VisualAge Pacbase 2.5

GCOS7 FORMS OLSD
REFERENCE MANUAL

DDODF000001A

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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.

The sample program uses the DPS7 FORMS variant with the TDS Monitor, for VIP or QUESTAR screens.

The described segments use the UFAS access method of BULL.

1.2. DOSSIER DU DIALOGUE "DO"

```
--------------------------------------------------------------------------------
! PACBASE 8.0 V03   BULL DPS7 APPLICATION                    *PDMB.NDOC.AD7.54!
! DIALOGUE COMPLEMENT....:  DO PACBASE DOCUMENTATION MANAG.                    !
!                                                                              !
!                                                                              !
! COMMON AREA-DATA STRUCTURE CODE.......: CA                                   !
!                                                                              !
! ERROR MESSAGE FILE CHARACTERISTICS                                           !
!                       ORGANIZATION....: V                                    !
!                       EXTERNAL NAME...: EMTEST                               !
!                                                                              !
! FIRST SCREEN CODE OF THE DIALOGUE.....: 0060                                 !
!                                                                              !
! COMPLEMENTARY COMMON AREA LENGTH......:  700                                 !
!                                                                              !
! CODE OF PSB OR SUB-SCHEMA.............:                                       !
!                                                                              !
!                                                                              !
! OPTIONS : FOR OCF F10                                                        !
!                                                                              !
!                                                                              !
!                                                                              !
! SESSION NUMBER     : 0035  LIBRARY      : AD7                                !
!                                                                              !
! O: C1 CH: ODO O                       ACTION:                                !
--------------------------------------------------------------------------------
```

1.3. THE 'DO0030' SCREEN

```
-------------------------------------------------------------------------------
! PACBASE 8.0 V03   BULL DPS7 APPLICATION                    *PDMB.NDOC.AD7.54!
! 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:   =        $                          !
!                                                                             !
!                                    LABELS  DISPLAY INPUT  ER.MESS.  ER.FLD.!
! INTENSITY ATTRIBUTE ..............: * B        N      N          B     B    !
! PRESENTATION ATTRIBUTE ...........:   N        N      N          N     N    !
! COLOR ATTRIBUTE ..................:   W        W      W          W     W    !
!                                                                             !
! TYPE OF COBOL AND MAP TO GENERATE..:   4   0     HB DPS7 TDS FORMS         !
! CONTROL CARD OPTIONS FRONT & BACK..:            (PROGRAM)      $$       (MAP)!
! EXTERNAL NAMES ...................:            (PROGRAM)               (MAP)!
! TRANSACTION CODE..................:                                        !
!                                                                             !
!                                                                             !
! EXPLICIT KEYWORDS..:                                                        !
! SESSION NUMBER.....: 0049        LIBRARY......: AD7    LOCK....:            !
!                                                                             !
! O: C1 CH: ODO0030                    ACTION:                                !
-------------------------------------------------------------------------------
```

```
--------------------------------------------------------------------------------
! PACBASE 8.0 V03   BULL DPS7 APPLICATION                    *PDMB.NDOC.AD7.54!
! 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 : DOAC30 . 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: -CE                                                                !
--------------------------------------------------------------------------------
```

```
--------------------------------------------------------------------------------
! PACBASE 8.0 V03   BULL DPS7 APPLICATION                  *PDMB.NDOC.AD7.54!
! 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 : DOAC31 . A 20 001 S             .                   .                 !
!   500 : DOAP05 . A 22 001 S             .                   .                 !
!       :        .                        .                   .                 !
!       :        .                        .                   .                 !
!                                                                              !
! O: C1 CH: -CE                                                                !
--------------------------------------------------------------------------------
```

```
--------------------------------------------------------------------------------
! PACBASE 8.0 V03   BULL DPS7 APPLICATION                    *PDMB.NDOC.AD7.55!
! DESCRIPTION DE L'ECRAN DO0030 ***  ORDER INPUT SCREEN  ***                   !
!                                                                              !
! A NLG : RUBRIQ . ATTRIBUTS PHYSIQUES         . LIBELLE/PRESENTATION          !
!       :        . T LG COL N P RH RV IN PR CO . A                            !
! ..............................................................................
!   050 : DOAC30 . 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: -CE                                                                !
--------------------------------------------------------------------------------
```

```
--------------------------------------------------------------------------------
! PACBASE 8.0 V03   BULL DPS7 APPLICATION                    *PDMB.NDOC.AD7.54!
! 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 : DOAC31 . A 20 001 S                  .                               !
!   500 : DOAP05 . A 22 001 S                  .                               !
!       :        .                             .                               !
!       :        .                             .                               !
!                                                                              !
! O: C2 CH:                                                                    !
--------------------------------------------------------------------------------
```

```
--------------------------------------------------------------------------------
! PACBASE 8.0 V03   BULL DPS7 APPLICATION                    *PDMB.NDOC.AD7.54!
! 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    : LIBR.!
! C CODE C LN : G R D SEGM SOURCE       KEY    B O T NAME     SEGM N LV :      !
!   CD05   00 :   M A      SPACES       CLECD    V   CDTEST   CD05   12 : 0005 !
!   CD05   02 :            "B"          COCARA                          : 0049 !
!   CD05   04 :            CA00-NUCOM   NUCOM                           : 0021 !
!   CD10 R 00 :   T        "C"          CLECD    V   CDTEST   CD10      : 0005 !
!   CD10 R 02 :            CA00-NUCOM   NUCOM                           : 0021 !
!   CD10 R 04 :            0030-FOURNI  FOURNI                          : 0021 !
!   CD10 R 06 :     A      SPACES       KEYCD                           : 0021 !
!   CD10 R 08 :            "C"          COCARA C                        : 0021 !
!   CD10 R 10 :            CA00-NUCOM   NUCOM  C                        : 0021 !
!   FO10 R 00 :   M N CD10 0030-FOURNI  CLEFO    V   FOTEST   FO10      : 0005 !
!   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      SPACES       CLECD    V   CDTEST   CD20      : 0005 !
!   CD20 Z 02 :          "E"            COCARA                          : 0021 !
!   CD20 Z 04 :          CA00-NUCOM     NUCOM                           : 0021 !
!   ME00 Z 00 :   N A    CA00-CLEME     CLEME    V   METEST   ME00      : 0005 !
!                                                                              !
! O: C1 CH: -CS                                                                !
--------------------------------------------------------------------------------
```

```
--------------------------------------------------------------------------------
! PACBASE 8.0 V03   BULL DPS7 APPLICATION                    *PDMB.NDOC.AD7.54!
! 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      :                                                            !
! .   BBINIT      :                                                            !
!                 :                                                            !
!                 :                                                            !
!                 :                                                            !
!                 :                                                            !
!                 :                                                            !
!                 :                                                            !
!                 :                                                            !
!                 :                                                            !
!                 :                                                            !
!                 :                                                            !
!                 :                                                            !
!                 :                                                            !
!                 :                                                            !
!                 :                                                            !
!                 :                                                            !
!                 :                                                            !
!                 :                                                            !
!                                                                              !
! O: C1 CH: -CP                                                                !
--------------------------------------------------------------------------------
```

```
! PACBASE 8.0 V03   BULL DPS7 APPLICATION                    *PDMB.NDOC.AD7.55!
! 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: -W                                                               !
!                                                                            !
```

```
-------------------------------------------------------------------------------
! PACBASE 8.0 V03   BULL DPS7 APPLICATION                  *PDMB.NDOC.AD7.55!
! 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: -WWP                                                             !
!                                                                            !
-------------------------------------------------------------------------------
```

```
--------------------------------------------------------------------------------
! PACBASE 8.0 V03   BULL DPS7 APPLICATION                    *PDMB.NDOC.AD7.54!
! 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: -WWP17                                                             !
!                                                                              !
--------------------------------------------------------------------------------
```

```
!   XXXXXXXX - 0808       ***  ORDER INPUT SCREEN  ***      XXXXXXXXXX 14:45:36!
!                                                                                !
!   ORDER NUMBER: 02345    SYSTEM: DPS7 FO            RELEASE: 8.0              !
!   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 : 05/03/91       !
!  .   ...      ..        ..       ..     ..................................    !
!  .   ...      ..        ..       ..     ..................................    !
!  .   ...      ..        ..       ..     ..................................    !
!  .   ...      ..        ..       ..     ..................................    !
!  .   ...      ..        ..       ..     ..................................    !
!  .   ...      ..        ..       ..     ..................................    !
!  .   ...      ..        ..       ..     ..................................    !
!  .   ...      ..        ..       ..     ..................................    !
!                                                                                !
! PRINTING OF FORM  : O  CHOICE: _ UPD : '7', ORDERS (NEXT)  : '8',              !
! MENU : '1', CUSTOMER LIST : '2', CUST. HIST : '3', ORDER LIST : '4',           !
! SCREEN DOC : '=', DATA EL. DOC : '$'                                           !
! PLEASE CHECK YOUR MAILBOX, THANK YOU.                                          !
! XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX     !
```

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

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

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).

```
    IDENTIFICATION DIVISION.
    PROGRAM-ID. DO0030.                                          DO0030
    AUTHOR.     ***  ORDER INPUT SCREEN  ***.                    DO0030
    DATE-COMPILED. 10/31/90.                                     DO0030
    ENVIRONMENT DIVISION.                                        DO0030
    CONFIGURATION SECTION.                                       DO0030
    SOURCE-COMPUTER. LEVEL-64.                                   DO0030
    OBJECT-COMPUTER. LEVEL-64.                                   DO0030
    SPECIAL-NAMES.                                               DO0030
         DECIMAL-POINT IS COMMA                                  DO0030
         OBJECT IS COMMA.                                        DO0030
    INPUT-OUTPUT SECTION.                                        DO0030
    FILE-CONTROL.                                                DO0030
     COPY   SELECT-CD-FILE.                                      DO0030
     COPY   SELECT-EM-FILE.                                      DO0030
     COPY   SELECT-FO-FILE.                                      DO0030
     COPY   SELECT-HE-FILE.                                      DO0030
     COPY   SELECT-ME-FILE.                                      DO0030
```

2.2. SEGMENT DESCRIPTION

SEGMENT DESCRIPTION

This part of the program is generated when at least one segment is used on the screen in 'V' organization.

The segment DESCRIPTION TYPE is defined by the user on the Screen Call of Segments (-CS) screen. The types of calls are:

. Complete segment (Common part and specific part in redefinition);

. Specific part only;

. Complete segment with variable length (common part and specific part in redefinition without FILLER).

A table description (segment ORGANIZATION = 'G') is preceded by the description of the Communication Area (G-ddss-PARAM) with the PACTABLE function.

PACBASE generates one Communication Area per table, i.e. per segment whose ORGANIZATION = 'G'.

Backup screen for documentation call

This file is used to save variable fields before the branching to the documentation screen. '1,932' must be the length of the file, because the size of the biggest screen is '1,920'. It is built as follows:

```
01          HE00.
     05     HE00-XTERM     PICTURE X(12).
     05     HE00-SCREEN    PICTURE X(1920).
```

'HE' is the external name used by default in the SELECT clause of the FILE SECTION. The user may change this name using On-line screen General Documentation (-G) lines in the 'O:C2' Option:

```
         G  05              XX
```

In this example, the backup file name becomes XX.

The user must also declare it in the TDS Library.

```
DATA DIVISION.                                                          DO0030
FILE SECTION.                                                           DO0030
FD             CD-FILE                                                  DO0030
        BLOCK      00001 RECORDS                                        DO0030
        DATA RECORD                                                     DO0030
                   CD00                                                 DO0030
                   CD05                                                 DO0030
                   CD10                                                 DO0030
                   CD20                                                 DO0030
             LABEL RECORD STANDARD.                                     DO0030
01               CD00.                                                  DO0030
  10             CD00-KEYCD.                                            DO0030
    15           CD00-COCARA   PICTURE X.                               DO0030
    15           CD00-NUCOM    PICTURE 9(5).                            DO0030
    15           CD00-FOURNI   PICTURE X(3).                            DO0030
  10             CD00-SUITE.                                            DO0030
    15           FILLER        PICTURE X(00157).                        DO0030
01               CD05.                                                  DO0030
  10             FILLER        PICTURE X(00009).                        DO0030
  10             CD05-NUCLIE   PICTURE 9(8).                            DO0030
  10             CD05-DATE     PICTURE X(6).                            DO0030
  10             CD05-RELEA    PICTURE X(3).                            DO0030
  10             CD05-REFCLI   PICTURE X(30).                           DO0030
  10             CD05-RUE      PICTURE X(40).                           DO0030
  10             CD05-COPOS    PICTURE X(5).                            DO0030
  10             CD05-VILLE    PICTURE X(20).                           DO0030
  10             CD05-CORRES   PICTURE X(25).                           DO0030
  10             CD05-REMIS    PICTURE S9(4)V99.                        DO0030
  10             CD05-MATE     PICTURE X(8).                            DO0030
  10             CD05-LANGU    PICTURE X.                               DO0030
  10             CD05-FILLER   PICTURE X(5).                            DO0030
01               CD10.                                                  DO0030
  10             FILLER        PICTURE X(00009).                        DO0030
  10             CD10-QTMAC    PICTURE 99.                              DO0030
  10             CD10-QTMAL    PICTURE 99.                              DO0030
  10             CD10-INFOR    PICTURE X(35).                           DO0030
  10             CD10-ADFOU    PICTURE X(100).                          DO0030
  10             FILLER        PICTURE X(00018).                        DO0030
01               CD20.                                                  DO0030
  10             FILLER        PICTURE X(00009).                        DO0030
  10             CD20-EDIT     PICTURE X.                               DO0030
  10             FILLER        PICTURE X(00156).                        DO0030
FD               EM-FILE                                                DO0030
        BLOCK     00001 RECORDS                                         DO0030
        DATA RECORD                                                     DO0030
                   EM00                                                 DO0030
             LABEL RECORD STANDARD.                                     DO0030
01               EM00.                                                  DO0030
  05             EM00-EMKEY.                                            DO0030
    10           EM00-LIBRA    PICTURE X(3).                            DO0030
    10           EM00-ENTYP    PICTURE X.                               DO0030
    10           EM00-XEMKY.                                            DO0030
      15         EM00-PROGR    PICTURE X(6).                            DO0030
      15         EM00-ERCOD.                                            DO0030
        20       EM00-ERCOD9   PICTURE 9(3).                            DO0030
      15         EM00-ERTYP    PICTURE X.                               DO0030
    10           EM00-LINUM    PICTURE 9(3).                            DO0030
  05             EM00-ERLVL    PICTURE X.                               DO0030
  05             EM00-ERMSG    PICTURE X(66).                           DO0030
  05             FILLER        PICTURE X(6).                            DO0030
FD              FO-FILE                                                 DO0030
        BLOCK      00001 RECORDS                                        DO0030
        DATA RECORD                                                     DO0030
                   FO00                                                 DO0030
                   FO10                                                 DO0030
             LABEL RECORD STANDARD.                                     DO0030
01               FO00.                                                  DO0030
  10             FO00-SUITE.                                            DO0030
    15           FILLER        PICTURE X(00050).                        DO0030
01               FO10.                                                  DO0030
  10             FO10-CLEFO.                                            DO0030
    15           FO10-FOURNI   PICTURE X(3).                            DO0030
    15           FO10-MATE     PICTURE X(8).                            DO0030
    15           FO10-RELEA    PICTURE X(3).                            DO0030
    15           FO10-LANGU    PICTURE X.                               DO0030
    15           FO10-FILLER   PICTURE X(5).                            DO0030
  10             FO10-QTMAS    PICTURE 9(4).                            DO0030
```

```
  10            FO10-QTMAM    PICTURE 9(4).                  DO0030
  10            FO10-LIBFO    PICTURE X(20).                 DO0030
  10            FO10-FILLER   PICTURE XX.                    DO0030
FD            HE-FILE                                        DO0030
        BLOCK     00001 RECORDS                              DO0030
        DATA RECORD                                          DO0030
              HE00                                           DO0030
        LABEL RECORD STANDARD.                               DO0030
01              HE00.                                        DO0030
  05            HE00-XTERM    PICTURE X(12).                 DO0030
  05            HE00-SCREEN   PICTURE X(1920).               DO0030
FD            ME-FILE                                        DO0030
       BLOCK      00001 RECORDS                              DO0030
       DATA RECORD                                           DO0030
                  ME00                                       DO0030
            LABEL RECORD STANDARD.                           DO0030
01              ME00.                                        DO0030
  10            ME00-CLEME.                                  DO0030
    15          ME00-COPERS   PICTURE X(5).                  DO0030
    15          ME00-NUMORD   PICTURE XX.                    DO0030
  10            ME00-MESSA    PICTURE X(75).                 DO0030
```

2.3. 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.

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).

GENERATED PROGRAM 2
BEGINNING OF WORKING-STORAGE 3

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).

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).

The 'CONFIGURATIONS' level contains one variable 'ddss-CF' ('ddss' = segment code in the generated program) for each segment accessed in the program, which allows for conditioned access for each segment in the procedure.

GENERATED PROGRAM **2**
BEGINNING OF WORKING-STORAGE **3**

```
 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            INA           PICTURE 999 VALUE 009.              DO0030
   05            INR           PICTURE 999 VALUE 013.              DO0030
   05            INZ           PICTURE 999 VALUE 014.              DO0030
   05            IRR           PICTURE 99 VALUE 09.                DO0030
   05            INT           PICTURE 999 VALUE 046.              DO0030
   05            IER           PICTURE 99 VALUE 01.                DO0030
   05            DEL-ER        PICTURE X.                          DO0030
 01              PACBASE-CONSTANTS.                                DO0030
* OLSD DATES PACE30 : 22/08/90                                     DO0030
*            PACE80 : 24/08/90   PAC7SG : 900824                   DO0030
   05            SESSI         PICTURE X(5) VALUE "0046 ".         DO0030
   05            LIBRA         PICTURE X(3) VALUE "AD7".           DO0030
   05            DATGN         PICTURE X(8) VALUE "10/31/90".      DO0030
   05            PROGR         PICTURE X(6) VALUE "DO0030".        DO0030
   05            PROGE         PICTURE X(8) VALUE "DO0030  ".      DO0030
   05            PRDOC         PICTURE X(8) VALUE "DOP050".        DO0030
   05            TIMGN         PICTURE X(8) VALUE "11:29:29".      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              DATCTY        PICTURE XX.                         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              TIMCO.                                            DO0030
   02            TIMCOG.                                           DO0030
     05          TIMCOH        PICTURE XX.                         DO0030
```

GENERATED PROGRAM **2**
BEGINNING OF WORKING-STORAGE **3**

```
      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            ME00-CF       PICTURE X.                     DO0030
```

2.4. SCREEN MAP DESCRIPTION

SCREEN MAP DESCRIPTION

The 'SCREEN-ID' level is the identification COPY clause of the screen map used in the call of the CDGET forms utility (call of the screen map). The COPY is made of the map external name followed by an 'I'.

The 'SCREEN-SV' level is the copy of the 'SELECTION-VECTOR'. The TABLE-SV table contains a position for each of the variable display fields of the screen, plus a position which is not used.

This table is used to select the fields processed by the utilities CDRECV, CDATTR, CDATTL, CDSEND.

The screen fields are coded according to the following rules ('scrn' = last four characters of screen code):

```
.I-scrn         Screen in reception.

.O-scrn         Screen in display.

.I-scrn-MATE    Alphanumeric reception field.

.E-scrn-REMIS   Alphanumeric definition of an
                I-scrn-REMIS field, which is numeric
                in reception.

.F-0030-QTMAC   Alphanumeric definition of an
                O-0030-QTMAC field, which is numeric
                in display.
```

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

```
.J-0030-LINE OCCURS  9 in reception,

.P-0030-LINE OCCURS  9 in display,
```

containing a FILLER.

The description of the fields of the data element which defines the repetitive category is generated outside the screen description.

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

It is generated according to the same rules as above. For example:

```
   .I-0030-LINE   used for procedures in reception,

    containing,

      .I-0030-FOURNI
      .E-0030-QTMAC
      etc.

   .O-0030-LINE   used for procedures in display,

    containing,

      .O-0030-FOURNI
      .O-0030-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           in reception

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

In this case, the procedures for each occurrence of the data element are not generated and are to be inserted by the user via Structured Code (validations, transfers, etc.).

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

DATA ELEMENT WITH NATURE 'P'

Reception screen 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 internal format of the data element,

. For numeric data elements, it is a print format built from the internal format, with replacement of non-significant leading zeros by spaces.

DATA ELEMENT WITH A CONVERSATIONAL FORMAT

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

Reception screen:

. The internal format is constructed from the conversational format entered on the Data Element Description screen.

```
EXAMPLE:      -conversational format:       ZZZ99.99
              -constructed internal format: 9(5)V9(2)

Display screen:
```

. The format is the conversational format of the element entered on the Data Element Description screen.

```
01              SCREEN-ID.                                          *AA040
COPY DO0030I.                                                       *AA040
01              SCREEN-SV.                                          *AA040
  03            FILLER        PICTURE X VALUE ""2"".                *AA040
  03            FILLER        COMP-1 VALUE 074.                     *AA040
  03            SCREEN-MP     PICTURE X(8) VALUE "DO0030".          *AA040
  03            SCREEN-VO     PICTURE 9(3) VALUE ZERO.              *AA040
  03            TABLE-SV.                                           *AA040
    04          SV-FIELD      PICTURE X OCCURS 074.                 *AA040
01              INPUT-SCREEN-FIELDS.                                *AA045
  02            I-0030.                                             *AA045
    05          I-PFKEY       PICTURE XX.                           *AA045
    05          I-0030-PROGE  PICTURE X(8).                         *AA045
    05          I-0030-SESSI  PICTURE X(5).                         *AA045
    05          I-0030-DATEM  PICTURE X(10).                        *AA045
    05          I-0030-HEURE  PICTURE X(8).                         *AA045
    05          I-0030-NUCOM  PICTURE 9(5).                         *AA045
    05          I-0030-MATE   PICTURE X(8).                         *AA045
    05          I-0030-RELEA  PICTURE X(3).                         *AA045
    05          I-0030-RAISOC PICTURE X(50).                        *AA045
    05          I-0030-RUE    PICTURE X(40).                        *AA045
    05          I-0030-COPOS  PICTURE X(5).                         *AA045
    05          I-0030-VILLE  PICTURE X(20).                        *AA045
    05          I-0030-REFCLI PICTURE X(30).                        *AA045
    05          I-0030-DATE   PICTURE X(6).                         *AA045
    05          I-0030-CORRES PICTURE X(25).                        *AA045
    05          E-0030-REMIS.                                       *AA045
      10        I-0030-REMIS  PICTURE S9(4)V99.                     *AA045
      10        FILLER        PICTURE X(2).                         *AA045
    05          J-0030-LINE   OCCURS 9.                             *AA045
      10        FILLER        PICTURE X(45).                        *AA045
    05          I-0030-EDIT   PICTURE X.                            *AA045
    05          I-0030-CHOIX  PICTURE X.                            *AA045
    05          I-0030-MESSA  PICTURE X(75).                        *AA045
    05          I-0030-ERMS.                                        *AA045
      10        FILLER        OCCURS 1.                             *AA045
        15      I-0030-ERMSG  PICTURE X(72).                        *AA045
01              OUTPUT-SCREEN-FIELDS.                               *AA050
  02            O-0030.                                             *AA050
    05          FILLER        PICTURE XX.                           *AA050
    05          O-0030-PROGE  PICTURE X(8).                         *AA050
    05          O-0030-SESSI  PICTURE X(5).                         *AA050
    05          O-0030-DATEM  PICTURE X(10).                        *AA050
    05          O-0030-HEURE  PICTURE X(8).                         *AA050
    05          O-0030-NUCOM  PICTURE 9(5).                         *AA050
    05          O-0030-MATE   PICTURE X(8).                         *AA050
    05          O-0030-RELEA  PICTURE X(3).                         *AA050
    05          O-0030-RAISOC PICTURE X(50).                        *AA050
    05          O-0030-RUE    PICTURE X(40).                        *AA050
    05          O-0030-COPOS  PICTURE X(5).                         *AA050
    05          O-0030-VILLE  PICTURE X(20).                        *AA050
    05          O-0030-REFCLI PICTURE X(30).                        *AA050
    05          O-0030-DATE   PICTURE X(6).                         *AA050
    05          O-0030-CORRES PICTURE X(25).                        *AA050
    05          F-0030-REMIS.                                       *AA050
      10        O-0030-REMIS  PICTURE -(04)9,9(02).                 *AA050
    05          P-0030-LINE   OCCURS 9.                             *AA050
      10        FILLER        PICTURE X(45).                        *AA050
    05          O-0030-EDIT   PICTURE X.                            *AA050
    05          O-0030-CHOIX  PICTURE X.                            *AA050
    05          O-0030-MESSA  PICTURE X(75).                        *AA050
    05          O-0030-ERMS.                                        *AA050
      10        FILLER        OCCURS 1.                             *AA050
        15      O-0030-ERMSG  PICTURE X(72).                        *AA050
01              REPEAT-LINE.                                        *AA050
  02            I-0030-LINE.                                        *AA050
    05          I-0030-CODMVT PICTURE X.                            *AA050
    05          I-0030-FOURNI PICTURE X(3).                         *AA050
    05          E-0030-QTMAC.                                       *AA050
      10        I-0030-QTMAC  PICTURE 99.                           *AA050
    05          I-0030-QTMAL  PICTURE 99.                           *AA050
    05          I-0030-QTMAR  PICTURE 99.                           *AA050
    05          I-0030-INFOR  PICTURE X(35).                        *AA050
  02            O-0030-LINE.                                        *AA050
    05          O-0030-CODMVT PICTURE X.                            *AA050
    05          O-0030-FOURNI PICTURE X(3).                         *AA050
    05          F-0030-QTMAC.                                       *AA050
```

```
         10         O-0030-QTMAC  PICTURE Z(01)9.                *AA050
       05           O-0030-QTMAL  PICTURE 99.                    *AA050
       05           O-0030-QTMAR  PICTURE 99.                    *AA050
       05           O-0030-INFOR  PICTURE X(35).                 *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
```

2.5. 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.

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 generated if there is at least one variable data element (NATURE = 'V') used on the screen.

DE-ERR : memorizes the presence and/or status of each Data Element of the screen.

A position in this table (coded ER-scrn-delco) is associated with each Data Element of the screen. This is generated at the '05' level ('scrn' = last four characters of the screen code).

Depending on the stages of validation, this position can be set to 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 element in the following manner:

A group level for the Data Elements from the beginning of the screen is systematically generated in the form of:

ER-nn-BEGIN.

For a repetitive Data Element defining a repetitive area of the screen (data element on the screen with NATURE = 'R'), the generation of the error positions is as follows:

.03 ES-scrn-LINE OCCURS 9.
.05 FILLER PICTURE X(0004).

In this example:

LINE is the code of the Data Element with NATURE = 'R' (see above),
9 is the number of repetitions,
0004 is the number of Data Elements in the repetitive category.

After the table of errors, there is an area which will contain the error positions of the Data Elements from the repetitive category. This area is used to position the errors for each of these data elements, with each occurrence.

```
.02  ER-nn-LINE.

.05  ER-nn-CODMVT  PICTURE X.

.05  ER-nn-FOURNI  PICTURE X.
etc.
```

For a repetitive Data Element whose NATURE is other than 'R', the generation in the table of error positions does not provide the description of the sample item, but does provide the following:

```
.05 FILLER OCCURS 2.

.10 ER-nn-LREF1  PICTURE X.
```

A group level for the Data Elements from the screen-bottom category is generated using a Data Element whose NATURE = 'Z', which contains the error positions of Data Elements belonging to that category:

```
.03 ER-nn-END.

.05 ER-nn-EDIT  PICTURE X.
etc.
```

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).

INDEXES

The 'INDEXES' level is always generated. It includes:

K01, K02, K03, K04
Indexes for automatic numeric class.

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-dd00-LTH
Length of longest Segment of the Data Structure (common part + specific part; 'dd' = code of the Data Structure).

5-ddss-LTH
Length of the Segment without the common part (not generated for the common part, 'dd00'; 'ddss' = code of the Segment).

5-ddss-LTHV
Length of the Data Structure Segment including the common part (not generated for the common part, 'dd00'; 'ddss' = code of the Segment).

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

KEYLTH
Calculation area of the key used during access to files with a VSAM ORGANIZATION.

5-scrn-LENGTH
Area containing the length of the communication area (scrn = last four char. of screen code).

NUMERIC-VALIDATION-FIELDS

The 'NUMERIC-VALIDATION-FIELDS' level is generated if there is at least one variable numeric field on the screen. It contains the work areas necessary for analyzing and formatting numeric Data Elements on the screen (refer to subchapter "F81 : CALLED VALIDATION FUNCTIONS").

DESCRIPTION OF THE ERROR MESSAGE FILE

The error message file is described in the FILE SECTION if its ORGANIZATION ='V'. Otherwise, it is described in the WORKING-STORAGE SECTION.

The EM00 level, corresponding to the error message file description, is systematically generated.

You may replace this description if you generate a description containing fields which conform to the coding used in the PROCEDURE DIVISION (EM00-APPLI,EM00-PROGR, ..).

```
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              0030-MPRIOR   PICTURE X(80).                     *AA076
01              VALIDATION-TABLE-FIELDS.                         *AA150
  02            DE-ERR.                                          *AA150
    05          DE-ER         PICTURE X OCCURS 046.              *AA150
  02            DE-E          REDEFINES DE-ERR.                  *AA150
    03          ER-0030-BEGIN.                                   *AA150
      05        ER-0030-CHOIX PICTURE X.                         *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 4.                *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-1.                 *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) 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-CD00-LTH    PICTURE S9(4) VALUE +0166.         *AA200
  05            5-CD05-LTH    PICTURE S9(4) VALUE +0157.         *AA200
  05            5-CD10-LTH    PICTURE S9(4) VALUE +0139.         *AA200
  05            5-CD20-LTH    PICTURE S9(4) VALUE +0001.         *AA200
  05            5-FO00-LTH    PICTURE S9(4) VALUE +0050.         *AA200
  05            5-FO10-LTH    PICTURE S9(4) VALUE +0050.         *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 +0166.         *AA200
  05            5-CD10-LTHV   PICTURE S9(4) VALUE +0148.         *AA200
  05            5-CD20-LTHV   PICTURE S9(4) VALUE +0010.         *AA200
  05            5-FO10-LTHV   PICTURE S9(4) VALUE +0050.         *AA200
  05            LTH           PICTURE S9(4) VALUE ZERO.          *AA200
  05            5-0030-LENGTH PICTURE S9(4) VALUE +0892.         *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
```

2.6. ATTRIBUTE TABLE-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.
```

The 'AT-SV' level is a correlation table: for each variable field defined in the PACBASE description of the screen there is a corresponding physical location in the screen map.

This table is used to determine the rank of the fields which are selected for the dynamic modification of the attributes and for sending the output message.

The 'ER-SV' level is the correlation table of the 'Error Message' fields. It is equivalent to AT-SV level and is used for sending an output message in case of error.

The 'FORM-FIELDS' level contains the technical parameters used in calls of FORMS utilities.

```
01              TABLE-OF-ATTRIBUTES.                              *AA250
  02            DE-ATT.                                           *AA250
    03          DE-ATT1       OCCURS 4.                           *AA250
      05        DE-AT         PICTURE X OCCURS 046.               *AA250
  02            DE-A          REDEFINES DE-ATT.                   *AA250
    03          DE-ATT2       OCCURS 4.                           *AA250
      04        A-0030-BEGIN.                                     *AA250
        05      A-0030-CHOIX  PICTURE X.                          *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              AT-SV.                                            *AA260
  10            FILLER        PICTURE 999 VALUE 072.              *AA260
  10            FILLER        PICTURE 999 VALUE 007.              *AA260
  10            FILLER        PICTURE 999 VALUE 008.              *AA260
  10            FILLER        PICTURE 999 VALUE 010.              *AA260
  10            FILLER        PICTURE 999 VALUE 011.              *AA260
  10            FILLER        PICTURE 999 VALUE 013.              *AA260
  10            FILLER        PICTURE 999 VALUE 014.              *AA260
  10            FILLER        PICTURE 999 VALUE 015.              *AA260
  10            FILLER        PICTURE 999 VALUE 016.              *AA260
  10            FILLER        PICTURE 999 VALUE 017.              *AA260
  10            FILLER        PICTURE 999 VALUE 018.              *AA260
  10            FILLER        PICTURE 999 VALUE 019.              *AA260
  10            FILLER        PICTURE 999 VALUE 022.              *AA260
  10            FILLER        PICTURE 999 VALUE 023.              *AA260
  10            FILLER        PICTURE 999 VALUE 024.              *AA260
  10            FILLER        PICTURE 999 VALUE 025.              *AA260
  10            FILLER        PICTURE 999 VALUE 028.              *AA260
  10            FILLER        PICTURE 999 VALUE 029.              *AA260
  10            FILLER        PICTURE 999 VALUE 030.              *AA260
  10            FILLER        PICTURE 999 VALUE 031.              *AA260
  10            FILLER        PICTURE 999 VALUE 034.              *AA260
  10            FILLER        PICTURE 999 VALUE 035.              *AA260
  10            FILLER        PICTURE 999 VALUE 036.              *AA260
  10            FILLER        PICTURE 999 VALUE 037.              *AA260
  10            FILLER        PICTURE 999 VALUE 040.              *AA260
  10            FILLER        PICTURE 999 VALUE 041.              *AA260
  10            FILLER        PICTURE 999 VALUE 042.              *AA260
  10            FILLER        PICTURE 999 VALUE 043.              *AA260
  10            FILLER        PICTURE 999 VALUE 046.              *AA260
  10            FILLER        PICTURE 999 VALUE 047.              *AA260
  10            FILLER        PICTURE 999 VALUE 048.              *AA260
  10            FILLER        PICTURE 999 VALUE 049.              *AA260
  10            FILLER        PICTURE 999 VALUE 052.              *AA260
  10            FILLER        PICTURE 999 VALUE 053.              *AA260
  10            FILLER        PICTURE 999 VALUE 054.              *AA260
  10            FILLER        PICTURE 999 VALUE 055.              *AA260
  10            FILLER        PICTURE 999 VALUE 058.              *AA260
  10            FILLER        PICTURE 999 VALUE 059.              *AA260
  10            FILLER        PICTURE 999 VALUE 060.              *AA260
  10            FILLER        PICTURE 999 VALUE 061.              *AA260
  10            FILLER        PICTURE 999 VALUE 064.              *AA260
  10            FILLER        PICTURE 999 VALUE 065.              *AA260
  10            FILLER        PICTURE 999 VALUE 066.              *AA260
  10            FILLER        PICTURE 999 VALUE 067.              *AA260
  10            FILLER        PICTURE 999 VALUE 070.              *AA260
  10            FILLER        PICTURE 999 VALUE 071.              *AA260
01              TABLE-SV-AT   REDEFINES AT-SV.                    *AA265
  05            SV-AT         PICTURE 999 OCCURS 046.             *AA265
01              ER-SV.                                            *AA267
  10            FILLER        PICTURE 999 VALUE 074.              *AA267
01              TABLE-SV-ER   REDEFINES ER-SV.                    *AA268
```

```
  05            SV-ER         PICTURE 999 OCCURS 01.          *AA268
01              STOP-FIELDS.                                  *AA300
  02            C-0030.                                       *AA300
    05          C-0030-COCARA PICTURE X.                      *AA300
    05          C-0030-NUCOM  PICTURE 9(5).                   *AA300
01              FIRST-ON-SEGMENT.                             *AA301
  05            CD10-FST      PICTURE X.                      *AA301
01              FORMS-FIELDS.                                 *AA340
  05            F-LEVEL       PICTURE X.                      *AA340
  05            F-WAIT        PICTURE 9 VALUE ZERO.           *AA340
  05            F-MECH        PICTURE X(6).                   *AA340
  05            F-ATTR        PICTURE X(4).                   *AA340
  05            F-ATTL.                                       *AA340
    10          F-NBATT       PICTURE 999.                    *AA340
    10          F-ATTDYN.                                     *AA340
      15        F-ATTRI       PICTURE X(4) OCCURS 6.          *AA340
```

2.7. EXAMPLE OF SCREEN WORK AREAS (-W)

```
01              WW10-QTMAR    PICTURE 99 VALUE ZERO.            *BB200
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    PICTURE X(5).                     *WP320
    05          WP20-VILLE    PICTURE X(20).                    *WP340
  02            WP30.                                           *WP400
    05          WP30-COPOS    PICTURE X(5).                     *WP410
  02            WP40.                                           *WP500
    05          WP40-VILLE    PICTURE X(20).                    *WP510
    05          WP40-VILLEL   PICTURE X(20).                    *WP520
```

2.8. COMMUNICATION AREA DESCRIPTION

LINKAGE SECTION

The 'TRANSACTION-STORAGE' level is generated according to the values entered on the Dialogue Complement (-O) screen and the access keys of the segments used in display.

This level is the common area used by every screen of the dialogue.

. K-S0030-YMAT (except DPS7 FORMS)

Always generated; used to store the type of screen used.

. K-S0030-PROGR

Always generated; used to store the screen code.

. K-S0030-XTERM

Always generated; used to store the terminal code.

If a documentation help character has been entered on the Screen Definition screen, the following fields are generated:

. K-S0030-DOC

HELP function indicator:

'0' No backup created for the screen,
'1' Backup created for the screen,
'2' Request for screen-level documentation,
'3' Request for field-level documentation.

. K-S0030-PROGE

Used to store the external name of the calling program.

. K-S0030-LIBRA

Used to store 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 describing the user Common Area (if the data structure contains several segments, they are described in 'redefines' clauses).

K-0030 Complementary field for memorization of the dialogue (see Subchapter "DIALOGUE COMPLEMENT", Chapter "DESCRIPTION OF A TRANSACTION" 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-AC005-CLECD

Key of the screen-top category.

K-R0030-LINE OCCURS 2
Generated according to the data element defining the repetitive category (the 1st occurrence stores the beginning of display key; the 2nd stores the display key of the next screen (i.e. page).

K-RCD10-CLECD

Key for repetitive category.

K-Z0030-END
Key of the screen-bottom category (generated according to the data element defining the screen-bottom category).

K-ZME00-CLEME

Key of the screen-bottom category.

ZONES-VARIABLES
Generated if the chosen generation option is 'MDT OFF' or "Dynamic protection of variable fields". This level retrieves the description of the variable fields of the screen. The description of the fields belonging to the data element defining the repetitive category is generated after the screen description. This level retrieves also a table of attributes for each variable field of the screen. This table will be used in case of a field protection.

A FILLER aligns the K-0030 and 'ZONES-VARIABLES' fields on 100 positions (by default), unless the user has specified a greater length on the Dialogue Complement (-O) screen.

```
LINKAGE SECTION.                                                DO0030
COPY TDS-STORAGE.                                               *0Z010
COPY CONSTANT-STORAGE.                                          *0Z015
01              TRANSACTION-STORAGE.                            *0Z020
  02            K-S0030-PROGR PICTURE X(6).                     *00000
  02            K-S0030-XTERM PICTURE X(12).                    *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            K-S0030-DOC   PICTURE X.                        *00002
  02            K-S0030-PROGE PICTURE X(8).                     *00002
  02            K-S0030-LIBRA PICTURE XXX.                      *00002
  02            K-S0030-PROHE PICTURE X(8).                     *00002
  02            K-S0030-ERCOD PICTURE XXX.                      *00002
  02            K-S0030-ERTYP PICTURE X.                        *00002
  02            K-S0030-LINUM PICTURE 999.                      *00002
  02            FILLER        PICTURE X.                        *00002
  02            K-0030.                                         *00002
    03          K-A0030-DEBUT.                                  *00002
      05        K-ACD05-CLECD PICTURE X(9).                     *00002
    03          K-R0030-LINE  OCCURS 2.                         *00002
      05        K-RCD10-CLECD PICTURE X(9).                     *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-CHOIX  PICTURE X(1).                     *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(0169).                  *00002
```

COMMUNICATION SECTION

The COMMUNICATION SECTION is a communication area which is specific to the system, and is not managed by the user. It is generated after the LINKAGE SECTION.

```
    COMMUNICATION SECTION.                                          *90010
    CD  7-CD01        INPUT                                         *90020
        SYMBOLIC QUEUE           7-CD01-CTRAN                       *90030
        MESSAGE DATE             7-CD01-XDATE                       *90040
        MESSAGE TIME             7-CD01-XTIME                       *90050
        SYMBOLIC SOURCE          7-CD01-XTERM                       *90060
        TEXT LENGTH              7-CD01-XLOMES                      *90070
        END KEY                  7-CD01-XFINME                      *90080
        STATUS KEY               7-CD01-XMSTA                       *90090
        MESSAGE COUNT            7-CD01-XCPMES.                     *90095
    01              F-CDIN         PICTURE X(87).                   *90097
    CD  7-CD02        OUTPUT                                        *90100
        DESTINATION COUNT        7-CD02-XNDEST                      *90110
        TEXT LENGTH              7-CD02-XLOMES                      *90120
        STATUS KEY               7-CD02-XMSTA                       *90130
        ERROR  KEY               7-CD02-XMERR                       *90140
        SYMBOLIC DESTINATION     7-CD02-XTERM.                      *90150
    01              F-CDOUT        PICTURE X(23).                   *90160
```

3. GENERATED PROGRAM (PROCEDURE DIV.)

3.1. STRUCTURE OF THE PROCEDURE DIVISION

```
STANDARD STRUCTURE OF THE PROCEDURE DIVISION

F0110  Initializations
-------------------------------------------------------
F05       RECEPTION     (ICF = '1')
F0510     Reception of the message
F0512     Documentation call procedure
F0520     Validation of Operation Code (OPER)
F1010     Set and test Category (CATX)        <-------+
F15       Validation of the Transaction Code (CATM)   !
F20       Data element validation                     !
F25       Segment access for validation               !
F30       Data element transfer                       !
F35       Segment update                              !
F3999-ITER-FI. GO TO F10.  --------------------------+
F3999-ITER-FT. EXIT.

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

END-OF-RECEPTION.  (F45-FN)
-------------------------------------------------------
F50       DISPLAY       (OCF = '1')
F5010     Initialization
F5510     Category processing                <-------+
F60       Segment access for display                 !
F65       Data element transfer                      !
F6999-ITER-FI. GO TO F55.  --------------------------+
F6999-ITER-FT. EXIT.

F7010     Error processing
F7020     Positioning of attributes

END-OF-DISPLAY.  (F78-FN)
-------------------------------------------------------
F8Z05     Memorization of the screen
F8Z10     Send Map
F8Z20     END OF PROGRAM

------   Called functions ----------------------------
F80       Physical segment access routines
F81       Performed validation functions
F93       User functions
```

3.2. F01 : INITIALIZATIONS

F01 : INITIALIZATIONS

The INITIALIZATION FUNCTION (F01) is always generated.

It contains the initializations of work areas.

It ensures, in the first program of the dialogue (PRIOR-TPR), the first RECEIVE in an 80-position field.

On the first access to the program or after consultation of help documentation, it ensures obtaining the display of screen literals at the same time as the message send.

This function triggers the procedure to be executed in case of error.

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

```
    PROCEDURE DIVISION USING TDS-STORAGE CONSTANT-STORAGE           *99999
        TRANSACTION-STORAGE.                                        *99999
   *           ************************************                 DO0030
   *           *                                  *                 DO0030
   *           *  INITIALIZATIONS                 *                 DO0030
   *           *                                  *                 DO0030
   *           ************************************                 DO0030
    F01.                                                            DO0030
        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
        MOVE SYMBOLIC-QUEUE TO 7-CD01-CTRAN.                        DO0030
        IF      PROGR NOT  =  K-S0030-PROGR                         DO0030
            MOVE ZERO TO ICF.                                       DO0030
        IF      PRIOR-TPR  =  SPACE                                 DO0030
            MOVE ZERO TO ICF K-S0030-DOC                            DO0030
            RECEIVE 7-CD01 MESSAGE INTO 0030-MPRIOR NO DATA         DO0030
                MOVE "1" TO IK.                                     DO0030
        IF      PRIOR-TPR  =  SPACE                                 DO0030
            MOVE 7-CD01-XTERM TO K-S0030-XTERM.                     DO0030
        IF      ICF  =  ZERO                                        DO0030
            OR  K-S0030-DOC  >  "1"                                 DO0030
                MOVE K-S0030-XTERM TO 7-CD02-XTERM                  DO0030
                MOVE 1 TO 7-CD02-XNDEST                             DO0030
                MOVE "1" TO F-LEVEL                                 DO0030
                CALL "CDGET" USING F-CDOUT SCREEN-ID F-LEVEL        DO0030
            IF 7-CD02-XMSTA NOT  =  ZERO                            DO0030
                GO TO F81ER.                                        DO0030
        MOVE LOW-VALUE TO I-0030 O-0030                             DO0030
        IF      ICF  =  ZERO                                        DO0030
            PERFORM F8115 THRU F8115-FN.                            DO0030
        MOVE K-S0030-XTERM TO HE00-XTERM.                           DO0030
        IF      K-S0030-DOC  =  "2"                                 DO0030
            OR  K-S0030-DOC  =  "3"                                 DO0030
                MOVE "1" TO K-S0030-DOC                             DO0030
                GO TO F8Z05.                                        DO0030
        MOVE "X" TO DE-AT (4, 010).                                 DO0030
    F0110-FN.                                                       DO0030
        EXIT.                                                       DO0030
    F0160.                                                          DO0030
        IF      ICF  =  ZERO                                        DO0030
            MOVE "A" TO OPER                                        DO0030
            GO TO F3999-ITER-FT.                                    DO0030
    F0160-FN.                                                       DO0030
        EXIT.                                                       DO0030
    F01-FN.                                                         DO0030
        EXIT.                                                       DO0030
   *             +-----------------------------------+             P000
   * LEVEL 10    I INIT. NUMBER OF LOADED ITEMS      I             P000
   *             +-----------------------------------+             P000
    F02CP.                                                          P000
        MOVE IWP20M TO IWP20L.                                      P100
    F02CP-FN.                                                       P000
```

3.3. F05 : RECEPTION AND OPERATION CODE

RECEPTION AND OPERATION CODE (F05)

The RECEPTION (F05) function contains the conditions for all of the procedures which have to do with the 'RECEPTION' part of the program: from F05 to END-OF-RECEPTION (F45-FN).

In general, all the automatic functions in this part of the program are generated if there is at least one variable data element (NATURE = 'V') defined on the screen.

The F0510 sub-function contains the 'SCREEN RECEPTION' procedure.

If an initialization character has been specified on the Screen Definition screen, it will be replaced by blanks (except when a branch to a "HELP" screen is executed).

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

The F0520 sub-function is generated if a variable data element from the screen, or a special PFKEY data element, is defined as an Operation Code on the Screen Call of Elements.

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

- Value of the screen data element defined as an Operation Code (values specified with TYPE OF LINE = 'O' on the Data Element Description (-D) screen;
- Value of the PFKEY data element (entered on the Screen Call of Elements (-CE)).

If an error is found in the value of the Operation Code, subsequent 'reception' procedures are not executed.

```
     EXIT.                                                              P000
*           ************************************                        DO0030
*           *                                  *                        DO0030
*           *  RECEPTION                       *                        DO0030
*           *                                  *                        DO0030
*           ************************************                        DO0030
 F05.                                                                   DO0030
     IF      ICF  =  ZERO                                               DO0030
         GO TO END-OF-RECEPTION.                                        DO0030
 F0510.                                                                 DO0030
     MOVE 1 TO 7-CD02-XNDEST.                                           DO0030
     MOVE ALL "S" TO TABLE-SV.                                          DO0030
 F0510-A.                                                               DO0030
     CALL "CDRECV" USING F-CDIN INPUT-SCREEN-FIELDS F-WAIT              DO0030
     SCREEN-SV.                                                         DO0030
     IF      7-CD01-XMSTA NOT  =  ZERO                                  DO0030
         GO TO F81ER.                                                   DO0030
     IF      7-CD01-XFINME NOT  =  "3"                                  DO0030
         GO TO F0510-A.                                                 DO0030
     MOVE 7-CD01-XTERM TO K-S0030-XTERM.                                DO0030
     PERFORM F8135 THRU F8135-FN.                                       DO0030
     EXAMINE I-0030 REPLACING ALL LOW-VALUE BY SPACE.                   DO0030
     MOVE I-0030 TO O-0030.                                             DO0030
     MOVE "A" TO OPER                                                   DO0030
     MOVE SPACE TO OPERD.                                               DO0030
     PERFORM F8150 THRU F8150-FN.                                       DO0030
     IF      K-S0030-ERCOD  =  ZERO                                     DO0030
         EXAMINE I-0030 REPLACING ALL "-" BY SPACE.                     DO0030
 F0510-FN.                                                              DO0030
     EXIT.                                                              DO0030
 F0512.                                                                 DO0030
     IF      K-S0030-ERCOD NOT  =  ZERO                                 DO0030
         NEXT SENTENCE                                                  DO0030
     ELSE                                                               DO0030
         GO TO F0512-FN.                                                DO0030
     MOVE "2" TO K-S0030-DOC                                            DO0030
     MOVE PROGE TO K-S0030-PROGE                                        DO0030
     MOVE LIBRA TO K-S0030-LIBRA.                                       DO0030
     IF      K-S0030-ERCOD NOT  =  SPACE                                DO0030
         MOVE "3" TO K-S0030-DOC.                                       DO0030
     MOVE K-S0030-XTERM TO HE00-XTERM                                   DO0030
     PERFORM F80-HELP-R THRU F80-FN                                     DO0030
     MOVE HE00-SCREEN TO O-0030                                         DO0030
     PERFORM F8130 THRU F8130-FN                                        DO0030
     MOVE O-0030 TO HE00-SCREEN                                         DO0030
     PERFORM F80-HELP-RW THRU F80-FN                                    DO0030
     MOVE PRDOC TO 5-0030-PROGE K-S0030-PROHE                           DO0030
     MOVE "O" TO OPER                                                   DO0030
     GO TO F4040.                                                       DO0030
 F0512-FN.                                                              DO0030
     EXIT.                                                              DO0030
*           ************************************                        DO0030
*           *                                  *                        DO0030
*           *  VALIDATION OF OPERATION CODE    *                        DO0030
*           *                                  *                        DO0030
*           ************************************                        DO0030
 F0520.                                                                 DO0030
     IF      I-0030-CHOIX  =  "1"                                       DO0030
         MOVE "DO0000  " TO 5-0030-PROGE                                DO0030
         MOVE "O" TO OPER                                               DO0030
         GO TO F40-A.                                                   DO0030
     IF      I-0030-CHOIX  =  "2"                                       DO0030
         MOVE "DO0010  " TO 5-0030-PROGE                                DO0030
         MOVE "O" TO OPER                                               DO0030
         GO TO F40-A.                                                   DO0030
     IF      I-0030-CHOIX  =  "3"                                       DO0030
         MOVE "DO0020  " TO 5-0030-PROGE                                DO0030
         MOVE "O" TO OPER                                               DO0030
         GO TO F40-A.                                                   DO0030
     IF      I-0030-CHOIX  =  "4"                                       DO0030
         MOVE "DO0040  " TO 5-0030-PROGE                                DO0030
         MOVE "O" TO OPER                                               DO0030
         GO TO F40-A.                                                   DO0030
     IF      I-0030-CHOIX  =  "5"                                       DO0030
         MOVE "DO0050  " TO 5-0030-PROGE                                DO0030
         MOVE "O" TO OPER                                               DO0030
         GO TO F40-A.                                                   DO0030
```

```
       IF      I-0030-CHOIX  =  "0"                                DO0030
           MOVE "DO0070  " TO 5-0030-PROGE                         DO0030
           MOVE "O" TO OPER                                        DO0030
           GO TO F40-A.                                            DO0030
       IF      I-0030-CHOIX  =  "7"                                DO0030
           MOVE "M" TO OPER                                        DO0030
           GO TO F0520-900.                                        DO0030
       IF      I-0030-CHOIX  =  "8"                                DO0030
           MOVE "S" TO OPER                                        DO0030
           GO TO F0520-900.                                        DO0030
       MOVE "5" TO ER-0030-CHOIX                                   DO0030
       MOVE "4" TO SCR-ER                                          DO0030
       GO TO F3999-ITER-FT.                                        DO0030
    F0520-900.                                                     DO0030
       IF      OPER NOT  =  "A"                                    DO0030
           AND OPER NOT  =  "M"                                    DO0030
           AND OPER NOT  =  "O"                                    DO0030
               GO TO F3999-ITER-FT.                                DO0030
    F0520-FN.                                                      DO0030
       EXIT.                                                       DO0030
    F05-FN.                                                        DO0030
       EXIT.                                                       DO0030
   *            +-----------------------------------+              P000
   * LEVEL 10    I NO UPDATE ==> END OF RECEIVE      I              P000
   *            +-----------------------------------+              P000
    F08BB.                                                         P000
       IF      OPER NOT  =  "M"                                    P000
           NEXT SENTENCE                                           P000
       ELSE                                                        P000
           GO TO F08BB-FN.                                         P000
       GO TO F3999-ITER-FT.                                        P100
    F08BB-FN.                                                      P000
       EXIT.                                                       P000
```

3.4. F10 : CATEGORY PROCESSING LOOP

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.                                                           DO0030
     EXIT.                                                      DO0030
 F1010.                                                         DO0030
     MOVE SPACE TO CATM.                                        DO0030
     IF      CATX  =  "R"                                       DO0030
         MOVE O-0030-LINE TO P-0030-LINE (ICATR)                DO0030
         MOVE A-0030-LINE (1) TO B-0030-LINE (1, ICATR)         DO0030
         MOVE A-0030-LINE (2) TO B-0030-LINE (2, ICATR)         DO0030
         MOVE A-0030-LINE (4) TO B-0030-LINE (4, ICATR)         DO0030
         MOVE I-0030-LINE TO J-0030-LINE (ICATR)                DO0030
         MOVE T-0030-LINE TO U-0030-LINE (ICATR)                DO0030
         MOVE ER-0030-LINE TO PS-30-LINE (ICATR).               DO0030
     IF      CAT-ER  =  "E"                                     DO0030
         MOVE "4" TO SCR-ER                                     DO0030
         GO TO F3999-ITER-FT.                                   DO0030
     MOVE SPACE TO CAT-ER.                                      DO0030
     IF      CATX  =  "0"                                       DO0030
         MOVE " " TO CATX                                       DO0030
         GO TO F1010-FN.                                        DO0030
     IF      CATX  =  " "                                       DO0030
         MOVE "R" TO CATX                                       DO0030
         MOVE ZERO TO ICATR.                                    DO0030
     IF      CATX  =  "R"                                       DO0030
         AND ICATR  <  IRR                                      DO0030
             ADD 1 TO ICATR                                     DO0030
             MOVE PS-30-LINE (ICATR) TO ER-0030-LINE            DO0030
             MOVE B-0030-LINE (4, ICATR) TO A-0030-LINE (4)     DO0030
             MOVE P-0030-LINE (ICATR) TO O-0030-LINE            DO0030
             MOVE U-0030-LINE (ICATR) TO T-0030-LINE            DO0030
             MOVE J-0030-LINE (ICATR) TO I-0030-LINE            DO0030
             GO TO F1010-FN.                                    DO0030
     IF      CATX  =  "R"                                       DO0030
         MOVE "Z" TO CATX                                       DO0030
         GO TO F1010-FN.                                        DO0030
 F1010-A.                                                       DO0030
     GO TO F3999-ITER-FT.                                       DO0030
 F1010-FN.                                                      DO0030
     EXIT.                                                      DO0030
 F10-FN.                                                        DO0030
     EXIT.                                                      DO0030
```

3.5. F15 : VALIDATION OF TRANSACTION CODE

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.                                                           DO0030
     EXIT.                                                      DO0030
 F15R.                                                          DO0030
     IF      CATX NOT  =  "R"                                   DO0030
         GO TO F15R-FN.                                         DO0030
     IF      OPER NOT  =  "M"                                   DO0030
         MOVE SPACE TO CATM                                     DO0030
         GO TO F15R-FN.                                         DO0030
     IF      I-0030-CODMVT  =  SPACE                            DO0030
         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                               DO0030
         MOVE "E" TO CAT-ER                                     DO0030
         GO TO F3999-ITER-FI.                                   DO0030
 F15R-FN.                                                       DO0030
     EXIT.                                                      DO0030
 F15Z.                                                          DO0030
     IF      CATX NOT  =  "Z"                                   DO0030
         GO TO F15Z-FN.                                         DO0030
     IF      OPER NOT  =  "M"                                   DO0030
         MOVE SPACE TO CATM                                     DO0030
         GO TO F15Z-FN.                                         DO0030
     IF      I-0030-EDIT  =  SPACE                              DO0030
         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                                 DO0030
         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.                                                         P000
     IF      CATX  =  SPACE                                     P000
         AND OPER  =  "M"                                       P100
             NEXT SENTENCE                                      P100
     ELSE                                                       P100
             GO TO F15AA-FN.                                    P100
     MOVE "M" TO CATM.                                          P100
 F15AA-FN.                                                      P000
     EXIT.                                                      P000
 F15-FN.                                                        P000
     EXIT.                                                      P000
```

3.6. F20 : DATA ELEMENT VALIDATION

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.                                                           DO0030
     EXIT.                                                      DO0030
 F20A.                                                          DO0030
     IF      CATX NOT  =  " "                                   DO0030
         GO TO F20A-FN.                                         DO0030
 F20A2.                                                         DO0030
     IF      I-0030-CHOIX NOT  =  SPACE                         DO0030
         MOVE "1" TO ER-0030-CHOIX.                             DO0030
 F20A2-FN.                                                      DO0030
     EXIT.                                                      DO0030
 F20B1.                                                         DO0030
     IF      I-0030-MATE NOT  =  SPACE                          DO0030
         MOVE "1" TO ER-0030-MATE                               DO0030
     ELSE                                                       DO0030
         MOVE "2" TO ER-0030-MATE                               DO0030
         MOVE "E" TO CAT-ER                                     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                                      DO0030
     ELSE                                                       DO0030
             MOVE "5" TO ER-0030-MATE.                          DO0030
     IF      ER-0030-MATE  >  "1"                               DO0030
         MOVE "E" TO CAT-ER                                     DO0030
         GO TO F20B1-FN.                                        DO0030
 F20B1-FN.                                                      DO0030
     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                                     DO0030
         GO TO F20B2-FN.                                        DO0030
     IF      I-0030-RELEA  =  "7.0"                             DO0030
         OR  I-0030-RELEA  =  "7.1"                             DO0030
         OR  I-0030-RELEA  =  "7.2"                             DO0030
         OR  I-0030-RELEA  =  "7.3"                             DO0030
             NEXT SENTENCE                                      DO0030
     ELSE                                                       DO0030
             MOVE "5" TO ER-0030-RELEA.                         DO0030
     IF      ER-0030-RELEA  >  "1"                              DO0030
         MOVE "E" TO CAT-ER                                     DO0030
         GO TO F20B2-FN.                                        DO0030
 F20B2-FN.                                                      DO0030
     EXIT.                                                      DO0030
 F20B5.                                                         DO0030
     IF      I-0030-RUE NOT  =  SPACE                           DO0030
         MOVE "1" TO ER-0030-RUE.                               DO0030
 F20B5-FN.                                                      DO0030
     EXIT.                                                      DO0030
 F20B6.                                                         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                                     DO0030
           GO TO F20B6-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 I-0030-COPOS                            DO0030
       MOVE DEL-ER TO ER-0030-COPOS.                              DO0030
       IF      ER-0030-COPOS  >  "1"                              DO0030
           MOVE "E" TO CAT-ER                                     DO0030
           GO TO F20B6-FN.                                        DO0030
   F20B6-FN.                                                      DO0030
       EXIT.                                                      DO0030
   F20B8.                                                         DO0030
       IF      I-0030-REFCLI NOT  =  SPACE                        DO0030
           MOVE "1" TO ER-0030-REFCLI.                            DO0030
   F20B8-FN.                                                      DO0030
       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                                     DO0030
           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"                                     DO0030
           MOVE "E" TO CAT-ER                                     DO0030
           GO TO F20B9-FN.                                        DO0030
   F20B9-FN.                                                      DO0030
       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.                                                      DO0030
       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                                       DO0030
           MOVE "E" TO CAT-ER                                     DO0030
           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.                                                      DO0030
       EXIT.                                                      DO0030
   F20A-FN.                                                       DO0030
       EXIT.                                                      DO0030
   F20R.                                                          DO0030
       IF      CATX NOT  =  "R"                                   DO0030
           GO TO F20R-FN.                                         DO0030
   F20C3.                                                         DO0030
       IF      I-0030-CODMVT NOT  =  SPACE                        DO0030
           MOVE "1" TO ER-0030-CODMVT.                            DO0030
   F20C3-FN.                                                      DO0030
       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.                                                      P000
       EXIT.                                                      P000
```

```
F20C4.                                                          DO0030
    IF      CATM  =  SPACE                                      DO0030
        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                                      DO0030
        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                                       DO0030
    ELSE                                                        DO0030
            MOVE "5" TO ER-0030-FOURNI.                         DO0030
    IF      ER-0030-FOURNI  >  "1"                              DO0030
        MOVE "E" TO CAT-ER                                      DO0030
        GO TO F20C4-FN.                                         DO0030
F20C4-FN.                                                       DO0030
    EXIT.                                                       DO0030
F20C5.                                                          DO0030
    IF      CATM  =  "A"                                        DO0030
        OR  CATM  =  SPACE                                      DO0030
            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                                      DO0030
        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                                        DO0030
        MOVE "E" TO CAT-ER                                      DO0030
        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                                       DO0030
    ELSE                                                        DO0030
            MOVE "5" TO ER-0030-QTMAC.                          DO0030
    IF      ER-0030-QTMAC  >  "1"                               DO0030
        MOVE "E" TO CAT-ER                                      DO0030
        GO TO F20C5-FN.                                         DO0030
F20C5-FN.                                                       DO0030
    EXIT.                                                       DO0030
F20C8.                                                          DO0030
    IF      CATM  =  "A"                                        DO0030
        OR  CATM  =  SPACE                                      DO0030
            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.                                                       DO0030
    EXIT.                                                       DO0030
F20R-FN.                                                        DO0030
    EXIT.                                                       DO0030
F20Z.                                                           DO0030
    IF      CATX NOT  =  "Z"                                    DO0030
        GO TO F20Z-FN.                                          DO0030
F20D0.                                                          DO0030
    IF      I-0030-EDIT NOT  =  SPACE                           DO0030
        MOVE "1" TO ER-0030-EDIT.                               DO0030
F20D0-FN.                                                       DO0030
    EXIT.                                                       DO0030
F20Z-FN.                                                        DO0030
```

```
        EXIT.                                                   DO0030
    F20-FN.                                                     DO0030
        EXIT.                                                   DO0030
```

3.7. F25 : SEGMENT ACCESS FOR VALIDATION

F25 : SEGMENT ACCESS FOR VALIDATION

The SEGMENT ACCESS FOR VALIDATION (F25) function is generated when there is at least one segment to be accessed in RECEPTION.

Depending on which categories defined on the screen contain a segment 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.

In the processing for each category there is one sub-function per segment to be accessed, including:

. The initialization of the key (if indicated on the -CS)

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

. Positioning of the segment ddss-CF variable (1 if OK)

. Error processing, if any.

Within a category, accesses are generated in the alphabetical order of the segment codes, except for segments which contain a 'preceding' segment.

If a segment is to be updated, its access depends on the CATM value. It is not performed if CATM = SPACE.

If a segment has a preceding segment, its access is performed if the ddss-CF variable of the preceding segment is equal to '1'.

Other types of reads are not conditioned.

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

It contains the PERFORM of functions F80-ddss-UN, according to the segments used, as well as cursor positioning on the first variable data element of the category, in the case of segment error.

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 VALIDATION   *                DO0030
*           *                                  *                DO0030
*           ************************************                DO0030
 F25.                                                           DO0030
     IF      CAT-ER NOT  =  SPACE                               DO0030
         GO TO F25-FN.                                          DO0030
 F25A.                                                          DO0030
     IF      CATX NOT  =  " "                                   DO0030
         GO TO F25A-FN.                                         DO0030
 F2501.                                                         DO0030
     IF      IK  =  "1"                                         DO0030
         MOVE "F019" TO XERCD                                   DO0030
         PERFORM F81UT                                          DO0030
         GO TO F2501-FN.                                        DO0030
 F2502.                                                         DO0030
     MOVE "0" TO CD05-CF.                                       DO0030
     IF      CATM  =  SPACE                                     DO0030
         GO TO F2502-FN.                                        DO0030
     MOVE SPACES TO CD00-CLECD                                  DO0030
     MOVE "B" TO CD00-COCARA                                    DO0030
     MOVE CA00-NUCOM TO CD00-NUCOM                              DO0030
     PERFORM F80-CD05-RU THRU F80-FN.                           DO0030
     IF      IK  =  "0"                                         DO0030
         MOVE "1" TO CD05-CF.                                   DO0030
     IF      CATM NOT  =  "C"                                   DO0030
         AND IK  =  "1"                                         DO0030
             MOVE "F029" TO XERCD                               DO0030
             PERFORM F81UT                                      DO0030
             GO TO F2502-FN.                                    DO0030
 F2502-FN.                                                      DO0030
     EXIT.                                                      DO0030
 F2501-FN.                                                      DO0030
     EXIT.                                                      DO0030
 F25A-FN.                                                       DO0030
     EXIT.                                                      DO0030
 F25R.                                                          DO0030
     IF      CATX NOT  =  "R"                                   DO0030
         GO TO F25R-FN.                                         DO0030
 F2503.                                                         DO0030
     MOVE "0" TO CD10-CF.                                       DO0030
     IF      CATM  =  SPACE                                     DO0030
         GO TO F2503-FN.                                        DO0030
     MOVE "C" TO CD00-CLECD                                     DO0030
     MOVE CA00-NUCOM TO CD00-NUCOM                              DO0030
     MOVE I-0030-FOURNI TO CD00-FOURNI                          DO0030
     PERFORM F80-CD10-RU THRU F80-FN.                           DO0030
     IF      IK  =  "0"                                         DO0030
         MOVE "1" TO CD10-CF.                                   DO0030
     IF      CATM  =  "X"                                       DO0030
         AND IK  =  "1"                                         DO0030
             MOVE "C" TO CATM.                                  DO0030
     IF      CATM  =  "X"                                       DO0030
         AND IK  =  "0"                                         DO0030
             MOVE "M" TO CATM.                                  DO0030
     IF      CATM  =  "C"                                       DO0030
         AND IK  =  "0"                                         DO0030
             MOVE "F038" TO XERCD                               DO0030
             PERFORM F81UT                                      DO0030
             GO TO F2503-FN.                                    DO0030
     IF      CATM NOT  =  "C"                                   DO0030
         AND IK  =  "1"                                         DO0030
             MOVE "F039" TO XERCD                               DO0030
             PERFORM F81UT                                      DO0030
             GO TO F2503-FN.                                    DO0030
*             +----------------------------------+              P000
* LEVEL 12    I ACCESS TO FO10                   I              P000
*             +----------------------------------+              P000
 F25BB.                                                         P000
     MOVE "1" TO CD10-CF.                                       P100
 F25BB-FN.                                                      P000
     EXIT.                                                      P000
 F2503-FN.                                                      P000
     EXIT.                                                      P000
 F2504.                                                         DO0030
     MOVE "0" TO FO10-CF.                                       DO0030
```

```
        IF      CD10-CF NOT  =  "1"                                     DO0030
            GO TO F2504-FN.                                             DO0030
        IF      CATM  =  SPACE                                          DO0030
            GO TO F2504-FN.                                             DO0030
        MOVE I-0030-FOURNI TO FO00-CLEFO                                DO0030
        MOVE CA00-LANGU TO FO00-LANGU                                   DO0030
        MOVE I-0030-RELEA TO FO00-RELEA                                 DO0030
        MOVE I-0030-MATE TO FO00-MATE                                   DO0030
        PERFORM F80-FO10-RU THRU F80-FN.                                DO0030
        IF      IK  =  "0"                                              DO0030
            MOVE "1" TO FO10-CF.                                        DO0030
        IF      IK  =  "1"                                              DO0030
            MOVE "F049" TO XERCD                                        DO0030
            PERFORM F81UT                                               DO0030
            GO TO F2504-FN.                                             DO0030
    F2504-FN.                                                           DO0030
        EXIT.                                                           DO0030
    F25R-FN.                                                            DO0030
        EXIT.                                                           DO0030
    F25Z.                                                               DO0030
        IF      CATX NOT  =  "Z"                                        DO0030
            GO TO F25Z-FN.                                              DO0030
    F2506.                                                              DO0030
        MOVE "0" TO CD20-CF.                                            DO0030
        IF      CATM  =  SPACE                                          DO0030
            GO TO F2506-FN.                                             DO0030
        MOVE SPACES TO CD00-CLECD                                       DO0030
        MOVE "E" TO CD00-COCARA                                         DO0030
        MOVE CA00-NUCOM TO CD00-NUCOM                                   DO0030
        PERFORM F80-CD20-RU THRU F80-FN.                                DO0030
        IF      IK  =  "0"                                              DO0030
            MOVE "1" TO CD20-CF.                                        DO0030
        IF      CATM  =  "X"                                            DO0030
            AND IK  =  "1"                                              DO0030
                MOVE "C" TO CATM.                                       DO0030
        IF      CATM  =  "X"                                            DO0030
            AND IK  =  "0"                                              DO0030
                MOVE "M" TO CATM.                                       DO0030
        IF      CATM  =  "C"                                            DO0030
            AND IK  =  "0"                                              DO0030
                MOVE "F068" TO XERCD                                    DO0030
                PERFORM F81UT                                           DO0030
                GO TO F2506-FN.                                         DO0030
        IF      CATM NOT  =  "C"                                        DO0030
            AND IK  =  "1"                                              DO0030
                MOVE "F069" TO XERCD                                    DO0030
                PERFORM F81UT                                           DO0030
                GO TO F2506-FN.                                         DO0030
    F2506-FN.                                                           DO0030
        EXIT.                                                           DO0030
    F25Z-FN.                                                            DO0030
        EXIT.                                                           DO0030
    F2599.                                                              DO0030
        IF      CAT-ER  =  SPACE                                        DO0030
            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  =  " "                                            DO0030
            AND DE-AT (4, 010)  =  "X"                                  DO0030
                MOVE " " TO DE-AT (4, 010).                             DO0030
        IF      CATX  =  " "                                            DO0030
            MOVE "X" TO A-0030-CHOIX (4).                               DO0030
        IF      CATX  =  "R"                                            DO0030
            AND DE-AT (4, 010)  =  "X"                                  DO0030
                MOVE " " TO DE-AT (4, 010).                             DO0030
        IF      CATX  =  "R"                                            DO0030
            MOVE "X" TO A-0030-CODMVT (4).                              DO0030
        IF      CATX  =  "Z"                                            DO0030
            AND DE-AT (4, 010)  =  "X"                                  DO0030
                MOVE " " TO DE-AT (4, 010).                             DO0030
        IF      CATX  =  "Z"                                            DO0030
```

```
           MOVE "X" TO A-0030-EDIT (4).                          DO0030
    F2599-FN.                                                    DO0030
        EXIT.                                                    DO0030
    F25-FN.                                                      DO0030
        EXIT.                                                    DO0030
   *             +----------------------------------+            P000
   * LEVEL 10    I STOCK UPD.: ORDER DELETION/UPD    I          P000
   *             +----------------------------------+            P000
    F28BH.                                                       P000
        IF      (CATM  =  "A"                                    P000
            OR  "M")                                             P000
            AND CATX  =  "R"                                     P100
            AND CAT-ER  =  SPACES                                P120
                NEXT SENTENCE                                    P120
        ELSE                                                     P120
                GO TO F28BH-FN.                                  P120
        ADD CD10-QTMAL TO FO10-QTMAS.                            P100
    F28BH-FN.                                                    P000
        EXIT.                                                    P000
```

3.8. F30 : DATA ELEMENT TRANSFER

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.                                                           DO0030
     IF      CAT-ER NOT  =  SPACE                               DO0030
         GO TO F30-FN.                                          DO0030
 F30A.                                                          DO0030
     IF      CATX NOT  =  " "                                   DO0030
         GO TO F30A-FN.                                         DO0030
     MOVE I-0030-MATE TO CD05-MATE.                             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-CORRES  =  "1"                             DO0030
         MOVE I-0030-CORRES TO CD05-CORRES.                     DO0030
 F30A-FN.                                                       DO0030
     EXIT.                                                      DO0030
 F30R.                                                          DO0030
     IF      CATX NOT  =  "R"                                   DO0030
         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                                 DO0030
         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.                                                         P000
     IF      CATM  =  "C"                                       P000
         OR  "M"                                                P000
             NEXT SENTENCE                                      P000
     ELSE                                                       P000
             GO TO F30BF-FN.                                    P000
     IF      FO10-QTMAS NOT  <  I-0030-QTMAC                    P100
         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.                                                      P000
     EXIT.                                                      P000
 F30BD-FN.                                                      P000
     EXIT.                                                      P000
 F30R-FN.                                                       DO0030
     EXIT.                                                      DO0030
 F30Z.                                                          DO0030
     IF      CATX NOT  =  "Z"                                   DO0030
         GO TO F30Z-FN.                                         DO0030
     MOVE I-0030-EDIT TO CD20-EDIT.                             DO0030
 F30Z-FN.                                                       DO0030
     EXIT.                                                      DO0030
 F30-FN.                                                        DO0030
     EXIT.                                                      DO0030
```

3.9. F35 : SEGMENT ACCESS FOR UPDATE

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.                                                           DO0030
     IF      CAT-ER NOT  =  SPACE                               DO0030
         OR  CATM  =  SPACE                                     DO0030
             GO TO F35-FN.                                      DO0030
 F35A.                                                          DO0030
     IF      CATX NOT  =  " "                                   DO0030
         GO TO F35A-FN.                                         DO0030
 F3502.                                                         DO0030
     IF      CATM NOT  =  "C"                                   DO0030
         AND CATM NOT  =  "A"                                   DO0030
             PERFORM F80-CD05-RW THRU F80-FN.                   DO0030
 F3502-FN.                                                      DO0030
     EXIT.                                                      DO0030
 F35A-FN.                                                       DO0030
     EXIT.                                                      DO0030
 F35R.                                                          DO0030
     IF      CATX NOT  =  "R"                                   DO0030
         GO TO F35R-FN.                                         DO0030
 F3503.                                                         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"                                   DO0030
         AND CATM NOT  =  "A"                                   DO0030
             PERFORM F80-CD10-RW THRU F80-FN.                   DO0030
 F3503-FN.                                                      DO0030
     EXIT.                                                      DO0030
 F3504.                                                         DO0030
     IF      FO10-CF  =  "1"                                    DO0030
         PERFORM F80-FO10-RW THRU F80-FN.                       DO0030
 F3504-FN.                                                      DO0030
     EXIT.                                                      DO0030
 F35R-C3.                                                       DO0030
     MOVE SPACE TO O-0030-CODMVT.                               DO0030
     MOVE SPACE TO T-0030-CODMVT.                               DO0030
 F35R-FN.                                                       DO0030
     EXIT.                                                      DO0030
 F35Z.                                                          DO0030
     IF      CATX NOT  =  "Z"                                   DO0030
         GO TO F35Z-FN.                                         DO0030
 F3506.                                                         DO0030
     IF      CATM  =  "C"                                       DO0030
         PERFORM F80-CD20-W THRU F80-FN.                        DO0030
     IF      CATM NOT  =  "C"                                   DO0030
         AND CATM NOT  =  "A"                                   DO0030
             PERFORM F80-CD20-RW THRU F80-FN.                   DO0030
 F3506-FN.                                                      DO0030
     EXIT.                                                      DO0030
 F35Z-D0.                                                       DO0030
     MOVE SPACE TO O-0030-EDIT.                                 DO0030
     MOVE SPACE TO T-0030-EDIT.                                 DO0030
 F35Z-FN.                                                       DO0030
     EXIT.                                                      DO0030
 F35-FN.                                                        DO0030
     EXIT.                                                      DO0030
 F3999-ITER-FI.                                                 DO0030
     GO TO F10.                                                 DO0030
 F3999-ITER-FT.                                                 DO0030
     EXIT.                                                      DO0030
 F3999-FN.                                                      DO0030
     EXIT.                                                      DO0030
```

3.10. F40 : END-OF-RECEPTION PROCESSING

F40: END-OF-RECEPTION PROCESSING

This 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 that are conditioned by the value of the Operation Code (OPER).

SET-UP KEYS FOR NEW DISPLAY (F4010)

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

Depending on the categories defined on the screen, the memorization of the access key for 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 function is executed for a 'screen continuation' operation. It contains the memorization of the first key for the display of the screen continuation, if the segment is used in the repetitive category.

END OF TRANSACTION (F4030)

This is executed for an end-of-transaction operation combined with a screen map release and a screen clearing.

TRANSFER TO ANOTHER SCREEN (F4040)

This is executed for a transfer to another screen operation combined with a screen map release.

```
 F40.                                                              DO0030
     IF      SCR-ER  >  "1"                                        DO0030
         MOVE "A" TO OPER                                          DO0030
         GO TO F40-FN.                                             DO0030
 F40-A.                                                            DO0030
     IF      OPERD NOT  =  SPACE                                   DO0030
         MOVE OPERD TO OPER.                                       DO0030
*          ************************************                   DO0030
*          *                                  *                   DO0030
*          *  SET-UP KEYS FOR NEW DISPLAY     *                   DO0030
*          *                                  *                   DO0030
*          ************************************                   DO0030
 F4010.                                                            DO0030
     IF      OPER NOT  =  "A"                                      DO0030
         AND NOT  =  "M"                                           DO0030
             GO TO F4010-FN.                                       DO0030
 F40A.                                                             DO0030
     MOVE SPACES TO CD00-CLECD                                     DO0030
     MOVE "B" TO CD00-COCARA                                       DO0030
     MOVE CA00-NUCOM TO CD00-NUCOM                                 DO0030
     MOVE CD00-CLECD TO K-ACD05-CLECD.                             DO0030
 F40A-FN.                                                          DO0030
     EXIT.                                                         DO0030
 F40R.                                                             DO0030
     MOVE J-0030-LINE (1) TO I-0030-LINE.                          DO0030
     MOVE SPACES TO CD00-KEYCD                                     DO0030
     MOVE "C" TO CD00-COCARA                                       DO0030
     MOVE CA00-NUCOM TO CD00-NUCOM                                 DO0030
     MOVE CD00-CLECD TO K-RCD10-CLECD (1).                         DO0030
 F40R-FN.                                                          DO0030
     EXIT.                                                         DO0030
 F40Z.                                                             DO0030
     MOVE CA00-CLEME TO ME00-CLEME                                 DO0030
     MOVE ME00-CLEME TO K-ZME00-CLEME.                             DO0030
 F40Z-FN.                                                          DO0030
     EXIT.                                                         DO0030
 F4010-FN.                                                         DO0030
     EXIT.                                                         DO0030
*          ************************************                   DO0030
*          *                                  *                   DO0030
*          *  SET-UP KEYS FOR SCREEN PAGING   *                   DO0030
*          *                                  *                   DO0030
*          ************************************                   DO0030
 F4020.                                                            DO0030
     IF      OPER NOT  =  "S"                                      DO0030
         GO TO F4020-FN.                                           DO0030
     MOVE K-RCD10-CLECD (2) TO K-RCD10-CLECD (1).                  DO0030
 F4020-FN.                                                         DO0030
     EXIT.                                                         DO0030
*          ************************************                   DO0030
*          *                                  *                   DO0030
*          *  END OF TRANSACTION              *                   DO0030
*          *                                  *                   DO0030
*          ************************************                   DO0030
 F4030.                                                            DO0030
     IF      OPER NOT  =  "E"                                      DO0030
         GO TO F4030-FN.                                           DO0030
     MOVE K-S0030-XTERM TO HE00-XTERM                              DO0030
     PERFORM F80-HELP-D THRU F80-FN.                               DO0030
     MOVE SPACE TO NEXT-TPR                                        DO0030
     MOVE 1 TO 7-CD02-XNDEST                                       DO0030
     MOVE K-S0030-XTERM TO 7-CD02-XTERM                            DO0030
     MOVE 1 TO 7-CD02-XLOMES                                       DO0030
     MOVE "1" TO F-LEVEL                                           DO0030
     CALL "CDRELS" USING F-CDOUT F-LEVEL.                          DO0030
     IF      7-CD02-XMSTA NOT  =  ZERO                             DO0030
         GO TO F81ER.                                              DO0030
     MOVE "3" TO F-LEVEL                                           DO0030
     MOVE "INITAT" TO F-MECH.                                      DO0030
     CALL "CDMECH" USING F-CDOUT F-MECH F-LEVEL.                   DO0030
 F4030-A.                                                          DO0030
     EXIT PROGRAM.                                                 DO0030
 F4030-FN.                                                         DO0030
     EXIT.                                                         DO0030
*          ************************************                   DO0030
*          *                                  *                   DO0030
*          *  TRANSFER TO ANOTHER SCREEN      *                   DO0030
```

```
*           *                                  *                DO0030
*           ************************************                DO0030
 F4040.                                                         DO0030
     IF      OPER NOT  =  "O"                                   DO0030
         GO TO F4040-FN.                                        DO0030
     MOVE 5-0030-PROGE TO NEXT-TPR.                             DO0030
     MOVE 1 TO 7-CD02-XNDEST                                    DO0030
     MOVE K-S0030-XTERM TO 7-CD02-XTERM                         DO0030
     MOVE "2" TO F-LEVEL.                                       DO0030
     CALL "CDRELS" USING F-CDOUT F-LEVEL.                       DO0030
     IF      7-CD02-XMSTA NOT  =  ZERO                          DO0030
         GO TO F81ER.                                           DO0030
 F4040-A.                                                       DO0030
     EXIT PROGRAM.                                              DO0030
 F4040-FN.                                                      DO0030
     EXIT.                                                      DO0030
 F40-FN.                                                        DO0030
     EXIT.                                                      DO0030
 END-OF-RECEPTION.                                              DO0030
     EXIT.                                                      DO0030
```

3.11. F50 : DISPLAY PREPARATION

F50: DISPLAY PREPARATION

The DISPLAY PREPARATION (F50) function contains the conditions for the set of procedures used in 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.

```
*           ************************************                DO0030
*           *                                  *                DO0030
*           *  DISPLAY PREPARATION             *                DO0030
*           *                                  *                DO0030
*           ************************************                DO0030
 F50.                                                           DO0030
     IF      OCF  =  "0"                                        DO0030
         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"                                 DO0030
         MOVE SPACE TO O-0030.                                  DO0030
     IF      SCR-ER  >  "1"                                     DO0030
         GO TO F6999-ITER-FT.                                   DO0030
     PERFORM F8115 THRU F8115-FN.                               DO0030
     MOVE K-R0030-LINE (1) TO K-R0030-LINE (2).                 DO0030
 F5010-FN.                                                      DO0030
     EXIT.                                                      DO0030
 F50-FN.                                                        DO0030
     EXIT.                                                      DO0030
```

3.12. F55 : CATEGORY PROCESSING LOOP

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

3.13. F60 : SEGMENT ACCESS FOR DISPLAY

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.                                                           DO0030
     EXIT.                                                      DO0030
 F60A.                                                          DO0030
     IF      CATX NOT  =  " "                                   DO0030
         GO TO F60A-FN.                                         DO0030
 F6002.                                                         DO0030
     MOVE "0" TO CD05-CF.                                       DO0030
     MOVE K-ACD05-CLECD TO CD00-CLECD                           DO0030
     PERFORM F80-CD05-R THRU F80-FN.                            DO0030
     IF      IK  =  "1"                                        DO0030
         MOVE "G029" TO XERCD                                   DO0030
         PERFORM F81UT THRU F81UT-FN                            DO0030
         GO TO F6002-FN.                                        DO0030
     MOVE "1" TO CD05-CF.                                       DO0030
 F6002-FN.                                                      DO0030
     EXIT.                                                      DO0030
 F60A-FN.                                                       DO0030
     EXIT.                                                      DO0030
 F60R.                                                          DO0030
     IF      CATX NOT  =  "R"                                   DO0030
         OR  FT  =  "1"                                         DO0030
             GO TO F60R-FN.                                     DO0030
 F6004.                                                         DO0030
     MOVE "0" TO CD10-CF.                                       DO0030
     IF      CD10-FST  =  "1"                                   DO0030
         MOVE K-RCD10-CLECD (1) TO CD00-CLECD                   DO0030
         MOVE CD00-COCARA TO C-0030-COCARA                      DO0030
         MOVE CD00-NUCOM TO C-0030-NUCOM                        DO0030
         PERFORM F80-CD10-P THRU F80-FN                         DO0030
         MOVE ZERO TO CD10-FST                                  DO0030
     ELSE                                                       DO0030
         PERFORM F80-CD10-RN THRU F80-FN.                       DO0030
     IF      IK  =  "0"                                        DO0030
         IF CD00-COCARA NOT  =  C-0030-COCARA                   DO0030
             OR  CD00-NUCOM NOT  =  C-0030-NUCOM                DO0030
                 MOVE "1" TO IK.                                DO0030
     IF      IK  =  "1"                                        DO0030
         MOVE "G049" TO XERCD                                   DO0030
         MOVE "1" TO FT                                         DO0030
         PERFORM F81UT THRU F81UT-FN                            DO0030
         GO TO F6004-FN.                                        DO0030
     MOVE "1" TO CD10-CF.                                       DO0030
     MOVE CD00-CLECD TO K-RCD10-CLECD (2).                      DO0030
 F6004-FN.                                                      DO0030
     EXIT.                                                      DO0030
 F60R-FN.                                                       DO0030
     EXIT.                                                      DO0030
 F60Z.                                                          DO0030
     IF      CATX NOT  =  "Z"                                   DO0030
         GO TO F60Z-FN.                                         DO0030
 F6007.                                                         DO0030
     MOVE "0" TO ME00-CF.                                       DO0030
     MOVE K-ZME00-CLEME TO ME00-CLEME                           DO0030
     PERFORM F80-ME00-R THRU F80-FN.                            DO0030
     IF      IK  =  "1"                                        DO0030
         MOVE "G079" TO XERCD                                   DO0030
         PERFORM F81UT THRU F81UT-FN                            DO0030
         GO TO F6007-FN.                                        DO0030
     MOVE "1" TO ME00-CF.                                       DO0030
 F6007-FN.                                                      DO0030
     EXIT.                                                      DO0030
 F60Z-FN.                                                       DO0030
 F60-FN.                                                        DO0030
     EXIT.                                                      DO0030
```

```
*            +-----------------------------------+              P000
* LEVEL 10    I PREPARATION DISPLAY DATE/HOUR     I              P000
*            +-----------------------------------+              P000
 F64DA.                                                         P000
     IF      CATX  =  " "                                       P000
         NEXT SENTENCE                                          P000
     ELSE                                                       P000
         GO TO F64DA-FN.                                        P000
     ACCEPT DATOR FROM DATE                                     P040
     MOVE DATOR TO DAT6 DAT8                                    P040
     MOVE DAT63 TO DAT61                                        P040
     MOVE DAT81 TO DAT63                                        P040
     MOVE DATOR TO DAT6                                         P080
     PERFORM F8120-I THRU F8120-Z                               P080
     MOVE DAT8C TO DAT8C.                                       P080
     ACCEPT TIMCO FROM TIME                                     P120
     MOVE TIMCOG 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.                                                      P000
     EXIT.                                                      P000
```

3.14. F65 : DATA ELEMENT TRANSFER

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.                                                           DO0030
     EXIT.                                                      DO0030
 F65A.                                                          DO0030
     IF      CATX NOT  =  " "                                   DO0030
         GO TO F65A-FN.                                         DO0030
     MOVE PROGE TO O-0030-PROGE.                                DO0030
     MOVE SESSI TO O-0030-SESSI.                                DO0030
     MOVE DAT8C TO O-0030-DATEM.                                DO0030
     MOVE TIMDAY TO O-0030-HEURE.                               DO0030
 F65A-A7.                                                       DO0030
     MOVE CA00-NUCOM TO O-0030-NUCOM.                           DO0030
 F65A-A7-FN.                                                    DO0030
     EXIT.                                                      DO0030
 F65A-A8.                                                       DO0030
     MOVE CA00-RAISOC TO O-0030-RAISOC.                         DO0030
 F65A-A8-FN.                                                    DO0030
     EXIT.                                                      DO0030
 F65A-CD05.                                                     DO0030
     IF      CD05-CF NOT  =  "1"                                DO0030
         GO TO F65A-CD05-FN.                                    DO0030
     MOVE CD05-MATE TO O-0030-MATE.                             DO0030
 F65A-B0.                                                       DO0030
     MOVE CD05-RELEA TO O-0030-RELEA.                           DO0030
 F65A-B0-FN.                                                    DO0030
     EXIT.                                                      DO0030
 F65A-B1.                                                       DO0030
     MOVE CD05-COPOS TO O-0030-COPOS.                           DO0030
 F65A-B1-FN.                                                    DO0030
     EXIT.                                                      DO0030
 F65A-B2.                                                       DO0030
     MOVE CD05-VILLE TO O-0030-VILLE.                           DO0030
 F65A-B2-FN.                                                    DO0030
     EXIT.                                                      DO0030
 F65A-B3.                                                       DO0030
     MOVE CD05-REFCLI TO O-0030-REFCLI.                         DO0030
 F65A-B3-FN.                                                    DO0030
     EXIT.                                                      DO0030
 F65A-B4.                                                       DO0030
     MOVE CD05-DATE TO O-0030-DATE.                             DO0030
 F65A-B4-FN.                                                    DO0030
     EXIT.                                                      DO0030
 F65A-B5.                                                       DO0030
     MOVE CD05-CORRES TO O-0030-CORRES.                         DO0030
 F65A-B5-FN.                                                    DO0030
     EXIT.                                                      DO0030
 F65A-B6.                                                       DO0030
     MOVE CD05-REMIS TO O-0030-REMIS.                           DO0030
 F65A-B6-FN.                                                    DO0030
     EXIT.                                                      DO0030
 F65A-CD05-FN.                                                  DO0030
     EXIT.                                                      DO0030
 F65A-FN.                                                       DO0030
     EXIT.                                                      DO0030
 F65R.                                                          DO0030
     IF      CATX NOT  =  "R"                                   DO0030
         OR  FT  =  "1"                                         DO0030
             GO TO F65R-FN.                                     DO0030
     IF      ICATR  >  IRR                                      DO0030
         GO TO F65R-FN.                                         DO0030
 F65R-A4.                                                       DO0030
     MOVE CD00-FOURNI TO O-0030-FOURNI.                         DO0030
 F65R-A4-FN.                                                    DO0030
     EXIT.                                                      DO0030
 F65R-CD10.                                                     DO0030
     IF      CD10-CF NOT  =  "1"                                DO0030
         GO TO F65R-CD10-FN.                                    DO0030
     MOVE CD10-QTMAC TO O-0030-QTMAC.                           DO0030
 F65R-A6.                                                       DO0030
     MOVE CD10-QTMAL TO O-0030-QTMAL.                           DO0030
 F65R-A6-FN.                                                    DO0030
     EXIT.                                                      DO0030
 F65R-A7.                                                       DO0030
```

```
      MOVE CD10-INFOR TO O-0030-INFOR.                              DO0030
    F65R-A7-FN.                                                     DO0030
      EXIT.                                                         DO0030
    F65R-CD10-FN.                                                   DO0030
      EXIT.                                                         DO0030
   *            +----------------------------------+                P000
   * LEVEL 10    I REMAINS TO BE DELIVERED          I               P000
   *            +----------------------------------+                P000
    F65BB.                                                          P000
      IF      CD10-QTMAL NOT  =  ZERO                               P100
          COMPUTE WW10-QTMAR  =  CD10-QTMAC - CD10-QTMAL            P100
          MOVE WW10-QTMAR TO O-0030-QTMAR.                          P120
    F65BB-FN.                                                       P000
      EXIT.                                                         P000
    F65R-FN.                                                        DO0030
      EXIT.                                                         DO0030
    F65Z.                                                           DO0030
      IF      CATX NOT  =  "Z"                                      DO0030
          GO TO F65Z-FN.                                            DO0030
    F65Z-ME00.                                                      DO0030
      IF      ME00-CF NOT  =  "1"                                   DO0030
          GO TO F65Z-ME00-FN.                                       DO0030
      MOVE ME00-MESSA TO O-0030-MESSA.                              DO0030
    F65Z-ME00-FN.                                                   DO0030
      EXIT.                                                         DO0030
    F65Z-FN.                                                        DO0030
      EXIT.                                                         DO0030
    F65-FN.                                                         DO0030
      EXIT.                                                         DO0030
    F6999-ITER-FI.                                                  DO0030
      GO TO F55.                                                    DO0030
    F6999-ITER-FT.                                                  DO0030
      EXIT.                                                         DO0030
    F6999-FN.                                                       DO0030
      EXIT.                                                         DO0030
```

3.15. F70 : ERROR PROCESSING - ATTRIBUTES

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 there is at least one variable or display field on the Screen Call of Elements (-CE).

This sub-function reinitializes the attributes of the display and variable fields to their initial values which are described in the MAP.

It positions the cursor on the first erroneous field of the screen and dynamically positions the attribute defined on the Screen Definition screen on erroneous fields.

```
 F70.                                                                    DO0030
     EXIT.                                                               DO0030
*          ************************************                         DO0030
*          *                                  *                         DO0030
*          *  ERROR PROCESSING                *                         DO0030
*          *                                  *                         DO0030
*          ************************************                         DO0030
 F7010.                                                                  DO0030
     MOVE ZERO TO K01 K02 K04                                            DO0030
     MOVE 1 TO K03.                                                      DO0030
     MOVE LIBRA TO EM00-LIBRA                                            DO0030
     MOVE PROGR TO EM00-PROGR                                            DO0030
     MOVE ZERO TO EM00-LINUM                                             DO0030
     MOVE "H" TO EM00-ENTYP.                                             DO0030
 F7010-A.                                                                DO0030
     IF      K02  =  INR                                                 DO0030
         AND K03  <  IRR                                                 DO0030
             MOVE INA TO K02                                             DO0030
             ADD 1 TO K03.                                               DO0030
     ADD 1 TO K01 K02.                                                   DO0030
     IF      DE-ER (K01)  >  "1"                                         DO0030
         OR   <  "0"                                                     DO0030
             MOVE "Y" TO DE-AT (4, K01)                                  DO0030
             MOVE "B" 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                                                  DO0030
             MOVE DE-ER (K01) TO EM00-ERTYP                              DO0030
             MOVE K02 TO EM00-ERCOD9                                     DO0030
             MOVE EM00-XEMKY TO EM00-ERMSG                               DO0030
             PERFORM F80-EM00-R THRU F80-FN                              DO0030
             ADD 1 TO K04                                                DO0030
             MOVE EM00-ERMSG TO O-0030-ERMSG (K04).                      DO0030
     IF      K01  <  INT                                                 DO0030
         GO TO F7010-A.                                                  DO0030
     MOVE ZERO TO K50R.                                                  DO0030
 F7010-B.                                                                DO0030
     ADD 1 TO K50R                                                       DO0030
     IF      K50R  >  K50L                                               DO0030
         OR  K04 NOT  <  IER                                             DO0030
             GO TO F7010-FN.                                             DO0030
     MOVE T-XEMKY (K50R) TO EM00-XEMKY EM00-ERMSG                        DO0030
     PERFORM F80-EM00-R THRU F80-FN                                      DO0030
     ADD 1 TO K04                                                        DO0030
     MOVE EM00-ERMSG TO O-0030-ERMSG (K04)                               DO0030
     GO TO F7010-B.                                                      DO0030
 F7010-FN.                                                               DO0030
     EXIT.                                                               DO0030
*          ************************************                         DO0030
*          *                                  *                         DO0030
*          *  POSITIONING OF ATTRIBUTES       *                         DO0030
*          *                                  *                         DO0030
*          ************************************                         DO0030
 F7020.                                                                  DO0030
     MOVE ZERO TO TALLY                                                  DO0030
     EXAMINE DE-ATT1 (4) TALLYING UNTIL FIRST "Y".                       DO0030
     IF      TALLY NOT  <  0046                                          DO0030
         MOVE ZERO TO TALLY                                              DO0030
         EXAMINE DE-ATT1 (4) TALLYING UNTIL FIRST "Z".                   DO0030
     IF      TALLY NOT  <  0046                                          DO0030
         MOVE ZERO TO TALLY                                              DO0030
         EXAMINE DE-ATT1 (4) TALLYING UNTIL FIRST "X".                   DO0030
     IF      TALLY NOT  <  0046                                          DO0030
         MOVE ZERO TO TALLY.                                             DO0030
     ADD 1 TO TALLY.                                                     DO0030
     MOVE 1 TO 7-CD02-XNDEST                                             DO0030
     MOVE K-S0030-XTERM TO 7-CD02-XTERM                                  DO0030
     MOVE "INIT" TO F-ATTR.                                              DO0030
     MOVE "1" TO F-LEVEL.                                                DO0030
     MOVE ALL "S" TO TABLE-SV.                                           DO0030
     CALL "CDATTR" USING F-CDOUT SCREEN-SV F-ATTR F-LEVEL.               DO0030
     IF      7-CD02-XMSTA NOT  =  ZERO                                   DO0030
         GO TO F81ER.                                                    DO0030
     MOVE "CP  " TO F-ATTR.                                              DO0030
     MOVE SPACES TO TABLE-SV.                                            DO0030
     MOVE SV-AT (TALLY) TO K01.                                          DO0030
     MOVE "S" TO SV-FIELD (K01).                                         DO0030
```

```
    CALL "CDATTR" USING F-CDOUT SCREEN-SV F-ATTR F-LEVEL.        DO0030
    MOVE SPACES TO DE-ATT1 (4).                                  DO0030
    MOVE ZERO TO K01.                                            DO0030
F7020-A.                                                         DO0030
    ADD 1 TO K01.                                                DO0030
    IF      K01  >  INT                                          DO0030
        GO TO F7020-FN.                                          DO0030
    MOVE SPACES TO F-ATTDYN.                                     DO0030
    MOVE ZERO TO K02.                                            DO0030
    IF      DE-AT (1, K01)  =  SPACE                             DO0030
        GO TO F7020-A2.                                          DO0030
    IF      DE-AT (1, K01)  =  "N"                               DO0030
        ADD 1 TO K02                                             DO0030
        MOVE "NHL " TO F-ATTRI (K02)                             DO0030
        GO TO F7020-A2.                                          DO0030
    IF      DE-AT (1, K01)  =  "B"                               DO0030
        ADD 1 TO K02                                             DO0030
        MOVE "HL  " TO F-ATTRI (K02)                             DO0030
        GO TO F7020-A2.                                          DO0030
    IF      DE-AT (1, K01)  =  "D"                               DO0030
        ADD 1 TO K02                                             DO0030
        MOVE "CN  " TO F-ATTRI (K02)                             DO0030
        GO TO F7020-A2.                                          DO0030
F7020-A2.                                                        DO0030
    IF      DE-AT (2, K01)  =  SPACE                             DO0030
        GO TO F7020-A3.                                          DO0030
    IF      DE-AT (2, K01)  =  "N"                               DO0030
        ADD 1 TO K02                                             DO0030
        MOVE "NBI " TO F-ATTRI (K02)                             DO0030
        ADD 1 TO K02                                             DO0030
        MOVE "NRV " TO F-ATTRI (K02)                             DO0030
        ADD 1 TO K02                                             DO0030
        MOVE "NUL " TO F-ATTRI (K02)                             DO0030
        GO TO F7020-A3.                                          DO0030
    IF      DE-AT (2, K01)  =  "B"                               DO0030
        ADD 1 TO K02                                             DO0030
        MOVE "BI  " TO F-ATTRI (K02)                             DO0030
        GO TO F7020-A3.                                          DO0030
    IF      DE-AT (2, K01)  =  "R"                               DO0030
        ADD 1 TO K02                                             DO0030
        MOVE "RV  " TO F-ATTRI (K02)                             DO0030
        GO TO F7020-A3.                                          DO0030
    IF      DE-AT (2, K01)  =  "U"                               DO0030
        ADD 1 TO K02                                             DO0030
        MOVE "UL  " TO F-ATTRI (K02)                             DO0030
        GO TO F7020-A3.                                          DO0030
F7020-A3.                                                        DO0030
    IF      DE-AT (3, K01)  =  SPACE                             DO0030
        GO TO F7020-A4.                                          DO0030
    IF      DE-AT (3, K01)  =  "W"                               DO0030
        ADD 1 TO K02                                             DO0030
        MOVE "FDFT" TO F-ATTRI (K02)                             DO0030
        GO TO F7020-A4.                                          DO0030
    IF      DE-AT (3, K01)  =  "R"                               DO0030
        ADD 1 TO K02                                             DO0030
        MOVE "FRED" TO F-ATTRI (K02)                             DO0030
        GO TO F7020-A4.                                          DO0030
    IF      DE-AT (3, K01)  =  "P"                               DO0030
        ADD 1 TO K02                                             DO0030
        MOVE "FMAG" TO F-ATTRI (K02)                             DO0030
        GO TO F7020-A4.                                          DO0030
    IF      DE-AT (3, K01)  =  "Y"                               DO0030
        ADD 1 TO K02                                             DO0030
        MOVE "FYEL" TO F-ATTRI (K02)                             DO0030
        GO TO F7020-A4.                                          DO0030
    IF      DE-AT (3, K01)  =  "G"                               DO0030
        ADD 1 TO K02                                             DO0030
        MOVE "FGRE" TO F-ATTRI (K02)                             DO0030
        GO TO F7020-A4.                                          DO0030
    IF      DE-AT (3, K01)  =  "T"                               DO0030
        ADD 1 TO K02                                             DO0030
        MOVE "FCYA" TO F-ATTRI (K02)                             DO0030
        GO TO F7020-A4.                                          DO0030
    IF      DE-AT (3, K01)  =  "B"                               DO0030
        ADD 1 TO K02                                             DO0030
        MOVE "FBLU" TO F-ATTRI (K02)                             DO0030
        GO TO F7020-A4.                                          DO0030
```

```
F7020-A4.                                                          DO0030
    IF      F-ATTDYN NOT  =  SPACES                                DO0030
        MOVE SPACES TO TABLE-SV                                    DO0030
        MOVE SV-AT (K01) TO K03                                    DO0030
        MOVE "S" TO SV-FIELD (K03)                                 DO0030
        MOVE K02 TO F-NBATT                                        DO0030
        CALL "CDATTL" USING F-CDOUT SCREEN-SV F-ATTL F-LEVEL.      DO0030
    GO TO F7020-A.                                                 DO0030
F7020-FN.                                                          DO0030
    EXIT.                                                          DO0030
F70-FN.                                                            DO0030
    EXIT.                                                          DO0030
END-OF-DISPLAY.                                                    DO0030
    EXIT.                                                          DO0030
```

3.16. F8Z : DISPLAY AND END OF PROGRAM

F8Z : DISPLAY AND END OF PROGRAM

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

Sub-function F8Z05 is generated if a call for help documentation is entered on the Screen Definition screen.

It ensures the memorization of screen fields in the file for backup before documentation call ('HE' by default).

Sub-function F8Z10 contains two operations which send the screen:.

. If no error is encountered, all variable and display fields are sent,

. If an error is encoutered, the second operation sends the Error Messages and the variable fields which are selected according to their rank in the table (display fields are not sent as they are not included in the input message).

Sub-function F8Z20 contains the end-of-program operations.

```
   F8Z.                                                                  DO0030
       EXIT.                                                             DO0030
   F8Z05.                                                                DO0030
       IF      SCR-ER  =  "1"                                            DO0030
           NEXT SENTENCE                                                 DO0030
       ELSE                                                              DO0030
           GO TO F8Z05-FN.                                               DO0030
       IF      K-S0030-DOC NOT  =  "1"                                   DO0030
           GO TO F8Z05-A.                                                DO0030
       MOVE K-S0030-ERCOD TO K01 K02.                                    DO0030
       IF      K02  >  INR                                               DO0030
           COMPUTE K02  =  K01 + (INR - INA) * (IRR - 1).                DO0030
       IF      K02  <  1                                                 DO0030
           OR  K02  >  INT                                               DO0030
               MOVE 1 TO K02.                                            DO0030
       MOVE "X" TO DE-AT (4, K02)                                        DO0030
       PERFORM F7020 THRU F7020-FN.                                      DO0030
   F8Z05-A.                                                              DO0030
       MOVE K-S0030-XTERM TO HE00-XTERM.                                 DO0030
       IF      K-S0030-DOC  =  "1"                                       DO0030
           PERFORM F80-HELP-R THRU F80-FN                                DO0030
           MOVE HE00-SCREEN TO O-0030                                    DO0030
           MOVE "0" TO K-S0030-DOC                                       DO0030
           GO TO F8Z05-FN.                                               DO0030
       IF      K-S0030-DOC NOT  =  ZERO                                  DO0030
           GO TO F8Z05-FN.                                               DO0030
       PERFORM F80-HELP-R THRU F80-FN.                                   DO0030
       MOVE K-S0030-XTERM TO HE00-XTERM                                  DO0030
       MOVE O-0030 TO HE00-SCREEN.                                       DO0030
       IF      IK  =  "1"                                                DO0030
           PERFORM F80-HELP-W THRU F80-FN                                DO0030
       ELSE                                                              DO0030
           PERFORM F80-HELP-RW THRU F80-FN.                              DO0030
   F8Z05-FN.                                                             DO0030
       EXIT.                                                             DO0030
  *          ************************************                       DO0030
  *          *                                  *                       DO0030
  *          *  DISPLAY                         *                       DO0030
  *          *                                  *                       DO0030
  *          ************************************                       DO0030
   F8Z10.                                                                DO0030
       IF      SCR-ER NOT  >  "1"                                        DO0030
           AND DE-AT (4, 010)  =  "X"                                    DO0030
               PERFORM F7020 THRU F7020-FN.                              DO0030
       MOVE 1 TO 7-CD02-XNDEST                                           DO0030
       MOVE K-S0030-XTERM TO 7-CD02-XTERM.                               DO0030
       MOVE PROGR TO K-S0030-PROGR                                       DO0030
       IF      SCR-ER NOT  >  "1"                                        DO0030
           PERFORM F8125 THRU F8125-FN.                                  DO0030
       IF      SCR-ER NOT  >  "1"                                        DO0030
           MOVE ALL "S" TO TABLE-SV                                      DO0030
           GO TO F8Z10-D.                                                DO0030
       MOVE SPACES TO TABLE-SV                                           DO0030
       MOVE ZERO TO K01.                                                 DO0030
   F8Z10-A.                                                              DO0030
       ADD 1 TO K01.                                                     DO0030
       IF      K01  >  INT                                               DO0030
           GO TO F8Z10-B.                                                DO0030
       MOVE SV-AT (K01) TO K02                                           DO0030
       MOVE "S" TO SV-FIELD (K02)                                        DO0030
       GO TO F8Z10-A.                                                    DO0030
   F8Z10-B.                                                              DO0030
       MOVE ZERO TO K01.                                                 DO0030
   F8Z10-C.                                                              DO0030
       ADD 1 TO K01.                                                     DO0030
       IF      K01  >  IER                                               DO0030
           GO TO F8Z10-D.                                                DO0030
       MOVE SV-ER (K01) TO K02                                           DO0030
       MOVE "S" TO SV-FIELD (K02)                                        DO0030
       GO TO F8Z10-C.                                                    DO0030
   F8Z10-D.                                                              DO0030
       MOVE "3" TO F-LEVEL.                                              DO0030
       MOVE ZERO TO 7-CD02-XMSTA.                                        DO0030
       CALL "CDSEND" USING F-CDOUT OUTPUT-SCREEN-FIELDS F-LEVEL          DO0030
       SCREEN-SV.                                                        DO0030
       IF      7-CD02-XMSTA NOT  =  ZERO                                 DO0030
           GO TO F81ER.                                                  DO0030
```

```
    F8Z10-FN.                                                          DO0030
        EXIT.                                                          DO0030
      *           ************************************                 DO0030
      *           *                                  *                 DO0030
      *           *  END OF PROGRAM                  *                 DO0030
      *           *                                  *                 DO0030
      *           ************************************                 DO0030
     F8Z20.                                                            DO0030
        MOVE PROGE TO NEXT-TPR.                                        DO0030
     F8Z20-A.                                                          DO0030
        EXIT PROGRAM.                                                  DO0030
     F8Z20-FN.                                                         DO0030
        EXIT.                                                          DO0030
     F8Z-FN.                                                           DO0030
        EXIT.                                                          DO0030
```

3.17. F80 : PHYSICAL SEGMENT ACCESS ROUTINES

F80: PHYSICAL SEGMENT ACCESS ROUTINES

The PHYSICAL SEGMENT ACCESS ROUTINES (F80) function, which is generated when at least one segment is called in the screen, includes physical access to the segments.

The coding for these access sub-functions is illustrated in the following example. (The segment code from the program in this example is CD10.)

```
F80-CD10-R   Direct read.

F80-CD10-RU  Direct read with update.

F80-CD10-P   Positioning of a sequential read.

F80-CD10-RN  Sequential read.

F80-CD10-W   Write.

F80-CD10-RW  Rewrite.

F80-CD10-D   Deletion.

F80-CD10-UN  Unlock of record.
```

If a call for HELP documentation has been entered on the Screen Definition screen, the physical access(es) to the back-up file is (are) generated. The coding of the access sub-functions is illustrated as follows:

```
F80-HELP-W   Write.

F80-HELP-RW  Rewrite.

F80-HELP-R   Direct read.

F80-HELP-D   Deletion.
```

If the access methods are user-programmed, refer to Chapter "USE OF STRUCTURED CODE" in the OLSD Reference Manual.

```
*           ************************************                DO0030
*           *                                  *                DO0030
*           *  PHYSICAL SEGMENT ACCESS ROUTINES *                DO0030
*           *                                  *                DO0030
*           ************************************                DO0030
 F80.                                                           DO0030
     EXIT.                                                      DO0030
     PERFORM F81ER THRU F81ER-FN                                DO0030
     GO TO F80-KO.                                              DO0030
 F8001-FN.                                                      DO0030
     EXIT.                                                      DO0030
 F80-CD05-R.                                                    DO0030
     READ CD-FILE INVALID KEY                                   DO0030
         GO TO F80-KO.                                          DO0030
     GO TO F80-OK.                                              DO0030
 F80-CD05-RU.                                                   DO0030
     READ CD-FILE INVALID KEY                                   DO0030
         GO TO F80-KO.                                          DO0030
     GO TO F80-OK.                                              DO0030
 F80-CD05-RW.                                                   DO0030
     REWRITE CD05 INVALID KEY                                   DO0030
         GO TO F80-KO.                                          DO0030
     GO TO F80-OK.                                              DO0030
 F80-CD05-UN.                                                   DO0030
     GO TO F80-OK.                                              DO0030
 F8002-FN.                                                      DO0030
     EXIT.                                                      DO0030
 F80-CD10-R.                                                    DO0030
     READ CD-FILE INVALID KEY                                   DO0030
         GO TO F80-KO.                                          DO0030
     GO TO F80-OK.                                              DO0030
 F80-CD10-RU.                                                   DO0030
     READ CD-FILE INVALID KEY                                   DO0030
         GO TO F80-KO.                                          DO0030
     GO TO F80-OK.                                              DO0030
 F80-CD10-P.                                                    DO0030
     START CD-FILE KEY NOT  <  CD00-CLECD INVALID KEY           DO0030
         GO TO F80-KO.                                          DO0030
 F80-CD10-RN.                                                   DO0030
     READ CD-FILE                                               DO0030
         NEXT AT END                                            DO0030
         GO TO F80-KO.                                          DO0030
     GO TO F80-OK.                                              DO0030
 F80-CD10-W.                                                    DO0030
     WRITE CD10 INVALID KEY                                     DO0030
         GO TO F80-KO.                                          DO0030
     GO TO F80-OK.                                              DO0030
 F80-CD10-RW.                                                   DO0030
     REWRITE CD10 INVALID KEY                                   DO0030
         GO TO F80-KO.                                          DO0030
     GO TO F80-OK.                                              DO0030
 F80-CD10-D.                                                    DO0030
     DELETE CD-FILE INVALID KEY                                 DO0030
         GO TO F80-KO.                                          DO0030
     GO TO F80-OK.                                              DO0030
 F80-CD10-UN.                                                   DO0030
     GO TO F80-OK.                                              DO0030
 F8003-FN.                                                      DO0030
     EXIT.                                                      DO0030
 F80-CD20-RU.                                                   DO0030
     READ CD-FILE INVALID KEY                                   DO0030
         GO TO F80-KO.                                          DO0030
     GO TO F80-OK.                                              DO0030
 F80-CD20-W.                                                    DO0030
     WRITE CD20 INVALID KEY                                     DO0030
         GO TO F80-KO.                                          DO0030
     GO TO F80-OK.                                              DO0030
 F80-CD20-RW.                                                   DO0030
     REWRITE CD20 INVALID KEY                                   DO0030
         GO TO F80-KO.                                          DO0030
     GO TO F80-OK.                                              DO0030
 F80-CD20-UN.                                                   DO0030
     GO TO F80-OK.                                              DO0030
 F8004-FN.                                                      DO0030
     EXIT.                                                      DO0030
 F80-FO10-RU.                                                   DO0030
     READ FO-FILE INVALID KEY                                   DO0030
```

```
            GO TO F80-KO.                                    DO0030
        GO TO F80-OK.                                        DO0030
    F80-FO10-RW.                                             DO0030
        REWRITE FO10 INVALID KEY                             DO0030
            GO TO F80-KO.                                    DO0030
        GO TO F80-OK.                                        DO0030
    F80-FO10-UN.                                             DO0030
        GO TO F80-OK.                                        DO0030
    F8005-FN.                                                DO0030
        EXIT.                                                DO0030
    F80-ME00-R.                                              DO0030
        READ ME-FILE INVALID KEY                             DO0030
            GO TO F80-KO.                                    DO0030
        GO TO F80-OK.                                        DO0030
    F80-ME00-RU.                                             DO0030
        READ ME-FILE INVALID KEY                             DO0030
            GO TO F80-KO.                                    DO0030
        GO TO F80-OK.                                        DO0030
    F8006-FN.                                                DO0030
        EXIT.                                                DO0030
    F80-HELP-R.                                              DO0030
        READ HE-FILE INVALID KEY                             DO0030
            GO TO F80-KO.                                    DO0030
        GO TO F80-OK.                                        DO0030
    F80-HELP-W.                                              DO0030
        WRITE HE00 INVALID KEY                               DO0030
            GO TO F80-KO.                                    DO0030
        GO TO F80-OK.                                        DO0030
    F80-HELP-RW.                                             DO0030
        REWRITE HE00 INVALID KEY                             DO0030
            GO TO F80-KO.                                    DO0030
        GO TO F80-OK.                                        DO0030
    F80-HELP-D.                                              DO0030
        DELETE HE-FILE INVALID KEY                           DO0030
            GO TO F80-KO.                                    DO0030
        GO TO F80-OK.                                        DO0030
    F8095-FN.                                                DO0030
        EXIT.                                                DO0030
    F80-EM00-R.                                              DO0030
        READ EM-FILE INVALID KEY                             DO0030
            GO TO F80-KO.                                    DO0030
        GO TO F80-OK.                                        DO0030
    F8098-FN.                                                DO0030
        EXIT.                                                DO0030
    F80-OK.                                                  DO0030
        MOVE "0" TO IK                                       DO0030
        MOVE PROGR TO XPROGR                                 DO0030
        GO TO F80-FN.                                        DO0030
    F80-KO.                                                  DO0030
        MOVE "1" TO IK                                       DO0030
        MOVE PROGR TO XPROGR.                                DO0030
    F8099-FN.                                                DO0030
        EXIT.                                                DO0030
    F80-FN.                                                  DO0030
        EXIT.                                                DO0030
    F81.                                                     DO0030
        EXIT.                                                DO0030
```

3.18. F81 : PERFORMED VALIDATION FUNCTIONS

F81 : PERFORMED VALIDATIONS FUNCTIONS

The PERFORMED VALIDATIONS FUNCTIONS (F81) are always generated.

F81ER contains the abnormal end routine.

F81UT stores the user's errors.

F8110 is generated when there is a numeric field on the screen. It contains the procedures which format the field to be validated in the work area, the numeric class validation, and the positioning of error messages, if required.

F8115 ensures the initialization of the output variable fields. It is performed in Function F0510 if the ICF indicator is equal to '0'.

F8120 is generated if at least one variable data element ('V') has a date format, or if an 'AD'-type operator is specified on the Procedural Code (-P) lines of the program (in this case, the F8120-ER and F8120-KO functions are not generated).

It also contains date formatting and validations.

F8125 is generated if the DYNPRT option is selected.

Allows the backup of the screen variable fields.

F8130 is generated if a call for HELP documentation is entered on the Screen Definition screen. It prepares the field to be saved in the backup file.

F8135 is generated if the DYNPRT option is selected.

Allows the loading of the message received with the protected field which have been backed up before the sending out of the message.

F8150 checks the first character of each input field to detect either of the two documentation Help characters (screen-level or field-level documentation).

```
*           ************************************                DO0030
*           *                                  *                DO0030
*           *  ABNORMAL END PROCEDURE          *                DO0030
*           *                                  *                DO0030
*           ************************************                DO0030
 F81ER.                                                         DO0030
     CALL "ABORT".                                              DO0030
 F81ER-FN.                                                      DO0030
     EXIT.                                                      DO0030
*           ************************************                DO0030
*           *                                  *                DO0030
*           *  MEMORIZATION OF USER'S ERRORS   *                DO0030
*           *                                  *                DO0030
*           ************************************                DO0030
 F81UT.                                                         DO0030
     IF      K50L  <  K50M                                      DO0030
         ADD 1 TO K50L                                          DO0030
         MOVE XEMKY TO T-XEMKY (K50L).                          DO0030
     MOVE "E" TO CAT-ER.                                        DO0030
 F81UT-FN.                                                      DO0030
     EXIT.                                                      DO0030
*           ************************************                DO0030
*           *                                  *                DO0030
*           *  NUMERIC VALIDATION              *                DO0030
*           *                                  *                DO0030
*           ************************************                DO0030
 F8110.                                                         DO0030
     MOVE ZERO TO TPOINT K01 K02 K03 ZONUM3 ZONUM2 C9 C91.      DO0030
 F8110-1.                                                       DO0030
     IF      K01  >  26                                         DO0030
         OR  K02  >  17                                         DO0030
             GO TO F8110-5.                                     DO0030
     ADD 1 TO K01.                                              DO0030
     IF      C1 (K01)  =  SPACE                                 DO0030
         OR  C1 (K01)  =  "."                                   DO0030
             GO TO F8110-1.                                     DO0030
     IF      C1 (K01) NOT  =  "-"                               DO0030
         AND C1 (K01) NOT  =  "+"                               DO0030
             GO TO F8110-2.                                     DO0030
     IF      C9 NOT  =  ZERO                                    DO0030
         MOVE "5" TO DEL-ER                                     DO0030
         GO TO F8110-FN.                                        DO0030
     IF      K02  =  ZERO                                       DO0030
         MOVE "1" TO C91.                                       DO0030
     IF      C1 (K01)  =  "+"                                   DO0030
         MOVE 1 TO C9                                           DO0030
         GO TO F8110-1.                                         DO0030
     IF      SIGNE  =  " "                                      DO0030
         MOVE "5" TO DEL-ER                                     DO0030
         GO TO F8110-FN.                                        DO0030
     MOVE -1 TO C9                                              DO0030
     GO TO F8110-1.                                             DO0030
 F8110-2.                                                       DO0030
     IF      C1 (K01) NOT  =  ","                               DO0030
         GO TO F8110-4.                                         DO0030
     IF      TPOINT  =  "1"                                     DO0030
         OR  NBCHP  =  0                                        DO0030
             MOVE "5" TO DEL-ER                                 DO0030
             GO TO F8110-FN.                                    DO0030
 F8110-3.                                                       DO0030
     IF      K02  >  NBCHA                                      DO0030
         MOVE "5" TO DEL-ER                                     DO0030
         GO TO F8110-FN.                                        DO0030
     COMPUTE K04  =  18 - NBCHA + K02                           DO0030
     MOVE 1 TO C3 (K04)                                         DO0030
     DIVIDE ZONUM4 INTO ZONUM9                                  DO0030
     MOVE NBCHA TO K02                                          DO0030
     MOVE "1" TO TPOINT                                         DO0030
     GO TO F8110-1.                                             DO0030
 F8110-4.                                                       DO0030
     IF      C1 (K01) NOT NUMERIC                               DO0030
         MOVE "4" TO DEL-ER                                     DO0030
         GO TO F8110-FN.                                        DO0030
     IF      C9 NOT  =  ZERO                                    DO0030
         AND C91  =  ZERO                                       DO0030
             MOVE "5" TO DEL-ER                                 DO0030
             GO TO F8110-FN.                                    DO0030
```

```
       IF      C1 (K01)  =  "0"                                  DO0030
           AND K02  =  ZERO                                      DO0030
           AND TPOINT  =  "0"                                    DO0030
               GO TO F8110-1.                                    DO0030
       ADD 1 TO K02                                              DO0030
       MOVE C1 (K01) TO C2 (K02).                                DO0030
       IF      TPOINT  =  "1"                                    DO0030
           ADD 1 TO K03.                                         DO0030
       IF      K03  >  NBCHP                                     DO0030
           MOVE "5" TO DEL-ER                                    DO0030
           GO TO F8110-FN.                                       DO0030
       GO TO F8110-1.                                            DO0030
   F8110-5.                                                      DO0030
       IF      TPOINT  =  "0"                                    DO0030
           AND K02  >  ZERO                                      DO0030
               GO TO F8110-3.                                    DO0030
       IF      SIGNE NOT  =  "+"                                 DO0030
           GO TO F8110-FN.                                       DO0030
       IF      C9  =  ZERO                                       DO0030
           MOVE 1 TO C9.                                         DO0030
       ADD NBCHA NBCHP GIVING K01                                DO0030
       MULTIPLY C9 BY C29 (K01).                                 DO0030
       IF      C29 (K01)  =  ZERO                                DO0030
           AND C9  =  -1                                         DO0030
               MOVE C4 TO C2 (K01).                              DO0030
   F8110-FN.                                                     DO0030
       EXIT.                                                     DO0030
   F8115.                                                        DO0030
       MOVE ALL "-" TO O-0030-CHOIX.                             DO0030
       MOVE ALL "-" TO O-0030-MATE.                              DO0030
       MOVE ALL "-" TO O-0030-RELEA.                             DO0030
       MOVE ALL "-" TO O-0030-RUE.                               DO0030
       MOVE ALL "-" TO O-0030-COPOS.                             DO0030
       MOVE ALL "-" TO O-0030-REFCLI.                            DO0030
       MOVE "..__.." TO O-0030-DATE.                             DO0030
       MOVE ALL "-" TO O-0030-CORRES.                            DO0030
       MOVE ALL "-" TO F-0030-REMIS.                             DO0030
       MOVE ZERO TO ICATR.                                       DO0030
   F8115-GRP.                                                    DO0030
       ADD 1 TO ICATR                                            DO0030
       MOVE P-0030-LINE (ICATR) TO O-0030-LINE                   DO0030
       MOVE ALL "-" TO O-0030-CODMVT.                            DO0030
       MOVE ALL "-" TO O-0030-FOURNI.                            DO0030
       MOVE ALL "-" TO F-0030-QTMAC.                             DO0030
       MOVE ALL "-" TO O-0030-INFOR.                             DO0030
       MOVE O-0030-LINE TO P-0030-LINE (ICATR).                  DO0030
       IF      ICATR  <  IRR                                     DO0030
           GO TO F8115-GRP.                                      DO0030
       MOVE ALL "-" TO O-0030-EDIT.                              DO0030
   F8115-FN.                                                     DO0030
       EXIT.                                                     DO0030
  *           ************************************              DO0030
  *           *                                  *              DO0030
  *           *  VALIDATION AND SETTING OF DATE  *              DO0030
  *           *                                  *              DO0030
  *           ************************************              DO0030
   F8120.                                                        DO0030
       EXIT.                                                     DO0030
   F8120-C.                                                      DO0030
       MOVE DAT73C TO DATCTY.                                    DO0030
       MOVE DAT71C TO DAT71.                                     DO0030
       MOVE DAT72C TO DAT72.                                     DO0030
       MOVE DAT74C TO DAT73.                                     DO0030
       MOVE "0011" TO TT-DAT                                     DO0030
       GO TO F8120-T.                                            DO0030
   F8120-D.                                                      DO0030
       MOVE CENTUR TO DATCTY DAT73C.                             DO0030
       MOVE DAT71 TO DAT71C.                                     DO0030
       MOVE DAT72 TO DAT72C                                      DO0030
       MOVE DAT73 TO DAT74C.                                     DO0030
       MOVE "0011" TO TT-DAT                                     DO0030
       GO TO F8120-T.                                            DO0030
   F8120-E.                                                      DO0030
       MOVE CENTUR TO DATCTY DAT83C.                             DO0030
       MOVE DAT81 TO DAT81C.                                     DO0030
       MOVE DAT82 TO DAT82C.                                     DO0030
       MOVE DAT83 TO DAT84C.                                     DO0030
```

```
       MOVE "0101" TO TT-DAT                                          DO0030
       GO TO F8120-T.                                                 DO0030
   F8120-I.                                                           DO0030
       MOVE CENTUR TO DATCTY DAT61C.                                  DO0030
       MOVE DAT61 TO DAT62C.                                          DO0030
       MOVE DAT62 TO DAT63C.                                          DO0030
       MOVE DAT63 TO DAT64C.                                          DO0030
       MOVE "1010" TO TT-DAT                                          DO0030
       GO TO F8120-T.                                                 DO0030
   F8120-M.                                                           DO0030
       MOVE DAT83C TO DATCTY.                                         DO0030
       MOVE DAT81C TO DAT81.                                          DO0030
       MOVE DAT82C TO DAT82.                                          DO0030
       MOVE DAT84C TO DAT83                                           DO0030
       MOVE DATSEP TO DAT8S1 DAT8S2.                                  DO0030
       MOVE "0101" TO TT-DAT                                          DO0030
       GO TO F8120-T.                                                 DO0030
   F8120-S.                                                           DO0030
       MOVE DAT61C TO DATCTY.                                         DO0030
       MOVE DAT62C TO DAT61.                                          DO0030
       MOVE DAT63C TO DAT62.                                          DO0030
       MOVE DAT64C TO DAT63.                                          DO0030
       MOVE "1010" TO TT-DAT.                                         DO0030
   F8120-T.                                                           DO0030
       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
   F8120-Z.                                                           DO0030
       EXIT.                                                          DO0030
   F8120-ER.                                                          DO0030
       MOVE "1" TO DEL-ER.                                            DO0030
       IF      DAT6 NOT NUMERIC                                       DO0030
           GO TO F8120-KO.                                            DO0030
       IF      DATCTY NOT NUMERIC                                     DO0030
           GO TO F8120-KO.                                            DO0030
       IF      DAT62  >  "12"                                         DO0030
           OR  DAT62  =  "00"                                         DO0030
           OR  DAT63  >  "31"                                         DO0030
           OR  DAT63  =  "00"                                         DO0030
               GO TO F8120-KO.                                        DO0030
       IF      DAT63  >  "30"                                         DO0030
           AND (DAT62  =  "04"                                        DO0030
           OR  DAT62  =  "06"                                         DO0030
           OR  DAT62  =  "09"                                         DO0030
           OR  DAT62  =  "11")   GO TO F8120-KO.                      DO0030
       IF      DAT62 NOT  =  "02"                                     DO0030
           GO TO F8120-FN.                                            DO0030
       IF      DAT63  >  "29"                                         DO0030
           GO TO F8120-KO.                                            DO0030
       DIVIDE DAT619 BY 4 GIVING LEAP-REM                             DO0030
       COMPUTE LEAP-REM  =  DAT619 - 4 * LEAP-REM.                    DO0030
       IF      DAT63  <  "29"                                         DO0030
           OR  LEAP-REM  =  ZERO                                      DO0030
               GO TO F8120-FN.                                        DO0030
   F8120-KO.                                                          DO0030
       MOVE "5" TO DEL-ER.                                            DO0030
   F8120-FN.                                                          DO0030
       EXIT.                                                          DO0030
  *          ************************************                    DO0030
```

```
*           *                                   *               DO0030
*           *  DISPLAY TRANSFER                 *               DO0030
*           *                                   *               DO0030
*           *************************************               DO0030
 F8125.                                                         DO0030
     MOVE O-0030-CHOIX TO T-0030-CHOIX                          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.                                                     DO0030
     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                                      DO0030
         GO TO F8125-GRP.                                       DO0030
     MOVE O-0030-EDIT TO T-0030-EDIT.                           DO0030
 F8125-FN.                                                      DO0030
     EXIT.                                                      DO0030
*           *************************************               DO0030
*           *                                   *               DO0030
*           *  HELP SUB-FUNCTION                *               DO0030
*           *                                   *               DO0030
*           *************************************               DO0030
 F8130.                                                         DO0030
     IF      I-0030-CHOIX NOT  =  HIGH-VALUE                    DO0030
         MOVE I-0030-CHOIX TO O-0030-CHOIX.                     DO0030
     IF      I-0030-MATE NOT  =  HIGH-VALUE                     DO0030
         MOVE I-0030-MATE TO O-0030-MATE.                       DO0030
     IF      I-0030-RELEA NOT  =  HIGH-VALUE                    DO0030
         MOVE I-0030-RELEA TO O-0030-RELEA.                     DO0030
     IF      I-0030-RUE NOT  =  HIGH-VALUE                      DO0030
         MOVE I-0030-RUE TO O-0030-RUE.                         DO0030
     IF      I-0030-COPOS NOT  =  HIGH-VALUE                    DO0030
         MOVE I-0030-COPOS TO O-0030-COPOS.                     DO0030
     IF      I-0030-REFCLI NOT  =  HIGH-VALUE                   DO0030
         MOVE I-0030-REFCLI TO O-0030-REFCLI.                   DO0030
     IF      I-0030-DATE NOT  =  HIGH-VALUE                     DO0030
         MOVE I-0030-DATE TO O-0030-DATE.                       DO0030
     IF      I-0030-CORRES NOT  =  HIGH-VALUE                   DO0030
         MOVE I-0030-CORRES TO O-0030-CORRES.                   DO0030
     IF      E-0030-REMIS NOT  =  HIGH-VALUE                    DO0030
         MOVE E-0030-REMIS TO F-0030-REMIS.                     DO0030
     MOVE ZERO TO ICATR.                                        DO0030
 F8130-GRP.                                                     DO0030
     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
     IF      I-0030-CODMVT NOT  =  HIGH-VALUE                   DO0030
         MOVE I-0030-CODMVT TO O-0030-CODMVT.                   DO0030
     IF      I-0030-FOURNI NOT  =  HIGH-VALUE                   DO0030
         MOVE I-0030-FOURNI TO O-0030-FOURNI.                   DO0030
     IF      E-0030-QTMAC NOT  =  HIGH-VALUE                    DO0030
         MOVE E-0030-QTMAC TO F-0030-QTMAC.                     DO0030
     IF      I-0030-INFOR NOT  =  HIGH-VALUE                    DO0030
         MOVE I-0030-INFOR TO O-0030-INFOR.                     DO0030
     MOVE O-0030-LINE TO P-0030-LINE (ICATR).                   DO0030
     IF      ICATR  <  IRR                                      DO0030
         GO TO F8130-GRP.                                       DO0030
     IF      I-0030-EDIT NOT  =  HIGH-VALUE                     DO0030
         MOVE I-0030-EDIT TO O-0030-EDIT.                       DO0030
 F8130-FN.                                                      DO0030
     EXIT.                                                      DO0030
*           *************************************               DO0030
*           *                                   *               DO0030
*           *  RECEPTION TRANSFER               *               DO0030
*           *                                   *               DO0030
```

```
*           ************************************                DO0030
 F8135.                                                         DO0030
     IF      I-0030-CHOIX  =  LOW-VALUE                         DO0030
         MOVE T-0030-CHOIX TO I-0030-CHOIX                      DO0030
     ELSE                                                       DO0030
         MOVE I-0030-CHOIX TO T-0030-CHOIX.                     DO0030
     IF      I-0030-MATE  =  LOW-VALUE                          DO0030
         MOVE T-0030-MATE TO I-0030-MATE                        DO0030
     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                      DO0030
     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                          DO0030
     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                      DO0030
     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                    DO0030
     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                        DO0030
     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                    DO0030
     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                      DO0030
     ELSE                                                       DO0030
         MOVE E-0030-REMIS TO T-0030-REMIS.                     DO0030
     MOVE ZERO TO ICATR.                                        DO0030
 F8135-GRP.                                                     DO0030
     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                    DO0030
     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                    DO0030
     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                      DO0030
     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                      DO0030
     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                                      DO0030
         GO TO F8135-GRP.                                       DO0030
     IF      I-0030-EDIT  =  LOW-VALUE                          DO0030
         MOVE T-0030-EDIT TO I-0030-EDIT                        DO0030
     ELSE                                                       DO0030
         MOVE I-0030-EDIT TO T-0030-EDIT.                       DO0030
 F8135-FN.                                                      DO0030
     EXIT.                                                      DO0030
*           ************************************               DO0030
*           *                                  *               DO0030
*           * SEARCH FOR DOCUMENTATION REQUEST  *              DO0030
*           *                                  *               DO0030
*           ************************************               DO0030
 F8150.                                                         DO0030
     MOVE ZERO TO K-S0030-ERCOD.                                DO0030
     IF      I-0030-CHOIX  =  "$"                               DO0030
```

```
           MOVE HIGH-VALUE TO I-0030-CHOIX                    DO0030
           MOVE 001 TO K-S0030-ERCOD                          DO0030
           GO TO F8150-FN.                                    DO0030
       IF      I-0030-CHOIX  =  "="                           DO0030
           MOVE HIGH-VALUE TO I-0030-CHOIX                    DO0030
           MOVE SPACE TO K-S0030-ERCOD                        DO0030
           GO TO F8150-FN.                                    DO0030
       IF      I-0030-MATE  =  "$"                            DO0030
           MOVE HIGH-VALUE TO I-0030-MATE                     DO0030
           MOVE 002 TO K-S0030-ERCOD                          DO0030
           GO TO F8150-FN.                                    DO0030
       IF      I-0030-MATE  =  "="                            DO0030
           MOVE HIGH-VALUE TO I-0030-MATE                     DO0030
           MOVE SPACE TO K-S0030-ERCOD                        DO0030
           GO TO F8150-FN.                                    DO0030
       IF      I-0030-RELEA  =  "$"                           DO0030
           MOVE HIGH-VALUE TO I-0030-RELEA                    DO0030
           MOVE 003 TO K-S0030-ERCOD                          DO0030
           GO TO F8150-FN.                                    DO0030
       IF      I-0030-RELEA  =  "="                           DO0030
           MOVE HIGH-VALUE TO I-0030-RELEA                    DO0030
           MOVE SPACE TO K-S0030-ERCOD                        DO0030
           GO TO F8150-FN.                                    DO0030
       IF      I-0030-RUE  =  "$"                             DO0030
           MOVE HIGH-VALUE TO I-0030-RUE                      DO0030
           MOVE 004 TO K-S0030-ERCOD                          DO0030
           GO TO F8150-FN.                                    DO0030
       IF      I-0030-RUE  =  "="                             DO0030
           MOVE HIGH-VALUE TO I-0030-RUE                      DO0030
           MOVE SPACE TO K-S0030-ERCOD                        DO0030
           GO TO F8150-FN.                                    DO0030
       IF      I-0030-COPOS  =  "$"                           DO0030
           MOVE HIGH-VALUE TO I-0030-COPOS                    DO0030
           MOVE 005 TO K-S0030-ERCOD                          DO0030
           GO TO F8150-FN.                                    DO0030
       IF      I-0030-COPOS  =  "="                           DO0030
           MOVE HIGH-VALUE TO I-0030-COPOS                    DO0030
           MOVE SPACE TO K-S0030-ERCOD                        DO0030
           GO TO F8150-FN.                                    DO0030
       IF      I-0030-REFCLI  =  "$"                          DO0030
           MOVE HIGH-VALUE TO I-0030-REFCLI                   DO0030
           MOVE 006 TO K-S0030-ERCOD                          DO0030
           GO TO F8150-FN.                                    DO0030
       IF      I-0030-REFCLI  =  "="                          DO0030
           MOVE HIGH-VALUE TO I-0030-REFCLI                   DO0030
           MOVE SPACE TO K-S0030-ERCOD                        DO0030
           GO TO F8150-FN.                                    DO0030
       IF      I-0030-DATE  =  "$"                            DO0030
           MOVE HIGH-VALUE TO I-0030-DATE                     DO0030
           MOVE 007 TO K-S0030-ERCOD                          DO0030
           GO TO F8150-FN.                                    DO0030
       IF      I-0030-DATE  =  "="                            DO0030
           MOVE HIGH-VALUE TO I-0030-DATE                     DO0030
           MOVE SPACE TO K-S0030-ERCOD                        DO0030
           GO TO F8150-FN.                                    DO0030
       IF      I-0030-CORRES  =  "$"                          DO0030
           MOVE HIGH-VALUE TO I-0030-CORRES                   DO0030
           MOVE 008 TO K-S0030-ERCOD                          DO0030
           GO TO F8150-FN.                                    DO0030
       IF      I-0030-CORRES  =  "="                          DO0030
           MOVE HIGH-VALUE TO I-0030-CORRES                   DO0030
           MOVE SPACE TO K-S0030-ERCOD                        DO0030
           GO TO F8150-FN.                                    DO0030
       IF      E-0030-REMIS  =  "$"                           DO0030
           MOVE HIGH-VALUE TO E-0030-REMIS                    DO0030
           MOVE 009 TO K-S0030-ERCOD                          DO0030
           GO TO F8150-FN.                                    DO0030
       IF      E-0030-REMIS  =  "="                           DO0030
           MOVE HIGH-VALUE TO E-0030-REMIS                    DO0030
           MOVE SPACE TO K-S0030-ERCOD                        DO0030
           GO TO F8150-FN.                                    DO0030
       MOVE ZERO TO ICATR.                                    DO0030
   F8150-GRP.                                                 DO0030
       ADD 1 TO ICATR                                         DO0030
       MOVE J-0030-LINE (ICATR) TO I-0030-LINE                DO0030
       IF      I-0030-CODMVT  =  "$"                          DO0030
           MOVE HIGH-VALUE TO I-0030-CODMVT                   DO0030
```

```
           MOVE 010 TO K-S0030-ERCOD                              DO0030
           GO TO F8150-A.                                         DO0030
       IF      I-0030-CODMVT  =  "="                              DO0030
           MOVE HIGH-VALUE TO I-0030-CODMVT                       DO0030
           MOVE SPACE TO K-S0030-ERCOD                            DO0030
           GO TO F8150-A.                                         DO0030
       IF      I-0030-FOURNI  =  "$"                              DO0030
           MOVE HIGH-VALUE TO I-0030-FOURNI                       DO0030
           MOVE 011 TO K-S0030-ERCOD                              DO0030
           GO TO F8150-A.                                         DO0030
       IF      I-0030-FOURNI  =  "="                              DO0030
           MOVE HIGH-VALUE TO I-0030-FOURNI                       DO0030
           MOVE SPACE TO K-S0030-ERCOD                            DO0030
           GO TO F8150-A.                                         DO0030
       IF      E-0030-QTMAC  =  "$"                               DO0030
           MOVE HIGH-VALUE TO E-0030-QTMAC                        DO0030
           MOVE 012 TO K-S0030-ERCOD                              DO0030
           GO TO F8150-A.                                         DO0030
       IF      E-0030-QTMAC  =  "="                               DO0030
           MOVE HIGH-VALUE TO E-0030-QTMAC                        DO0030
           MOVE SPACE TO K-S0030-ERCOD                            DO0030
           GO TO F8150-A.                                         DO0030
       IF      I-0030-INFOR  =  "$"                               DO0030
           MOVE HIGH-VALUE TO I-0030-INFOR                        DO0030
           MOVE 013 TO K-S0030-ERCOD                              DO0030
           GO TO F8150-A.                                         DO0030
       IF      I-0030-INFOR  =  "="                               DO0030
           MOVE HIGH-VALUE TO I-0030-INFOR                        DO0030
           MOVE SPACE TO K-S0030-ERCOD                            DO0030
           GO TO F8150-A.                                         DO0030
       MOVE I-0030-LINE TO J-0030-LINE (ICATR).                   DO0030
       IF      ICATR  <  IRR                                      DO0030
           GO TO F8150-GRP.                                       DO0030
       IF      I-0030-EDIT  =  "$"                                DO0030
           MOVE HIGH-VALUE TO I-0030-EDIT                         DO0030
           MOVE 014 TO K-S0030-ERCOD                              DO0030
           GO TO F8150-FN.                                        DO0030
       IF      I-0030-EDIT  =  "="                                DO0030
           MOVE HIGH-VALUE TO I-0030-EDIT                         DO0030
           MOVE SPACE TO K-S0030-ERCOD                            DO0030
           GO TO F8150-FN.                                        DO0030
       GO TO F8150-FN.                                            DO0030
   F8150-A.                                                       DO0030
       MOVE I-0030-LINE TO J-0030-LINE (ICATR).                   DO0030
   F8150-FN.                                                      DO0030
       EXIT.                                                      DO0030
   F81-FN.                                                        DO0030
       EXIT.                                                      DO0030
```

3.19. CALLED USER FUNCTIONS

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

4. HELP FUNCTION

4.1. PRESENTATION

PRESENTATION

The user can access context-sensitive help for a screen or a data element on that screen through the activation of a program commonly known as the "HELP Function".

The purpose of the HELP function is to display the messages contained in the Error Message file.

For information on the character used to call the HELP documentation of a given screen or data element, refer to Subchapter, "DIALOGUE OR SCREEN DEFINITION" in the ON-LINE SYSTEMS DEVELOPMENT Reference Manual.

USING THE "HELP" PROGRAM

To use the specifications of the "HELP" function in a dialogue, an additional screen has to be defined.

This screen belongs to the dialogue. Thus, the first two characters of its code must be the same as those of the corresponding dialogue, the last four being the code of the HELP screen. For Dialogue 'XX', the HELP screen would be coded: 'XXHELP'.

The 'XXHELP' screen must be defined but not described (i.e., only the 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 is up to the user.

The user must generate and compile the 'XXHELP' program (the generated COBOL program has the same structure as an on-line screen program).

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

- For the Screen documentation:

. Screen-related documentation (texts and comments),

. Segment access error messages.

- For the Data Element documentation:

. Standard error messages generated by the System,

. Explicit manual error messages,

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

. Screen general documentation lines associated with the Data Element (CH: O.....G).

(For further details, refer to Subchapter "ERROR MESSAGES: CODING", Chapter "ERROR MESSAGES - HELP FUNCTION" in the ON-LINE SYSTEMS DEVELOPMENT Reference Manual).

NOTE: If the Error Message file is generated with the 'C1' option, only the error messages are generated. If it is generated with the 'C2' option, in addition to the error messages, comments and documentation associated with the Screen are also generated.

HELP FUNCTION **4**
PRESENTATION **1**

A "HELP" program generated from a dialogue can be used by 'n' dialogues. It is generated once, and the 'XXHELP' screens of the various dialogues must have the same external names (PROGRAM and MAP). User input on a screen is saved, before the "HELP" screen display, by the calling program in a file whose default name is 'HE' (see Chapter GENERATED PROGRAM, Sub-chapter SEGMENT DESCRIPTION).

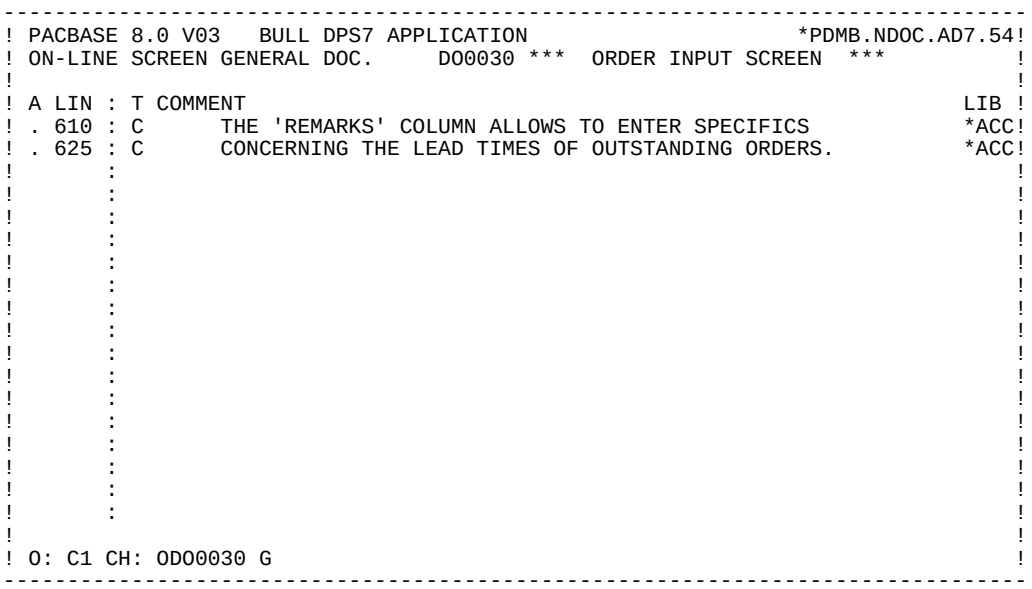
HELP FUNCTION **4**
PRESENTATION **1**

```
--------------------------------------------------------------------------------
! PACBASE 8.0 V03   BULL DPS7 APPLICATION                    *PDMB.NDOC.AD7.54!
! ON-LINE SCREEN GENERAL DOC.     DO0030 ***  ORDER INPUT SCREEN  ***          !
!                                                                              !
! A LIN : T COMMENT                                                      LIB !
! . 020 : C      THIS SCREEN ALLOWS TO ENTER AN ORDER OF PACBASE          *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!
!                                                                         *ACC!
!                                                                             !
! O: C1 CH: ODO0030 G                                                         !
--------------------------------------------------------------------------------
```

HELP FUNCTION 4
PRESENTATION 1

```
-------------------------------------------------------------------------------
! PACBASE 8.0 V03   BULL DPS7 APPLICATION                  *PDMB.NDOC.AD7.54!
! ON-LINE SCREEN GENERAL DOC.     DO0030 ***  ORDER INPUT SCREEN  ***          !
!                                                                             !
! A LIN : T COMMENT                                                    LIB !
! . 210 : U F  9 MANUAL DOES NOT BELONG TO PACBASE DOCUMENTATION.          *ACC!
! . 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!
!                                                                             !
! O: C1 CH: ODO0030 G                                                         !
-------------------------------------------------------------------------------
```

HELP FUNCTION 4
PRESENTATION 1



HELP FUNCTION **4**
PRESENTATION **1**

```
--------------------------------------------------------------------------------
! PACBASE 8.0 V03   BULL DPS7 APPLICATION                    *PDMB.NDOC.AD7.54!
! 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:   =        $                          !
!                                                                             !
!                                    LABELS  DISPLAY INPUT  ER.MESS.  ER.FLD.!
! INTENSITY ATTRIBUTE ..............:   N        N      N        B        B   !
! PRESENTATION ATTRIBUTE ...........:   N        N      N        N        N   !
! COLOR ATTRIBUTE ..................:   W        W      W        W        W   !
!                                                                             !
! TYPE OF COBOL AND MAP TO GENERATE..:   4   0     HB DPS7 TDS FORMS         !
! 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:                                !
--------------------------------------------------------------------------------
```

HELP FUNCTION 4
PRESENTATION 1

```
--------------------------------------------------------------------------------
!                                                                              !
!DOCUMENTATION OF THE SCREEN   ***  ORDER INPUT SCREEN  ***                     !
!                                                                              !
!                                                                              !
!        THIS SCREEN ALLOWS TO ENTER AN ORDER OF PACBASE                       !
!        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 4
PRESENTATION 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)                          !
!                                                                              !
```

4.2. GENERATED HELP PROGRAM

```
IDENTIFICATION DIVISION.
PROGRAM-ID. DOP050.                                                    DOHELP
AUTHOR.     HELP FUNCTION SCREEN.                                      DOHELP
DATE-COMPILED. 10/31/90.                                               DOHELP
ENVIRONMENT DIVISION.                                                  DOHELP
CONFIGURATION SECTION.                                                 DOHELP
SOURCE-COMPUTER. LEVEL-64.                                             DOHELP
OBJECT-COMPUTER. LEVEL-64.                                             DOHELP
SPECIAL-NAMES.                                                         DOHELP
     DECIMAL-POINT IS COMMA                                            DOHELP
     OBJECT IS COMMA.                                                  DOHELP
INPUT-OUTPUT SECTION.                                                  DOHELP
FILE-CONTROL.                                                          DOHELP
 COPY   SELECT-EM-FILE.                                                DOHELP
DATA DIVISION.                                                         DOHELP
FILE SECTION.                                                          DOHELP
FD                EM-FILE                                              DOHELP
        BLOCK     00001 RECORDS                                        DOHELP
        DATA RECORD                                                    DOHELP
                  EM00                                                 DOHELP
             LABEL RECORD STANDARD.                                    DOHELP
01              EM00.                                                  DOHELP
  05            EM00-EMKEY.                                            DOHELP
    10          EM00-LIBRA    PICTURE X(3).                            DOHELP
    10          EM00-ENTYP    PICTURE X.                               DOHELP
    10          EM00-XEMKY.                                            DOHELP
      15        EM00-PROGR    PICTURE X(6).                            DOHELP
      15        EM00-ERCOD.                                            DOHELP
        20      EM00-ERCOD9   PICTURE 9(3).                            DOHELP
      15        EM00-ERTYP    PICTURE X.                               DOHELP
    10          EM00-LINUM    PICTURE 9(3).                            DOHELP
  05            EM00-ERLVL    PICTURE X.                               DOHELP
  05            EM00-ERMSG    PICTURE X(66).                           DOHELP
  05            FILLER        PICTURE X(6).                            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            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 : 22/08/90                                         DOHELP
*            PACE80 : 24/08/90   PAC7SG : 900824                       DOHELP
  05            SESSI         PICTURE X(5) VALUE "0046 ".              DOHELP
  05            LIBRA         PICTURE X(3) VALUE "AD7".                DOHELP
  05            DATGN         PICTURE X(8) VALUE "10/31/90".           DOHELP
  05            PROGR         PICTURE X(6) VALUE "DOHELP".             DOHELP
  05            PROGE         PICTURE X(8) VALUE "DOP050  ".           DOHELP
  05            TIMGN         PICTURE X(8) VALUE "11:45:36".           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
  10            DAT8S2        PICTURE X.                       DOHELP
  10            DAT83         PICTURE XX.                      DOHELP
01              DATSEP        PICTURE X VALUE "/".             DOHELP
01              DATCTY        PICTURE XX.                      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              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              SCREEN-ID.                                     *AA040
COPY DOM050I.                                                  *AA040
01              SCREEN-SV.                                     *AA040
  03            FILLER        PICTURE X VALUE ""2"".           *AA040
  03            FILLER        COMP-1 VALUE 024.                *AA040
  03            SCREEN-MP     PICTURE X(8) VALUE "DOM050".     *AA040
  03            SCREEN-VO     PICTURE 9(3) VALUE ZERO.         *AA040
  03            TABLE-SV.                                      *AA040
    04          SV-FIELD      PICTURE X OCCURS 024.            *AA040
01              INPUT-SCREEN-FIELDS.                           *AA045
  02            I-HELP.                                        *AA045
    05          I-PFKEY       PICTURE XX.                      *AA045
    05          I-HELP-LIBEC  PICTURE X(30).                   *AA045
    05          I-HELP-LIENT  PICTURE X(36).                   *AA045
    05          J-HELP-LIGNE  OCCURS 17.                       *AA045
      10        FILLER        PICTURE X(74).                   *AA045
    05          I-HELP-LICHOI PICTURE X(19).                   *AA045
    05          I-HELP-OPDOC  PICTURE X.                       *AA045
    05          I-HELP-LIOPT  PICTURE X(30).                   *AA045
    05          I-HELP-ERMS.                                   *AA045
      10        FILLER        OCCURS 1.                        *AA045
        15      I-HELP-ERMSG  PICTURE X(72).                   *AA045
01              OUTPUT-SCREEN-FIELDS.                          *AA050
  02            O-HELP.                                        *AA050
    05          FILLER        PICTURE XX.                      *AA050
```

```
     05          O-HELP-LIBEC  PICTURE X(30).                    *AA050
     05          O-HELP-LIENT  PICTURE X(36).                    *AA050
     05          P-HELP-LIGNE  OCCURS 17.                        *AA050
       10        FILLER        PICTURE X(74).                    *AA050
     05          O-HELP-LICHOI PICTURE X(19).                    *AA050
     05          O-HELP-OPDOC  PICTURE X.                        *AA050
     05          O-HELP-LIOPT  PICTURE X(30).                    *AA050
     05          O-HELP-ERMS.                                    *AA050
       10        FILLER        OCCURS 1.                         *AA050
         15      O-HELP-ERMSG  PICTURE X(72).                    *AA050
01               REPEAT-LINE.                                    *AA050
  02             I-HELP-LIGNE.                                   *AA050
    05           I-HELP-ERMSGD PICTURE X(74).                    *AA050
  02             O-HELP-LIGNE.                                   *AA050
    05           O-HELP-ERMSGD PICTURE X(74).                    *AA050
01               HELP-MPRIOR   PICTURE X(80).                    *AA076
01               VALIDATION-TABLE-FIELDS.                        *AA150
  02             DE-ERR.                                         *AA150
    05           DE-ER         PICTURE X 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 4.               *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-1.                *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) VALUE +01.          *AA200
  05             5-CA00-LTH    PICTURE S9(4) VALUE +0147.        *AA200
  05             5-EM00-LTH    PICTURE S9(4) VALUE +0090.        *AA200
  05             LTH           PICTURE S9(4) VALUE ZERO.         *AA200
  05             5-HELP-LENGTH PICTURE S9(4) VALUE +0892.        *AA200
01               TABLE-OF-ATTRIBUTES.                            *AA250
  02             DE-ATT.                                         *AA250
    03           DE-ATT1       OCCURS 4.                         *AA250
      05         DE-AT         PICTURE X 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               AT-SV.                                          *AA260
  10             FILLER        PICTURE 999 VALUE 022.            *AA260
01               TABLE-SV-AT   REDEFINES AT-SV.                  *AA265
  05             SV-AT         PICTURE 999 OCCURS 001.           *AA265
01               ER-SV.                                          *AA267
  10             FILLER        PICTURE 999 VALUE 024.            *AA267
01               TABLE-SV-ER   REDEFINES ER-SV.                  *AA268
  05             SV-ER         PICTURE 999 OCCURS 01.            *AA268
01               FIRST-ON-SEGMENT.                               *AA301
  05             EM00-FST      PICTURE X.                        *AA301
01               FORMS-FIELDS.                                   *AA340
  05             F-LEVEL       PICTURE X.                        *AA340
  05             F-WAIT        PICTURE 9 VALUE ZERO.             *AA340
  05             F-MECH        PICTURE X(6).                     *AA340
  05             F-ATTR        PICTURE X(4).                     *AA340
  05             F-ATTL.                                         *AA340
    10           F-NBATT       PICTURE 999.                      *AA340
    10           F-ATTDYN.                                       *AA340
      15         F-ATTRI       PICTURE X(4) OCCURS 6.            *AA340
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
  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              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
COPY TDS-STORAGE.                                              *0Z010
COPY CONSTANT-STORAGE.                                         *0Z015
01              TRANSACTION-STORAGE.                           *0Z020
  02            K-SHELP-PROGR PICTURE X(6).                    *00000
  02            K-SHELP-XTERM PICTURE X(12).                   *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            K-SHELP-CDOC  PICTURE X.                       *00002
  02            K-SHELP-PROGE PICTURE X(8).                    *00002
  02            K-SHELP-LIBRA PICTURE XXX.                     *00002
  02            K-SHELP-PROHE PICTURE X(8).                    *00002
  02            K-SHELP-ERCOD.                                 *00002
    05          K-SHELP-ERCOD9 PICTURE 999.                    *00002
  02            K-SHELP-ERTYP PICTURE X.                       *00002
  02            K-SHELP-NULIX.                                 *00002
    05          K-SHELP-LINUM PICTURE 999.                     *00002
  02            ZONES-VARIABLES.                               *00002
    03          T-HELP-ENDRE.                                  *00002
      05        T-HELP-OPDOC  PICTURE X(1).                    *00002
  02            FILLER        PICTURE X(0699).                 *00002
COMMUNICATION SECTION.                                         *90010
CD  7-CD01       INPUT                                         *90020
    SYMBOLIC QUEUE          7-CD01-CTRAN                       *90030
    MESSAGE DATE            7-CD01-XDATE                       *90040
    MESSAGE TIME            7-CD01-XTIME                       *90050
    SYMBOLIC SOURCE         7-CD01-XTERM                       *90060
    TEXT LENGTH             7-CD01-XLOMES                      *90070
    END KEY                 7-CD01-XFINME                      *90080
    STATUS KEY              7-CD01-XMSTA                       *90090
    MESSAGE COUNT           7-CD01-XCPMES.                     *90095
01              F-CDIN        PICTURE X(87).                   *90097
CD  7-CD02       OUTPUT                                        *90100
    DESTINATION COUNT       7-CD02-XNDEST                      *90110
    TEXT LENGTH             7-CD02-XLOMES                      *90120
    STATUS KEY              7-CD02-XMSTA                       *90130
    ERROR  KEY              7-CD02-XMERR                       *90140
    SYMBOLIC DESTINATION    7-CD02-XTERM.                      *90150
01              F-CDOUT       PICTURE X(23).                   *90160
PROCEDURE DIVISION USING TDS-STORAGE CONSTANT-STORAGE          *99999
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     TRANSACTION-STORAGE.                                          *99999
*           ************************************                  DOHELP
*           *                                  *                  DOHELP
*           *  INITIALIZATIONS                 *                  DOHELP
*           *                                  *                  DOHELP
*           ************************************                  DOHELP
 F01.                                                              DOHELP
     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 SYMBOLIC-QUEUE TO 7-CD01-CTRAN.                          DOHELP
     IF      PROGR NOT  =  K-SHELP-PROGR                           DOHELP
         MOVE ZERO TO ICF.                                         DOHELP
     IF      PRIOR-TPR  =  SPACE                                   DOHELP
         MOVE ZERO TO ICF                                          DOHELP
         RECEIVE 7-CD01 MESSAGE INTO HELP-MPRIOR NO DATA           DOHELP
             MOVE "1" TO IK.                                       DOHELP
     IF      PRIOR-TPR  =  SPACE                                   DOHELP
         MOVE 7-CD01-XTERM TO K-SHELP-XTERM.                       DOHELP
     IF      K-SHELP-CDOC  =  "D"                                  DOHELP
         OR  K-SHELP-CDOC  =  "R"                                  DOHELP
             MOVE "1" TO ICF.                                      DOHELP
     IF      ICF  =  ZERO                                          DOHELP
         MOVE K-SHELP-XTERM TO 7-CD02-XTERM                        DOHELP
         MOVE 1 TO 7-CD02-XNDEST                                   DOHELP
         MOVE "1" TO F-LEVEL                                       DOHELP
         CALL "CDGET" USING F-CDOUT SCREEN-ID F-LEVEL              DOHELP
         IF 7-CD02-XMSTA NOT  =  ZERO                              DOHELP
             GO TO F81ER.                                          DOHELP
     MOVE LOW-VALUE TO I-HELP O-HELP                               DOHELP
     IF      ICF  =  ZERO                                          DOHELP
         PERFORM F8115 THRU F8115-FN.                              DOHELP
     MOVE "X" TO DE-AT (4, 001).                                   DOHELP
 F0110-FN.                                                         DOHELP
     EXIT.                                                         DOHELP
 F0120.                                                            DOHELP
     MOVE "1" TO OCF.                                              DOHELP
     IF      K-SHELP-CDOC  =  "D"                                  DOHELP
         OR  K-SHELP-CDOC  =  "R"                                  DOHELP
             MOVE "1" TO ICF                                       DOHELP
             GO TO F0120-FN.                                       DOHELP
     MOVE "A" TO OPER                                              DOHELP
     MOVE SPACE TO K-SHELP-ERTYP                                   DOHELP
     MOVE ZERO TO K-SHELP-LINUM                                    DOHELP
     MOVE "D" TO K-SHELP-CDOC                                      DOHELP
     GO TO F3999-ITER-FT.                                          DOHELP
 F0120-FN.                                                         DOHELP
     EXIT.                                                         DOHELP
 F01-FN.                                                           DOHELP
     EXIT.                                                         DOHELP
*           ************************************                  DOHELP
*           *                                  *                  DOHELP
*           *  RECEPTION                       *                  DOHELP
*           *                                  *                  DOHELP
*           ************************************                  DOHELP
 F05.                                                              DOHELP
     IF      ICF  =  ZERO                                          DOHELP
         GO TO END-OF-RECEPTION.                                   DOHELP
 F0510.                                                            DOHELP
     MOVE 1 TO 7-CD02-XNDEST.                                      DOHELP
     MOVE ALL "S" TO TABLE-SV.                                     DOHELP
 F0510-A.                                                          DOHELP
     CALL "CDRECV" USING F-CDIN INPUT-SCREEN-FIELDS F-WAIT         DOHELP
     SCREEN-SV.                                                    DOHELP
     IF      7-CD01-XMSTA NOT  =  ZERO                             DOHELP
         GO TO F81ER.                                              DOHELP
     IF      7-CD01-XFINME NOT  =  "3"                             DOHELP
         GO TO F0510-A.                                            DOHELP
     MOVE 7-CD01-XTERM TO K-SHELP-XTERM.                           DOHELP
     PERFORM F8135 THRU F8135-FN.                                  DOHELP
     EXAMINE I-HELP REPLACING ALL LOW-VALUE BY SPACE.              DOHELP
     MOVE I-HELP TO O-HELP.                                        DOHELP
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       MOVE "A" TO OPER                                                 DOHELP
       MOVE SPACE TO OPERD.                                             DOHELP
    F0510-FN.                                                           DOHELP
       EXIT.                                                            DOHELP
   *           ************************************                     DOHELP
   *           *                                  *                     DOHELP
   *           *  VALIDATION OF OPERATION CODE    *                     DOHELP
   *           *                                  *                     DOHELP
   *           ************************************                     DOHELP
    F0520.                                                              DOHELP
       IF      I-HELP-OPDOC  =  "E"                                     DOHELP
           OR  "F"                                                      DOHELP
               MOVE K-SHELP-PROGE TO 5-HELP-PROGE                       DOHELP
               MOVE "O" TO OPER OPERD                                   DOHELP
               GO TO F0520-900.                                         DOHELP
       IF      I-HELP-OPDOC  =  "T"                                     DOHELP
           OR  "D"                                                      DOHELP
               MOVE SPACE TO K-SHELP-ERCOD K-SHELP-ERTYP                DOHELP
               MOVE ZERO TO K-SHELP-LINUM                               DOHELP
               MOVE "A" TO OPER                                         DOHELP
               GO TO F0520-900.                                         DOHELP
       IF      I-HELP-OPDOC  =  "S"                                     DOHELP
           MOVE "A" TO OPER                                             DOHELP
           GO TO F0520-900.                                             DOHELP
       MOVE "5" TO ER-HELP-OPDOC                                        DOHELP
       MOVE "4" TO SCR-ER                                               DOHELP
       GO TO F3999-ITER-FT.                                             DOHELP
    F0520-900.                                                          DOHELP
       IF      OPER NOT  =  "A"                                         DOHELP
           AND OPER NOT  =  "O"                                         DOHELP
               GO TO F3999-ITER-FT.                                     DOHELP
    F0520-FN.                                                           DOHELP
       EXIT.                                                            DOHELP
    F05-FN.                                                             DOHELP
       EXIT.                                                            DOHELP
   *           ************************************                     DOHELP
   *           *                                  *                     DOHELP
   *           *  CATEGORY PROCESSING LOOP        *                     DOHELP
   *           *                                  *                     DOHELP
   *           ************************************                     DOHELP
    F10.                                                                DOHELP
       EXIT.                                                            DOHELP
    F1010.                                                              DOHELP
       MOVE SPACE TO CATM.                                              DOHELP
       IF      CAT-ER  =  "E"                                           DOHELP
           MOVE "4" TO SCR-ER                                           DOHELP
           GO TO F3999-ITER-FT.                                         DOHELP
       MOVE SPACE TO CAT-ER.                                            DOHELP
       IF      CATX  =  "0"                                             DOHELP
           MOVE "Z" TO CATX                                             DOHELP
           GO TO F1010-FN.                                              DOHELP
    F1010-A.                                                            DOHELP
       GO TO F3999-ITER-FT.                                             DOHELP
    F1010-FN.                                                           DOHELP
       EXIT.                                                            DOHELP
    F10-FN.                                                             DOHELP
       EXIT.                                                            DOHELP
   *           ************************************                     DOHELP
   *           *                                  *                     DOHELP
   *           *  DATA ELEMENT VALIDATION         *                     DOHELP
   *           *                                  *                     DOHELP
   *           ************************************                     DOHELP
    F20.                                                                DOHELP
       EXIT.                                                            DOHELP
    F20Z.                                                               DOHELP
       IF      CATX NOT  =  "Z"                                         DOHELP
           GO TO F20Z-FN.                                               DOHELP
    F20A7.                                                              DOHELP
       IF      I-HELP-OPDOC NOT  =  SPACE                               DOHELP
           MOVE "1" TO ER-HELP-OPDOC.                                   DOHELP
    F20A7-FN.                                                           DOHELP
       EXIT.                                                            DOHELP
    F20Z-FN.                                                            DOHELP
       EXIT.                                                            DOHELP
    F20-FN.                                                             DOHELP
       EXIT.                                                            DOHELP
    F3999-ITER-FI.                                                      DOHELP
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    GO TO F10.                                                    DOHELP
F3999-ITER-FT.                                                    DOHELP
    EXIT.                                                         DOHELP
F3999-FN.                                                         DOHELP
    EXIT.                                                         DOHELP
F40.                                                              DOHELP
    IF      SCR-ER  >  "1"                                        DOHELP
        MOVE "A" TO OPER                                          DOHELP
        GO TO F40-FN.                                             DOHELP
F40-A.                                                            DOHELP
    IF      OPERD NOT  =  SPACE                                   DOHELP
        MOVE OPERD TO OPER.                                       DOHELP
F4005.                                                            DOHELP
    IF      OPER NOT  =  "O"                                      DOHELP
        GO TO F4005-FN.                                           DOHELP
    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.                                                         DOHELP
    EXIT.                                                         DOHELP
F4010.                                                            DOHELP
    IF      OPER NOT  =  "A"                                      DOHELP
        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.                                                         DOHELP
    EXIT.                                                         DOHELP
*          ************************************                   DOHELP
*          *                                  *                   DOHELP
*          *  END OF TRANSACTION              *                   DOHELP
*          *                                  *                   DOHELP
*          ************************************                   DOHELP
F4030.                                                            DOHELP
    IF      OPER NOT  =  "E"                                      DOHELP
        GO TO F4030-FN.                                           DOHELP
    MOVE SPACE TO NEXT-TPR                                        DOHELP
    MOVE 1 TO 7-CD02-XNDEST                                       DOHELP
    MOVE K-SHELP-XTERM TO 7-CD02-XTERM                            DOHELP
    MOVE 1 TO 7-CD02-XLOMES                                       DOHELP
    MOVE "1" TO F-LEVEL                                           DOHELP
    CALL "CDRELS" USING F-CDOUT F-LEVEL.                          DOHELP
    IF      7-CD02-XMSTA NOT  =  ZERO                             DOHELP
        GO TO F81ER.                                              DOHELP
    MOVE "3" TO F-LEVEL                                           DOHELP
    MOVE "INITAT" TO F-MECH.                                      DOHELP
    CALL "CDMECH" USING F-CDOUT F-MECH F-LEVEL.                   DOHELP
F4030-A.                                                          DOHELP
    EXIT PROGRAM.                                                 DOHELP
F4030-FN.                                                         DOHELP
    EXIT.                                                         DOHELP
*          ************************************                   DOHELP
*          *                                  *                   DOHELP
*          *  TRANSFER TO ANOTHER SCREEN      *                   DOHELP
*          *                                  *                   DOHELP
*          ************************************                   DOHELP
F4040.                                                            DOHELP
    IF      OPER NOT  =  "O"                                      DOHELP
        GO TO F4040-FN.                                           DOHELP
    MOVE 5-HELP-PROGE TO NEXT-TPR.                                DOHELP
    MOVE 1 TO 7-CD02-XNDEST                                       DOHELP
    MOVE K-SHELP-XTERM TO 7-CD02-XTERM                            DOHELP
    MOVE "2" TO F-LEVEL.                                          DOHELP
    CALL "CDRELS" USING F-CDOUT F-LEVEL.                          DOHELP
    IF      7-CD02-XMSTA NOT  =  ZERO                             DOHELP
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           GO TO F81ER.                                                 DOHELP
     F4040-A.                                                           DOHELP
         EXIT PROGRAM.                                                  DOHELP
     F4040-FN.                                                          DOHELP
         EXIT.                                                          DOHELP
     F40-FN.                                                            DOHELP
         EXIT.                                                          DOHELP
     END-OF-RECEPTION.                                                  DOHELP
         EXIT.                                                          DOHELP
    *           ************************************                    DOHELP
    *           *                                  *                    DOHELP
    *           *  DISPLAY PREPARATION             *                    DOHELP
    *           *                                  *                    DOHELP
    *           ************************************                    DOHELP
     F50.                                                               DOHELP
         IF      OCF  =  "0"                                            DOHELP
             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"                                     DOHELP
             MOVE SPACE TO O-HELP.                                      DOHELP
         IF      SCR-ER  >  "1"                                         DOHELP
             GO TO F6999-ITER-FT.                                       DOHELP
         PERFORM F8115 THRU F8115-FN.                                   DOHELP
     F5010-FN.                                                          DOHELP
         EXIT.                                                          DOHELP
     F5020.                                                             DOHELP
         IF      K-SHELP-ERTYP NOT  =  SPACE                            DOHELP
             NEXT SENTENCE                                              DOHELP
         ELSE                                                           DOHELP
             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
         PERFORM F80-EM00-P THRU F80-FN.                                DOHELP
         IF      IK  =  "1"                                            DOHELP
             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 " TO HELP-LIBEC        DOHELP
         ELSE                                                           DOHELP
             MOVE EM00-ERMSG TO HELP-LIENT                              DOHELP
             MOVE "DOCUMENTATION OF THE SCREEN   " TO HELP-LIBEC.       DOHELP
     F5020-FN.                                                          DOHELP
         EXIT.                                                          DOHELP
     F50-FN.                                                            DOHELP
         EXIT.                                                          DOHELP
    *           ************************************                    DOHELP
    *           *                                  *                    DOHELP
    *           *  CATEGORY PROCESSING LOOP        *                    DOHELP
    *           *                                  *                    DOHELP
    *           ************************************                    DOHELP
     F55.                                                               DOHELP
         EXIT.                                                          DOHELP
     F5510.                                                             DOHELP
         MOVE SPACE TO CAT-ER.                                          DOHELP
         IF      CATX  =  "0"                                           DOHELP
             MOVE " " TO CATX                                           DOHELP
             GO TO F5510-FN.                                            DOHELP
         IF      CATX  =  " "                                           DOHELP
             MOVE "R" TO CATX                                           DOHELP
             MOVE ZERO TO ICATR.                                        DOHELP
         IF      CATX NOT  =  "R"                                       DOHELP
             OR  ICATR  >  IRR                                          DOHELP
                 GO TO F5510-R.                                         DOHELP
         IF      ICATR  >  ZERO                                         DOHELP
             MOVE O-HELP-LIGNE TO P-HELP-LIGNE (ICATR).                 DOHELP
         ADD 1 TO ICATR.                                                DOHELP
         IF      ICATR NOT  >  IRR                                      DOHELP
             MOVE P-HELP-LIGNE (ICATR) TO O-HELP-LIGNE.                 DOHELP
         GO TO F5510-FN.                                                DOHELP
     F5510-R.                                                           DOHELP
         EXIT.                                                          DOHELP
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 F5510-Z.                                                                DOHELP
     IF      CATX  =  "R"                                                DOHELP
         MOVE "Z" TO CATX                                                DOHELP
         GO TO F5510-FN.                                                 DOHELP
 F5510-900.                                                              DOHELP
     GO TO F6999-ITER-FT.                                                DOHELP
 F5510-FN.                                                               DOHELP
     EXIT.                                                               DOHELP
 F55-FN.                                                                 DOHELP
     EXIT.                                                               DOHELP
*          ************************************                         DOHELP
*          *                                  *                         DOHELP
*          *  SEGMENT ACCESS FOR DISPLAY      *                         DOHELP
*          *                                  *                         DOHELP
*          ************************************                         DOHELP
 F60.                                                                    DOHELP
     EXIT.                                                               DOHELP
 F60R.                                                                   DOHELP
     IF      CATX NOT  =  "R"                                            DOHELP
         OR  FT  =  "1"                                                  DOHELP
             GO TO F60R-FN.                                              DOHELP
 F60R-FN.                                                                DOHELP
     EXIT.                                                               DOHELP
 F6010.                                                                  DOHELP
     IF      CATX NOT  =  "R"                                            DOHELP
         OR  FT  =  "1"                                                  DOHELP
             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
         PERFORM F80-EM00-P THRU F80-FN                                  DOHELP
         MOVE ZERO TO EM00-FST                                           DOHELP
     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"                                                  DOHELP
         MOVE "G109" TO XERCD                                            DOHELP
         MOVE "1" TO FT                                                  DOHELP
         PERFORM F81UT THRU F81UT-FN                                     DOHELP
         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                                              DOHELP
             GO TO F6010-FN.                                             DOHELP
     IF      EM00-ERTYP  =  SPACE                                        DOHELP
         NEXT SENTENCE                                                   DOHELP
     ELSE                                                                DOHELP
         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 " TO HELP-LIBEC             DOHELP
     ELSE                                                                DOHELP
         MOVE EM00-ERMSG TO HELP-LIENT                                   DOHELP
         MOVE "DOCUMENTATION OF THE SCREEN   " TO HELP-LIBEC.            DOHELP
     GO TO F6010.                                                        DOHELP
 F6010-FN.                                                               DOHELP
     EXIT.                                                               DOHELP
 F60-FN.                                                                 DOHELP
     EXIT.                                                               DOHELP
*          ************************************                         DOHELP
*          *                                  *                         DOHELP
*          *  DATA ELEMENT TRANSFER           *                         DOHELP
*          *                                  *                         DOHELP
*          ************************************                         DOHELP
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 F65.                                                                    DOHELP
     EXIT.                                                               DOHELP
 F6520.                                                                  DOHELP
     IF      FT  =  "1"                                                  DOHELP
         OR  EM00-ERTYP  =  " "                                          DOHELP
             GO TO F6520-FN.                                             DOHELP
     IF      ICATR  >  IRR                                               DOHELP
         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
 F6520-900.                                                              DOHELP
     MOVE 7-HELP-ERMSGD TO O-HELP-ERMSGD.                                DOHELP
 F6520-FN.                                                               DOHELP
     EXIT.                                                               DOHELP
 F6530.                                                                  DOHELP
     IF      CATX NOT  =  "Z"                                            DOHELP
         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)   " TO O-HELP-LIOPT.              DOHELP
     IF      XERCD NOT  =  "G109"                                        DOHELP
         MOVE "S" TO O-HELP-OPDOC                                        DOHELP
         GO TO F6530-FN.                                                 DOHELP
     MOVE "E" TO O-HELP-OPDOC.                                           DOHELP
     IF      K-SHELP-ERCOD NUMERIC                                       DOHELP
         AND K-SHELP-ERCOD  >  ZERO                                      DOHELP
             ADD 1 TO K-SHELP-ERCOD9.                                    DOHELP
 F6530-FN.                                                               DOHELP
     EXIT.                                                               DOHELP
 F65-FN.                                                                 DOHELP
     EXIT.                                                               DOHELP
 F6999-ITER-FI.                                                          DOHELP
     GO TO F55.                                                          DOHELP
 F6999-ITER-FT.                                                          DOHELP
     EXIT.                                                               DOHELP
 F6999-FN.                                                               DOHELP
     EXIT.                                                               DOHELP
 F70.                                                                    DOHELP
     GO TO F7020.                                                        DOHELP
*          ************************************                         DOHELP
*          *                                  *                         DOHELP
*          *  ERROR PROCESSING                *                         DOHELP
*          *                                  *                         DOHELP
*          ************************************                         DOHELP
 F7010.                                                                  DOHELP
     MOVE ZERO TO K01 K02 K04                                            DOHELP
     MOVE 1 TO K03.                                                      DOHELP
     MOVE LIBRA TO EM00-LIBRA                                            DOHELP
     MOVE PROGR TO EM00-PROGR                                            DOHELP
     MOVE ZERO TO EM00-LINUM                                             DOHELP
     MOVE "H" TO EM00-ENTYP.                                             DOHELP
 F7010-A.                                                                DOHELP
     IF      K02  =  INR                                                 DOHELP
         AND K03  <  IRR                                                 DOHELP
             MOVE INA TO K02                                             DOHELP
             ADD 1 TO K03.                                               DOHELP
     ADD 1 TO K01 K02.                                                   DOHELP
     IF      DE-ER (K01)  >  "1"                                         DOHELP
         OR   <  "0"                                                     DOHELP
             MOVE "Y" TO DE-AT (4, K01)                                  DOHELP
             MOVE "B" TO DE-AT (1, K01)                                  DOHELP
             MOVE "N" TO DE-AT (2, K01)                                  DOHELP
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               MOVE "W" TO DE-AT (3, K01)                          DOHELP
           IF K04  <  IER                                          DOHELP
               MOVE DE-ER (K01) TO EM00-ERTYP                      DOHELP
               MOVE K02 TO EM00-ERCOD9                             DOHELP
               MOVE EM00-XEMKY TO EM00-ERMSG                       DOHELP
               PERFORM F80-EM00-R THRU F80-FN                      DOHELP
               ADD 1 TO K04                                        DOHELP
               MOVE EM00-ERMSG TO O-HELP-ERMSG (K04).              DOHELP
       IF      K01  <  INT                                         DOHELP
           GO TO F7010-A.                                          DOHELP
       MOVE ZERO TO K50R.                                          DOHELP
   F7010-B.                                                        DOHELP
       ADD 1 TO K50R                                               DOHELP
       IF      K50R  >  K50L                                       DOHELP
           OR  K04 NOT  <  IER                                     DOHELP
               GO TO F7010-FN.                                     DOHELP
       MOVE T-XEMKY (K50R) TO EM00-XEMKY EM00-ERMSG                DOHELP
       PERFORM F80-EM00-R THRU F80-FN                              DOHELP
       ADD 1 TO K04                                                DOHELP
       MOVE EM00-ERMSG TO O-HELP-ERMSG (K04)                       DOHELP
       GO TO F7010-B.                                              DOHELP
   F7010-FN.                                                       DOHELP
       EXIT.                                                       DOHELP
  *           ************************************                 DOHELP
  *           *                                  *                 DOHELP
  *           *  POSITIONING OF ATTRIBUTES       *                 DOHELP
  *           *                                  *                 DOHELP
  *           ************************************                 DOHELP
   F7020.                                                          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
       ADD 1 TO TALLY.                                             DOHELP
       MOVE 1 TO 7-CD02-XNDEST                                     DOHELP
       MOVE K-SHELP-XTERM TO 7-CD02-XTERM                          DOHELP
       MOVE "INIT" TO F-ATTR.                                      DOHELP
       MOVE "1" TO F-LEVEL.                                        DOHELP
       MOVE ALL "S" TO TABLE-SV.                                   DOHELP
       CALL "CDATTR" USING F-CDOUT SCREEN-SV F-ATTR F-LEVEL.       DOHELP
       IF      7-CD02-XMSTA NOT  =  ZERO                           DOHELP
           GO TO F81ER.                                            DOHELP
       MOVE "CP  " TO F-ATTR.                                      DOHELP
       MOVE SPACES TO TABLE-SV.                                    DOHELP
       MOVE SV-AT (TALLY) TO K01.                                  DOHELP
       MOVE "S" TO SV-FIELD (K01).                                 DOHELP
       CALL "CDATTR" USING F-CDOUT SCREEN-SV F-ATTR F-LEVEL.       DOHELP
       MOVE SPACES TO DE-ATT1 (4).                                 DOHELP
       MOVE ZERO TO K01.                                           DOHELP
   F7020-A.                                                        DOHELP
       ADD 1 TO K01.                                               DOHELP
       IF      K01  >  INT                                         DOHELP
           GO TO F7020-FN.                                         DOHELP
       MOVE SPACES TO F-ATTDYN.                                    DOHELP
       MOVE ZERO TO K02.                                           DOHELP
       IF      DE-AT (1, K01)  =  SPACE                            DOHELP
           GO TO F7020-A2.                                         DOHELP
       IF      DE-AT (1, K01)  =  "N"                              DOHELP
           ADD 1 TO K02                                            DOHELP
           MOVE "NHL " TO F-ATTRI (K02)                            DOHELP
           GO TO F7020-A2.                                         DOHELP
       IF      DE-AT (1, K01)  =  "B"                              DOHELP
           ADD 1 TO K02                                            DOHELP
           MOVE "HL  " TO F-ATTRI (K02)                            DOHELP
           GO TO F7020-A2.                                         DOHELP
       IF      DE-AT (1, K01)  =  "D"                              DOHELP
           ADD 1 TO K02                                            DOHELP
           MOVE "CN  " TO F-ATTRI (K02)                            DOHELP
           GO TO F7020-A2.                                         DOHELP
   F7020-A2.                                                       DOHELP
       IF      DE-AT (2, K01)  =  SPACE                            DOHELP
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           GO TO F7020-A3.                                                DOHELP
       IF      DE-AT (2, K01)  =  "N"                                     DOHELP
           ADD 1 TO K02                                                   DOHELP
           MOVE "NBI " TO F-ATTRI (K02)                                   DOHELP
           ADD 1 TO K02                                                   DOHELP
           MOVE "NRV " TO F-ATTRI (K02)                                   DOHELP
           ADD 1 TO K02                                                   DOHELP
           MOVE "NUL " TO F-ATTRI (K02)                                   DOHELP
           GO TO F7020-A3.                                                DOHELP
       IF      DE-AT (2, K01)  =  "B"                                     DOHELP
           ADD 1 TO K02                                                   DOHELP
           MOVE "BI  " TO F-ATTRI (K02)                                   DOHELP
           GO TO F7020-A3.                                                DOHELP
       IF      DE-AT (2, K01)  =  "R"                                     DOHELP
           ADD 1 TO K02                                                   DOHELP
           MOVE "RV  " TO F-ATTRI (K02)                                   DOHELP
           GO TO F7020-A3.                                                DOHELP
       IF      DE-AT (2, K01)  =  "U"                                     DOHELP
           ADD 1 TO K02                                                   DOHELP
           MOVE "UL  " TO F-ATTRI (K02)                                   DOHELP
           GO TO F7020-A3.                                                DOHELP
   F7020-A3.                                                              DOHELP
       IF      DE-AT (3, K01)  =  SPACE                                   DOHELP
           GO TO F7020-A4.                                                DOHELP
       IF      DE-AT (3, K01)  =  "W"                                     DOHELP
           ADD 1 TO K02                                                   DOHELP
           MOVE "FDFT" TO F-ATTRI (K02)                                   DOHELP
           GO TO F7020-A4.                                                DOHELP
       IF      DE-AT (3, K01)  =  "R"                                     DOHELP
           ADD 1 TO K02                                                   DOHELP
           MOVE "FRED" TO F-ATTRI (K02)                                   DOHELP
           GO TO F7020-A4.                                                DOHELP
       IF      DE-AT (3, K01)  =  "P"                                     DOHELP
           ADD 1 TO K02                                                   DOHELP
           MOVE "FMAG" TO F-ATTRI (K02)                                   DOHELP
           GO TO F7020-A4.                                                DOHELP
       IF      DE-AT (3, K01)  =  "Y"                                     DOHELP
           ADD 1 TO K02                                                   DOHELP
           MOVE "FYEL" TO F-ATTRI (K02)                                   DOHELP
           GO TO F7020-A4.                                                DOHELP
       IF      DE-AT (3, K01)  =  "G"                                     DOHELP
           ADD 1 TO K02                                                   DOHELP
           MOVE "FGRE" TO F-ATTRI (K02)                                   DOHELP
           GO TO F7020-A4.                                                DOHELP
       IF      DE-AT (3, K01)  =  "T"                                     DOHELP
           ADD 1 TO K02                                                   DOHELP
           MOVE "FCYA" TO F-ATTRI (K02)                                   DOHELP
           GO TO F7020-A4.                                                DOHELP
       IF      DE-AT (3, K01)  =  "B"                                     DOHELP
           ADD 1 TO K02                                                   DOHELP
           MOVE "FBLU" TO F-ATTRI (K02)                                   DOHELP
           GO TO F7020-A4.                                                DOHELP
   F7020-A4.                                                              DOHELP
       IF      F-ATTDYN NOT  =  SPACES                                    DOHELP
           MOVE SPACES TO TABLE-SV                                        DOHELP
           MOVE SV-AT (K01) TO K03                                        DOHELP
           MOVE "S" TO SV-FIELD (K03)                                     DOHELP
           MOVE K02 TO F-NBATT                                            DOHELP
           CALL "CDATTL" USING F-CDOUT SCREEN-SV F-ATTL F-LEVEL.          DOHELP
       GO TO F7020-A.                                                     DOHELP
   F7020-FN.                                                              DOHELP
       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.                                                              DOHELP
       EXIT.                                                              DOHELP
   F70-FN.                                                                DOHELP
       EXIT.                                                              DOHELP
   END-OF-DISPLAY.                                                        DOHELP
       EXIT.                                                              DOHELP
   F8Z.                                                                   DOHELP
       EXIT.                                                              DOHELP
  *          ************************************                        DOHELP
  *          *                                  *                        DOHELP
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*           *  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 1 TO 7-CD02-XNDEST                                     DOHELP
     MOVE K-SHELP-XTERM TO 7-CD02-XTERM.                         DOHELP
     IF      SCR-ER NOT  >  "1"                                  DOHELP
         PERFORM F8125 THRU F8125-FN.                            DOHELP
     IF      SCR-ER NOT  >  "1"                                  DOHELP
         MOVE ALL "S" TO TABLE-SV                                DOHELP
         GO TO F8Z10-D.                                          DOHELP
     MOVE SPACES TO TABLE-SV                                     DOHELP
     MOVE ZERO TO K01.                                           DOHELP
 F8Z10-A.                                                        DOHELP
     ADD 1 TO K01.                                               DOHELP
     IF      K01  >  INT                                         DOHELP
         GO TO F8Z10-B.                                          DOHELP
     MOVE SV-AT (K01) TO K02                                     DOHELP
     MOVE "S" TO SV-FIELD (K02)                                  DOHELP
     GO TO F8Z10-A.                                              DOHELP
 F8Z10-B.                                                        DOHELP
     MOVE ZERO TO K01.                                           DOHELP
 F8Z10-C.                                                        DOHELP
     ADD 1 TO K01.                                               DOHELP
     IF      K01  >  IER                                         DOHELP
         GO TO F8Z10-D.                                          DOHELP
     MOVE SV-ER (K01) TO K02                                     DOHELP
     MOVE "S" TO SV-FIELD (K02)                                  DOHELP
     GO TO F8Z10-C.                                              DOHELP
 F8Z10-D.                                                        DOHELP
     MOVE "3" TO F-LEVEL.                                        DOHELP
     MOVE ZERO TO 7-CD02-XMSTA.                                  DOHELP
     CALL "CDSEND" USING F-CDOUT OUTPUT-SCREEN-FIELDS F-LEVEL    DOHELP
     SCREEN-SV.                                                  DOHELP
     IF      7-CD02-XMSTA NOT  =  ZERO                           DOHELP
         GO TO F81ER.                                            DOHELP
 F8Z10-FN.                                                       DOHELP
     EXIT.                                                       DOHELP
*           ************************************                 DOHELP
*           *                                  *                DOHELP
*           *  END OF PROGRAM                  *                DOHELP
*           *                                  *                DOHELP
*           ************************************                 DOHELP
 F8Z20.                                                          DOHELP
     MOVE PROGE TO NEXT-TPR.                                     DOHELP
 F8Z20-A.                                                        DOHELP
     EXIT PROGRAM.                                               DOHELP
 F8Z20-FN.                                                       DOHELP
     EXIT.                                                       DOHELP
 F8Z-FN.                                                         DOHELP
     EXIT.                                                       DOHELP
*           ************************************                 DOHELP
*           *                                  *                DOHELP
*           *  PHYSICAL SEGMENT ACCESS ROUTINES *                DOHELP
*           *                                  *                DOHELP
*           ************************************                 DOHELP
 F80.                                                            DOHELP
     EXIT.                                                       DOHELP
 F80-EM00-R.                                                     DOHELP
     READ EM-FILE INVALID KEY                                    DOHELP
         GO TO F80-KO.                                           DOHELP
     GO TO F80-OK.                                               DOHELP
 F80-EM00-RU.                                                    DOHELP
     READ EM-FILE INVALID KEY                                    DOHELP
         GO TO F80-KO.                                           DOHELP
     GO TO F80-OK.                                               DOHELP
 F80-EM00-P.                                                     DOHELP
     START EM-FILE KEY NOT  <  EM00-EMKEY INVALID KEY            DOHELP
         GO TO F80-KO.                                           DOHELP
 F80-EM00-RN.                                                    DOHELP
     READ EM-FILE                                                DOHELP
         NEXT AT END                                             DOHELP
         GO TO F80-KO.                                           DOHELP
     GO TO F80-OK.                                               DOHELP
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 F8001-FN.                                                        DOHELP
     EXIT.                                                        DOHELP
 F80-OK.                                                          DOHELP
     MOVE "0" TO IK                                               DOHELP
     MOVE PROGR TO XPROGR                                         DOHELP
     GO TO F80-FN.                                                DOHELP
 F80-KO.                                                          DOHELP
     MOVE "1" TO IK                                               DOHELP
     MOVE PROGR TO XPROGR.                                        DOHELP
 F8099-FN.                                                        DOHELP
     EXIT.                                                        DOHELP
 F80-FN.                                                          DOHELP
     EXIT.                                                        DOHELP
 F81.                                                             DOHELP
     EXIT.                                                        DOHELP
*           ************************************                  DOHELP
*           *                                  *                 DOHELP
*           *  ABNORMAL END PROCEDURE          *                 DOHELP
*           *                                  *                 DOHELP
*           ************************************                  DOHELP
 F81ER.                                                           DOHELP
     CALL "ABORT".                                                DOHELP
 F81ER-FN.                                                        DOHELP
     EXIT.                                                        DOHELP
*           ************************************                  DOHELP
*           *                                  *                 DOHELP
*           *  MEMORIZATION OF USER'S ERRORS   *                 DOHELP
*           *                                  *                 DOHELP
*           ************************************                  DOHELP
 F81UT.                                                           DOHELP
     IF      K50L  <  K50M                                        DOHELP
         ADD 1 TO K50L                                            DOHELP
         MOVE XEMKY TO T-XEMKY (K50L).                            DOHELP
     MOVE "E" TO CAT-ER.                                          DOHELP
 F81UT-FN.                                                        DOHELP
     EXIT.                                                        DOHELP
 F8115.                                                           DOHELP
     EXIT.                                                        DOHELP
 F8115-FN.                                                        DOHELP
     EXIT.                                                        DOHELP
*           ************************************                  DOHELP
*           *                                  *                 DOHELP
*           *  DISPLAY TRANSFER                *                 DOHELP
*           *                                  *                 DOHELP
*           ************************************                  DOHELP
 F8125.                                                           DOHELP
     MOVE O-HELP-OPDOC TO T-HELP-OPDOC.                           DOHELP
 F8125-FN.                                                        DOHELP
     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                        DOHELP
     ELSE                                                         DOHELP
         MOVE I-HELP-OPDOC TO T-HELP-OPDOC.                       DOHELP
 F8135-FN.                                                        DOHELP
     EXIT.                                                        DOHELP
 F81-FN.                                                          DOHELP
     EXIT.                                                        DOHELP
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5. CHART 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	