  PICTURE S9(4) VALUE +0236.               *AA200
      05    5-CL20-LTH  PICTURE S9(4) VALUE +0009.               *AA200
      05    5-EM00-LTH  PICTURE S9(4) VALUE +0090.               *AA200
      05    5-FO10-LTH  PICTURE S9(4) VALUE +0057.               *AA200
      05    5-HE10-LTH  PICTURE S9(4) VALUE +1928.               *AA200
      05    5-ME00-LTH  PICTURE S9(4) VALUE +0082.               *AA200
      05    5-CA00-LTH  PICTURE S9(4) VALUE +0147.               *AA200
      05    5-CD05-LTHV PICTURE S9(4) VALUE +0162.               *AA200
      05    5-CD10-LTHV PICTURE S9(4) VALUE +0142.               *AA200
      05    5-CD20-LTHV PICTURE S9(4) VALUE +0001.               *AA200
      05    5-CD30-LTHV PICTURE S9(4) VALUE +0006.               *AA200
      05    5-CL10-LTHV PICTURE S9(4) VALUE +0236.               *AA200
      05    5-CL20-LTHV PICTURE S9(4) VALUE +0009.               *AA200
      05    5-FO10-LTHV PICTURE S9(4) VALUE +0057.               *AA200
      05    5-HE10-LTHV PICTURE S9(4) VALUE +1928.               *AA200
      05    LTH         PICTURE S9(4) VALUE ZERO.                *AA200
      05      5-HELP-LENGTH PICTURE S9(4)                        *AA200
                        VALUE      +5190.                        *AA200
01            TABLE-OF-ATTRIBUTES.                               *AA250
      02      DE-ATT.                                            *AA250
      03      DE-ATT1           OCCURS 4.                        *AA250
      05      DE-AT   PICTURE X                                  *AA250
                    OCCURS 001.                                  *AA250
      02      DE-A    REDEFINES DE-ATT.                          *AA250
      03      DE-ATT2           OCCURS 4.                        *AA250
      04      A-HELP-ENDRE.                                      *AA250
      05      A-HELP-OPDOC  PICTURE X.                           *AA250
01     FIRST-ON-SEGMENT.                                         *AA301
      05      EM00-FST    PICTURE X.                             *AA301
01              S-EM00-SSA.                                      *AA350
        10      S1-EM00-SEGNAM PICTURE X(8) VALUE                *AA350
                             'EM00    '.                         *AA350
        10      S1-EM00-CCOM   PICTURE X VALUE '*'.              *AA350
        10       S-EM00-CCOD   PICTURE X(5) VALUE '-----'.       *AA350
        10         FILLER      PICTURE X VALUE SPACE.           *AA350
01              S-EMU00-SSA.                                     *AA351
        09      S1-EMU00-SEGNAM PICTURE X(8) VALUE               *AA351
                             'EM00    '.                         *AA351
        09      S1-EMU00-CCOM   PICTURE X    VALUE '*'.          *AA351
        09       S-EMU00-CCOD   PICTURE X(5) VALUE '-----'.      *AA351
        09      S1-EMU00-FLDNAM PICTURE X(9) VALUE               *AA351
                             '(CLELE   '.                       *AA351
        09       S-EMU00-OPER   PICTURE XX   VALUE ' ='.         *AA351
        09       S-EMU00-CORUB.                                  *AA351
        10       S-EMU00-CLELE.                                  *AA351
         15      S-EMU00-APPLI  PICTURE XXX.                     *AA351
         15      S-EMU00-TYPEN  PICTURE X.                       *AA351
         15      S-EMU00-XCLEF.                                  *AA351
          20     S-EMU00-PROGR  PICTURE X(6).                    *AA351
          20     S-EMU00-NUERR.                                  *AA351
           25    S-EMU00-NUERR9 PICTURE 999.                     *AA351
          20     S-EMU00-TYERR  PICTURE X.                       *AA351
         15      S-EMU00-NULIG  PICTURE 999.                     *AA351
         15      S-EMU00-GRAER  PICTURE X.                       *AA351
        09         FILLER      PICTURE X    VALUE ')'.          *AA351
01            STOP-FIELDS-HELP.                                  *AA400
    02        C-HELP-LE.                                         *AA400
      05      C-HELP-LIBRA      PICTURE XXX.                     *AA400
      05      C-HELP-ERCOD      PICTURE XXX.                     *AA400
      05      C-HELP-PROGR      PICTURE X(6).                    *AA400
      05      C-HELP-ENTYP      PICTURE X.                       *AA400
     02        HELP-LIENT  PICTURE X(36) VALUE SPACE.            *AA400
     02        HELP-LIBEC  PICTURE X(30) VALUE SPACE.            *AA400
01            7-HELP-LIBEL.                                      *AA400
   05         7-HELP-ERMS.                                       *AA400
    10        7-HELP-ERMSG.                                      *AA400
     15       7-HELP-ERMSG1  PICTURE X(12).                      *AA400
     15       7-HELP-ERMSG2  PICTURE X(18).                      *AA400
    10        7-HELP-ERMSC   PICTURE X(36).                      *AA400
01            SCREEN-LIGNE.                                      *AA400
   05         7-HELP-ERMSGD  PICTURE X(74).                      *AA400
   05         7-HELP-CODIF   REDEFINES 7-HELP-ERMSGD.            *AA400
    10        7-HELP-VALRU   PICTURE X(12).                      *AA400
    10        FILLER         PICTURE X.                          *AA400
    10        7-HELP-SIGNI.                                      *AA400
     15       FILLER         PICTURE X(18).                      *AA400
     15       7-HELP-ERMSC1  PICTURE X(43).                      *AA400
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      05       7-HELP-DOCUM   REDEFINES 7-HELP-ERMSGD.           *AA400
       10      7-HELP-XEMKY.                                     *AA400
        15     FILLER         PICTURE XXX.                       *AA400
        15     7-HELP-ERTYP   PICTURE X.                         *AA400
        15     FILLER         PICTURE X.                         *AA400
       10      7-HELP-LITAC   PICTURE X(69).                     *AA400
  01           7-HELP-POSIT.                                     *AA400
     05        7-HELP-POCEC.                                     *AA400
       10      7-HELP-POCEC9  PICTURE 999.                       *AA400
     05        7-HELP-POLEC.                                     *AA400
       10      7-HELP-POLEC9  PICTURE 99.                        *AA400
  01             XZ00.                                          *AA400
      10         XZ00-EMKEY   PICTURE X(17).                    *AA400
      10         XZ00-ERLVL   PICTURE X.                        *AA400
      10         XZ00-ERMSG   PICTURE X(66).                    *AA400
      10         FILLER       PICTURE X(6).                     *AA400
  LINKAGE SECTION.                                              DOHELP
  01           S-IPCB.                                          DOHELP
         10    S-IPCB-XNMTE  PICTURE X(8).                      DOHELP
         10    FILLER        PICTURE S9(4) COMPUTATIONAL.       DOHELP
         10    S-IPCB-XCORET PICTURE XX.                        DOHELP
         10    S-IPCB-XDMES  PICTURE S9(7) COMP-3.              DOHELP
         10    S-IPCB-XHMES  PICTURE S9(7) COMP-3.              DOHELP
         10    S-IPCB-XNMES  PICTURE S9(7) COMP.                DOHELP
         10    S-IPCB-XIMOD  PICTURE X(8).                      DOHELP
         10    S-IPCB-XUSER  PICTURE X(20).                     DOHELP
  01                 S-ALTPCB.                                  DOHELP
      05             S-ALTPCB-XNMTE  PICTURE X(8).              DOHELP
      05             FILLER          PICTURE S9(4) COMP.        DOHELP
      05             S-ALTPCB-XCORET PICTURE XX.                DOHELP
      05             S-ALTPCB-XDMES  PICTURE S9(7) COMP-3.      DOHELP
      05             S-ALTPCB-XHMES  PICTURE S9(7) COMP-3.      DOHELP
      05             S-ALTPCB-XNMES  PICTURE S9(7) COMP.        DOHELP
      05             S-ALTPCB-XIMOD  PICTURE X(8).              DOHELP
  01                 S-DBDFOU.                                  DOHELP
          05         FILLER PICTURE X(100).                     DOHELP
  01                 S-DBDMES.                                  DOHELP
          05         FILLER PICTURE X(100).                     DOHELP
  01                 S-DBDCLI.                                  DOHELP
          05         FILLER PICTURE X(100).                     DOHELP
  01                 S-DBDCDE.                                  DOHELP
          05         FILLER PICTURE X(100).                     DOHELP
  01                 S-PCBIDX.                                  DOHELP
          05         FILLER PICTURE X(100).                     DOHELP
  01                 S-DBDLER.                                  DOHELP
          05         FILLER PICTURE X(100).                     DOHELP
  01                 S-DBDHEL.                                  DOHELP
          05         FILLER PICTURE X(100).                     DOHELP
 *       ***  SPA LENGTH : 5212 BYTES  ***                      *00000
  01            COMMON-AREA.                                    *00000
       02     K-SHELP-PROGR PICTURE X(6).                       *00000
       02     K-SHELP-CDOC  PICTURE X.                          *00000
       02     K-SHELP-PROGE PICTURE X(8).                       *00000
       02     K-SHELP-CPOSL PICTURE S9(4) COMPUTATIONAL.        *00000
       02     K-SHELP-PROLE PICTURE X(8).                       *00000
       02     K-SHELP-LIBRA PICTURE XXX.                        *00000
       02     K-SHELP-PROHE PICTURE X(8).                       *00000
       02     K-SHELP-ERCOD.                                    *00000
         05   K-SHELP-ERCOD9 PICTURE 999.                      *00000
       02     K-SHELP-ERTYP PICTURE X.                          *00000
       02     K-SHELP-NULIX.                                    *00000
         05   K-SHELP-LINUM  PICTURE 999.                      *00000
       02           CA00.                                      *00001
         10         CA00-CLECD.                                *00001
          15        CA00-NUCOM  PICTURE 9(5).                  *00001
         10         CA00-CLECL1.                               *00001
          15        CA00-NUCLIE PICTURE 9(8).                  *00001
         10         CA00-ME00.                                 *00001
          15        CA00-CLEME.                                *00001
           20       CA00-COPERS PICTURE X(5).                  *00001
           20       CA00-NUMORD PICTURE XX.                    *00001
          15        CA00-MESSA  PICTURE X(75).                 *00001
         10         CA00-PREM   PICTURE X.                     *00001
         10         CA00-LANGU  PICTURE X.                     *00001
         10         CA00-RAISOC PICTURE X(50).                 *00001
       02      ZONES-VARIABLES.                                 *00002
       03      T-HELP-ENDRE.                                    *00002
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        05      T-HELP-OPDOC  PICTURE X(1).                       *00002
        02      FILLER        PICTURE X(4999).                    *00002
    01          INPUT-SCREEN-FIELDS.                              *00050
        02      I-HELP.                                           *00050
        05      I-HELP-PROGR  PICTURE X(6).                       *00050
        05      I-FONCT.                                          *00050
          10    I-PFKEY       PICTURE XX.                         *00050
        05      I-HELP-OPDOC  PICTURE X.                          *00050
        05      I-CURPOS      PICTURE X(4).                       *00050
    01          OUTPUT-SCREEN-FIELDS.                             *00050
        02      O-HELP.                                           *00050
        05      O-HELPL       PICTURE S9(4) COMP.                 *00050
        05      O-HELPZZ      PICTURE XX.                         *00050
        05      X-HELP-LIBEC  PICTURE X.                          *00050
        05      Y-HELP-LIBEC  PICTURE X.                          *00050
        05      O-HELP-LIBEC  PICTURE X(30).                      *00050
        05      X-HELP-LIENT  PICTURE X.                          *00050
        05      Y-HELP-LIENT  PICTURE X.                          *00050
        05      O-HELP-LIENT  PICTURE X(36).                      *00050
        05      P-HELP-LIGNE  OCCURS 17.                          *00050
        10      FILLER        PICTURE X(76).                      *00050
        05      X-HELP-LICHOI PICTURE X.                          *00050
        05      Y-HELP-LICHOI PICTURE X.                          *00050
        05      O-HELP-LICHOI PICTURE X(19).                      *00050
        05      X-HELP-OPDOC  PICTURE X.                          *00050
        05      Y-HELP-OPDOC  PICTURE X.                          *00050
        05      O-HELP-OPDOC  PICTURE X.                          *00050
        05      X-HELP-LIOPT  PICTURE X.                          *00050
        05      Y-HELP-LIOPT  PICTURE X.                          *00050
        05      O-HELP-LIOPT  PICTURE X(30).                      *00050
        05      O-HELP-ERMS.                                      *00050
        10      FILLER OCCURS 1.                                  *00050
        15      X-HELP-ERMSG  PICTURE X.                          *00050
        15      Y-HELP-ERMSG  PICTURE X.                          *00050
        15      O-HELP-ERMSG  PICTURE X(72).                      *00050
     02         REPEAT-LINE.                                      *00050
       03       O-HELP-LIGNE.                                     *00050
        05      X-HELP-ERMSGD PICTURE X.                          *00050
        05      Y-HELP-ERMSGD PICTURE X.                          *00050
        05      O-HELP-ERMSGD PICTURE X(74).                      *00050
    01    PSB.                                                    *00100
        02            CD05.                                       *00100
          10          CD05-KEYCD.                                 *00100
           15         CD05-NUCOM  PICTURE 9(5).                   *00100
          10          CD05-NUCLIE PICTURE 9(8).                   *00100
          10          CD05-DATE   PICTURE X(6).                   *00100
          10          CD05-RELEA  PICTURE X(3).                   *00100
          10          CD05-REFCLI PICTURE X(30).                  *00100
          10          CD05-RUE    PICTURE X(40).                  *00100
          10          CD05-COPOS  PICTURE X(5).                   *00100
          10          CD05-VILLE  PICTURE X(20).                  *00100
          10          CD05-CORRES PICTURE X(25).                  *00100
          10          CD05-REMIS  PICTURE S9(4)V99.               *00100
          10          CD05-MATE   PICTURE X(8).                   *00100
          10          CD05-LANGU  PICTURE X.                      *00100
          10          CD05-FILLER PICTURE X(5).                   *00100
        02            CD10.                                       *00100
          10          CD10-FOURNI PICTURE X(3).                   *00100
          10          CD10-QTMAC  PICTURE 99.                     *00100
          10          CD10-QTMAL  PICTURE 99.                     *00100
          10          CD10-INFOR  PICTURE X(35).                  *00100
          10          CD10-ADFOU  PICTURE X(100).                 *00100
        02            CD20.                                       *00100
          10          CD20-EDIT   PICTURE X.                      *00100
        02            CD30.                                       *00100
          10          CD30-COCARA PICTURE X.                      *00100
          10          CD30-NUCOM  PICTURE 9(5).                   *00100
        02            CL10.                                       *00100
          10          CL10-CLECL1.                                *00100
           15         CL10-NUCLIE PICTURE 9(8).                   *00100
          10          CL10-RAISOC.                                *00100
           15         CL10-RAISO1 PICTURE X(25).                  *00100
           15         CL10-RAISO2 PICTURE X(25).                  *00100
          10          CL10-RUE    PICTURE X(40).                  *00100
          10          CL10-COPOS  PICTURE X(5).                   *00100
          10          CL10-VILLE  PICTURE X(20).                  *00100
          10          CL10-MATE   PICTURE X(8).                   *00100
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          10          CL10-RELEA  PICTURE X(3).                    *00100
          10          CL10-REMIS  PICTURE S9(4)V99.                *00100
          10          CL10-CORRES PICTURE X(25).                   *00100
          10          CL10-RAISOL.                                 *00100
           15         CL10-RUEL   PICTURE X(40).                   *00100
           15         CL10-COPOSL PICTURE X(5).                    *00100
          10          CL10-VILLEL PICTURE X(20).                   *00100
          10          CL10-LANGU  PICTURE X.                       *00100
          10          CL10-FILLER PICTURE X(5).                    *00100
        02            CL20.                                        *00100
          10          CL20-COCARA PICTURE X.                       *00100
          10          CL20-NUCLIE PICTURE 9(8).                    *00100
        02            EM00.                                        *00100
         03           EM00-00.                                     *00100
          10          EM00-CLELE.                                  *00100
           15         EM00-APPLI  PICTURE XXX.                     *00100
           15         EM00-TYPEN  PICTURE X.                       *00100
           15         EM00-XCLEF.                                  *00100
            20        EM00-PROGR  PICTURE X(6).                    *00100
            20        EM00-NUERR.                                  *00100
             25       EM00-NUERR9 PICTURE 999.                     *00100
            20        EM00-TYERR  PICTURE X.                       *00100
           15         EM00-NULIG  PICTURE 999.                     *00100
           15         EM00-GRAER  PICTURE X.                       *00100
          10          EM00-ERMSG.                                  *00100
           15         EM00-ERMSG1 PICTURE X(30).                   *00100
           15         EM00-ERMSG2 PICTURE X(36).                   *00100
          10          EM00-FILLER PICTURE X(6).                    *00100
        02            FO10.                                        *00100
          10          FO10-CLEFO.                                  *00100
           15         FO10-FOURNI PICTURE X(3).                    *00100
           15         FO10-MATE   PICTURE X(8).                    *00100
           15         FO10-RELEA  PICTURE X(3).                    *00100
           15         FO10-LANGU  PICTURE X.                       *00100
          10          FO10-QTMAS  PICTURE S9(4)                    *00100
                           COMPUTATIONAL.                          *00100
          10          FO10-QTMAM  PICTURE 9(4).                    *00100
          10          FO10-LIBFO  PICTURE X(20).                   *00100
          10          FO10-DATE   PICTURE X(6).                    *00100
          10          FO10-HEURE  PICTURE X(8).                    *00100
          10          FO10-FILLER PICTURE XX.                      *00100
        02            HE10.                                        *00100
          10          HE10-CLE.                                    *00100
           15         HE10-XNMTE  PICTURE X(8).                    *00100
          10          HE10-XZONE  PICTURE X(1920).                 *00100
        02            ME00.                                        *00100
         03           ME00-00.                                     *00100
          10          ME00-CLEME.                                  *00100
           15         ME00-COPERS PICTURE X(5).                    *00100
           15         ME00-NUMORD PICTURE XX.                      *00100
          10          ME00-MESSA  PICTURE X(75).                   *00100
01              COMMUNICATION-MONITOR.                             *00150
          02    S-SPCB.                                            *00150
          10    S-SPCB-XNMBD  PICTURE X(8).                        *00150
          10    S-SPCB-XNISEG PICTURE XX.                          *00150
          10    S-SPCB-XCORET PICTURE XX.                          *00150
          10    S-SPCB-XOPTRT PICTURE X(4).                        *00150
          10    FILLER        PICTURE S9(5) COMPUTATIONAL.         *00150
          10    S-SPCB-XNMSEG PICTURE X(8).                        *00150
          10    S-SPCB-XLGKEY PICTURE S9(5) COMPUTATIONAL.         *00150
          10    S-SPCB-XNBSEG PICTURE S9(5) COMPUTATIONAL.         *00150
          10    S-SPCB-XCLECO PICTURE X(70).                       *00150
          02    S-WPCB.                                            *00150
          10    S-WPCB-XFONC  PICTURE X(4).                        *00150
          02    S-WWSS.                                            *00150
          10    S-WWSS-OPER   PICTURE X.                           *00150
          10    S-WWSS-SCR-ER PICTURE X.                           *00150
          10    S-WWSS-PROT   PICTURE X.                           *00150
          10    S-WWSS-PROGE  PICTURE X(8).                        *00150
          10    S-WWSS-CURS   PICTURE X.                           *00150
          10    S-WWSS-3F     PICTURE X.                           *00150
          10    S-WWSS-SPAOC  PICTURE X.                           *00150
         10     S-WWSS-XIMOD  PICTURE X(8).                        *00150
PROCEDURE DIVISION USING                                          *99999
              S-IPCB                                              *99999
                      S-ALTPCB                                    *99999
                      S-DBDFOU                                    *99999
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                      S-DBDMES                                    *99999
                      S-DBDCLI                                    *99999
                      S-DBDCDE                                    *99999
                      S-PCBIDX                                    *99999
                      S-DBDLER                                    *99999
                      S-DBDHEL                                    *99999
       COMMON-AREA INPUT-SCREEN-FIELDS OUTPUT-SCREEN-FIELDS       *99999
       PSB COMMUNICATION-MONITOR.                                 *99999
*          ************************************                   DOHELP
*          *                                  *                   DOHELP
*          *  INITIALIZATIONS                 *                   DOHELP
*          *                                  *                   DOHELP
*          ************************************                   DOHELP
 F01.        EXIT.                                                DOHELP
 F0110.                                                           DOHELP
       MOVE ZERO TO CATX FT K50L.                                 DOHELP
       MOVE '1' TO ICF OCF SCR-ER.                                DOHELP
       MOVE ZERO TO VALIDATION-TABLE-FIELDS.                      DOHELP
       MOVE SPACE TO CATM OPER OPERD CAT-ER.                      DOHELP
       MOVE SPACE TO TABLE-OF-ATTRIBUTES.                         DOHELP
       MOVE ZERO TO CONFIGURATIONS.                               DOHELP
       MOVE SPACE TO XEMKY.                                       DOHELP
            IF PROGR    NOT =       K-SHELP-PROGR                 DOHELP
                     MOVE   ZERO  TO   ICF.                       DOHELP
       MOVE ALL SPACE         TO     O-HELP.                     DOHELP
       TRANSFORM O-HELP FROM SPACE TO S-WWSS-3F.                  DOHELP
       IF ICF = ZERO PERFORM F8115 THRU F8115-FN.                 DOHELP
       MOVE 'X' TO DE-AT (4, 001).                                DOHELP
       MOVE SPACE      TO            O-HELP-ERMSG (01).           DOHELP
       MOVE LOW-VALUE  TO            X-HELP-ERMSG (01).           DOHELP
       MOVE LOW-VALUE  TO            Y-HELP-ERMSG (01).           DOHELP
 F0110-FN.    EXIT.                                               DOHELP
 F0120.                                                           DOHELP
       MOVE '1' TO OCF.                                           DOHELP
       IF K-SHELP-CDOC = 'D' OR K-SHELP-CDOC = 'R'                DOHELP
       MOVE '1' TO ICF     GO TO F0120-FN.                        DOHELP
       MOVE 'A'  TO OPER                                          DOHELP
       MOVE SPACE TO K-SHELP-ERTYP                                DOHELP
       MOVE SPACE TO K-SHELP-ERCOD                                DOHELP
       IF K-SHELP-CDOC = '2'                                      DOHELP
       MOVE ZERO  TO K-SHELP-LINUM                                DOHELP
       MOVE 'D' TO K-SHELP-CDOC   GO TO F3999-ITER-FT.            DOHELP
       MOVE 'R'  TO K-SHELP-CDOC.                                 DOHELP
       MOVE K-SHELP-CPOSL TO 7-HELP-POLEC9                        DOHELP
       MOVE K-SHELP-LINUM TO 7-HELP-POCEC9                        DOHELP
       MOVE ZERO         TO K-SHELP-LINUM.                        DOHELP
       MOVE SPACE          TO EM00-EMKEY                          DOHELP
       MOVE K-SHELP-LIBRA  TO EM00-LIBRA                          DOHELP
       MOVE  'I'           TO EM00-ENTYP                          DOHELP
       MOVE K-SHELP-PROGR  TO EM00-PROGR                          DOHELP
       MOVE 7-HELP-POLEC9  TO EM00-ERCOD                          DOHELP
       MOVE EM00-EMKEY  TO S-EMU00-EMKEY                          DOHELP
       PERFORM F80-EM00-P THRU F80-FN.                            DOHELP
       IF IK = '0'                                                DOHELP
         IF  EM00-LIBRA NOT = K-SHELP-LIBRA                       DOHELP
         OR  EM00-ENTYP NOT = 'I'                                 DOHELP
         OR  EM00-PROGR NOT = K-SHELP-PROGR                       DOHELP
       MOVE '1' TO IK.                                            DOHELP
       IF IK = '1'  MOVE 'D' TO K-SHELP-CDOC                      DOHELP
       MOVE SPACE TO EM00-EMKEY  GO TO F3999-ITER-FT.             DOHELP
       IF 7-HELP-POLEC  <  EM00-ERCOD                             DOHELP
       OR (7-HELP-POLEC =  EM00-ERCOD                             DOHELP
       AND 7-HELP-POCEC9 NOT > EM00-LINUM)                        DOHELP
       MOVE EM00-ERMSG TO K-SHELP-ERCOD                           DOHELP
       GO TO F3999-ITER-FT.                                       DOHELP
 F0120-A.                                                         DOHELP
       IF IK = '1'  MOVE SPACE TO EM00                            DOHELP
       MOVE 'D' TO K-SHELP-CDOC  GO TO F3999-ITER-FT.             DOHELP
       MOVE EM00  TO XZ00                                         DOHELP
       MOVE EM00-EMKEY  TO S-EMU00-EMKEY                          DOHELP
       PERFORM F80-EM00-RN  THRU F80-FN.                          DOHELP
       IF IK = '0'                                                DOHELP
         IF  EM00-LIBRA NOT = K-SHELP-LIBRA                       DOHELP
         OR  EM00-ENTYP NOT = 'I'                                 DOHELP
         OR  EM00-PROGR NOT = K-SHELP-PROGR                       DOHELP
       MOVE '1' TO IK.                                            DOHELP
       IF IK = '1'                                                DOHELP
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          OR 7-HELP-POLEC  < EM00-ERCOD                              DOHELP
          OR 7-HELP-POCEC9 < EM00-LINUM                              DOHELP
          MOVE XZ00-ERMSG TO K-SHELP-ERCOD                           DOHELP
          MOVE SPACE      TO EM00      GO TO F3999-ITER-FT.          DOHELP
          IF 7-HELP-POLEC  = EM00-ERCOD                              DOHELP
          AND 7-HELP-POCEC9 = EM00-LINUM                             DOHELP
          MOVE EM00-ERMSG TO K-SHELP-ERCOD                           DOHELP
          MOVE SPACE TO EM00           GO TO F3999-ITER-FT.          DOHELP
    F0120-B.   GO TO F0120-A.                                        DOHELP
    F0120-FN.    EXIT.                                               DOHELP
    F01-FN.      EXIT.                                               DOHELP
   *           ************************************                 DOHELP
   *           *                                  *                 DOHELP
   *           *  RECEPTION                       *                 DOHELP
   *           *                                  *                 DOHELP
   *           ************************************                 DOHELP
    F05.   IF ICF = ZERO GO TO END-OF-RECEPTION.                     DOHELP
    F0510.                                                           DOHELP
          PERFORM F8140 THRU F8140-FN.                               DOHELP
          PERFORM F8135 THRU F8135-FN                                DOHELP
          EXAMINE I-HELP REPLACING ALL LOW-VALUE BY SPACE.           DOHELP
          MOVE 'A' TO OPER  MOVE SPACE TO OPERD.                     DOHELP
    F0510-FN.    EXIT.                                               DOHELP
   *           ************************************                 DOHELP
   *           *                                  *                 DOHELP
   *           *  VALIDATION OF OPERATION CODE    *                 DOHELP
   *           *                                  *                 DOHELP
   *           ************************************                 DOHELP
    F0520.                                                           DOHELP
             IF I-HELP-OPDOC   =  'E' OR 'F'                         DOHELP
          MOVE  K-SHELP-PROGE  TO 5-HELP-PROGE                       DOHELP
          MOVE 'O' TO OPER OPERD GO TO F0520-900.                    DOHELP
             IF I-HELP-OPDOC   =  'T' OR 'D'                         DOHELP
          MOVE  SPACE TO K-SHELP-ERCOD K-SHELP-ERTYP                 DOHELP
          MOVE  ZERO  TO K-SHELP-LINUM                               DOHELP
          MOVE  'A' TO OPER      GO TO F0520-900.                    DOHELP
             IF I-HELP-OPDOC   =  'S'                                DOHELP
          MOVE  'A' TO OPER      GO TO F0520-900.                    DOHELP
          MOVE '5' TO    ER-HELP-OPDOC  MOVE '4' TO SCR-ER           DOHELP
          GO TO F3999-ITER-FT.                                       DOHELP
    F0520-900.                                                       DOHELP
          IF OPER NOT = 'A' AND OPER NOT = 'O'                       DOHELP
          GO TO F3999-ITER-FT.                                       DOHELP
    F0520-FN.    EXIT.                                               DOHELP
    F05-FN.      EXIT.                                               DOHELP
   *           ************************************                 DOHELP
   *           *                                  *                 DOHELP
   *           *  CATEGORY PROCESSING LOOP        *                 DOHELP
   *           *                                  *                 DOHELP
   *           ************************************                 DOHELP
    F10.         EXIT.                                               DOHELP
    F1010.     MOVE SPACE TO CATM.                                   DOHELP
          IF CAT-ER = 'E' MOVE '4' TO SCR-ER GO TO F3999-ITER-FT.    DOHELP
          MOVE SPACE TO CAT-ER.                                      DOHELP
          IF CATX = '0' MOVE 'Z' TO CATX GO TO F1010-FN.             DOHELP
    F1010-A.   GO TO F3999-ITER-FT.                                  DOHELP
    F1010-FN.    EXIT.                                               DOHELP
    F10-FN.      EXIT.                                               DOHELP
   *           ************************************                 DOHELP
   *           *                                  *                 DOHELP
   *           *  DATA ELEMENT VALIDATION         *                 DOHELP
   *           *                                  *                 DOHELP
   *           ************************************                 DOHELP
    F20.         EXIT.                                               DOHELP
    F20Z.  IF CATX NOT = 'Z' GO TO F20Z-FN.                          DOHELP
    F20A7.                                                           DOHELP
             IF I-HELP-OPDOC  NOT = SPACE                            DOHELP
          MOVE '1' TO    ER-HELP-OPDOC.                             DOHELP
    F20A7-FN.    EXIT.                                               DOHELP
    F20Z-FN.     EXIT.                                               DOHELP
    F20-FN.      EXIT.                                               DOHELP
    F3999-ITER-FI.  GO TO F10.                                       DOHELP
    F3999-ITER-FT.     EXIT.                                         DOHELP
    F3999-FN.    EXIT.                                               DOHELP
    F40.       IF SCR-ER > '1'  MOVE 'A' TO OPER  GO TO F40-FN.      DOHELP
    F40-A.     IF OPERD NOT = SPACE   MOVE OPERD TO OPER.            DOHELP
    F4005. IF OPER NOT = 'O'          GO TO F4005-FN.                DOHELP
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         IF K-SHELP-CDOC = 'D'                                  DOHELP
         MOVE '2' TO K-SHELP-CDOC.                              DOHELP
         IF K-SHELP-CDOC = 'R'                                  DOHELP
         MOVE '3' TO K-SHELP-CDOC.                              DOHELP
         MOVE ZERO TO K-SHELP-LINUM.                            DOHELP
         IF K-SHELP-ERCOD = SPACE                               DOHELP
         OR K-SHELP-ERCOD NOT NUMERIC                           DOHELP
         MOVE '001'  TO  K-SHELP-ERCOD.                         DOHELP
         IF K-SHELP-ERCOD > '001'                               DOHELP
         SUBTRACT 1 FROM K-SHELP-ERCOD9.                        DOHELP
 F4005-FN.    EXIT.                                             DOHELP
 F4010.  IF OPER NOT = 'A'    GO TO F4010-FN.                   DOHELP
         MOVE  SPACE         TO EM00-EMKEY                      DOHELP
         MOVE  K-SHELP-LIBRA  TO EM00-LIBRA                     DOHELP
         MOVE  'H'           TO EM00-ENTYP                      DOHELP
         MOVE  K-SHELP-PROGR  TO EM00-PROGR                     DOHELP
         MOVE  K-SHELP-ERCOD  TO EM00-ERCOD                     DOHELP
         MOVE  K-SHELP-ERTYP  TO EM00-ERTYP                     DOHELP
         MOVE  K-SHELP-LINUM  TO EM00-LINUM                     DOHELP
         MOVE  EM00-EMKEY     TO K-REM00-EMKEY (1).             DOHELP
 F4010-FN.    EXIT.                                             DOHELP
*           ************************************                DOHELP
*           *                                  *                DOHELP
*           *  END OF TRANSACTION              *                DOHELP
*           *                                  *                DOHELP
*           ************************************                DOHELP
 F4030.     IF OPER NOT = 'E' GO TO F4030-FN.                    DOHELP
         MOVE OPER TO S-WWSS-OPER GOBACK.                       DOHELP
 F4030-FN.    EXIT.                                             DOHELP
*           ************************************                DOHELP
*           *                                  *                DOHELP
*           *  TRANSFER TO ANOTHER SCREEN      *                DOHELP
*           *                                  *                DOHELP
*           ************************************                DOHELP
 F4040.     IF OPER NOT = 'O' GO TO F4040-FN.                    DOHELP
         MOVE  5-HELP-PROGE TO S-WWSS-PROGE                     DOHELP
         MOVE OPER TO S-WWSS-OPER GOBACK.                       DOHELP
 F4040-FN.    EXIT.                                             DOHELP
 F40-FN.      EXIT.                                             DOHELP
 END-OF-RECEPTION.      EXIT.                                   DOHELP
*           ************************************                DOHELP
*           *                                  *                DOHELP
*           *  DISPLAY PREPARATION             *                DOHELP
*           *                                  *                DOHELP
*           ************************************                DOHELP
 F50.      IF OCF = '0' GO TO END-OF-DISPLAY.                   DOHELP
 F5010.                                                         DOHELP
         MOVE ZERO TO CATX.                                     DOHELP
         MOVE ZERO TO CONFIGURATIONS.                           DOHELP
         MOVE ALL '1' TO FIRST-ON-SEGMENT.                      DOHELP
     IF SCR-ER NOT > '1' MOVE LOW-VALUE TO O-HELP.              DOHELP
         IF SCR-ER > '1'  GO TO F6999-ITER-FT.                  DOHELP
         PERFORM F8115 THRU F8115-FN.                           DOHELP
 F5010-FN.    EXIT.                                             DOHELP
 F5020.    IF  K-SHELP-ERTYP NOT = SPACE                        DOHELP
           NEXT SENTENCE ELSE   GO TO F5020-FN.                 DOHELP
         MOVE  SPACE  TO EM00-ERTYP.                            DOHELP
           IF K-SHELP-ERCOD < '001'                             DOHELP
         MOVE  SPACE  TO EM00-ERCOD.                            DOHELP
         MOVE  ZERO   TO EM00-LINUM                             DOHELP
         MOVE EM00-EMKEY  TO S-EMU00-EMKEY                      DOHELP
         PERFORM F80-EM00-P  THRU F80-FN.                       DOHELP
           IF IK = '1'   GO TO F5020-FN.                        DOHELP
           IF EM00-ERCOD  NOT = SPACE                           DOHELP
         MOVE  EM00-ERMSG TO 7-HELP-ERMS                        DOHELP
         MOVE 7-HELP-ERMSC TO HELP-LIENT                        DOHELP
         MOVE  'DOCUMENTATION OF DATA ELEMENT '                 DOHELP
                TO HELP-LIBEC         ELSE                     DOHELP
         MOVE   EM00-ERMSG TO HELP-LIENT                        DOHELP
         MOVE  'DOCUMENTATION OF THE SCREEN   '                 DOHELP
                TO HELP-LIBEC.                                  DOHELP
 F5020-FN.    EXIT.                                             DOHELP
 F50-FN.      EXIT.                                             DOHELP
*           ************************************                DOHELP
*           *                                  *                DOHELP
*           *  CATEGORY PROCESSING LOOP        *                DOHELP
*           *                                  *                DOHELP
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*          ************************************                DOHELP
 F55.        EXIT.                                             DOHELP
 F5510.                                                        DOHELP
       MOVE SPACE TO CAT-ER.                                   DOHELP
       IF CATX = '0' MOVE ' ' TO CATX GO TO F5510-FN.          DOHELP
       IF CATX = ' ' MOVE 'R' TO CATX MOVE ZERO TO ICATR.      DOHELP
       IF CATX NOT = 'R' OR  ICATR > IRR GO TO F5510-R.        DOHELP
       IF ICATR > ZERO                                         DOHELP
       MOVE  O-HELP-LIGNE           TO                         DOHELP
             P-HELP-LIGNE   (ICATR).                           DOHELP
       ADD 1 TO ICATR.                                         DOHELP
       IF ICATR NOT > IRR                                      DOHELP
       MOVE  P-HELP-LIGNE   (ICATR) TO                         DOHELP
             O-HELP-LIGNE.                                     DOHELP
       GO TO F5510-FN.                                         DOHELP
 F5510-R.    EXIT.                                             DOHELP
 F5510-Z.                                                      DOHELP
       IF CATX = 'R' MOVE 'Z' TO CATX GO TO F5510-FN.          DOHELP
 F5510-900. GO TO F6999-ITER-FT.                               DOHELP
 F5510-FN.   EXIT.                                             DOHELP
 F55-FN.     EXIT.                                             DOHELP
*          ************************************                DOHELP
*          *                                  *                DOHELP
*          *  SEGMENT ACCESS FOR DISPLAY      *                DOHELP
*          *                                  *                DOHELP
*          ************************************                DOHELP
 F60.        EXIT.                                             DOHELP
 F60R.  IF CATX NOT = 'R' OR FT = '1' GO TO F60R-FN.           DOHELP
 F60R-FN.    EXIT.                                             DOHELP
 F6010.  IF CATX NOT = 'R' OR FT = '1'  GO TO F6010-FN.        DOHELP
       MOVE '0' TO EM00-CF.                                    DOHELP
       IF          EM00-FST = '1'                              DOHELP
       MOVE     K-REM00-EMKEY  (1) TO EM00-EMKEY               DOHELP
       MOVE        EM00-LIBRA   TO  C-HELP-LIBRA               DOHELP
       MOVE        EM00-ENTYP   TO  C-HELP-ENTYP               DOHELP
       MOVE        EM00-PROGR   TO  C-HELP-PROGR               DOHELP
       MOVE        EM00-ERCOD   TO  C-HELP-ERCOD               DOHELP
       MOVE EM00-EMKEY  TO S-EMU00-EMKEY                       DOHELP
       PERFORM F80-EM00-P  THRU F80-FN                         DOHELP
       MOVE ZERO TO EM00-FST    ELSE                           DOHELP
       PERFORM F80-EM00-RN THRU F80-FN.                        DOHELP
       IF IK = '0'                                             DOHELP
         IF        EM00-LIBRA NOT = C-HELP-LIBRA               DOHELP
         OR        EM00-ENTYP NOT = C-HELP-ENTYP               DOHELP
         OR        EM00-PROGR NOT = C-HELP-PROGR               DOHELP
       MOVE '1' TO IK.                                         DOHELP
       IF IK = '1' MOVE 'G109' TO XERCD MOVE '1' TO FT         DOHELP
       PERFORM F81UT THRU F81UT-FN      GO TO F6010-FN.        DOHELP
       MOVE '1' TO EM00-CF.                                    DOHELP
       MOVE  EM00-ERCOD  TO K-SHELP-ERCOD                      DOHELP
       MOVE  EM00-ERTYP  TO K-SHELP-ERTYP                      DOHELP
       MOVE  EM00-LINUM  TO K-SHELP-LINUM.                     DOHELP
       IF   EM00-ERCOD  NOT = C-HELP-ERCOD                     DOHELP
       AND  EM00-ERCOD  > '000'                                DOHELP
       MOVE '1'  TO FT    GO TO F6010-FN.                      DOHELP
       IF   EM00-ERTYP  = SPACE                                DOHELP
       NEXT SENTENCE ELSE GO TO F6010-FN.                      DOHELP
       IF   EM00-ERCOD  > ZERO                                 DOHELP
       MOVE EM00-ERMSG    TO 7-HELP-ERMS                       DOHELP
       MOVE 7-HELP-ERMSC  TO HELP-LIENT                        DOHELP
       MOVE  'DOCUMENTATION OF DATA ELEMENT '                  DOHELP
               TO HELP-LIBEC                                   DOHELP
              ELSE                                             DOHELP
       MOVE  EM00-ERMSG     TO HELP-LIENT                      DOHELP
       MOVE  'DOCUMENTATION OF THE SCREEN   '                  DOHELP
               TO HELP-LIBEC.                                  DOHELP
       GO TO F6010.                                            DOHELP
 F6010-FN.   EXIT.                                             DOHELP
 F60-FN.     EXIT.                                             DOHELP
*          ************************************                DOHELP
*          *                                  *                DOHELP
*          *  DATA ELEMENT TRANSFER           *                DOHELP
*          *                                  *                DOHELP
*          ************************************                DOHELP
 F65.        EXIT.                                             DOHELP
 F6520. IF FT = '1' OR EM00-ERTYP = ' ' GO TO F6520-FN.        DOHELP
       IF ICATR > IRR  GO TO F6520-FN.                         DOHELP
```

```
           MOVE SPACE TO 7-HELP-ERMSGD.                                DOHELP
            IF  EM00-ERTYP = '1'                                       DOHELP
           MOVE   EM00-ERMSG  TO 7-HELP-ERMS                           DOHELP
           MOVE 7-HELP-ERMSG2 TO 7-HELP-SIGNI                          DOHELP
           MOVE 7-HELP-ERMSC  TO 7-HELP-ERMSC1                         DOHELP
           MOVE 7-HELP-ERMSG1 TO 7-HELP-VALRU                          DOHELP
           GO TO F6520-900.                                            DOHELP
           IF  EM00-ERTYP = '0'                                        DOHELP
           MOVE   SPACE       TO 7-HELP-XEMKY                          DOHELP
           MOVE   EM00-ERMSG  TO 7-HELP-LITAC                          DOHELP
           GO TO F6520-900.                                            DOHELP
           MOVE   EM00-ERMSG  TO 7-HELP-LITAC.                         DOHELP
           IF     EM00-LINUM  NOT = ZERO                               DOHELP
           GO TO F6520-900.                                            DOHELP
           MOVE   EM00-ERCOD  TO 7-HELP-XEMKY                          DOHELP
           MOVE   EM00-ERTYP  TO 7-HELP-ERTYP.                         DOHELP
           MOVE   SPACE       TO O-HELP-ERMSGD.                        DOHELP
           IF  ICATR NOT < IRR ADD 1 TO ICATR  GO TO F55.              DOHELP
           MOVE O-HELP-LIGNE  TO P-HELP-LIGNE (ICATR)                  DOHELP
           ADD 1 TO ICATR                                              DOHELP
           MOVE P-HELP-LIGNE (ICATR) TO O-HELP-LIGNE.                  DOHELP
    F6520-900.                                                         DOHELP
           MOVE 7-HELP-ERMSGD TO O-HELP-ERMSGD.                        DOHELP
    F6520-FN.    EXIT.                                                 DOHELP
    F6530.   IF CATX NOT = 'Z'  GO TO F6530-FN.                        DOHELP
           MOVE  HELP-LIENT  TO O-HELP-LIENT                           DOHELP
           MOVE  HELP-LIBEC  TO O-HELP-LIBEC.                          DOHELP
           MOVE 'CHOICE.............:' TO O-HELP-LICHOI                DOHELP
           MOVE '(E: END - T: TOP - S: NEXT)   '                       DOHELP
                 TO O-HELP-LIOPT.                                      DOHELP
            IF XERCD NOT = 'G109'                                      DOHELP
           MOVE 'S'  TO O-HELP-OPDOC  GO TO F6530-FN.                  DOHELP
           MOVE 'E'  TO O-HELP-OPDOC.                                  DOHELP
           IF K-SHELP-ERCOD NUMERIC AND K-SHELP-ERCOD > ZERO           DOHELP
           ADD 1 TO K-SHELP-ERCOD9.                                    DOHELP
    F6530-FN.    EXIT.                                                 DOHELP
    F65-FN.      EXIT.                                                 DOHELP
    F6999-ITER-FI.  GO TO F55.                                         DOHELP
    F6999-ITER-FT.     EXIT.                                           DOHELP
    F6999-FN.    EXIT.                                                 DOHELP
    F70.                                                               DOHELP
           GO TO F7020.                                                DOHELP
   *           ************************************                    DOHELP
   *           *                                  *                    DOHELP
   *           *  ERROR PROCESSING                *                    DOHELP
   *           *                                  *                    DOHELP
   *           ************************************                    DOHELP
    F7010.     MOVE ZERO TO K01 K02 K04 MOVE 1 TO K03.                 DOHELP
           MOVE LIBRA TO EM00-LIBRA MOVE PROGR TO EM00-PROGR           DOHELP
           MOVE ZERO TO EM00-LINUM MOVE 'H' TO EM00-ENTYP.             DOHELP
    F7010-A.   IF K02 = INR AND K03 < IRR MOVE INA TO K02              DOHELP
           ADD 1 TO K03. ADD 1 TO K01 K02.                             DOHELP
           IF DE-ER (K01) > '1' OR < '0' MOVE 'Y' TO DE-AT (4, K01)    DOHELP
           MOVE 'N' TO DE-AT (1, K01)                                  DOHELP
           MOVE 'N' TO DE-AT (2, K01)                                  DOHELP
           MOVE 'W' TO DE-AT (3, K01)                                  DOHELP
              IF K04 < IER MOVE DE-ER (K01) TO EM00-ERTYP              DOHELP
           MOVE K02 TO EM00-ERCOD9 MOVE EM00-XEMKY TO EM00-ERMSG       DOHELP
           PERFORM F80-EM00-R THRU F80-FN ADD 1 TO K04                  DOHELP
           MOVE  EM00-ERMSG  TO    O-HELP-ERMSG (K04).                 DOHELP
           IF K01 < INT      GO TO F7010-A.                           DOHELP
           MOVE ZERO TO K50R.                                          DOHELP
    F7010-B.                                                           DOHELP
            ADD 1 TO K50R IF K50R > K50L OR K04 NOT < IER GO TO         DOHELP
            F7010-FN. MOVE T-XEMKY (K50R) TO EM00-XEMKY EM00-ERMSG     DOHELP
            PERFORM F80-EM00-R THRU F80-FN. ADD 1 TO K04                DOHELP
           MOVE  EM00-ERMSG  TO    O-HELP-ERMSG (K04)                  DOHELP
           GO TO F7010-B.                                              DOHELP
    F7010-FN.    EXIT.                                                 DOHELP
   *           ************************************                    DOHELP
   *           *                                  *                    DOHELP
   *           *  POSITIONING OF ATTRIBUTES       *                    DOHELP
   *           *                                  *                    DOHELP
   *           ************************************                    DOHELP
    F7020.                                                             DOHELP
           TRANSFORM DE-ATT1 (1) FROM 'NBD' TO 'AIE'.                  DOHELP
           MOVE  ZERO TO TALLY                                         DOHELP
```

```
          EXAMINE DE-ATT1 (4) TALLYING UNTIL FIRST 'Y'.            DOHELP
                       IF TALLY NOT <   0001                       DOHELP
          MOVE ZERO TO TALLY                                       DOHELP
          EXAMINE DE-ATT1 (4) TALLYING UNTIL FIRST 'Z'.            DOHELP
                       IF TALLY NOT <   0001                       DOHELP
          MOVE ZERO TO TALLY                                       DOHELP
          EXAMINE DE-ATT1 (4) TALLYING UNTIL FIRST 'X'.            DOHELP
                       IF TALLY NOT <   0001                       DOHELP
          MOVE ZERO TO TALLY.                                      DOHELP
          MOVE LOW-VALUE TO DE-ATT1 (4) ADD 1 TO TALLY             DOHELP
          MOVE S-WWSS-CURS TO DE-AT (4, TALLY).                    DOHELP
   F7020-Z.                                                        DOHELP
          MOVE  A-HELP-OPDOC  (1)  TO   Y-HELP-OPDOC.              DOHELP
          MOVE  A-HELP-OPDOC  (4 )  TO                             DOHELP
                X-HELP-OPDOC.                                      DOHELP
   F7020-FN.    EXIT.                                              DOHELP
   F7030.                                                          DOHELP
               IF    ER-HELP-OPDOC = '5'                           DOHELP
          MOVE  'INVALID CHOICE' TO O-HELP-ERMSG (1).              DOHELP
          IF  XERCD = 'G109'                                       DOHELP
          MOVE  '*** END ***   ' TO O-HELP-ERMSG (1).              DOHELP
   F7030-FN.    EXIT.                                              DOHELP
   F70-FN.      EXIT.                                              DOHELP
   END-OF-DISPLAY.    EXIT.                                        DOHELP
   F8Z.         EXIT.                                              DOHELP
  *           ************************************                 DOHELP
  *           *                                  *                 DOHELP
  *           *  DISPLAY                         *                 DOHELP
  *           *                                  *                 DOHELP
  *           ************************************                 DOHELP
   F8Z10.                                                          DOHELP
          IF SCR-ER  NOT > '1'                                     DOHELP
          AND DE-AT (4, 001) = 'X'                                 DOHELP
          PERFORM F7020 THRU F7020-FN.                             DOHELP
       MOVE     L-HELP    TO            O-HELPL.                  DOHELP
              MOVE          'ODOM050  '   TO                       DOHELP
                   S-WWSS-XIMOD.                                   DOHELP
          IF SCR-ER NOT > '1'                                      DOHELP
          PERFORM F8125 THRU F8125-FN                              DOHELP
          MOVE 0 TO S-WWSS-SCR-ER.                                 DOHELP
          IF SCR-ER > '1'                                          DOHELP
          MOVE 1 TO S-WWSS-SCR-ER.                                 DOHELP
   F8Z10-FN.    EXIT.                                              DOHELP
  *           ************************************                 DOHELP
  *           *                                  *                 DOHELP
  *           *  END OF PROGRAM                  *                 DOHELP
  *           *                                  *                 DOHELP
  *           ************************************                 DOHELP
   F8Z20.                                                          DOHELP
        MOVE  'DOP050  '  TO S-WWSS-PROGE.                         DOHELP
          MOVE OPER TO S-WWSS-OPER GOBACK.                         DOHELP
   F8Z20-FN.    EXIT.                                              DOHELP
   F8Z-FN.      EXIT.                                              DOHELP
  *           ************************************                 DOHELP
  *           *                                  *                 DOHELP
  *           *  PHYSICAL SEGMENT ACCESS ROUTINES *                DOHELP
  *           *                                  *                 DOHELP
  *           ************************************                 DOHELP
   F80.         EXIT.                                              DOHELP
   F80-EM00-R.                                                     700100
          MOVE 'GU'   TO S-WPCB-XFONC   GO TO F80-EM00-1.          700100
   F80-EM00-P.                                                     700100
                MOVE  GREQ    TO        S-EMU00-OPER               700100
          MOVE 'GU'   TO S-WPCB-XFONC   GO TO F80-EM00-1.          700100
   F80-EM00-RN.                                                    700100
          MOVE 'GN'   TO S-WPCB-XFONC   GO TO F80-EM00-2.          700100
   F80-EM00-1.                                                     700100
                 CALL 'CBLTDLI'  USING                             700100
                    S-WPCB-XFONC S-DBDLER     EM00                 700100
                                 S-EMU00-SSA                       700100
                MOVE  ' ='    TO        S-EMU00-OPER               700100
          MOVE S-DBDLER     TO S-SPCB    GO TO F80-ER.             700100
   F80-EM00-2.                                                     700100
                 CALL 'CBLTDLI'  USING                             700100
                    S-WPCB-XFONC S-DBDLER     EM00                 700100
                                  S-EM00-SSA                       700100
          MOVE S-DBDLER     TO S-SPCB    GO TO F80-ER.             700100
```

```
 F8001-FN.    EXIT.                                                    700100
 F80-ER. IF S-SPCB-XCORET NOT = '  ' AND 'GE' AND 'GA'                 DOHELP
        AND 'GK' AND 'GB' AND 'II' AND 'GG'                           DOHELP
        GO TO F81ER. IF S-SPCB-XCORET = SPACE GO TO F80-OK             DOHELP
        ELSE GO TO F80-KO.                                            DOHELP
 F80-OK.  MOVE '0' TO IK MOVE PROGR TO XPROGR GO TO F80-FN.           DOHELP
 F80-KO.  MOVE '1' TO IK MOVE PROGR TO XPROGR.                        DOHELP
 F8099-FN.    EXIT.                                                   DOHELP
 F80-FN.      EXIT.                                                   DOHELP
 F81.         EXIT.                                                   DOHELP
*           ************************************                      DOHELP
*           *                                  *                      DOHELP
*           *  ABNORMAL END PROCEDURE          *                      DOHELP
*           *                                  *                      DOHELP
*           ************************************                      DOHELP
 F81ER.                                                               DOHELP
        MOVE 'X' TO S-WWSS-OPER GOBACK.                               DOHELP
 F81ER-FN.    EXIT.                                                   DOHELP
*           ************************************                      DOHELP
*           *                                  *                      DOHELP
*           *  MEMORIZATION OF USER'S ERRORS   *                      DOHELP
*           *                                  *                      DOHELP
*           ************************************                      DOHELP
 F81UT.     IF K50L < K50M ADD 1 TO K50L                              DOHELP
        MOVE XEMKY TO T-XEMKY (K50L). MOVE 'E' TO CAT-ER.             DOHELP
 F81UT-FN.    EXIT.                                                   DOHELP
 F8115.       EXIT.                                                   DOHELP
 F8115-FN.    EXIT.                                                   DOHELP
*           ************************************                      DOHELP
*           *                                  *                      DOHELP
*           *  DISPLAY TRANSFER                *                      DOHELP
*           *                                  *                      DOHELP
*           ************************************                      DOHELP
 F8125.                                                               DOHELP
        MOVE  O-HELP-OPDOC         TO T-HELP-OPDOC.                   DOHELP
 F8125-FN.    EXIT.                                                   DOHELP
*           ************************************                      DOHELP
*           *                                  *                      DOHELP
*           *  RECEPTION TRANSFER              *                      DOHELP
*           *                                  *                      DOHELP
*           ************************************                      DOHELP
 F8135.                                                               DOHELP
          IF  I-HELP-OPDOC  = LOW-VALUE                               DOHELP
        MOVE  T-HELP-OPDOC         TO I-HELP-OPDOC  ELSE              DOHELP
        MOVE  I-HELP-OPDOC         TO T-HELP-OPDOC.                   DOHELP
 F8135-FN.    EXIT.                                                   DOHELP
*           ************************************                      DOHELP
*           *                                  *                      DOHELP
*           *  CURSOR POSITION                 *                      DOHELP
*           *                                  *                      DOHELP
*           ************************************                      DOHELP
 F8140.                                                               DOHELP
        MOVE  I-CURPOS  TO  CURPOS                                    DOHELP
        COMPUTE CPOSN = ((CPOSL - 1 ) * 080 ) + CPOSC - 1.            DOHELP
 F8140-FN.    EXIT.                                                   DOHELP
 F81-FN.      EXIT.                                                   DOHELP
```

8. SCREEN GENERATED PROGRAM USING SQL DB2

8.1. INTRODUCTION

INTRODUCTION

This chapter presents the COBOL lines automatically generated when a screen accesses a DB2 relational database.

The PROCEDURE DIVISION is not shown in full since functionalities are similar to those presented in the general example. This chapter only presents the specific parts of the WORKING STORAGE SECTION and related functions.

PROGRAM GENERATION

To generate On-line programs it may be necessary to use the complementary screens:

. Work Areas (-W),

. Call of Macro-structures (-CP).

On Work Areas (-W) screens, 'AA' is a reserved value for the code FOR COBOL PLACEMENT; It is used internally by the OLSD Function.

The automatically generated lines are identified in the COBOL code by the '*AAnnn' character string from columns 72 to 80. They can be overridden on the Work Areas (-W) screen on 'AAnnn'-numbered lines.

The user can use the General Documentation (-G) lines of the screen or dialogue to override the value of some generated constants. For more details, refer to Chapter 'DESCRIPTION OF A TRANSACTION', Subchapter 'SCREEN GENERAL DOCUMENTATION (-G)' in the OLSD Reference Manual.

```
-------------------------------------------------------------------------------
!                   IMS DB/DC APPLICATION                    *PDLB.NDOC.AIM.1!
! ON-LINE SCREEN CALL OF SEGM.                                                 !
! ...........................................................................!
! A SEGM      :   USE PREC ACCESS KEY     ACCESS     D EXTERNAL LIB. S    : LIB!
! C CODE C LN : G R D SEGM SOURCE         KEY    B O T NAME     SEGM N LV :    !
! . DZ05 R 00 :   X A                     COCARA   I 1 Q2BLOC   DZ05     : *DCC!
! . DZ05 R 02 :                           NUCOD                          : *DCC!
! . DZ05 R 04 :                           FOURNI                         : *DCC!
! . DZ10 R 00 :   X A                     COCARA   I 1 Q2BLOC   DZ10     : *DCC!
! . DZ10 R 02 :                           NUCOM                          : *DCC!
!             :                                                          :     !
!             :                                                          :     !
!             :                                                          :     !
!             :                                                          :     !
!             :                                                          :     !
!             :                                                          :     !
!             :                                                          :     !
!             :                                                          :     !
!             :                                                          :     !
!             :                                                          :     !
!             :                                                          :     !
! *** END ***                                                                  !
! O: C1 CH:                                                                    !
-------------------------------------------------------------------------------
```

8.2. WORKING-STORAGE SECTION

WORKING-STORAGE SECTION

The WORKING-STORAGE section includes:

- The description of input/output fields (Host variables).

  Segment descriptions are delimited by the comments: 'BEGIN DB2' and 'END DB2'.

  In a Segment description, only the Data Elements of elementary level are present.

  For the variable Data Elements (VARCHAR) called in a 'FFnn' code Segment (Data Elements with 'V', 'L' or 'W' in the key area of the segment description), the following lines are generated:

```
ffnn-DELCO PICTURE ...
           VARYING.
```

  The LFFnn-delco field must be input with the real length of the field before updating.

- Presence validation keys: each field (delco) of a table or a SQL view (FFnn) is associated with a presence validation key (VFFnnDelco or V-FFnn-Delco if the SQLREF option is indicated in Dialogue complement (-O)).

  Those keys are generated separately on line AA351 and redefined in a table format.
  The SQLIND option, input by the user in Dialogue complement, allows for the management of those keys in update and display. The keys are initialized in function F30 and conditioned for transfer in DISPLAY by the column presence (for columns which can be null).

- The 'INCLUDE SQLCA' SQL order if the SQLCA option is indicated in Dialogue complement (-O).

- The SQL orders which correspond to the CURSOR declaration when a Table is used in display in the repetitive category.

  They are located on lines which can be converted in structured code by FFNN0 to FFNN9.

(See the '*DZ050' to '*DZ059' COBOL generated lines at the end of this part.)

. Clause FROM 'external name of the table': it is the external name of the table or the view called in the database block(-DR). By default the external name is found in the Segment definition screen. The block code is indicated in the 'EXTERNAL NAME' area of the call lines of segments (-CS).

. Clause WHERE ... ORDER: the key data elements are indicated on call lines of segments in the order of these lines (-CS).

- Referential integrity processing: WORKING description for the processing of the errors detected by SQL on DB2 tables (used in F35 function after table updating).

```
*BEGIN DB2          DZ05                                        DOSQLS
 01                 DZ05.                                       DOSQLS
      05            DZ05-COCARA PICTURE X.                      DOSQLS
      05            DZ05-NUCOD  PICTURE S9(3)                   DOSQLS
                         COMPUTATIONAL.                         DOSQLS
      05            DZ05-FOURNI PICTURE X(3).                   DOSQLS
      05            DZ05-NUCLIE PICTURE 9(8).                   DOSQLS
      05            DZ05-DATE   PICTURE X(6).                   DOSQLS
      05            DZ05-RELEA  PICTURE X(3).                   DOSQLS
      05           VDZ05-REFCLI.                                DOSQLS
        49         LDZ05-REFCLI PICTURE S9(4) COMP.            DOSQLS
        49          DZ05-REFCLI PICTURE X(30).                 DOSQLS
      05           VDZ05-RUE.                                   DOSQLS
        49         LDZ05-RUE    PICTURE S9(4) COMP.            DOSQLS
        49          DZ05-RUE    PICTURE X(40).                 DOSQLS
      05            DZ05-COPOS  PICTURE X(5).                   DOSQLS
      05           VDZ05-VILLE.                                 DOSQLS
        49         LDZ05-VILLE  PICTURE S9(4) COMP.            DOSQLS
        49          DZ05-VILLE  PICTURE X(20).                 DOSQLS
      05           VDZ05-CORESP.                                DOSQLS
        49         LDZ05-CORESP PICTURE S9(4) COMP.            DOSQLS
        49          DZ05-CORESP PICTURE X(256).                DOSQLS
      05            DZ05-REMISE PICTURE S9(4)V99                DOSQLS
                         COMPUTATIONAL-3.                       DOSQLS
      05           VDZ05-MATE.                                  DOSQLS
        49         LDZ05-MATE   PICTURE S9(4) COMP.            DOSQLS
        49          DZ05-MATE   PICTURE X(8).                  DOSQLS
      05            DZ05-PRIX1                                  DOSQLS
                         COMPUTATIONAL-2.                       DOSQLS
      05            DZ05-HEURE  PICTURE X(8).                   DOSQLS
      05            DZ05-PRECIS PICTURE X(26).                  DOSQLS
*END   DB2                                                      DOSQLS
*BEGIN DB2          DZ10                                        DOSQLS
 01                 DZ10.                                       DOSQLS
      05            DZ10-COCARA PICTURE X.                      DOSQLS
      05            DZ10-NUCOM  PICTURE 9(5).                   DOSQLS
      05            DZ10-FOURNP PICTURE X(3).                   DOSQLS
      05            DZ10-QTMLI  PICTURE S9(2)                   DOSQLS
                         COMPUTATIONAL.                         DOSQLS
      05            DZ10-QTMCO  PICTURE S9(2)                   DOSQLS
                         COMPUTATIONAL.                         DOSQLS
      05           VDZ10-INFOR.                                 DOSQLS
        49         LDZ10-INFOR  PICTURE S9(4) COMP.            DOSQLS
        49          DZ10-INFOR  PICTURE X(35).                 DOSQLS
*END   DB2                                                      DOSQLS
        EXEC SQL INCLUDE SQLCA         END-EXEC.               DOSQLS
 01           INPUT-SCREEN-FIELDS.                             *AA050
      02      I-SQLS.                                          *AA050
      05      FILLER PICTURE X(12).                            *AA050
 01           OUTPUT-SCREEN-FIELDS.                            *AA050
      02      O-SQLS.                                          *AA050
      05      FILLER PICTURE X(12).                            *AA050
 01              EM00.                                         *AA100
     05          EM00-EMKEY.                                   *AA100
       10        EM00-LIBRA     PICTURE X(3).                  *AA100
       10        EM00-ENTYP     PICTURE X.                     *AA100
       10        EM00-XEMKY.                                   *AA100
         15      EM00-PROGR     PICTURE X(6).                  *AA100
         15      EM00-ERCOD.                                   *AA100
           20    EM00-ERCOD9    PICTURE 9(3).                  *AA100
         15      EM00-ERTYP     PICTURE X.                     *AA100
       10        EM00-LINUM     PICTURE 9(3).                  *AA100
     05          EM00-ERLVL     PICTURE X.                     *AA100
     05          EM00-ERMSG     PICTURE X(66).                 *AA100
     05          FILLER         PICTURE X(6).                  *AA100
 01   TT-DAT.                                                  *AA200
      05 T-DAT      PICTURE X OCCURS 5.                       *AA200
 01   LEAP-YEAR.                                               *AA200
      05 LEAP-FLAG  PICTURE X.                                 *AA200
      05 LEAP-REM   PICTURE 99.                                *AA200
 01   USERS-ERROR.                                             *AA200
      05 XEMKY.                                                *AA200
         10 XPROGR   PICTURE X(6).                             *AA200
         10 XERCD    PICTURE X(4).                             *AA200
      05 T-XEMKY     OCCURS       01.                         *AA200
         10 T-XPROGR PICTURE X(6).                             *AA200
         10 T-XERCD  PICTURE X(4).                             *AA200
```

```
01   PACBASE-INDEXES COMPUTATIONAL SYNC.                          *AA200
     05  TALLI      PICTURE S9(4) VALUE ZERO.                     *AA200
     05 K01         PICTURE S9(4).                                *AA200
     05 K02         PICTURE S9(4).                                *AA200
     05 K03         PICTURE S9(4).                                *AA200
     05 K04         PICTURE S9(4).                                *AA200
     05 K50R        PICTURE S9(4) VALUE ZERO.                     *AA200
     05 K50L        PICTURE S9(4) VALUE ZERO.                     *AA200
     05 K50M        PICTURE S9(4)                                 *AA200
                   VALUE       +01.                              *AA200
     05    5-EM00-LTH  PICTURE S9(4) VALUE +0090.                 *AA200
     05    5-CA00-LTH  PICTURE S9(4) VALUE +0147.                 *AA200
     05    5-DZ05-LTH  PICTURE S9(4) VALUE +0428.                 *AA200
     05    5-DZ05-LTHV PICTURE S9(4) VALUE +0428.                 *AA200
     05    5-DZ10-LTH  PICTURE S9(4) VALUE +0048.                 *AA200
     05    5-DZ10-LTHV PICTURE S9(4) VALUE +0048.                 *AA200
     05    LTH         PICTURE S9(4) VALUE ZERO.                  *AA200
     05    KEYLTH      PICTURE S9(4) VALUE ZERO.                  *AA200
     05      5-SQLS-LENGTH PICTURE S9(4)                          *AA200
                       VALUE      +0890.                         *AA200
01   PFKEYS-TABLE.                                                *AA230
     02    PF-TAB.                                                *AA230
       05  FILLER       PIC X     VALUE QUOTE.                   *AA230
       05  FILLER       PIC X(11) VALUE '  _00%A1>A2'.           *AA230
       05  FILLER       PIC X(36) VALUE                          *AA230
           '10120230340450560670780890 9:10£11à12'.               *AA230
       05  FILLER       PIC X(36) VALUE                          *AA230
           'A13B14C15D16E17F18G19H20I21°22.23<24'.                *AA230
     02    PFTA  REDEFINES  PF-TAB.                               *AA230
       05  PFTA-POS    OCCURS 28.                                *AA230
        10 PFTA-VAL    PIC X.                                    *AA230
        10 PFTA-IFONCT PIC XX.                                    *AA230
     02    I-FONCT.                                               *AA230
     05    I-PFKEY  PIC XX.                                       *AA230
01    FIRST-ON-SEGMENT.                                          *AA301
     05      DZ05-FST    PICTURE X.                              *AA301
     05      DZ10-FST    PICTURE X.                              *AA301
01             V-DZ05.                                           *AA351
     05        V-DZ05-COCARA  PICTURE S9(4) COMP.                *AA351
     05        V-DZ05-NUCOD   PICTURE S9(4) COMP.                *AA351
     05        V-DZ05-FOURNI  PICTURE S9(4) COMP.                *AA351
     05        V-DZ05-NUCLIE  PICTURE S9(4) COMP.                *AA351
     05        V-DZ05-DATE    PICTURE S9(4) COMP.                *AA351
     05        V-DZ05-RELEA   PICTURE S9(4) COMP.                *AA351
     05        V-DZ05-REFCLI  PICTURE S9(4) COMP.                *AA351
     05        V-DZ05-RUE     PICTURE S9(4) COMP.                *AA351
     05        V-DZ05-COPOS   PICTURE S9(4) COMP.                *AA351
     05        V-DZ05-VILLE   PICTURE S9(4) COMP.                *AA351
     05        V-DZ05-CORESP  PICTURE S9(4) COMP.                *AA351
     05        V-DZ05-REMISE  PICTURE S9(4) COMP.                *AA351
     05        V-DZ05-MATE    PICTURE S9(4) COMP.                *AA351
     05        V-DZ05-PRIX1   PICTURE S9(4) COMP.                *AA351
     05        V-DZ05-HEURE   PICTURE S9(4) COMP.                *AA351
     05        V-DZ05-PRECIS  PICTURE S9(4) COMP.                *AA351
01             V-DZ05-R REDEFINES  V-DZ05.                       *AA351
     05        V-DZ05-A PIC S9(4) COMP     OCCURS 0016.          *AA351
01             V-DZ10.                                           *AA351
     05        V-DZ10-COCARA  PICTURE S9(4) COMP.                *AA351
     05        V-DZ10-NUCOM   PICTURE S9(4) COMP.                *AA351
     05        V-DZ10-FOURNP  PICTURE S9(4) COMP.                *AA351
     05        V-DZ10-QTMLI   PICTURE S9(4) COMP.                *AA351
     05        V-DZ10-QTMCO   PICTURE S9(4) COMP.                *AA351
     05        V-DZ10-INFOR   PICTURE S9(4) COMP.                *AA351
01             V-DZ10-R REDEFINES  V-DZ10.                       *AA351
     05        V-DZ10-A PIC S9(4) COMP     OCCURS 0006.          *AA351
01     INTEGRITY-REFERENCE.                                      *AA360
    05  FILLER     PICTURE X(51) VALUE                           *AA360
        'DZ05CEXISTF 000FOURNITURE                          '.   *AA360
    05  FILLER     PICTURE X(51) VALUE                           *AA360
        'DZ10CEXISTF 000FOURNITURE STOCK                    '.   *AA360
01     INTEGRITY-TABLE REDEFINES INTEGRITY-REFERENCE.            *AA360
   05  S-SSQL-ERTAB OCCURS 002.                                 *AA360
    10 S-SSQL-ERCOD PICTURE X(12).                              *AA360
    10 S-SSQL-ERNUM PICTURE 999.                                *AA360
    10 S-SSQL-ERLIB PICTURE X(36).                              *AA360
01     S-SSQL-XERCOD.                                            *AA361
   05  S-SSQL-TNAME PICTURE X(4).                               *AA361
```

```
   05  S-SSQL-CNAME.                                          *AA361
    10 S-SSQL-CA    PICTURE X  OCCURS 8.                     *AA361
01     S-SSQL-ERRMC.                                          *AA361
   05  S-SSQL-CC    PICTURE X  OCCURS 8.                     *AA361
01     S-SSQL-ELIB.                                           *AA362
   05  S-SSQL-XLIB  PICTURE X(30) VALUE                      *AA362
       '  INVALID UPDATE ON SEGMENT '.                        *AA362
   05  S-SSQL-SLIB  PICTURE X(36).                           *AA362
       EXEC SQL                                               *DZ050
                            DECLARE     DISPLAY_DZ05          *DZ050
           CURSOR FOR SELECT ALL                            *DZ050
                  COCARA ,                                  *DZ050
                  NUCOD ,                                   *DZ050
                  FOURNI ,                                  *DZ050
                  NUCLIE ,                                  *DZ050
                  DATE ,                                    *DZ050
                  RELEA ,                                   *DZ050
                  REFERENCECLIENT ,                         *DZ050
                  RUE ,                                     *DZ050
                  COPOS ,                                   *DZ050
                  VILLE ,                                   *DZ050
                  CORESP ,                                  *DZ050
                  REMISE ,                                  *DZ050
                  MATERIEL ,                                *DZ050
                  PRIX1 ,                                   *DZ050
                  HEURE ,                                   *DZ050
                  PRECIS                                    *DZ050
              FROM PDMCA.DODZ05                             *DZ050
     WHERE COCARA >  :DZ05-COCARA                           *DZ052
      OR (COCARA =  :DZ05-COCARA                            *DZ052
     AND  NUCOD >  :DZ05-NUCOD)                             *DZ052
      OR (COCARA =  :DZ05-COCARA                            *DZ052
     AND  NUCOD =  :DZ05-NUCOD                              *DZ052
     AND  FOURNI >= :DZ05-FOURNI)                           *DZ052
         ORDER BY    COCARA,                                *DZ059
                     NUCOD,                                 *DZ059
                     FOURNI                                 *DZ059
       END-EXEC.                                            *DZ059
       EXEC SQL                                             *DZ100
                            DECLARE     DISPLAY_DZ10          *DZ100
           CURSOR FOR SELECT ALL                            *DZ100
                  COCARA ,                                  *DZ100
                  NUCOM ,                                   *DZ100
                  FOURNP ,                                  *DZ100
                  LIVRABLE ,                                *DZ100
                  QUANTITE-COMMANDEE ,                      *DZ100
                  INFOR                                     *DZ100
              FROM PDMCA.DODZ10                             *DZ100
     WHERE COCARA >  :DZ10-COCARA                           *DZ102
      OR (COCARA =  :DZ10-COCARA                            *DZ102
     AND  NUCOM >= :DZ10-NUCOM)                             *DZ102
         ORDER BY    COCARA,                                *DZ109
                     NUCOM                                  *DZ109
       END-EXEC.                                            *DZ109
```

8.3. COMMUNICATION AREA

COMMUNICATION AREA

After the description of the common area (CA00), display keys are grouped by category under the K-eeee level.

All Data Elements declared as display Segment keys in the Screen Call of Segments (-CS) are present and independently located on level 05.

They are also independently input in the PROCEDURE DIVISION.

```
LINKAGE SECTION.                                                        DOSQLS
01   DFHCOMMAREA.                                                       DOSQLS
     02     K-SSQLS-PROGR PICTURE X(6).                                 *00000
     02     K-SSQLS-DOC   PICTURE X.                                    *00000
     02     K-SSQLS-PROGE PICTURE X(8).                                 *00000
     02     K-SSQLS-CPOSL PICTURE S9(4) COMPUTATIONAL.                  *00000
     02     K-SSQLS-PROLE PICTURE X(8).                                 *00000
     02     K-SSQLS-LIBRA PICTURE XXX.                                  *00000
     02     K-SSQLS-PROHE PICTURE X(8).                                 *00000
     02     K-SSQLS-ERCOD.                                              *00000
       05   K-SSQLS-ERCOD9 PICTURE 999.                                *00000
     02     K-SSQLS-ERTYP PICTURE X.                                    *00000
     02     K-SSQLS-LINUM PICTURE 999.                                  *00000
     02            CA00.                                                *00001
       10          CA00-CLECD.                                          *00001
        15         CA00-NUCOM  PICTURE 9(5).                            *00001
       10          CA00-CLECL1.                                         *00001
        15         CA00-NUCLIE PICTURE 9(8).                            *00001
       10          CA00-ME00.                                           *00001
        15         CA00-CLEME.                                          *00001
         20        CA00-COPERS PICTURE X(5).                            *00001
         20        CA00-NUMORD PICTURE XX.                              *00001
        15         CA00-MESSA  PICTURE X(75).                           *00001
       10          CA00-PREM   PICTURE X.                               *00001
       10          CA00-LANGU  PICTURE X.                               *00001
       10          CA00-RAISOC PICTURE X(50).                           *00001
     02      FILLER PICTURE X.                                          *00002
     02      K-SQLS.                                                    *00002
      05        K-RDZ05-COCARA PICTURE X.                               *00002
      05        K-RDZ05-NUCOD  PICTURE S9(3)                            *00002
                       COMPUTATIONAL.                                   *00002
      05        K-RDZ05-FOURNI PICTURE X(3).                            *00002
      05        K-RDZ10-COCARA PICTURE X.                               *00002
      05        K-RDZ10-NUCOM  PICTURE 9(5).                            *00002
     02      FILLER        PICTURE X(0675).                            *00002
```

8.4. PROCEDURE

PERFORMED VALIDATIONS FUNCTIONS: F0101

ABEND

The F0101 function processes SQL errors.

NOTE: Only labels are generated for the sub-function F81ES. Procedure code is to be performed by the user.

```
*           ************************************                DOSQLS
*           *                                  *                DOSQLS
*           *  INITIALIZATIONS                 *                DOSQLS
*           *                                  *                DOSQLS
*           ************************************                DOSQLS
 F01.          EXIT.                                            DOSQLS
 F0101.                                                         DOSQLS
       EXEC SQL WHENEVER NOT FOUND GO TO F80-KO END-EXEC.       DOSQLS
       EXEC SQL WHENEVER SQLWARNING CONTINUE    END-EXEC.       DOSQLS
       EXEC SQL WHENEVER SQLERROR  GO TO F81ES  END-EXEC.       DOSQLS
 F0101-FN.    EXIT.                                             DOSQLS
```

SEGMENT ACCESS FOR UPDATE: F35

In F35: Referencial integrity processing.

After the updating of DB2 table, the DB2 return code is tested and the error message is formatted (PERFORM F81SC).

```
*           ************************************                DOSQLS
*           *                                  *                DOSQLS
*           *  SEGMENT ACCESS FOR UPDATE       *                DOSQLS
*           *                                  *                DOSQLS
*           ************************************                DOSQLS
 F35.     IF CAT-ER NOT = SPACE OR CATM = SPACE GO TO F35-FN.    DOSQLS
 F3501.                                                         DOSQLS
        IF CATM = 'C'                                           DOSQLS
        PERFORM F80-DZ05-W  THRU F80-FN.                        DOSQLS
        IF CATM NOT = 'C' AND CATM NOT = 'A'                    DOSQLS
        PERFORM F80-DZ05-RW THRU F80-FN.                        DOSQLS
        IF SQLCODE = -530 OR -531 OR -532                       DOSQLS
        MOVE 'DZ05'  TO S-SSQL-TNAME                            DOSQLS
        PERFORM F81SC THRU F81SC-FN.                            DOSQLS
 F3501-FN.    EXIT.                                             DOSQLS
 F3502.                                                         DOSQLS
        IF CATM = 'C'                                           DOSQLS
        PERFORM F80-DZ10-W  THRU F80-FN.                        DOSQLS
        IF CATM NOT = 'C' AND CATM NOT = 'A'                    DOSQLS
        PERFORM F80-DZ10-RW THRU F80-FN.                        DOSQLS
        IF SQLCODE = -530 OR -531 OR -532                       DOSQLS
        MOVE 'DZ10'  TO S-SSQL-TNAME                            DOSQLS
        PERFORM F81SC THRU F81SC-FN.                            DOSQLS
 F3502-FN.    EXIT.                                             DOSQLS
 F35-FN.      EXIT.                                             DOSQLS
```

PHYSICAL SEGMENT ACCESS ROUTINE: F80

All 'SELECT' orders have the '*' default option.

The option 'SELECT ALL' with the list of the table columns can be obtained by using 'SQLALL' option (OPTIONS area in Dialogue complement (-O)). The following lines are then generated:

```
SQL SELECT ALL COLDELCO1,
              COLDELCO2, ...

    INTO    :FFNN-DELCO1:VFFNN-DELCO1,
             FFNN-DELCO2:VFFNN-DELCO2, ...
```

NOTE: This option is not available with SQL/DS.

With the DB2 MVS V2R3 version, the parameters FOR FETCH ONLY and OPTIMIZE n ROWS (n is the line number of the repetitive category +1) are generated in the DECLARE CURSOR.

The presence validation keys are shown with the commands:

SELECT (in the INTO clause),
UPDATE (in the SET clause),
INSERT (in the VALUES clause).

```
*           ************************************                DOSQLS
*           *                                  *                DOSQLS
*           *  PHYSICAL SEGMENT ACCESS ROUTINES *                DOSQLS
*           *                                  *                DOSQLS
*           ************************************                DOSQLS
 F80.          EXIT.                                            DOSQLS
 F80-DZ05-R.                                                    DOSQLS
        EXEC SQL                                                DOSQLS
                            SELECT ALL                          DOSQLS
                  COCARA ,                                      DOSQLS
                  NUCOD ,                                       DOSQLS
                  FOURNI ,                                      DOSQLS
                  NUCLIE ,                                      DOSQLS
                  DATE ,                                        DOSQLS
                  RELEA ,                                       DOSQLS
                  REFERENCECLIENT ,                             DOSQLS
                  RUE ,                                         DOSQLS
                  COPOS ,                                       DOSQLS
                  VILLE ,                                       DOSQLS
                  CORESP ,                                      DOSQLS
                  REMISE ,                                      DOSQLS
                  MATERIEL ,                                    DOSQLS
                  PRIX1 ,                                       DOSQLS
                  HEURE ,                                       DOSQLS
                  PRECIS                                        DOSQLS
          INTO  :DZ05-COCARA:V-DZ05-COCARA,                     DOSQLS
                :DZ05-NUCOD:V-DZ05-NUCOD,                       DOSQLS
                :DZ05-FOURNI:V-DZ05-FOURNI,                     DOSQLS
                :DZ05-NUCLIE:V-DZ05-NUCLIE,                     DOSQLS
                :DZ05-DATE:V-DZ05-DATE,                         DOSQLS
                :DZ05-RELEA:V-DZ05-RELEA,                       DOSQLS
                :VDZ05-REFCLI:V-DZ05-REFCLI,                    DOSQLS
                :VDZ05-RUE:V-DZ05-RUE,                          DOSQLS
                :DZ05-COPOS:V-DZ05-COPOS,                       DOSQLS
                :VDZ05-VILLE:V-DZ05-VILLE,                      DOSQLS
                :VDZ05-CORESP:V-DZ05-CORESP,                    DOSQLS
                :DZ05-REMISE:V-DZ05-REMISE,                     DOSQLS
                :VDZ05-MATE:V-DZ05-MATE,                        DOSQLS
                :DZ05-PRIX1:V-DZ05-PRIX1,                       DOSQLS
                :DZ05-HEURE:V-DZ05-HEURE,                       DOSQLS
                :DZ05-PRECIS:V-DZ05-PRECIS                      DOSQLS
                 FROM PDMCA.DODZ05                              DOSQLS
      WHERE COCARA =  :DZ05-COCARA                              DOSQLS
        AND NUCOD =  :DZ05-NUCOD                                DOSQLS
        AND FOURNI =  :DZ05-FOURNI                              DOSQLS
        END-EXEC.                                               DOSQLS
        GO TO F80-OK.                                           DOSQLS
 F80-DZ05-RU.                                                   DOSQLS
        EXEC SQL                                                DOSQLS
                            SELECT ALL                          DOSQLS
                  COCARA ,                                      DOSQLS
                  NUCOD ,                                       DOSQLS
                  FOURNI ,                                      DOSQLS
                  NUCLIE ,                                      DOSQLS
                  DATE ,                                        DOSQLS
                  RELEA ,                                       DOSQLS
                  REFERENCECLIENT ,                             DOSQLS
                  RUE ,                                         DOSQLS
                  COPOS ,                                       DOSQLS
                  VILLE ,                                       DOSQLS
                  CORESP ,                                      DOSQLS
                  REMISE ,                                      DOSQLS
                  MATERIEL ,                                    DOSQLS
                  PRIX1 ,                                       DOSQLS
                  HEURE ,                                       DOSQLS
                  PRECIS                                        DOSQLS
          INTO  :DZ05-COCARA:V-DZ05-COCARA,                     DOSQLS
                :DZ05-NUCOD:V-DZ05-NUCOD,                       DOSQLS
                :DZ05-FOURNI:V-DZ05-FOURNI,                     DOSQLS
                :DZ05-NUCLIE:V-DZ05-NUCLIE,                     DOSQLS
                :DZ05-DATE:V-DZ05-DATE,                         DOSQLS
                :DZ05-RELEA:V-DZ05-RELEA,                       DOSQLS
                :VDZ05-REFCLI:V-DZ05-REFCLI,                    DOSQLS
                :VDZ05-RUE:V-DZ05-RUE,                          DOSQLS
                :DZ05-COPOS:V-DZ05-COPOS,                       DOSQLS
                :VDZ05-VILLE:V-DZ05-VILLE,                      DOSQLS
                :VDZ05-CORESP:V-DZ05-CORESP,                    DOSQLS
```

```
                :DZ05-REMISE:V-DZ05-REMISE,                      DOSQLS
                :VDZ05-MATE:V-DZ05-MATE,                         DOSQLS
                :DZ05-PRIX1:V-DZ05-PRIX1,                        DOSQLS
                :DZ05-HEURE:V-DZ05-HEURE,                        DOSQLS
                :DZ05-PRECIS:V-DZ05-PRECIS                       DOSQLS
                 FROM PDMCA.DODZ05                               DOSQLS
     WHERE COCARA =  :DZ05-COCARA                                DOSQLS
       AND NUCOD =  :DZ05-NUCOD                                  DOSQLS
       AND FOURNI =  :DZ05-FOURNI                                DOSQLS
       END-EXEC.                                                 DOSQLS
       GO TO F80-OK.                                             DOSQLS
F80-DZ05-P.                                                      DOSQLS
       EXEC SQL                                                  DOSQLS
                                OPEN      DISPLAY_DZ05           DOSQLS
       END-EXEC.                                                 DOSQLS
F80-DZ05-RN.                                                     DOSQLS
       EXEC SQL                                                  DOSQLS
                               FETCH      DISPLAY_DZ05           DOSQLS
         INTO  :DZ05-COCARA:V-DZ05-COCARA,                       DOSQLS
               :DZ05-NUCOD:V-DZ05-NUCOD,                         DOSQLS
               :DZ05-FOURNI:V-DZ05-FOURNI,                       DOSQLS
               :DZ05-NUCLIE:V-DZ05-NUCLIE,                       DOSQLS
               :DZ05-DATE:V-DZ05-DATE,                           DOSQLS
               :DZ05-RELEA:V-DZ05-RELEA,                         DOSQLS
               :VDZ05-REFCLI:V-DZ05-REFCLI,                      DOSQLS
               :VDZ05-RUE:V-DZ05-RUE,                            DOSQLS
               :DZ05-COPOS:V-DZ05-COPOS,                         DOSQLS
               :VDZ05-VILLE:V-DZ05-VILLE,                        DOSQLS
               :VDZ05-CORESP:V-DZ05-CORESP,                      DOSQLS
               :DZ05-REMISE:V-DZ05-REMISE,                       DOSQLS
               :VDZ05-MATE:V-DZ05-MATE,                          DOSQLS
               :DZ05-PRIX1:V-DZ05-PRIX1,                         DOSQLS
               :DZ05-HEURE:V-DZ05-HEURE,                         DOSQLS
               :DZ05-PRECIS:V-DZ05-PRECIS                        DOSQLS
       END-EXEC.                                                 DOSQLS
       GO TO F80-OK.                                             DOSQLS
F80-DZ05-W.                                                      DOSQLS
       EXEC SQL                                                  DOSQLS
                           INSERT                                DOSQLS
                     INTO PDMCA.DODZ05                           DOSQLS
                  ( COCARA ,                                     DOSQLS
                    NUCOD ,                                      DOSQLS
                    FOURNI ,                                     DOSQLS
                    NUCLIE ,                                     DOSQLS
                    DATE ,                                       DOSQLS
                    RELEA ,                                      DOSQLS
                    REFERENCECLIENT ,                            DOSQLS
                    RUE ,                                        DOSQLS
                    COPOS ,                                      DOSQLS
                    VILLE ,                                      DOSQLS
                    CORESP ,                                     DOSQLS
                    REMISE ,                                     DOSQLS
                    MATERIEL ,                                   DOSQLS
                    PRIX1 ,                                      DOSQLS
                    HEURE ,                                      DOSQLS
                    PRECIS )                                     DOSQLS
       VALUES (:DZ05-COCARA:V-DZ05-COCARA,                       DOSQLS
               :DZ05-NUCOD:V-DZ05-NUCOD,                         DOSQLS
               :DZ05-FOURNI:V-DZ05-FOURNI,                       DOSQLS
               :DZ05-NUCLIE:V-DZ05-NUCLIE,                       DOSQLS
               :DZ05-DATE:V-DZ05-DATE,                           DOSQLS
               :DZ05-RELEA:V-DZ05-RELEA,                         DOSQLS
               :VDZ05-REFCLI:V-DZ05-REFCLI,                      DOSQLS
               :VDZ05-RUE:V-DZ05-RUE,                            DOSQLS
               :DZ05-COPOS:V-DZ05-COPOS,                         DOSQLS
               :VDZ05-VILLE:V-DZ05-VILLE,                        DOSQLS
               :VDZ05-CORESP:V-DZ05-CORESP,                      DOSQLS
               :DZ05-REMISE:V-DZ05-REMISE,                       DOSQLS
               :VDZ05-MATE:V-DZ05-MATE,                          DOSQLS
               :DZ05-PRIX1:V-DZ05-PRIX1,                         DOSQLS
               :DZ05-HEURE:V-DZ05-HEURE,                         DOSQLS
               :DZ05-PRECIS:V-DZ05-PRECIS)                       DOSQLS
       END-EXEC.                                                 DOSQLS
       GO TO F80-OK.                                             DOSQLS
F80-DZ05-RW.                                                     DOSQLS
       EXEC SQL                                                  DOSQLS
                           UPDATE                                DOSQLS
```

```
                          PDMCA.DODZ05                          DOSQLS
          SET NUCLIE =                                          DOSQLS
               :DZ05-NUCLIE:V-DZ05-NUCLIE,                      DOSQLS
              DATE =                                            DOSQLS
               :DZ05-DATE:V-DZ05-DATE,                          DOSQLS
              RELEA =                                           DOSQLS
               :DZ05-RELEA:V-DZ05-RELEA,                        DOSQLS
              REFERENCECLIENT =                                 DOSQLS
               :VDZ05-REFCLI:V-DZ05-REFCLI,                     DOSQLS
              RUE =                                             DOSQLS
               :VDZ05-RUE:V-DZ05-RUE,                           DOSQLS
              COPOS =                                           DOSQLS
               :DZ05-COPOS:V-DZ05-COPOS,                        DOSQLS
              VILLE =                                           DOSQLS
               :VDZ05-VILLE:V-DZ05-VILLE,                       DOSQLS
              CORESP =                                          DOSQLS
               :VDZ05-CORESP:V-DZ05-CORESP,                     DOSQLS
              REMISE =                                          DOSQLS
               :DZ05-REMISE:V-DZ05-REMISE,                      DOSQLS
              MATERIEL =                                        DOSQLS
               :VDZ05-MATE:V-DZ05-MATE,                         DOSQLS
              PRIX1 =                                           DOSQLS
               :DZ05-PRIX1:V-DZ05-PRIX1,                        DOSQLS
              HEURE =                                           DOSQLS
               :DZ05-HEURE:V-DZ05-HEURE,                        DOSQLS
              PRECIS =                                          DOSQLS
               :DZ05-PRECIS:V-DZ05-PRECIS                       DOSQLS
       WHERE COCARA =  :DZ05-COCARA                             DOSQLS
         AND NUCOD =  :DZ05-NUCOD                               DOSQLS
         AND FOURNI =  :DZ05-FOURNI                             DOSQLS
         END-EXEC.                                              DOSQLS
         GO TO F80-OK.                                          DOSQLS
F80-DZ05-UN.                                                    DOSQLS
         GO TO F80-OK.                                          DOSQLS
F80-DZ05-CL.                                                    DOSQLS
         EXEC SQL                                               DOSQLS
                               CLOSE      DISPLAY_DZ05          DOSQLS
         END-EXEC.                                              DOSQLS
         GO TO F80-OK.                                          DOSQLS
F8001-FN.    EXIT.                                              DOSQLS
F80-DZ10-R.                                                     DOSQLS
         EXEC SQL                                               DOSQLS
                             SELECT ALL                         DOSQLS
                    COCARA ,                                    DOSQLS
                    NUCOM ,                                     DOSQLS
                    FOURNP ,                                    DOSQLS
                    LIVRABLE ,                                  DOSQLS
                    QUANTITE-COMMANDEE ,                        DOSQLS
                    INFOR                                       DOSQLS
           INTO  :DZ10-COCARA:V-DZ10-COCARA,                    DOSQLS
                 :DZ10-NUCOM:V-DZ10-NUCOM,                      DOSQLS
                 :DZ10-FOURNP:V-DZ10-FOURNP,                    DOSQLS
                 :DZ10-QTMLI:V-DZ10-QTMLI,                      DOSQLS
                 :DZ10-QTMCO:V-DZ10-QTMCO,                      DOSQLS
                 :VDZ10-INFOR:V-DZ10-INFOR                      DOSQLS
                  FROM PDMCA.DODZ10                             DOSQLS
       WHERE COCARA =  :DZ10-COCARA                             DOSQLS
         AND NUCOM =  :DZ10-NUCOM                               DOSQLS
         END-EXEC.                                              DOSQLS
         GO TO F80-OK.                                          DOSQLS
F80-DZ10-RU.                                                    DOSQLS
         EXEC SQL                                               DOSQLS
                             SELECT ALL                         DOSQLS
                    COCARA ,                                    DOSQLS
                    NUCOM ,                                     DOSQLS
                    FOURNP ,                                    DOSQLS
                    LIVRABLE ,                                  DOSQLS
                    QUANTITE-COMMANDEE ,                        DOSQLS
                    INFOR                                       DOSQLS
           INTO  :DZ10-COCARA:V-DZ10-COCARA,                    DOSQLS
                 :DZ10-NUCOM:V-DZ10-NUCOM,                      DOSQLS
                 :DZ10-FOURNP:V-DZ10-FOURNP,                    DOSQLS
                 :DZ10-QTMLI:V-DZ10-QTMLI,                      DOSQLS
                 :DZ10-QTMCO:V-DZ10-QTMCO,                      DOSQLS
                 :VDZ10-INFOR:V-DZ10-INFOR                      DOSQLS
                  FROM PDMCA.DODZ10                             DOSQLS
       WHERE COCARA =  :DZ10-COCARA                             DOSQLS
```

```
       AND NUCOM =  :DZ10-NUCOM                                  DOSQLS
       END-EXEC.                                                 DOSQLS
       GO TO F80-OK.                                             DOSQLS
F80-DZ10-P.                                                      DOSQLS
       EXEC SQL                                                  DOSQLS
                                OPEN      DISPLAY_DZ10           DOSQLS
       END-EXEC.                                                 DOSQLS
F80-DZ10-RN.                                                     DOSQLS
       EXEC SQL                                                  DOSQLS
                               FETCH      DISPLAY_DZ10           DOSQLS
         INTO  :DZ10-COCARA:V-DZ10-COCARA,                       DOSQLS
               :DZ10-NUCOM:V-DZ10-NUCOM,                         DOSQLS
               :DZ10-FOURNP:V-DZ10-FOURNP,                       DOSQLS
               :DZ10-QTMLI:V-DZ10-QTMLI,                         DOSQLS
               :DZ10-QTMCO:V-DZ10-QTMCO,                         DOSQLS
               :VDZ10-INFOR:V-DZ10-INFOR                         DOSQLS
       END-EXEC.                                                 DOSQLS
       GO TO F80-OK.                                             DOSQLS
F80-DZ10-W.                                                      DOSQLS
       EXEC SQL                                                  DOSQLS
                           INSERT                                DOSQLS
                      INTO PDMCA.DODZ10                          DOSQLS
                  ( COCARA ,                                     DOSQLS
                    NUCOM ,                                      DOSQLS
                    FOURNP ,                                     DOSQLS
                    LIVRABLE ,                                   DOSQLS
                    QUANTITE-COMMANDEE ,                         DOSQLS
                    INFOR )                                      DOSQLS
      VALUES (:DZ10-COCARA:V-DZ10-COCARA,                        DOSQLS
              :DZ10-NUCOM:V-DZ10-NUCOM,                          DOSQLS
              :DZ10-FOURNP:V-DZ10-FOURNP,                        DOSQLS
              :DZ10-QTMLI:V-DZ10-QTMLI,                          DOSQLS
              :DZ10-QTMCO:V-DZ10-QTMCO,                          DOSQLS
              :VDZ10-INFOR:V-DZ10-INFOR)                         DOSQLS
       END-EXEC.                                                 DOSQLS
       GO TO F80-OK.                                             DOSQLS
F80-DZ10-RW.                                                     DOSQLS
       EXEC SQL                                                  DOSQLS
                            UPDATE                               DOSQLS
                           PDMCA.DODZ10                          DOSQLS
         SET FOURNP =                                            DOSQLS
              :DZ10-FOURNP:V-DZ10-FOURNP,                        DOSQLS
             LIVRABLE =                                          DOSQLS
              :DZ10-QTMLI:V-DZ10-QTMLI,                          DOSQLS
             QUANTITE-COMMANDEE =                                DOSQLS
              :DZ10-QTMCO:V-DZ10-QTMCO,                          DOSQLS
             INFOR =                                             DOSQLS
              :VDZ10-INFOR:V-DZ10-INFOR                          DOSQLS
     WHERE COCARA =  :DZ10-COCARA                                DOSQLS
       AND NUCOM =  :DZ10-NUCOM                                  DOSQLS
       END-EXEC.                                                 DOSQLS
       GO TO F80-OK.                                             DOSQLS
F80-DZ10-UN.                                                     DOSQLS
       GO TO F80-OK.                                             DOSQLS
F80-DZ10-CL.                                                     DOSQLS
       EXEC SQL                                                  DOSQLS
                               CLOSE      DISPLAY_DZ10           DOSQLS
       END-EXEC.                                                 DOSQLS
       GO TO F80-OK.                                             DOSQLS
F8002-FN.    EXIT.                                               DOSQLS
F80-HELP-W.                                                      DOSQLS
    EXEC  CICS  WRITEQ  TS  QUEUE (NAMEQ)  FROM (O-SQLS)         DOSQLS
         LENGTH (SCRLGTH) ITEM (TSQITEM) MAIN END-EXEC.          DOSQLS
         GO TO F80-OK.                                           DOSQLS
F80-HELP-RW.                                                     DOSQLS
    EXEC  CICS  WRITEQ  TS  QUEUE (NAMEQ)  FROM (O-SQLS)         DOSQLS
    LENGTH (SCRLGTH) ITEM (TSQITEM) REWRITE MAIN END-EXEC.       DOSQLS
         GO TO F80-OK.                                           DOSQLS
F80-HELP-R.                                                      DOSQLS
    EXEC  CICS  READQ   TS  QUEUE (NAMEQ)  INTO (O-SQLS)         DOSQLS
         LENGTH (SCRLGTH) ITEM (TSQITEM) END-EXEC.               DOSQLS
         GO TO F80-OK.                                           DOSQLS
F80-HELP-D.                                                      DOSQLS
    EXEC CICS HANDLE CONDITION QIDERR (F80-OK) END-EXEC.         DOSQLS
    EXEC  CICS  DELETEQ TS  QUEUE (NAMEQ)  END-EXEC.             DOSQLS
         GO TO F80-OK.                                           DOSQLS
F8095-FN.    EXIT.                                               DOSQLS
```

```
F80-OK.  MOVE '0' TO IK MOVE PROGR TO XPROGR GO TO F80-FN.       DOSQLS
F80-KO.  MOVE '1' TO IK MOVE PROGR TO XPROGR.                   DOSQLS
F8099-FN.    EXIT.                                              DOSQLS
F80-FN.      EXIT.                                              DOSQLS
```

REFERENTIAL INTEGRITY ERROR PROCESSING: F81SC

Search of the error message which corresponds to the DB2 return code.

```
F81SC.                                                          DOSQLS
       MOVE SQLERRMC TO S-SSQL-ERRMC.                           DOSQLS
       MOVE 1  TO K01 K02.                                      DOSQLS
F81SC-A.  IF   S-SSQL-CC (K01) = HIGH-VALUE                     DOSQLS
       GO TO F81SC-B.                                           DOSQLS
       MOVE S-SSQL-CC (K01) TO S-SSQL-CA (K01).                 DOSQLS
       IF K01  < 8  ADD 1 TO K01  GO TO F81SC-A.                DOSQLS
F81SC-B. MOVE 1  TO K01.                                        DOSQLS
F81SC-C. IF  S-SSQL-ERCOD (K01) = S-SSQL-XERCOD                 DOSQLS
       MOVE S-SSQL-ERLIB (K01) TO S-SSQL-SLIB                   DOSQLS
       MOVE S-SSQL-ERNUM (K01) TO K02                           DOSQLS
       GO TO F81SC-E.                                           DOSQLS
          IF K01  NOT <    002   GO TO F81SC-FN.                DOSQLS
       ADD 1 TO K01   GO TO F81SC-C.                            DOSQLS
F81SC-E.                                                        DOSQLS
       MOVE 'FSQL' TO XERCD PERFORM F81UT THRU F81UT-FN.        DOSQLS
F81SC-FN.    EXIT.                                              DOSQLS
```

9. TABLE OF VARIABLES AND CONSTANTS

CHART OF ON-LINE CONSTANTS AND VARIABLES	
CURPOS	CURSOR POSITIONING IN RECEPTION SCREEN WHERE CPOSL = LINE NUMBER & CPOSC = COLUMN NUMBER (except for DPS7 FORMS).
CPOSN	"ABSOLUTE" CURSOR POSITIONING WHERE CPOSL = 1 AND CPOSC = 1 (except for DPS7 FORMS).
INA	NUMBER OF DATA ELEMENTS IN SCREEN-TOP CATEGORY
INR	INA + NUMBER OF DATA ELEMENTS IN REPETITIVE CATEGORY
INZ	INR + NUMBER OF DATA ELEMENTS IN SCREEN-BOTTOM CATEGORY
IRR	NUMBER OF REPETITIONS IN REPETITIVE CATEGORY
INT	NUMBER OF INPUT FIELDS IN SCREEN
IER	NUMBER OF SCREEN-RELATED ERROR MESSAGES
SESSI	SESSION NUMBER OF GENERATED PROGRAM
LIBRA	LIBRARY CODE
USERCO	USER CODE
DATGN	DATE OF GENERATED PROGRAM
TIMGN	TIME OF GENERATED PROGRAM
PROGR	PROGRAM CODE
PROGE	PROGRAM EXTERNAL NAME
PRDOC	HELP PROGRAM EXTERNAL NAME

CHART OF ON-LINE CONSTANTS AND VARIABLES (CONT'D)	
DATOR	YEAR-MONTH-DAY FORMATTED MACHINE DATE
DATSEP	SEPARATOR USED IN DATES DEFAULT VALUE: '/'
DAT6 DAT7 DAT8	DATE FORMATTING: DDMMYY OR YYMMDD ALSO OUTPUT FORMATS (DD/MM/YY FOR INSTANCE) IF A VARIABLE DATA ELEMENT (V) HAS A DATE FORMAT
DATCTY	FIELD FOR CENTURY LOAD
DAT6C DAT7C	NON-FORMATTED DATE WITH CENTURY
DAT8C	FORMATTED DATE WITH CENTURY: MM/DD/CCYY
DAT8G	GREGORIAN FORMATTED DATE: CCYY/MM/DD
TIMCO	TIME
TIMDAY	FORMATTED TIME: HH:MM:SS
5-scrn- PROGE	THIS FIELD CONTAINS THE NAME OF THE PROGRAM TO BRANCH TO

CHART OF VALIDATION VARIABLES AND INDICATORS	
ICF	CONFIGURATION VARIABLE '1' = SCREEN IN INPUT '0' = NO SCREEN IN INPUT
OCF	CONFIGURATION VARIABLE '1' = SCREEN IN OUTPUT '0' = NO SCREEN IN OUTPUT
OPER	OPERATION CODE 'A' = INQUIRY 'M' = UPDATE 'S' = SCREEN CONTINUATION 'E' = CONVERSATION END 'P' = PREVIOUS DISPLAY 'O' = TRANSFER TO ANOTHER SCREEN
OPERD	OPERATION CODE FOR DEFERRED BRANCHING 'O' = DEFERRED CALL OF ANOTHER SCREEN INITIALIZED IN F0520 AND MOVED INTO OPER IN F40
CATX	CATEGORY BEING PROCESSED '0' = BEGINNING OF RECEPTION OR DISPLAY ' ' = SCREEN TOP 'R' = REPETITIVE CATEGORY 'Z' = SCREEN BOTTOM
CATM	TRANSACTION CODE 'C' = CREATION 'M' = MODIFICATION 'A' = DELETION 'X' = IMPLICIT UPDATE
ICATR	INDICATOR OF CATEGORY BEING PROCESSED (REPETITIVE CATEGORY ONLY)
FT	END OF REPETITIVE CATEGORY INDICATOR '0' LINES TO DISPLAY '1' NO MORE LINES TO DISPLAY
ddss-CF	SEGMENT CONFIGURATION INDICATOR (seg. ddss) '1' THE SEGMENT IS PROCESSED '0' THE SEGMENT IS NOT PROCESSED

CHART OF VALIDATION VARIABLES AND INDICATORS (CONT'D)		
IK	PHYSICAL FILE ACCESS ERROR INDICATOR	
	'0' NO ERROR	
	'1' ERROR	

ERROR VARIABLES		
SCR-ER	STORAGE OF SCREEN ERROR	
	'1' NO ERROR	
	'4' ERROR	
CAT-ER	STORAGE OF ERROR ON CURRENT CATEGORY	
	' ' NO ERROR	
	'E' ERROR	
ER-scrn-delcod	MEMORIZATION OF DATA ELEMENT ERROR	
	'0' DATA ELEMENT ABSENT	
	'1' DATA ELEMENT PRESENT	
	'2' INVALID ABSENCE	
	'4' INVALID CLASS	
	'5' INVALID VALUE	