VisualAge Pacbase 2.5

DEC – VAX OLSD
REFERENCE MANUAL

DDODV000151A

Note

Before using this document, read the general information under "Notices" on the next page.

According to your license agreement, you may consult or download the complete up-to-date collection of the VisualAge Pacbase documentation from the VisualAge Pacbase Support Center at:
http://www.software.ibm.com/ad/vapacbase/support.htm

Consult the Catalog section in the Documentation home page to make sure you have the most recent edition of this document.

First Edition (July 1996)

This edition applies to the following licensed programs:

- VisualAge Pacbase Version 2.0
- VisualAge Pacbase Version 2.5

Comments on publications (including document reference number) should be sent electronically through the Support Center Web site at:
http://www.software.ibm.com/ad/vapacbase/support.htm
or to the following postal address:
IBM Paris Laboratory
VisualAge Pacbase Support
30, rue du Château des Rentiers
75640 PARIS Cedex 13
FRANCE

When you send information to IBM, you grant IBM a nonexclusive right to use or distribute the information in any way it believes appropriate without incurring any obligation to you.

NOTICES

References in this publication to IBM products, programs, or services do not imply that IBM intends to make these available in all countries in which IBM operates. Any reference to an IBM product, program, or service is not intended to state or imply that only that IBM product, program, or service may be used. Subject to IBM's valid intellectual property or other legally protectable rights, any functionally equivalent product, program, or service may be used instead of the IBM product, program, or service. The evaluation and verification of operation in conjunction with other products, except those expressly designated by IBM, are the responsibility of the user.

IBM may have patents or pending patent applications covering subject matter in this document. The furnishing of this document does not give you any license to these patents. You can send license inquiries, in writing, to:

Intellectual Property and Licensing
International Business Machines Corporation
North Castle Drive, Armonk, New-York 10504-1785
USA

Licensees of this program who wish to have information about it for the purpose of enabling: (i) the exchange of information between independently created programs and other programs (including this one) and (ii) the mutual use of information which has been exchanged, should contact:

IBM Paris Laboratory
SMC Department
30, rue du Château des Rentiers
75640 PARIS Cedex 13
FRANCE

Such information may be available, subject to appropriate terms and conditions, including in some cases, payment of a fee.

IBM may change this publication, the product described herein, or both.

TRADEMARKS

IBM is a trademark of International Business Machines Corporation, Inc.
AIX, AS/400, CICS, CICS/MVS, CICS/VSE, COBOL/2, DB2, IMS, MQSeries, OS/2, PACBASE, RACF, RS/6000, SQL/DS, TeamConnection, and VisualAge are trademarks of International Business Machines Corporation, Inc. in the United States and/or other countries.

Java and all Java-based trademarks and logos are trademarks of Sun Microsystems, Inc. in the United States and/or other countries.
Microsoft, Windows, Windows NT, and the Windows logo are trademarks of Microsoft Corporation in the United States and/or other countries.
UNIX is a registered trademark in the United States and/or other countries licensed exclusively through X/Open Company Limited.

All other company, product, and service names may be trademarks of their respective owners.

TABLE OF CONTENTS

1. INTRODUCTION

1.1. PURPOSE OF THE MANUAL

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.

REMINDERS ON THE OLSD FUNCTION - Cont'd

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

. Screen General Documentation (-G),
. Screen Call of Macro-Structures (-CP),
. Beginning Insertions (-B),
. Screen Work Areas (-W).

SCREEN GENERAL DOCUMENTATION

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

WORK AREAS

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

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

1.2. STRUCTURE OF PACBASE-VMS APPLICATIONS

CONVERSATION MANAGEMENT

A program may be activated from another program using the COBOL instruction CALL, according to the standard rules for calling subroutines.

A specific program, called the MONITOR, must be used to manage the programs.

Program calls are managed by the MONITOR program, which must be generated for each transaction.

FILE ACCESS

The RMS (Record Management Service) file access and file resource locking are automatically managed using the OLSD function, according to the 'Manual Record Locking' rule.

USER INTERFACE

Management of the user interface (display-reception) is controlled by a provided sub-routine (ZAR980), called by all the programs of the application.

Several types of communications with a PACBASE-VMS application can be performed:

. Using VT screens:
. in character mode, each character input is immediately processed by ZAR980.
. in field mode, data transmission to ZAR980 is performed using entire fields, this increases communication performance.

. Using stations with PAW:
. via a DECNET communication, data transmission to ZAR980 is performed page by page.
. via a TCP/IP communication, data transmission to ZAR980 is performed page by page.

VT-fields, DECNET and TCP/IP communications are performed by the ZAR980 program (ZARDE2 source), an external parameter allows the distinction to be made. This is used for a single VMS-image to manage all user types.
On the contrary, to perform VT-character communication it is necessary to have a distinct ZAR980 program (ZARDEC), and therefore a distinct VMS-image.

1.3. IMPLEMENTATION OF PACBASE-VMS APPLICATION

Files are provided with the OLSD module. These files are necessary to implement applications produced by users.

ZARDEC: COBOL source of the ZAR980 program in VT-character mode.

SCRDEC: Assembler source complementing the ZAR980 program in VT-character mode.

ZARDE2: COBOL source of ZAR980 program in VT-fields, DECNET and TCP/IP modes.

ZARTRM: Assembler source complementing the ZAR980 program in VT-fields, DECNET and TCP/IP mode.

PACVMSS: COBOL source of the DECNET server of the PACBASE-VMS applications.

VMSUTIL: Examples of compiling DCLs, link, TCP/IP declarations, DECNET server activations, PACBASE-VMS applications activations, definition of the VT-field keyboard.

Examples listed in the following paragraphs can all be found in the VMSUTIL file.

VT-character mode

1. ZARDEC and SCRDEC programs compiling

   See exemple COMPZARCHAR.COM

2. Application programs compiling

   See example COMPAPPLI.COM

3. Application image link

   See example LINKAPPLICHAR.COM

4. Application activation

   First of all, the users must logon to a VMS session, then to the application.
   See examples EXECAPPLIVT.COM and EXECAPPLI.COM

   Management of the VT keyboard.

- the down arrow key moves the cursor onto the first character of the first variable field located after the end of the current line.

- the up arrow key moves the cursor onto the first character of the last field located just before the beginning of the current line.

- the PF4 function key is used to erase the end of field.

- the PF12 function key is used to perform a backwards horizontal tab ('BACKSPACE').

- the F13 function key is used to erase the entire field ('LINEFEED').

- the PF1, PF2, PF3, F7 to F11 and F15 to F20 can be used in programs.

- the cursor can only move inside of the variable fields.

VT-fields mode

1. ZARDE2 and ZARTRM programs compiling

   See example COMPZARFIELD.COM

2. Application programs compiling

   See example COMPAPPLI.COM

3. Link of the application image

   See example LINKAPPLIFIELD.COM

4. Application activation

   Users must firstly logon to a VMS session, then to the application.
   See examples EXECAPPLIVT.COM and EXECAPPLI.COM

   External symbols used.

   The application behavior can be changed by using external symbols:

   PACBASE_TYPCOM
   indicates which communication mode to use: 'VT' for the VT-fields mode

   PACBASE_TIMEOUT
   indicates the application maximum waiting time, in seconds, 8 numeric characters (ex: 00003600 = 1h).
   the default value is 09999999. If the maximum time is reached, ZAR980 returns the error code '14' to the application.

   PACBASE_AUXKEY
   indicates the use of the numeric keyboard in function mode (value 'Y').

   PACBASE_KPARAM
   keyboard customization.
   'WRITE': the default values are written in the KPARAM.DAT file.
   'READ': use of the values specified inKPARAM.DAT.
   CAUTION: the modifications of values must comply with definition order and value alignment.
   The defauls values are indicated in the KPARAM.DAT example.

DECNET communication mode

In DECNET mode, the user must logon to the application via a workstation with PAW. The PC application communicates with a 'DECNET server' (provided in the PACVMSS file), managing PACBASE-VMS applications activation, stop and communication.

1. ZARDE2 and ZARTRM programs compiling

   See example COMPZARFIELD.COM

2. Application programs compiling

   See example COMPAPPLI.COM

3. Link of the application image

   See example LINKAPPLIFIELD.COM

4. DECNET server compiling and link

   See example COMPDNETSERV.COM

5. DECNET server activation

   The DECNET server must be activated and stopped from a VMS session. It must be started as a detached process using the initialization procedure: DNETINIT.
   See examples DNETINIT.COM and DNETSERV.COM.

6. Activation of the applications with the DECNET server

   See examples EXECAPPLIDECNET.COM and EXECAPPLI.COM

7. DECNET server stop

   See example DNETSTOP.COM

   External symbols used.

   The application behavior can be changed by using external symbols:

   PACBASE_TYPCOM
   indicates which communication mode to use: 'DECNET' for the DECNET mode

   PACBASE_TIMEOUT
   indicates the application maximum waiting time, in seconds, 8 numeric characters (ex: 00003600 = 1h).
   the default value is 09999999. If the maximum time is reached, ZAR980 returns the error code '35' to the application.

NAME
identification of the server, used in communications with the DECNET server.
The value of this parameter must correspond the value of the NAME parameter of the DNETSERV.COM procedure.

Additional external parameters indicate to the DECNET server which commands to execute for each PACBASE-VMS application. These parameters are listed in the DECNET server execution file. See example DNETSERV.COM.

NAME
identification of the server, used in the communications with users and with applications.
The value of this parameter corresponds to the value of the 'P0' parameter of the workstation communications.

'appl'
command file associated with the PACBASE- VMS application. The number of parameters 'appl' is not limited. The value of the 'P1' parameter of the workstation communications must correspond to one of the 'appl' parameters defined at the start of the DECNET server.

'appl'LOG
name of the report file associated with the 'appl' application.

TRACE
trace mode. Values: TRACE or NOTRACE.

TCP/IP communication mode

In TCP/IP mode, the user must logon to the application via a workstation with PAW.
The PC application communicates with the application via the TCP/IP interface of VMS, called UCX

1. ZARDE2 and ZARTRM programs compiling

   See example COMPZARFIELD.COM

2. Application programs compiling

   See example COMPAPPLI.COM

3. Link of the application image

   See example LINKAPPLIFIELD.COM

4. Declaration of the UCX ports

   The number of the UCX port associated with the PACBASE-VMS application must exist in the 'P2' parameter of the workstation communications.
   See example TCPIPUCX.COM

5. Application command file

   See examples EXECAPPLITCPIP.COM and EXECAPPLI.COM

   External symbols used.

   The application behavior can be changed by using external symbols:

   PACBASE_TYPCOM
   indicates which communication mode to use: 'TCPIP' for the TCP/IP mode

   PACBASE_TIMEOUT
   indicates the application maximum waiting time, in seconds, 8 numeric characters (ex: 00003600 = 1h).
   the default value is 09999999. If the maximum time is reached, ZAR980 returns the error code '58' to the application.

2. DESCRIPTION OF A DIALOGUE OR SCREEN

2.1. PRESENTATION OF THE 'DO' DIALOGUE

```
--------------------------------------------------------------------------------
!                  DEC-VAX APPLICATION                        *PDIE.NDOC.ADV.18!
! ON-LINE DIALOGUE DEFINITION.....: DO                                         !
!                                                                              !
! DIALOGUE NAME...................: PACBASE DOCUMENTATION MANAG.               !
!                                                                              !
! SCREEN TYPE ....................:           STANDARD SCREEN                    !
! SCREEN SIZE (LINES, COLUMNS) ...:   24      080                              !
! LABEL TYPE, TABS, INITIALIZATION...:   L    01      _                        !
! HELP CHARACTER SCREEN, DATA ELEMENT:   10   11                               !
!                                                                              !
!                                                                              !
!                                    LABELS  DISPLAY  INPUT  ER.MESS. ER.FLD.!
! INTENSITY ATTRIBUTE ............:   N       N       N       N        N      !
! PRESENTATION ATTRIBUTE .........:   N       N       N       N        N      !
! COLOR ATTRIBUTE ................:   W       W       W       W        W      !
!                                                                              !
! TYPE OF COBOL AND MAP TO GENERATE..:   I   0     DEC / VAX                  !
! CONTROL CARD OPTIONS FRONT & BACK..:           (PROGRAM)              (MAP)!
! EXTERNAL NAMES .................:           (PROGRAM)              (MAP)!
! TRANSACTION CODE................:                                          !
!                                                                              !
!                                                                              !
! EXPLICIT KEYWORDS..: DOC                                                     !
! SESSION NUMBER.....: 0010       LIBRARY......: ADV    LOCK....:              !
!                                                                              !
! O: C1 CH: Odo                        ACTION:                                 !
--------------------------------------------------------------------------------
```

DESCRIPTION OF A DIALOGUE OR SCREEN 2
PRESENTATION OF THE 'DO' DIALOGUE 1

```
--------------------------------------------------------------------------------
!                   DEC-VAX APPLICATION                      *PDIE.NDOC.ADV.18!
! DIALOGUE COMPLEMENT....:  DO PACBASE DOCUMENTATION MANAG.                     !
!                                                                               !
!                                                                               !
! COMMON AREA-DATA STRUCTURE CODE.......: CA                                    !
!                                                                               !
! ERROR MESSAGE FILE CHARACTERISTICS                                            !
!                       ORGANIZATION....: V                                     !
!                       EXTERNAL NAME...: DODOLE                                !
!                                                                               !
! FIRST SCREEN CODE OF THE DIALOGUE.....: 0060                                  !
!                                                                               !
! COMPLEMENTARY COMMON AREA LENGTH......:  700                                  !
!                                                                               !
! CODE OF PSB OR SUB-SCHEMA.............:                                       !
!                                                                               !
!                                                                               !
! OPTIONS : FOR OCF F10                                                         !
!                                                                               !
!                                                                               !
!                                                                               !
! SESSION NUMBER     : 0005  LIBRARY      : DCC                                 !
!                                                                               !
! O: C1 CH: -O                          ACTION:                                 !
--------------------------------------------------------------------------------
```

DESCRIPTION OF A DIALOGUE OR SCREEN 2
PRESENTATION OF THE 'DO' DIALOGUE 1

```
--------------------------------------------------------------------------------
!                   DEC-VAX APPLICATION                      *PDIE.NDOC.ADV.18!
! ON-LINE SCREEN GENERAL DOC.     DO     PACBASE DOCUMENTATION MANAG.           !
!                                                                               !
! A LIN : T COMMENT                                                       LIB   !
! . 200 : U DO12 THIS ITEM IS NOT AVAILABLE.                              *ACC  !
! . 220 : U CD30 TECHNICAL PROBLEM  CALL E.D.P. DEPT. (CODE DO-UTI-CD30)  *ACC  !
! . 240 : U CURS INVALID SELECTED LINE                                    *ACC  !
!       :                                                                       !
!       :                                                                       !
!       :                                                                       !
!       :                                                                       !
!       :                                                                       !
!       :                                                                       !
!       :                                                                       !
!       :                                                                       !
!       :                                                                       !
!       :                                                                       !
!       :                                                                       !
!       :                                                                       !
!       :                                                                       !
!       :                                                                       !
! *** END ***                                                                   !
! O: C1 CH: -G                                                                  !
--------------------------------------------------------------------------------
```

2.2. PRESENTATION OF THE 'DO0030' SCREEN

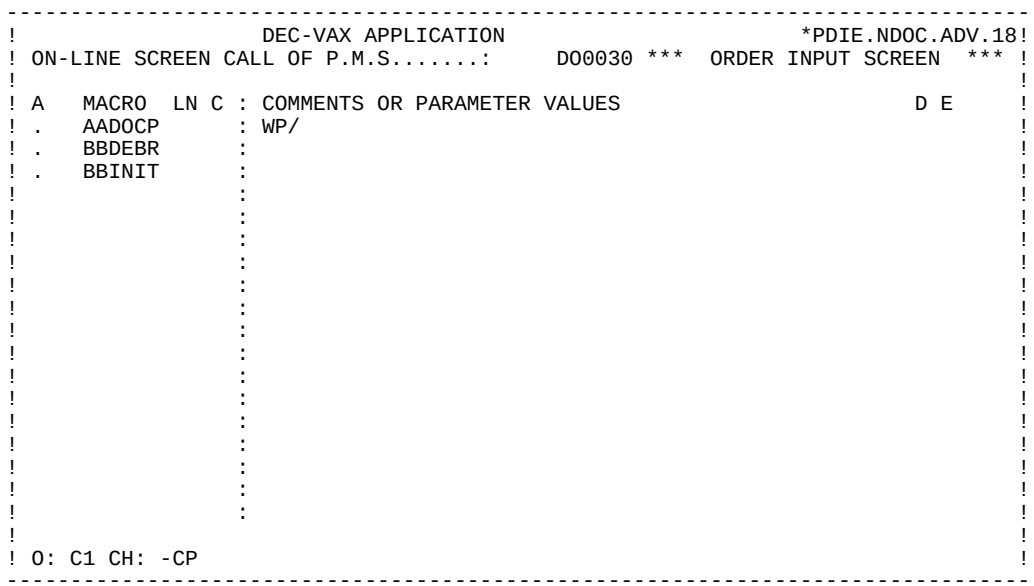
```
--------------------------------------------------------------------------------
!                  DEC-VAX APPLICATION                      *PDIE.NDOC.ADV.18!
! ON-LINE SCREEN DEFINITION.....: DO0030                                       !
!                                                                              !
! SCREEN NAME.....................: ***  ORDER INPUT SCREEN  ***               !
!                                                                              !
! SCREEN TYPE ....................:           STANDARD SCREEN                   !
! SCREEN SIZE (LINES, COLUMNS) ....:   24       080                            !
! LABEL TYPE, TABS, INITIALIZATION...:   L        01     * -                    !
! HELP CHARACTER SCREEN, DATA ELEMENT:   10       11                           !
!                                                                              !
!                                                                              !
!                                    LABELS  DISPLAY  INPUT  ER.MESS. ER.FLD.!
! INTENSITY ATTRIBUTE ............: * B        N        N        N        N !
! PRESENTATION ATTRIBUTE .........:   N        N        N        N        N !
! COLOR ATTRIBUTE ................:   W        W        W        W        W !
!                                                                              !
! TYPE OF COBOL AND MAP TO GENERATE..:   I   0     DEC / VAX                  !
! CONTROL CARD OPTIONS FRONT & BACK..:            (PROGRAM)              (MAP)!
! EXTERNAL NAMES .................:            (PROGRAM)              (MAP)!
! TRANSACTION CODE................:                                         !
!                                                                              !
!                                                                              !
! EXPLICIT KEYWORDS..:                                                         !
! SESSION NUMBER.....: 0045        LIBRARY......: ACC    LOCK....:             !
!                                                                              !
! O: C1 CH: Odo0030                    ACTION:                                 !
--------------------------------------------------------------------------------
```

```
!                   DEC-VAX APPLICATION                        *PDIE.NDOC.ADV.18!
! SCREEN CALL OF ELEM... DO0030 ***  ORDER INPUT SCREEN  ***                     !
!                                                                               !
! A LIN : D.ELEM . PHYSICAL ATTRIBUTES   . VALIDATION UPDATE .  DISPLAY         !
!       :        . P LN COL N L C HR VR  .  P V U UPD TARGET .  S SOURCE     LV!
! ..............................................................................!
! . 050 : DOAP30 . A 01 001 S            .                   .                  !
! . 080 : DOAP04 . A 01 001 S            .                   .                  !
! . 100 : DO0030 . A 01 025 T            .                   .                  !
! . 110 : NUCOM  . A 03 004 P U          .                   .    CA00          !
! . 120 : MATE   .      003 V U          .  R     CD05       .    CD05          !
! . 122 :        .                       .      V SPECIAL    .                  !
! . 125 : RELEA  .      012 V U          .  R     CD05       .    CD05          !
! . 130 : NUCLIE .   01 004 O U          .                   .                  !
! . 140 : RAISOC .      003 P F          .                   .    CA00          !
! . 145 : RUE    .   01 009 V F          .                   .                  !
! . 150 : COPOS  .      003 V F N        .  R   P 93CP       .    WP30          !
! . 155 :        .                       .      CD05COPOS    .    CD05COPOS     !
! . 160 : VILLE  .      003 F F          .                   .    CD05          !
! . 200 : REFCLI .   01 004 V U N        .      CD05         .    CD05          !
! . 210 : DATE   .      003 V U N        .  R     CD05       .    CD05          !
! . 220 : CORRES .   01 005 V U N        .  P     CD05       .    CD05          !
!                                                                               !
! O: C1 CH: -CE                                                                 !
--------------------------------------------------------------------------------
```

```
--------------------------------------------------------------------------------
!                   DEC-VAX APPLICATION                      *PDIE.NDOC.ADV.18!
! SCREEN CALL OF ELEM... DO0030 ***  ORDER INPUT SCREEN  ***                    !
!                                                                              !
! A LIN : D.ELEM . PHYSICAL ATTRIBUTES   . VALIDATION UPDATE .  DISPLAY        !
!       :        . P LN COL N L C HR VR  .  P V U UPD TARGET .  S SOURCE     LV!
! ..............................................................................!
! . 230 : REMIS  .      003 V U N         .        CD05       .    CD05         !
! . 300 : LINE   . A 10 001 R 1   01 09  .                    .                 !
! . 305 : CODMVT .      003 V   Y         .    I              .                 !
! . 310 : FOURNI .      003 V             .  R T   CD00       .    CD00         !
! . 320 : QTMAC  .      003 V             .  R X   CD10       .    CD10         !
! . 325 :        .                        .      + FO10QTMAM  .                 !
! . 330 : QTMAL  .      002 F             .                   .    CD10         !
! . 335 : QTMAR  .      002 F             .                   .                 !
! . 340 : INFOR  .      001 V             .  P X   CD10       .    CD10         !
! . 350 : END    .      004 Z             .                   .                 !
! . 400 :        . A 20 002 L             .                   .                 !
! . 405 : EDIT   .      001 V F           .    I   CD20       .                 !
! . 415 : DOAP31 . A 20 001 S             .                   .                 !
! . 500 : DOAP02 . A 22 001 S             .                   .                 !
!       :        .                        .                   .                 !
!       :        .                        .                   .                 !
!                                                                              !
! O: C1 CH:                                                                    !
--------------------------------------------------------------------------------
```

```
--------------------------------------------------------------------------------
!                   DEC-VAX APPLICATION                        *PDIE.NDOC.ADV.18!
! SCREEN CALL OF ELEM... DO0030 ***  ORDER INPUT SCREEN  ***                     !
!                                                                               !
! A LIN : D.ELEM . PHYSICAL ATTRIBUTES         . LABEL                          !
!       :        . P LN COL N L HR VR IN PR CO . T LITERALS                    !
! ..............................................................................!
! . 050 : DOAP30 . A 01 001 S                  .                                !
! . 080 : DOAP04 . A 01 001 S                  .                                !
! . 100 : DO0030 . A 01 025 T                  .                                !
! . 110 : NUCOM  . A 03 004 P U                .                                !
! . 120 : MATE   .      003 V U                .                                !
! . 122 :        .                             .                                !
! . 125 : RELEA  .      012 V U                .                                !
! . 130 : NUCLIE .   01 004 O U                .                                !
! . 140 : RAISOC .      003 P F                .                                !
! . 145 : RUE    .   01 009 V F                . P 84, OLD TOWNLINE ROAD        !
! . 150 : COPOS  .      003 V F                .                                !
! . 155 :        .                             .                                !
! . 160 : VILLE  .      003 F F                .                                !
! . 200 : REFCLI .   01 004 V U                .                                !
! . 210 : DATE   .      003 V U                . I ..__..                       !
! . 220 : CORRES .   01 005 V U                .                                !
!                                                                               !
! O: C2 CH: -CE                                                                 !
--------------------------------------------------------------------------------
```

```
!   XXXXXXXX - 0808      ** ORDERS ** VERSION US DO0030     XXXXXXXXXX 14:45:36!
!                                                                               !
!   ORDER NUMBER: 02345   SYSTEM: IBM.V.OS            RELEASE:                  !
!   CUST.    BEST     D.P. MANAGEMENT                                           !
!        84, OLD TOWNLINE ROAD                       48016   CINCINNATI         !
!   CUST. REF.: LP-KCP  ORDER NUMBER: 05179      ORDER DATE: ..__..             !
!    COORDINATOR: MR. GUY DANCE               DISCOUNT RATE:    12.25          !
!                                                                               !
!  A   ITEM     ORDERED   DELIV    OUTST. REMARKS                              !
!  C   DLG       3         1        2     REST TO BE DELIVERED : 05/03/84      !
!  .   ...      ..        ..       ..     ..................................   !
!  .   ...      ..        ..       ..     ..................................   !
!  .   ...      ..        ..       ..     ..................................   !
!  .   ...      ..        ..       ..     ..................................   !
!  .   ...      ..        ..       ..     ..................................   !
!  .   ...      ..        ..       ..     ..................................   !
!  .   ...      ..        ..       ..     ..................................   !
!  .   ...      ..        ..       ..     ..................................   !
!                                                                               !
! PRINTING OF FORM  : 0                                                         !
! MENU / PF01, CUSTOMER LIST : PF02, CUST. HIST : PF03, ORDER LIST : PF04,      !
! END : PF12 SCREEN DOC : PF10,  DATA EL. DOC. : PF11,                          !
! PLEASE CHECK YOUR MAILBOX, THANK YOU.                                         !
! XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX  !
```



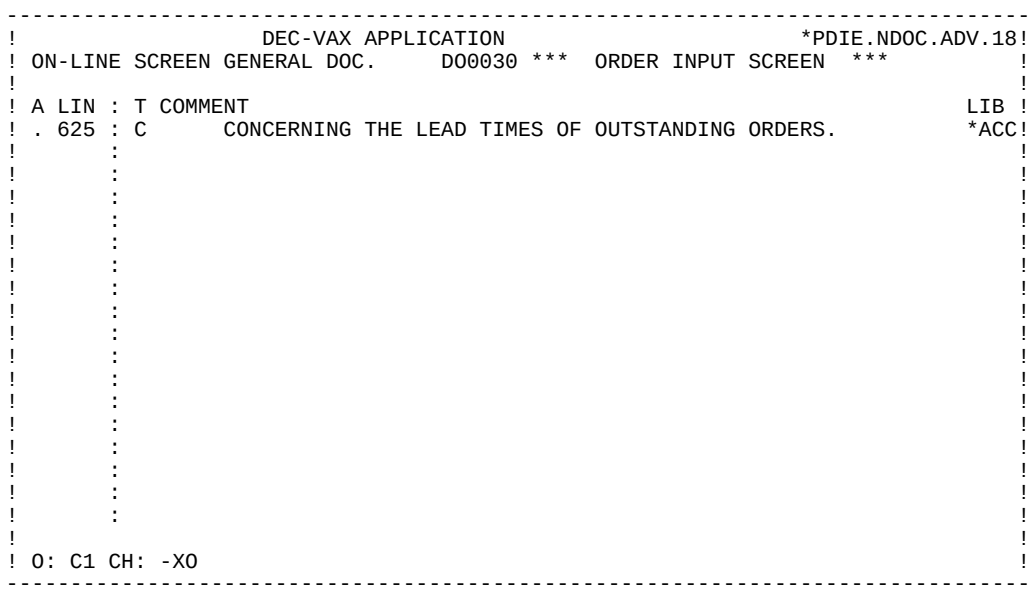
```
--------------------------------------------------------------------------------
!                   DEC-VAX APPLICATION                      *PDIE.NDOC.ADV.18!
! WORK AREAS.........ENTITY TYPE O DO0030 ***  ORDER INPUT SCREEN  ***         !
!                                                                              !
! 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: -Wbb                                                               !
--------------------------------------------------------------------------------
```

```
--------------------------------------------------------------------------------
!                   DEC-VAX APPLICATION                      *PDIE.NDOC.ADV.18!
! WORK AREAS.........ENTITY TYPE O DO0030 ***  ORDER INPUT SCREEN  ***         !
!                                                                              !
! CODE FOR PLACEMENT..:      WP                                                !
! A LIN T LEVEL OR SECTION WORK AREA DESCRIPTION                          OCCU!
! * 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                                                               !
--------------------------------------------------------------------------------
```

```
--------------------------------------------------------------------------------
!                   DEC-VAX APPLICATION                      *PDIE.NDOC.ADV.18!
! 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:                                                                    !
--------------------------------------------------------------------------------
```

```
--------------------------------------------------------------------------------
!                   DEC-VAX APPLICATION                        *PDIE.NDOC.ADV.18!
! 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!
! . 210 : U F  9 MANUAL DOES NOT BELONG TO PACBASE DOCUMENTATION.         *ACC!
!                                                                              !
! O: C1 CH: -G                                                                 !
--------------------------------------------------------------------------------
```

```
--------------------------------------------------------------------------------
!                   DEC-VAX APPLICATION                        *PDIE.NDOC.ADV.18!
! ON-LINE SCREEN GENERAL DOC.     DO0030 ***  ORDER INPUT SCREEN  ***           !
!                                                                              !
! A LIN : T COMMENT                                                      LIB !
! . 350 : F CODMVT                                                       *ACC!
! . 360 : C      AN ACTION CODE MUST BE ENTERED.                         *ACC!
! . 400 : F FOURNI                                                       *ACC!
! . 402 : C      THE FIELD 'ITEM' IS ENTERED WITH THE 3-CHARACTER CODE   *ACC!
! . 403 : C      OF THE MANUAL. IT IS NOT POSSIBLE TO ENTER              *ACC!
! . 404 : C      REQUESTS CONCERNING THE BINDERS.                        *ACC!
! . 430 : U    A THIS PROCEDURE DOES NOT PERMIT TO ORDER BINDERS.        *ACC!
! . 450 : F MATE                                                         *ACC!
! . 451 : T    0 DOCUM DD                                                *ACC!
! . 453 : U    5 THIS TYPE OF HARDWARE IS NOT SUPPORTED BY PACBASE.      *ACC!
! . 500 : F QTMAC                                                        *ACC!
! . 510 : C      THE 'QUANTITY ORDERED' FIELD MUST BE ENTERED WITH THE   *ACC!
! . 520 : C      NUMBER OF COPIES NEEDED FOR THE SPECIFIED MANUAL.       *ACC!
! . 530 : C      ACCORDING TO STOCK AVAILABILITY, THE SYSTEM FILLS IN     *ACC!
! . 540 : C      THE 'QUANTITY DELIVERED' AND, IF NEEDED, THE 'QUANTITY  *ACC!
! . 541 : C      OUTSTANDING'.                                           *ACC!
! . 600 : F INFOR                                                        *ACC!
! . 610 : C      THE 'REMARKS' COLUMN ALLOWS TO ENTER SPECIFICS          *ACC!
!                                                                              !
! O: C1 CH:                                                                    !
--------------------------------------------------------------------------------
```



```
--------------------------------------------------------------------------------
!                   DEC-VAX APPLICATION                        *PDIE.NDOC.ADV.18!
! 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        KEYCD    V   DOCD00   CD05   12 : *ACC!
!   CD05   02 :             "B"          COCARA                          : 0020!
!   CD05   04 :             CA00-NUCOM   NUCOM                           : 0020!
! . CD10 R 00 :   T        "C"           KEYCD    V   DOCD00   CD10       : *ACC!
!   CD10 R 02 :             CA00-NUCOM   NUCOM                           : 0020!
!   CD10 R 04 :             0030-FOURNI  FOURNI                          : 0020!
!   CD10 R 06 :     A       SPACES       KEYCD                           : 0020!
!   CD10 R 08 :             "C"          COCARA C                        : 0020!
!   CD10 R 10 :             CA00-NUCOM   NUCOM  C                        : 0020!
! . FO10 R 00 :   M N CD10 0030-FOURNI   CLEFO    V 1 DOFO00   FO10       : *DCC!
!   FO10 R 02 :             CA00-LANGU   LANGU                           : 0020!
!   FO10 R 04 :             0030-RELEA   RELEA                           : 0020!
!   FO10 R 06 :             0030-MATE    MATE                            : 0020!
! . CD20 Z 00 :   X N      SPACES        KEYCD    V   DOCD00   CD20       : *ACC!
!   CD20 Z 02 :             "E"          COCARA                          : 0020!
!   CD20 Z 04 :             CA00-NUCOM   NUCOM                           : 0020!
! . ME00 Z 00 :   N A      CA00-CLEME    CLEME    V   DOME00   ME00       : *DCC!
!                                                                          !
! O: C1 CH: -CS                                                            !
--------------------------------------------------------------------------------
```

```
              O DO0030 FUNCTION: 02
A SF LIN OPE OPERANDS                          LVTY CONDITION
* CP     N   INIT. NUMBER OF LOADED ITEMS      10BL
* CP 100 M   IWP20M IWP20L
- -- --- --- -------------------------------- ---- -------------------
              O DO0030 FUNCTION: 08
A SF LIN OPE OPERANDS                          LVTY CONDITION
* BB     N   NO UPDATE ==> END OF RECEIVE      10IT OPER NOT = "M"
* BB 100 GFT
- -- --- --- -------------------------------- ---- -------------------
              O DO0030 FUNCTION: 15
A SF LIN OPE OPERANDS                          LVTY CONDITION
. AA     N   INITIALIZATION CATM (HEADING)     10IT CATX = SPACE
. AA 100 M   "M" CATM                            AN OPER = "M"
- -- --- --- -------------------------------- ---- -------------------
              O DO0030 FUNCTION: 20
A SF LIN OPE OPERANDS                          LVTY CONDITION
. BB     N   ITEM NOT AVAILABLE                10*A FOURNI
. BB 100 ERR A FOURNI                          99IT I-0030-FOURNI = "CL
. BB 110 GF                                      AN CATM NOT = SPACE
- -- --- --- -------------------------------- ---- -------------------
              O DO0030 FUNCTION: 25
A SF LIN OPE OPERANDS                          LVTY CONDITION
. BB     N   ACCESS TO FO10                    12*P CD10
. BB 100 M   "1" CD10-CF
- -- --- --- -------------------------------- ---- -------------------
              O DO0030 FUNCTION: 28
A SF LIN OPE OPERANDS                          LVTY CONDITION
. BH     N   STOCK UPD.: ORDER DELETION/UPD    10IT (CATM = "A" OR "M")
. BH 100 A   CD10-QTMAL FO10-QTMAS               AN CATX = "R"
. BH 120                                         AN CAT-ER = SPACES
- -- --- --- -------------------------------- ---- -------------------
              O DO0030 FUNCTION: 30
A SF LIN OPE OPERANDS                          LVTY CONDITION
. BD     N   QUANTITY PROCESSING               10*P R
- -- --- --- -------------------------------- ---- -------------------
. BF     N   CALC. DELIV. QUANT.   STOCK UPD. 12IT CATM = "C" OR "M"
. BF 100 M   I-0030-QTMAC  CD10-QTMAL          99IT FO10-QTMAS NOT <
. BF 110                                           I-0030-QTMAC
. BF 120 M   FO10-QTMAS    CD10-QTMAL          99EL
. BF 130 S   CD10-QTMAL    FO10-QTMAS          99BL
. BF 140 M   CD10-QTMAL    O-0030-QTMAL
- -- --- --- -------------------------------- ---- -------------------
              O DO0030 FUNCTION: 64
A SF LIN OPE OPERANDS                          LVTY CONDITION
* DA     N   PREPARATION DISPLAY DATE/HOUR     10IT CATX = " "
* DA  40 AD6
* DA  80 AD  IM DATOR DAT8C
* DA 120 TIM                                   99BL
* DA 160 TIF TIMCOG TIMDAY
- -- --- --- -------------------------------- ---- -------------------
              O DO0030 FUNCTION: 65
A SF LIN OPE OPERANDS                          LVTY CONDITION
. BB     N   REMAINS TO BE DELIVERED           10*P R
. BB 100 C   WW10-QTMAR =                      99IT CD10-QTMAL NOT = ZE
. BB 110     CD10-QTMAC - CD10-QTMAL
. BB 120 M   WW10-QTMAR   O-0030-QTMAR
- -- --- --- -------------------------------- ---- -------------------
              O DO0030 FUNCTION: 93
A SF LIN OPE OPERANDS                          LVTY CONDITION
* CP     N   ZIP CODE VALIDATION               10BL
* CP 100 SCH WP20-COPOS WP30-COPOS
* CP 200 M   "5" DEL-ER                        99IT IWP20R > IWP20L
* CP 220 GT  10
- -- --- --- -------------------------------- ---- -------------------
```

3. GENERATED MONITOR EXAMPLE

3.1. DATA DIVISION

DATA DIVISION

The Monitor is generated from the dialogue Definition Screen. It ensures the proper linking of screens and programs within an application.

In addition to the fields that are usually generated, the WORKING-STORAGE SECTION of this program includes:

'PACBASE-CONSTANTS'
PRCGI: External name of the sub-routine that receives and formats messages (Default Value: ZAR980; this name can be modified on the dialogue General Documentation (-G) screen).

'COMMON-AREA'
This level includes the conversation field defined by the user.

'COMMUNICATION-MONITOR'
This level contains the fields allowing the monitor to communicate with the dialogue screens.

S-WWSS-OPER Equivalent to the OPER field. The values received by the monitor are as follows:

'O': Screen branching

'E': End of conversation

'X': Input-output error on a file or on the terminal.

S-WWSS-PROGE External name of the screen program to be called.

S-WWSS-XFILE
In the event of an input/output error, this field memorizes the file name for an RMS access, or takes the value 'TERM' for a message display/reception operation.

S-WWSS-XFUNCT
In the event of an input/output error this field memorizes the operation executed on the RMS file (READ, WRITE, START, etc.), or the type of function performed on the terminal (ASSIGN, RECEIVE, DEASSIGN).

S-WWSS-STATUS
Error code in the event of an input/output error:

- On the RMS file, includes the FILE-STATUS;

- On a terminal assignment operation, it has the following values:

02: invalid assignment (error on the instruction: '$ASSIGN_S DEVNAM'),

03: invalid 'sense-mode' (error on an '$QIO_S FUNC=£IO$_SENSEMODE' instruction, which makes it possible to retrieve terminal characteristics),

04: invalid 'set-mode' (error on an '$QIOW_S FUNC=£IO$_SETMODE' instruction, which makes it possible to change terminal characteristics);

- On a terminal deassignment operation, it has the following value:

10: invalid deassignment (error on the instruction '$DASSGN_S');

- On a message reception operation, it has the following values:

05: reading error on a keyboard character,

06: reading sequence on an unknown ESCAPE character,

08: error during forward cursor movement,

09: error during backward cursor movement.

'CMES-COMMUNICATION'
This is a communication field for the message reception and formatting sub-program. It contains:

CMES-YCRE
This field may have two different values:

'A': Terminal assignment (see the PROCEDURE DIVISION),
'D': Terminal deassignment (see the PROCEDURE DIV.).

CMES-STATUS
Return code of the operation executed ('00' for normal return code).

'D-SERR'
General purpose field used to display the file or screen input-output errors.

```
IDENTIFICATION DIVISION.                                              DO
PROGRAM-ID. DO.                                                       DO
AUTHOR.     PACBASE DOCUMENTATION MANAG.                              DO
DATE-COMPILED. 04/29/96.                                              DO
ENVIRONMENT DIVISION.                                                 DO
CONFIGURATION SECTION.                                                DO
SOURCE-COMPUTER. VAX.                                                 DO
OBJECT-COMPUTER. VAX.                                                 DO
DATA DIVISION.                                                        DO
WORKING-STORAGE SECTION.                                              DO
01   WSS-BEGIN.                                                       DO
     05 FILLER PICTURE X(7) VALUE "WORKING".                          DO
     05 IK     PICTURE X.                                             DO
     05 BLANC  PICTURE X VALUE SPACE.                                 DO
     05 PROGC  PICTURE X(8).                                          DO
01   PACBASE-CONSTANTS.                                               DO
     05 SESSI  PICTURE X(5) VALUE "0524 ".                            DO
     05 LIBRA  PICTURE X(3) VALUE "ADV".                              DO
     05 DATGN  PICTURE X(8) VALUE "04/29/96".                         DO
     05 PROGR  PICTURE X(6) VALUE "DO    ".                           DO
     05 PROGE  PICTURE X(8) VALUE "DO      ".                         DO
     05 TIMGN  PICTURE X(8) VALUE "12:01:21".                         DO
     05 USERCO PICTURE X(8) VALUE "PDMCA   ".                         DO
     05 COBASE PICTURE X(4) VALUE "NDOC".                             DO
     05 PRCGI  PICTURE X(8) VALUE "ZAR980".                           DO
01      COMMON-AREA.                                                  *AA000
     02 K-PROGR  PICTURE X(6).                                        *AA000
     02           CA00.                                              *AA001
       10         CA00-CLECD.                                        *AA001
        15        CA00-NUCOM  PICTURE 9(5).                          *AA001
       10         CA00-CLECL1.                                       *AA001
        15        CA00-NUCLIE PICTURE 9(8).                          *AA001
       10         CA00-ME00.                                         *AA001
        15        CA00-CLEME.                                        *AA001
         20       CA00-COPERS PICTURE X(5).                          *AA001
         20       CA00-NUMORD PICTURE XX.                            *AA001
        15        CA00-MESSA  PICTURE X(75).                         *AA001
       10         CA00-PREM   PICTURE X.                             *AA001
       10         CA00-LANGU  PICTURE X.                             *AA001
       10         CA00-RAISOC PICTURE X(50).                         *AA001
     02  K-SDOC PICTURE X.                                          *AA002
     02  FILLER PICTURE X(38).                                      *AA002
     02  FILLER      PICTURE X(0700).                               *AA002
01          COMMUNICATION-MONITOR.                                   *AA010
     02    S-WWSS.                                                  *AA010
       10    S-WWSS-OPER   PICTURE X.                               *AA010
       10    S-WWSS-PROGE  PICTURE X(8).                            *AA010
       10    S-WWSS-XFILE  PICTURE X(8).                            *AA010
       10    S-WWSS-XFUNCT PICTURE X(8).                            *AA010
       10    S-WWSS-STATUS PICTURE XXXX.                            *AA010
01      CMES-COMMUNICATION.                                          *AA060
  05    FILLER        PICTURE X(10001).                              *AA060
  05    CMES-YCRE     PICTURE X.                                     *AA060
  05    FILLER        PICTURE X(20).                                 *AA060
  05    CMES-STATUS.                                                 *AA060
    10  CMES-RETCOD   PICTURE 99.                                   *AA060
  05    FILLER        PICTURE X(102).                                *AA060
01      D-SERR.                                                      *AA155
    02  D-SERR-LINE1.                                               *AA155
     05 FILLER  PICTURE X(17) VALUE "ERROR IN PROGRAM ".            *AA155
     05 D-SERR-PROGE PICTURE X(8).                                  *AA155
    02  D-SERR-LINE3.                                               *AA155
     05 FILLER       PICTURE X(7) VALUE "FILE : ".                  *AA155
     05 D-SERR-XFILE PICTURE X(8) VALUE SPACE.                      *AA155
     05 FILLER       PICTURE X(11) VALUE "FUNCTION : ".             *AA155
     05 D-SERR-XFUNCT PICTURE X(8) VALUE SPACE.                     *AA155
     05 FILLER     PICTURE X(15) VALUE " FILE STATUS : ".           *AA155
     05 D-SERR-STATUS PICTURE XXXX  VALUE SPACE.                    *AA155
01    PACBASE-INDEXES COMPUTATIONAL.                                 *AA200
     05 K01           PICTURE S9(4).                                *AA200
     05        TALLI PICTURE S9(4) VALUE ZERO.                      *AA200
     05    5-CA00-LTH  PICTURE S9(4) VALUE +0147.                   *AA200
```

3.2. PROCEDURE DIVISION

STRUCTURE OF THE MONITOR

The structure of the Monitor procedure is as follows:

F01 : Initialization of the field containing the name of the next program to execute with the name of the first screen of the dialogue; terminal assignment via a call of message formatting sub-program. The purpose of this function is to dynamically modify the characteristics of the terminal, in particular, the 'BROADCAST MESSAGES' display.

NOTE: If the dialogue application is started by a procedure, SYS$INPUT must have as its logical assignment the value 'TT'.

F28 : The next program to be executed is activated via a 'CALL' instruction. If the transaction is terminated or if there is no input-output, the terminal is de-assigned so that it returns to its original characteristics.

F2910 : Send of message 'END OF CONVERSATION' for an end of transaction.

F81ER : Display of an error message in case of an input-output error.

```
 PROCEDURE DIVISION.                                                    *99999
*          ************************************                        DO
*          *                                  *                        DO
*          *  INITIALIZATIONS                 *                        DO
*          *                                  *                        DO
*          ************************************                        DO
 F01.                                                                   DO
       MOVE "DO0060  " TO S-WWSS-PROGE.                                 DO
       MOVE "A"        TO CMES-YCRE.                                    DO
       CALL PRCGI USING CMES-COMMUNICATION.                             DO
       IF   CMES-RETCOD NOT = ZERO                                      DO
       MOVE "TERM   "  TO S-WWSS-XFILE                                  DO
       MOVE "ASSIGN "  TO S-WWSS-XFUNCT                                 DO
       MOVE CMES-STATUS TO S-WWSS-STATUS                                DO
       MOVE PROGR       TO S-WWSS-PROGE                                 DO
       GO   TO  F81ER.                                                  DO
       MOVE ZERO TO K-SDOC.                                             DO
 F01-FN.      EXIT.                                                     DO
 F28.          EXIT.                                                    DO
 F28AA.                                                                 DO
       MOVE  "A"  TO  S-WWSS-OPER.                                      DO
 F28AA-FN.    EXIT.                                                     DO
 F2899.                                                                 DO
       MOVE S-WWSS-PROGE TO PROGC.                                      DO
       CALL S-WWSS-PROGE USING                                          DO
       COMMON-AREA COMMUNICATION-MONITOR.                               DO
       CANCEL PROGC.                                                    DO
       IF S-WWSS-OPER NOT = "X" AND NOT = "E" GO TO F28.                DO
       MOVE "D"        TO CMES-YCRE.                                    DO
       CALL PRCGI USING CMES-COMMUNICATION.                             DO
       IF   CMES-RETCOD NOT = ZERO                                      DO
       MOVE "TERM   "  TO S-WWSS-XFILE                                  DO
       MOVE "DEASSIGN" TO S-WWSS-XFUNCT                                 DO
       MOVE CMES-STATUS TO S-WWSS-STATUS                                DO
       MOVE PROGR       TO S-WWSS-PROGE                                 DO
       GO   TO  F81ER.                                                  DO
 F2899-FN.    EXIT.                                                     DO
 F28-FN.      EXIT.                                                     DO
 F29.                                                                   DO
       IF S-WWSS-OPER = "X" GO TO F81ER.                                DO
 F2910.     IF S-WWSS-OPER = "E"                                       DO
       DISPLAY "CONVERSATION ENDED" AT LINE 1 COLUMN 2                  DO
       ERASE SCREEN                                                     DO
       STOP RUN.                                                        DO
 F2910-FN.    EXIT.                                                     DO
 F29-FN.      EXIT.                                                     DO
 F81ER.                                                                 DO
       MOVE S-WWSS-PROGE TO D-SERR-PROGE.                               DO
       DISPLAY D-SERR-LINE1 AT LINE 1 COLUMN 2 ERASE SCREEN.            DO
       MOVE S-WWSS-XFILE TO D-SERR-XFILE.                               DO
       MOVE S-WWSS-XFUNCT TO D-SERR-XFUNCT.                             DO
       MOVE S-WWSS-STATUS TO D-SERR-STATUS.                             DO
       DISPLAY D-SERR-LINE3 AT LINE 3 COLUMN 2.                         DO
       STOP RUN.                                                        DO
 F81ER-FN.    EXIT.                                                     DO
```

4. GENERATED PROGRAM EXAMPLE: DATA DIVISION

4.1. 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.

In the FILE-CONTROL section:

. A SELECT clause is generated for each file called with ORGANIZATION 'V' on the Screen Call of Segments (-CS) screen.

. A SELECT clause is generated for the Error Message file if it is declared with ORGANIZATION 'V' on the Dialogue Complement (-O) screen.

. A SELECT clause is generated for the file which stores the screen before a branch to HELP documentation provided that Screen and Field Help Call characters have been specified in the Dialogue Definition. The clause is not generated if the NOSAV option is activated in the Dialogue Complement (-O) screen. (Default filename: 'HE').

The I-O-CONTROL level includes an 'APPLY LOCK-HOLDING' clause which is generated for each 'SELECT' clause.

```
    IDENTIFICATION DIVISION.
    PROGRAM-ID. DO0030.                                          DO0030
    AUTHOR.     ***  ORDER INPUT SCREEN  ***.                    DO0030
    DATE-COMPILED. 04/29/96.                                     DO0030
    ENVIRONMENT DIVISION.                                        DO0030
    CONFIGURATION SECTION.                                       DO0030
    SOURCE-COMPUTER. VAX.                                        DO0030
    OBJECT-COMPUTER. VAX.                                        DO0030
    SPECIAL-NAMES.                                               DO0030
         DECIMAL-POINT IS COMMA.                                 DO0030
    INPUT-OUTPUT SECTION.                                        DO0030
    FILE-CONTROL.                                                DO0030
         SELECT    CD-FILE                                       DO0030
         ASSIGN     TO          DOCD00                         DO0030
         ORGANIZATION INDEXED                                    DO0030
         ACCESS IS DYNAMIC                                       DO0030
         RECORD KEY IS CD00-KEYCD                                DO0030
         FILE STATUS 1-CD00-STATUS.                              DO0030
         SELECT    EM-FILE                                       DO0030
         ASSIGN  TO     DODOLE                                  DO0030
         ORGANIZATION INDEXED                                    DO0030
         ACCESS IS DYNAMIC                                       DO0030
         RECORD KEY IS EM00-EMKEY                                DO0030
         FILE STATUS 1-EM00-STATUS.                              DO0030
         SELECT    FO-FILE                                       DO0030
         ASSIGN     TO          DOFO00                         DO0030
         ORGANIZATION INDEXED                                    DO0030
         ACCESS IS DYNAMIC                                       DO0030
         RECORD KEY IS FO10-CLEFO                                DO0030
         FILE STATUS 1-FO00-STATUS.                              DO0030
         SELECT HE-FILE    ASSIGN TO SAVESCR                     DO0030
         ORGANIZATION INDEXED                                    DO0030
         ACCESS IS DYNAMIC                                       DO0030
         RECORD KEY IS HE00-XTERM                                DO0030
         FILE STATUS 1-HE00-STATUS.                              DO0030
         SELECT    ME-FILE                                       DO0030
         ASSIGN     TO          DOME00                         DO0030
         ORGANIZATION INDEXED                                    DO0030
         ACCESS IS DYNAMIC                                       DO0030
         RECORD KEY IS ME00-CLEME                                DO0030
         FILE STATUS 1-ME00-STATUS.                              DO0030
    I-O-CONTROL.                                                 DO0030
           APPLY LOCK-HOLDING   ON   CD-FILE                     DO0030
           APPLY LOCK-HOLDING   ON   FO-FILE                     DO0030
           APPLY LOCK-HOLDING   ON   ME-FILE                     DO0030
           APPLY LOCK-HOLDING   ON   EM-FILE                     DO0030
           APPLY LOCK-HOLDING   ON   HE-FILE.                    DO0030
```

4.2. DESCRIPTION OF SEGMENTS

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).

Back-up file for the HELP Function

When documentation is requested (HELP Function), a file stores the input fields before branching to the HELP documentation screen. Its length must be 1930 characters; the size of the longest screen being 1920 characters.

The structure of this file is as follows:

```
01            HE00.
       05     HE00-XTERM             PICTURE X(10).
       05     HE00-SCREEN            PICTURE X(1920).
```

'HE' is the default filename, 'SAVESCR' is the default external name.

The user may modify these names using the General Documentation (-G) lines of the screen (see Subchapter "DIALOGUE GENERAL DOCUMENTATION" in the ON-LINE SYSTEMS DEVELOPMENT Reference Manual).

```
DATA DIVISION.                                                          DO0030
FILE SECTION.                                                           DO0030
FD          CD-FILE.                                                    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
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
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
       10         FO10-QTMAS  PICTURE S9(4)                             DO0030
                       COMPUTATIONAL.                                   DO0030
       10         FO10-QTMAM  PICTURE 9(4).                             DO0030
       10         FO10-LIBFO  PICTURE X(20).                            DO0030
       10         FO10-DATE   PICTURE X(6).                             DO0030
       10         FO10-HEURE  PICTURE X(8).                             DO0030
       10         FO10-FILLER PICTURE XX.                               DO0030
FD          HE-FILE.                                                    DO0030
01              HE00.                                                   DO0030
    05          HE00-XTERM  PICTURE X(10).                              DO0030
    05          HE00-SCREEN PICTURE X(1920).                            DO0030
FD          ME-FILE.                                                    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
```

4.3. 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.

I-PFKEY Stores the function key.

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

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

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

IRR Number of repetitions in the repetitive category.

INT Number of input fields.

IER Number of error messages on the screen.

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

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

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

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

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

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

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

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

The PRCGI field includes the external name of the message reception and formatting program.

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 to each Segment in the procedure.

The 'STATUS-AREA' level contains the '1-dd00-STATUS' fields, which correspond to the FILE-STATUS defined in each file's SELECT clause.

```
   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   CURPOS.                                                  DO0030
       10  CPOSL         PICTURE 99.                               DO0030
       10  CPOSC         PICTURE 999.                              DO0030
        05 INA    PICTURE 999 VALUE 008.                            DO0030
        05 INR    PICTURE 999 VALUE 012.                            DO0030
        05 INZ    PICTURE 999 VALUE 013.                            DO0030
        05 IRR     PICTURE 99 VALUE 09.                             DO0030
        05 INT    PICTURE 999 VALUE 045.                            DO0030
        05 IER     PICTURE 99 VALUE 01.                             DO0030
        05 DEL-ER  PICTURE X.                                       DO0030
   01   PACBASE-CONSTANTS.                                           DO0030
  * OLSD DATES PACE30 : 23/06/95                                     DO0030
  *            PACE80 : 16/01/96   PAC7SG : 960115                  DO0030
        05 FILLER PICTURE X(50) VALUE                               DO0030
        "0524 ADV04/29/96DO0030DO0030  12:05:33PDMCA   NDOC".       DO0030
   01   CONSTANTS-PACBASE REDEFINES PACBASE-CONSTANTS.               DO0030
        05 SESSI  PICTURE X(5).                                     DO0030
        05 LIBRA  PICTURE X(3).                                     DO0030
        05 DATGN  PICTURE X(8).                                     DO0030
        05 PROGR  PICTURE X(6).                                     DO0030
        05 PROGE  PICTURE X(8).                                     DO0030
        05 TIMGN  PICTURE X(8).                                     DO0030
        05 USERCO PICTURE X(8).                                     DO0030
        05 COBASE PICTURE X(4).                                     DO0030
   01   PACBASE-WORK.                                                DO0030
        05 PRDOC  PICTURE X(8) VALUE "DOP050".                      DO0030
        05 PRCGI  PICTURE X(8) VALUE "ZAR980".                      DO0030
        05      5-0030-PROGE  PICTURE X(8).                        DO0030
        05      5-0030-LTHDIS PICTURE 9(4) VALUE 1000.             DO0030
   01  DATCE.                                                       DO0030
     05  CENTUR   PICTURE XX VALUE "19".                           DO0030
        05 DATOR.                                                   DO0030
        10 DATOA  PICTURE XX.                                       DO0030
        10 DATOM  PICTURE XX.                                       DO0030
        10 DATOJ  PICTURE XX.                                       DO0030
   01  DAT6.                                                        DO0030
        10 DAT61.                                                   DO0030
        15 DAT619 PICTURE 99.                                      DO0030
        10 DAT62.                                                   DO0030
        15 DAT629 PICTURE 99.                                      DO0030
        10 DAT63  PICTURE XX.                                      DO0030
   01  DAT7.                                                        DO0030
        10 DAT71  PICTURE XX.                                      DO0030
        10 DAT72  PICTURE XX.                                      DO0030
        10 DAT73  PICTURE XX.                                      DO0030
   01  DAT8.                                                        DO0030
        10 DAT81  PICTURE XX.                                      DO0030
        10 DAT8S1 PICTURE X.                                       DO0030
        10 DAT82  PICTURE XX.                                      DO0030
        10 DAT8S2 PICTURE X.                                       DO0030
        10 DAT83  PICTURE XX.                                      DO0030
   01  DATSEP     PICTURE X VALUE "/".                             DO0030
   01  DATSET     PICTURE X VALUE "-".                             DO0030
   01  DATCTY.                                                     DO0030
     05  DATCTY9  PICTURE 99.                                      DO0030
   01  DAT6C.                                                      DO0030
     10  DAT61C   PICTURE XX.                                      DO0030
     10  DAT62C   PICTURE XX.                                      DO0030
     10  DAT63C   PICTURE XX.                                      DO0030
     10  DAT64C   PICTURE XX.                                      DO0030
   01  DAT7C.                                                      DO0030
     10  DAT71C   PICTURE XX.                                      DO0030
```

```
  10  DAT72C   PICTURE XX.                                    DO0030
  10  DAT73C   PICTURE XX.                                    DO0030
  10  DAT74C   PICTURE XX.                                    DO0030
01  DAT8C.                                                   DO0030
  10  DAT81C   PICTURE XX.                                    DO0030
  10  DAT8S1C  PICTURE X    VALUE "/".                        DO0030
  10  DAT82C   PICTURE XX.                                    DO0030
  10  DAT8S2C  PICTURE X    VALUE "/".                        DO0030
  10  DAT83C   PICTURE XX.                                    DO0030
  10  DAT84C   PICTURE XX.                                    DO0030
01  DAT8G.                                                   DO0030
  10  DAT81G   PICTURE XX.                                    DO0030
  10  DAT82G   PICTURE XX.                                    DO0030
  10  DAT8S1G  PICTURE X    VALUE "-".                        DO0030
  10  DAT83G   PICTURE XX.                                    DO0030
  10  DAT8S2G  PICTURE X    VALUE "-".                        DO0030
  10  DAT84G   PICTURE XX.                                    DO0030
01  TIMCO.                                                   DO0030
 02  TIMCOG.                                                 DO0030
   05  TIMCOH  PICTURE XX.                                   DO0030
   05  TIMCOM  PICTURE XX.                                   DO0030
   05  TIMCOS  PICTURE XX.                                   DO0030
  02 TIMCOC    PICTURE XX.                                   DO0030
01  TIMDAY.                                                  DO0030
   05  TIMHOU  PICTURE XX.                                   DO0030
   05  TIMS1   PICTURE X    VALUE ":".                       DO0030
   05  TIMMIN  PICTURE XX.                                   DO0030
   05  TIMS2   PICTURE X    VALUE ":".                       DO0030
   05  TIMSEC  PICTURE XX.                                   DO0030
01    CONFIGURATIONS.                                        DO0030
     05      CD05-CF      PICTURE X.                        DO0030
     05      CD10-CF      PICTURE X.                        DO0030
     05      CD20-CF      PICTURE X.                        DO0030
     05      FO10-CF      PICTURE X.                        DO0030
     05      ME00-CF      PICTURE X.                        DO0030
01     STATUS-AREA.                                         DO0030
     05    1-CD00-STATUS PICTURE XX VALUE ZERO.             DO0030
     05    1-EM00-STATUS PICTURE XX VALUE ZERO.             DO0030
     05    1-FO00-STATUS PICTURE XX VALUE ZERO.             DO0030
     05    1-HE00-STATUS PICTURE XX VALUE ZERO.             DO0030
     05    1-ME00-STATUS PICTURE XX VALUE ZERO.             DO0030
```

4.4. SCREEN DESCRIPTION

SCREEN DESCRIPTION

The '0030-MESSO' level is an input-output field of the logical message, which is transferred to the formatting sub-program. It contains one line per field.

The 'AT-0030-MESSO' table is a logical description of each message field, which is transferred to the sub-program. For each field, it indicates:

-its line-column position,

-its length,

-its nature (' ': variable field, 'F': protected field,
'L': literal,),

-its intensity, presentation and color attributes.

The 'INPUT-0030' level is an input field of the message and is redefined by the INPUT-SCREEN-FIELDS field, which groups together the fields with NATURE = 'V' and 'F'.

The 'OUTPUT-0030' level is an output field of the message and is redefined by the OUTPUT-SCREEN-FIELDS field, which groups together the fields with NATURE = 'V', 'F' and 'P'.

```
01          0030-MESSO.                                          *AA040
   02       0030-MESSI.                                          *AA040
     05     S01004  PICTURE X(008).                              *AA040
     05     S01013  PICTURE X(001).                              *AA040
     05     S01015  PICTURE X(005).                              *AA040
     05     S01025  PICTURE X(030).                              *AA040
     05     S01060  PICTURE X(010).                              *AA040
     05     S01071  PICTURE X(008).                              *AA040
     05     S03004  PICTURE X(013).                              *AA040
     05     S03018  PICTURE X(005).                              *AA040
     05     S03026  PICTURE X(007).                              *AA040
     05     S03034  PICTURE X(008).                              *AA040
     05     S03054  PICTURE X(008).                              *AA040
     05     S03063  PICTURE X(003).                              *AA040
     05     S04004  PICTURE X(005).                              *AA040
     05     S04013  PICTURE X(050).                              *AA040
     05     S05009  PICTURE X(040).                              *AA040
     05     S05052  PICTURE X(020).                              *AA040
     05     S05074  PICTURE X(005).                              *AA040
     05     S06004  PICTURE X(011).                              *AA040
     05     S06016  PICTURE X(030).                              *AA040
     05     S06049  PICTURE X(011).                              *AA040
     05     S06061  PICTURE X(006).                              *AA040
     05     S07005  PICTURE X(012).                              *AA040
     05     S07018  PICTURE X(025).                              *AA040
     05     S07046  PICTURE X(014).                              *AA040
     05     S07061  PICTURE X(008).                              *AA040
     05     S09003  PICTURE X(001).                              *AA040
     05     S09007  PICTURE X(006).                              *AA040
     05     S09016  PICTURE X(008).                              *AA040
     05     S09026  PICTURE X(007).                              *AA040
     05     S09035  PICTURE X(006).                              *AA040
     05     S09042  PICTURE X(035).                              *AA040
     05     S10003  PICTURE X(001).                              *AA040
     05     S10007  PICTURE X(003).                              *AA040
     05     S10016  PICTURE X(002).                              *AA040
     05     S10026  PICTURE X(002).                              *AA040
     05     S10035  PICTURE X(002).                              *AA040
     05     S10042  PICTURE X(035).                              *AA040
     05     S11003  PICTURE X(001).                              *AA040
     05     S11007  PICTURE X(003).                              *AA040
     05     S11016  PICTURE X(002).                              *AA040
     05     S11026  PICTURE X(002).                              *AA040
     05     S11035  PICTURE X(002).                              *AA040
     05     S11042  PICTURE X(035).                              *AA040
     05     S12003  PICTURE X(001).                              *AA040
     05     S12007  PICTURE X(003).                              *AA040
     05     S12016  PICTURE X(002).                              *AA040
     05     S12026  PICTURE X(002).                              *AA040
     05     S12035  PICTURE X(002).                              *AA040
     05     S12042  PICTURE X(035).                              *AA040
     05     S13003  PICTURE X(001).                              *AA040
     05     S13007  PICTURE X(003).                              *AA040
     05     S13016  PICTURE X(002).                              *AA040
     05     S13026  PICTURE X(002).                              *AA040
     05     S13035  PICTURE X(002).                              *AA040
     05     S13042  PICTURE X(035).                              *AA040
     05     S14003  PICTURE X(001).                              *AA040
     05     S14007  PICTURE X(003).                              *AA040
     05     S14016  PICTURE X(002).                              *AA040
     05     S14026  PICTURE X(002).                              *AA040
     05     S14035  PICTURE X(002).                              *AA040
     05     S14042  PICTURE X(035).                              *AA040
     05     S15003  PICTURE X(001).                              *AA040
     05     S15007  PICTURE X(003).                              *AA040
     05     S15016  PICTURE X(002).                              *AA040
     05     S15026  PICTURE X(002).                              *AA040
     05     S15035  PICTURE X(002).                              *AA040
     05     S15042  PICTURE X(035).                              *AA040
     05     S16003  PICTURE X(001).                              *AA040
     05     S16007  PICTURE X(003).                              *AA040
     05     S16016  PICTURE X(002).                              *AA040
     05     S16026  PICTURE X(002).                              *AA040
     05     S16035  PICTURE X(002).                              *AA040
     05     S16042  PICTURE X(035).                              *AA040
     05     S17003  PICTURE X(001).                              *AA040
     05     S17007  PICTURE X(003).                              *AA040
```

```
        05    S17016  PICTURE X(002).                              *AA040
        05    S17026  PICTURE X(002).                              *AA040
        05    S17035  PICTURE X(002).                              *AA040
        05    S17042  PICTURE X(035).                              *AA040
        05    S18003  PICTURE X(001).                              *AA040
        05    S18007  PICTURE X(003).                              *AA040
        05    S18016  PICTURE X(002).                              *AA040
        05    S18026  PICTURE X(002).                              *AA040
        05    S18035  PICTURE X(002).                              *AA040
        05    S18042  PICTURE X(035).                              *AA040
        05    S20002  PICTURE X(019).                              *AA040
        05    S20022  PICTURE X(001).                              *AA040
        05    S20035  PICTURE X(011).                              *AA040
        05    S20047  PICTURE X(021).                              *AA040
        05    S21002  PICTURE X(028).                              *AA040
        05    S21031  PICTURE X(030).                              *AA040
        05    S21062  PICTURE X(012).                              *AA040
        05    S22002  PICTURE X(010).                              *AA040
        05    S22013  PICTURE X(019).                              *AA040
        05    S22033  PICTURE X(020).                              *AA040
        05    S23002  PICTURE X(075).                              *AA040
        05    S24002  PICTURE X(072).                              *AA040
01      AT-0030-MESSO.                                             *AA041
        05 AT-S01004  PICTURE X(12) VALUE "01004008FNNW".          *AA041
        05 AT-R000101-PROGE  REDEFINES AT-S01004 PICTURE X(12).    *AA041
        05 AT-S01013  PICTURE X(12) VALUE "01013001LNNW".          *AA041
        05 AT-S01015  PICTURE X(12) VALUE "01015005FNNW".          *AA041
        05 AT-R000101-SESSI  REDEFINES AT-S01015 PICTURE X(12).    *AA041
        05 AT-S01025  PICTURE X(12) VALUE "01025030LBNW".          *AA041
        05 AT-S01060  PICTURE X(12) VALUE "01060010FNNW".          *AA041
        05 AT-R000101-DATEM  REDEFINES AT-S01060 PICTURE X(12).    *AA041
        05 AT-S01071  PICTURE X(12) VALUE "01071008FNNW".          *AA041
        05 AT-R000101-HEURE  REDEFINES AT-S01071 PICTURE X(12).    *AA041
        05 AT-S03004  PICTURE X(12) VALUE "03004013LBNW".          *AA041
        05 AT-L000101-NUCOM  REDEFINES AT-S03004 PICTURE X(12).    *AA041
        05 AT-S03018  PICTURE X(12) VALUE "03018005FNNW".          *AA041
        05 AT-R000101-NUCOM  REDEFINES AT-S03018 PICTURE X(12).    *AA041
        05 AT-S03026  PICTURE X(12) VALUE "03026007LBNW".          *AA041
        05 AT-L000101-MATE   REDEFINES AT-S03026 PICTURE X(12).    *AA041
        05 AT-S03034  PICTURE X(12) VALUE "03034008 NNW".          *AA041
        05 AT-R000101-MATE   REDEFINES AT-S03034 PICTURE X(12).    *AA041
        05 AT-S03054  PICTURE X(12) VALUE "03054008LBNW".          *AA041
        05 AT-L000101-RELEA  REDEFINES AT-S03054 PICTURE X(12).    *AA041
        05 AT-S03063  PICTURE X(12) VALUE "03063003 NNW".          *AA041
        05 AT-R000101-RELEA  REDEFINES AT-S03063 PICTURE X(12).    *AA041
        05 AT-S04004  PICTURE X(12) VALUE "04004005LBNW".          *AA041
        05 AT-L000101-NUCLIE REDEFINES AT-S04004 PICTURE X(12).    *AA041
        05 AT-S04013  PICTURE X(12) VALUE "04013050FNNW".          *AA041
        05 AT-R000101-RAISOC REDEFINES AT-S04013 PICTURE X(12).    *AA041
        05 AT-S05009  PICTURE X(12) VALUE "05009040 NNW".          *AA041
        05 AT-R000101-RUE    REDEFINES AT-S05009 PICTURE X(12).    *AA041
        05 AT-S05052  PICTURE X(12) VALUE "05052020FNNW".          *AA041
        05 AT-R000101-VILLE  REDEFINES AT-S05052 PICTURE X(12).    *AA041
        05 AT-S05074  PICTURE X(12) VALUE "05074005 NNW".          *AA041
        05 AT-R000101-COPOS  REDEFINES AT-S05074 PICTURE X(12).    *AA041
        05 AT-S06004  PICTURE X(12) VALUE "06004011LBNW".          *AA041
        05 AT-L000101-REFCLI REDEFINES AT-S06004 PICTURE X(12).    *AA041
        05 AT-S06016  PICTURE X(12) VALUE "06016030 NNW".          *AA041
        05 AT-R000101-REFCLI REDEFINES AT-S06016 PICTURE X(12).    *AA041
        05 AT-S06049  PICTURE X(12) VALUE "06049011LBNW".          *AA041
        05 AT-L000101-DATE   REDEFINES AT-S06049 PICTURE X(12).    *AA041
        05 AT-S06061  PICTURE X(12) VALUE "06061006 NNW".          *AA041
        05 AT-R000101-DATE   REDEFINES AT-S06061 PICTURE X(12).    *AA041
        05 AT-S07005  PICTURE X(12) VALUE "07005012LBNW".          *AA041
        05 AT-L000101-CORRES REDEFINES AT-S07005 PICTURE X(12).    *AA041
        05 AT-S07018  PICTURE X(12) VALUE "07018025 NNW".          *AA041
        05 AT-R000101-CORRES REDEFINES AT-S07018 PICTURE X(12).    *AA041
        05 AT-S07046  PICTURE X(12) VALUE "07046014LBNW".          *AA041
        05 AT-L000101-REMIS  REDEFINES AT-S07046 PICTURE X(12).    *AA041
        05 AT-S07061  PICTURE X(12) VALUE "07061008 NNW".          *AA041
        05 AT-R000101-REMIS  REDEFINES AT-S07061 PICTURE X(12).    *AA041
        05 AT-S09003  PICTURE X(12) VALUE "09003001LBNW".          *AA041
        05 AT-L010101-CODMVT REDEFINES AT-S09003 PICTURE X(12).    *AA041
        05 AT-S09007  PICTURE X(12) VALUE "09007006LBNW".          *AA041
        05 AT-L010101-FOURNI REDEFINES AT-S09007 PICTURE X(12).    *AA041
        05 AT-S09016  PICTURE X(12) VALUE "09016008LBNW".          *AA041
        05 AT-L010101-QTMAC  REDEFINES AT-S09016 PICTURE X(12).    *AA041
```

```
05 AT-S09026  PICTURE X(12) VALUE "09026007LBNW".          *AA041
05 AT-L010101-QTMAL  REDEFINES AT-S09026 PICTURE X(12).    *AA041
05 AT-S09035  PICTURE X(12) VALUE "09035006LBNW".          *AA041
05 AT-L010101-QTMAR  REDEFINES AT-S09035 PICTURE X(12).    *AA041
05 AT-S09042  PICTURE X(12) VALUE "09042035LBNW".          *AA041
05 AT-L010101-INFOR  REDEFINES AT-S09042 PICTURE X(12).    *AA041
05 AT-S10003  PICTURE X(12) VALUE "10003001 NNW".          *AA041
05 AT-R010101-CODMVT REDEFINES AT-S10003 PICTURE X(12).    *AA041
05 AT-S10007  PICTURE X(12) VALUE "10007003 NNW".          *AA041
05 AT-R010101-FOURNI REDEFINES AT-S10007 PICTURE X(12).    *AA041
05 AT-S10016  PICTURE X(12) VALUE "10016002 NNW".          *AA041
05 AT-R010101-QTMAC  REDEFINES AT-S10016 PICTURE X(12).    *AA041
05 AT-S10026  PICTURE X(12) VALUE "10026002FBNW".          *AA041
05 AT-R010101-QTMAL  REDEFINES AT-S10026 PICTURE X(12).    *AA041
05 AT-S10035  PICTURE X(12) VALUE "10035002FNNW".          *AA041
05 AT-R010101-QTMAR  REDEFINES AT-S10035 PICTURE X(12).    *AA041
05 AT-S10042  PICTURE X(12) VALUE "10042035 NNW".          *AA041
05 AT-R010101-INFOR  REDEFINES AT-S10042 PICTURE X(12).    *AA041
05 AT-S11003  PICTURE X(12) VALUE "11003001 NNW".          *AA041
05 AT-R020101-CODMVT REDEFINES AT-S11003 PICTURE X(12).    *AA041
05 AT-S11007  PICTURE X(12) VALUE "11007003 NNW".          *AA041
05 AT-R020101-FOURNI REDEFINES AT-S11007 PICTURE X(12).    *AA041
05 AT-S11016  PICTURE X(12) VALUE "11016002 NNW".          *AA041
05 AT-R020101-QTMAC  REDEFINES AT-S11016 PICTURE X(12).    *AA041
05 AT-S11026  PICTURE X(12) VALUE "11026002FBNW".          *AA041
05 AT-R020101-QTMAL  REDEFINES AT-S11026 PICTURE X(12).    *AA041
05 AT-S11035  PICTURE X(12) VALUE "11035002FNNW".          *AA041
05 AT-R020101-QTMAR  REDEFINES AT-S11035 PICTURE X(12).    *AA041
05 AT-S11042  PICTURE X(12) VALUE "11042035 NNW".          *AA041
05 AT-R020101-INFOR  REDEFINES AT-S11042 PICTURE X(12).    *AA041
05 AT-S12003  PICTURE X(12) VALUE "12003001 NNW".          *AA041
05 AT-R030101-CODMVT REDEFINES AT-S12003 PICTURE X(12).    *AA041
05 AT-S12007  PICTURE X(12) VALUE "12007003 NNW".          *AA041
05 AT-R030101-FOURNI REDEFINES AT-S12007 PICTURE X(12).    *AA041
05 AT-S12016  PICTURE X(12) VALUE "12016002 NNW".          *AA041
05 AT-R030101-QTMAC  REDEFINES AT-S12016 PICTURE X(12).    *AA041
05 AT-S12026  PICTURE X(12) VALUE "12026002FBNW".          *AA041
05 AT-R030101-QTMAL  REDEFINES AT-S12026 PICTURE X(12).    *AA041
05 AT-S12035  PICTURE X(12) VALUE "12035002FNNW".          *AA041
05 AT-R030101-QTMAR  REDEFINES AT-S12035 PICTURE X(12).    *AA041
05 AT-S12042  PICTURE X(12) VALUE "12042035 NNW".          *AA041
05 AT-R030101-INFOR  REDEFINES AT-S12042 PICTURE X(12).    *AA041
05 AT-S13003  PICTURE X(12) VALUE "13003001 NNW".          *AA041
05 AT-R040101-CODMVT REDEFINES AT-S13003 PICTURE X(12).    *AA041
05 AT-S13007  PICTURE X(12) VALUE "13007003 NNW".          *AA041
05 AT-R040101-FOURNI REDEFINES AT-S13007 PICTURE X(12).    *AA041
05 AT-S13016  PICTURE X(12) VALUE "13016002 NNW".          *AA041
05 AT-R040101-QTMAC  REDEFINES AT-S13016 PICTURE X(12).    *AA041
05 AT-S13026  PICTURE X(12) VALUE "13026002FBNW".          *AA041
05 AT-R040101-QTMAL  REDEFINES AT-S13026 PICTURE X(12).    *AA041
05 AT-S13035  PICTURE X(12) VALUE "13035002FNNW".          *AA041
05 AT-R040101-QTMAR  REDEFINES AT-S13035 PICTURE X(12).    *AA041
05 AT-S13042  PICTURE X(12) VALUE "13042035 NNW".          *AA041
05 AT-R040101-INFOR  REDEFINES AT-S13042 PICTURE X(12).    *AA041
05 AT-S14003  PICTURE X(12) VALUE "14003001 NNW".          *AA041
05 AT-R050101-CODMVT REDEFINES AT-S14003 PICTURE X(12).    *AA041
05 AT-S14007  PICTURE X(12) VALUE "14007003 NNW".          *AA041
05 AT-R050101-FOURNI REDEFINES AT-S14007 PICTURE X(12).    *AA041
05 AT-S14016  PICTURE X(12) VALUE "14016002 NNW".          *AA041
05 AT-R050101-QTMAC  REDEFINES AT-S14016 PICTURE X(12).    *AA041
05 AT-S14026  PICTURE X(12) VALUE "14026002FBNW".          *AA041
05 AT-R050101-QTMAL  REDEFINES AT-S14026 PICTURE X(12).    *AA041
05 AT-S14035  PICTURE X(12) VALUE "14035002FNNW".          *AA041
05 AT-R050101-QTMAR  REDEFINES AT-S14035 PICTURE X(12).    *AA041
05 AT-S14042  PICTURE X(12) VALUE "14042035 NNW".          *AA041
05 AT-R050101-INFOR  REDEFINES AT-S14042 PICTURE X(12).    *AA041
05 AT-S15003  PICTURE X(12) VALUE "15003001 NNW".          *AA041
05 AT-R060101-CODMVT REDEFINES AT-S15003 PICTURE X(12).    *AA041
05 AT-S15007  PICTURE X(12) VALUE "15007003 NNW".          *AA041
05 AT-R060101-FOURNI REDEFINES AT-S15007 PICTURE X(12).    *AA041
05 AT-S15016  PICTURE X(12) VALUE "15016002 NNW".          *AA041
05 AT-R060101-QTMAC  REDEFINES AT-S15016 PICTURE X(12).    *AA041
05 AT-S15026  PICTURE X(12) VALUE "15026002FBNW".          *AA041
05 AT-R060101-QTMAL  REDEFINES AT-S15026 PICTURE X(12).    *AA041
05 AT-S15035  PICTURE X(12) VALUE "15035002FNNW".          *AA041
05 AT-R060101-QTMAR  REDEFINES AT-S15035 PICTURE X(12).    *AA041
05 AT-S15042  PICTURE X(12) VALUE "15042035 NNW".          *AA041
```

```
         05 AT-R060101-INFOR  REDEFINES AT-S15042 PICTURE X(12).    *AA041
         05 AT-S16003  PICTURE X(12) VALUE "16003001 NNW".          *AA041
         05 AT-R070101-CODMVT REDEFINES AT-S16003 PICTURE X(12).    *AA041
         05 AT-S16007  PICTURE X(12) VALUE "16007003 NNW".          *AA041
         05 AT-R070101-FOURNI REDEFINES AT-S16007 PICTURE X(12).    *AA041
         05 AT-S16016  PICTURE X(12) VALUE "16016002 NNW".          *AA041
         05 AT-R070101-QTMAC  REDEFINES AT-S16016 PICTURE X(12).    *AA041
         05 AT-S16026  PICTURE X(12) VALUE "16026002FBNW".          *AA041
         05 AT-R070101-QTMAL  REDEFINES AT-S16026 PICTURE X(12).    *AA041
         05 AT-S16035  PICTURE X(12) VALUE "16035002FNNW".          *AA041
         05 AT-R070101-QTMAR  REDEFINES AT-S16035 PICTURE X(12).    *AA041
         05 AT-S16042  PICTURE X(12) VALUE "16042035 NNW".          *AA041
         05 AT-R070101-INFOR  REDEFINES AT-S16042 PICTURE X(12).    *AA041
         05 AT-S17003  PICTURE X(12) VALUE "17003001 NNW".          *AA041
         05 AT-R080101-CODMVT REDEFINES AT-S17003 PICTURE X(12).    *AA041
         05 AT-S17007  PICTURE X(12) VALUE "17007003 NNW".          *AA041
         05 AT-R080101-FOURNI REDEFINES AT-S17007 PICTURE X(12).    *AA041
         05 AT-S17016  PICTURE X(12) VALUE "17016002 NNW".          *AA041
         05 AT-R080101-QTMAC  REDEFINES AT-S17016 PICTURE X(12).    *AA041
         05 AT-S17026  PICTURE X(12) VALUE "17026002FBNW".          *AA041
         05 AT-R080101-QTMAL  REDEFINES AT-S17026 PICTURE X(12).    *AA041
         05 AT-S17035  PICTURE X(12) VALUE "17035002FNNW".          *AA041
         05 AT-R080101-QTMAR  REDEFINES AT-S17035 PICTURE X(12).    *AA041
         05 AT-S17042  PICTURE X(12) VALUE "17042035 NNW".          *AA041
         05 AT-R080101-INFOR  REDEFINES AT-S17042 PICTURE X(12).    *AA041
         05 AT-S18003  PICTURE X(12) VALUE "18003001 NNW".          *AA041
         05 AT-R090101-CODMVT REDEFINES AT-S18003 PICTURE X(12).    *AA041
         05 AT-S18007  PICTURE X(12) VALUE "18007003 NNW".          *AA041
         05 AT-R090101-FOURNI REDEFINES AT-S18007 PICTURE X(12).    *AA041
         05 AT-S18016  PICTURE X(12) VALUE "18016002 NNW".          *AA041
         05 AT-R090101-QTMAC  REDEFINES AT-S18016 PICTURE X(12).    *AA041
         05 AT-S18026  PICTURE X(12) VALUE "18026002FBNW".          *AA041
         05 AT-R090101-QTMAL  REDEFINES AT-S18026 PICTURE X(12).    *AA041
         05 AT-S18035  PICTURE X(12) VALUE "18035002FNNW".          *AA041
         05 AT-R090101-QTMAR  REDEFINES AT-S18035 PICTURE X(12).    *AA041
         05 AT-S18042  PICTURE X(12) VALUE "18042035 NNW".          *AA041
         05 AT-R090101-INFOR  REDEFINES AT-S18042 PICTURE X(12).    *AA041
         05 AT-S20002  PICTURE X(12) VALUE "20002019LBNW".          *AA041
         05 AT-S20022  PICTURE X(12) VALUE "20022001 NNW".          *AA041
         05 AT-R000101-EDIT   REDEFINES AT-S20022 PICTURE X(12).    *AA041
         05 AT-S20035  PICTURE X(12) VALUE "20035011LNNW".          *AA041
         05 AT-S20047  PICTURE X(12) VALUE "20047021LNNW".          *AA041
         05 AT-S21002  PICTURE X(12) VALUE "21002028LNNW".          *AA041
         05 AT-S21031  PICTURE X(12) VALUE "21031030LNNW".          *AA041
         05 AT-S21062  PICTURE X(12) VALUE "21062012LNNW".          *AA041
         05 AT-S22002  PICTURE X(12) VALUE "22002010LNNW".          *AA041
         05 AT-S22013  PICTURE X(12) VALUE "22013019LNNW".          *AA041
         05 AT-S22033  PICTURE X(12) VALUE "22033020LNNW".          *AA041
         05 AT-S23002  PICTURE X(12) VALUE "23002075FBNW".          *AA041
         05 AT-R000101-MESSA  REDEFINES AT-S23002 PICTURE X(12).    *AA041
         05 AT-S24002  PICTURE X(12) VALUE "24002072FNNW".          *AA041
         05 AT-R000101-ERMSG  REDEFINES AT-S24002 PICTURE X(12).    *AA041
   01      AT-0030-MESSA   REDEFINES   AT-0030-MESSO.              *AA041
        05 AT-0030-LIGNE   OCCURS 097.                             *AA041
        10 AT-0030-YPCUR   PICTURE 9(5).                           *AA041
        10 AT-0030-LENGTH  PICTURE 999.                            *AA041
        10 AT-0030-ATTRN   PICTURE X.                              *AA041
        10 AT-0030-ATTRI   PICTURE X.                              *AA041
        10 AT-0030-ATTRP   PICTURE X.                              *AA041
        10 AT-0030-ATTRC   PICTURE X.                              *AA041
   01       INPUT-0030.                                           *AA042
        05    R03034  PICTURE X(8).                               *AA042
        05    R03063  PICTURE X(3).                               *AA042
        05    R05009  PICTURE X(40).                              *AA042
        05    R05052  PICTURE X(20).                              *AA042
        05    R05074  PICTURE X(5).                               *AA042
        05    R06016  PICTURE X(30).                              *AA042
        05    R06061  PICTURE X(6).                               *AA042
        05    R07018  PICTURE X(25).                              *AA042
        05    R07061  PICTURE X(8).                               *AA042
        05    R10003  PICTURE X(1).                               *AA042
        05    R10007  PICTURE X(3).                               *AA042
        05    R10016  PICTURE X(2).                               *AA042
        05    R10026  PICTURE X(2).                               *AA042
        05    R10035  PICTURE X(2).                               *AA042
        05    R10042  PICTURE X(35).                              *AA042
        05    R11003  PICTURE X(1).                               *AA042
```

```
     05    R11007  PICTURE X(3).                                *AA042
     05    R11016  PICTURE X(2).                                *AA042
     05    R11026  PICTURE X(2).                                *AA042
     05    R11035  PICTURE X(2).                                *AA042
     05    R11042  PICTURE X(35).                               *AA042
     05    R12003  PICTURE X(1).                                *AA042
     05    R12007  PICTURE X(3).                                *AA042
     05    R12016  PICTURE X(2).                                *AA042
     05    R12026  PICTURE X(2).                                *AA042
     05    R12035  PICTURE X(2).                                *AA042
     05    R12042  PICTURE X(35).                               *AA042
     05    R13003  PICTURE X(1).                                *AA042
     05    R13007  PICTURE X(3).                                *AA042
     05    R13016  PICTURE X(2).                                *AA042
     05    R13026  PICTURE X(2).                                *AA042
     05    R13035  PICTURE X(2).                                *AA042
     05    R13042  PICTURE X(35).                               *AA042
     05    R14003  PICTURE X(1).                                *AA042
     05    R14007  PICTURE X(3).                                *AA042
     05    R14016  PICTURE X(2).                                *AA042
     05    R14026  PICTURE X(2).                                *AA042
     05    R14035  PICTURE X(2).                                *AA042
     05    R14042  PICTURE X(35).                               *AA042
     05    R15003  PICTURE X(1).                                *AA042
     05    R15007  PICTURE X(3).                                *AA042
     05    R15016  PICTURE X(2).                                *AA042
     05    R15026  PICTURE X(2).                                *AA042
     05    R15035  PICTURE X(2).                                *AA042
     05    R15042  PICTURE X(35).                               *AA042
     05    R16003  PICTURE X(1).                                *AA042
     05    R16007  PICTURE X(3).                                *AA042
     05    R16016  PICTURE X(2).                                *AA042
     05    R16026  PICTURE X(2).                                *AA042
     05    R16035  PICTURE X(2).                                *AA042
     05    R16042  PICTURE X(35).                               *AA042
     05    R17003  PICTURE X(1).                                *AA042
     05    R17007  PICTURE X(3).                                *AA042
     05    R17016  PICTURE X(2).                                *AA042
     05    R17026  PICTURE X(2).                                *AA042
     05    R17035  PICTURE X(2).                                *AA042
     05    R17042  PICTURE X(35).                               *AA042
     05    R18003  PICTURE X(1).                                *AA042
     05    R18007  PICTURE X(3).                                *AA042
     05    R18016  PICTURE X(2).                                *AA042
     05    R18026  PICTURE X(2).                                *AA042
     05    R18035  PICTURE X(2).                                *AA042
     05    R18042  PICTURE X(35).                               *AA042
     05    R20022  PICTURE X(1).                                *AA042
01           INPUT-SCREEN-FIELDS  REDEFINES  INPUT-0030.       *AA045
     02      I-0030.                                           *AA045
     05      I-0030-MATE   PICTURE X(8).                       *AA045
     05      I-0030-RELEA  PICTURE X(3).                       *AA045
     05      I-0030-RUE    PICTURE X(40).                      *AA045
     05      I-0030-VILLE  PICTURE X(20).                      *AA045
     05      I-0030-COPOS  PICTURE X(5).                       *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
01       OUTPUT-0030.                                          *AA049
     05    T01004  PICTURE X(8).                               *AA049
     05    T01015  PICTURE X(5).                               *AA049
     05    T01060  PICTURE X(10).                              *AA049
     05    T01071  PICTURE X(8).                               *AA049
     05    T03018  PICTURE X(5).                               *AA049
     05    T03034  PICTURE X(8).                               *AA049
     05    T03063  PICTURE X(3).                               *AA049
     05    T04013  PICTURE X(50).                              *AA049
     05    T05009  PICTURE X(40).                              *AA049
     05    T05052  PICTURE X(20).                              *AA049
     05    T05074  PICTURE X(5).                               *AA049
     05    T06016  PICTURE X(30).                              *AA049
```

```
        05    T06061  PICTURE X(6).                                *AA049
        05    T07018  PICTURE X(25).                               *AA049
        05    T07061  PICTURE X(8).                                *AA049
        05    T10003  PICTURE X(1).                                *AA049
        05    T10007  PICTURE X(3).                                *AA049
        05    T10016  PICTURE X(2).                                *AA049
        05    T10026  PICTURE X(2).                                *AA049
        05    T10035  PICTURE X(2).                                *AA049
        05    T10042  PICTURE X(35).                               *AA049
        05    T11003  PICTURE X(1).                                *AA049
        05    T11007  PICTURE X(3).                                *AA049
        05    T11016  PICTURE X(2).                                *AA049
        05    T11026  PICTURE X(2).                                *AA049
        05    T11035  PICTURE X(2).                                *AA049
        05    T11042  PICTURE X(35).                               *AA049
        05    T12003  PICTURE X(1).                                *AA049
        05    T12007  PICTURE X(3).                                *AA049
        05    T12016  PICTURE X(2).                                *AA049
        05    T12026  PICTURE X(2).                                *AA049
        05    T12035  PICTURE X(2).                                *AA049
        05    T12042  PICTURE X(35).                               *AA049
        05    T13003  PICTURE X(1).                                *AA049
        05    T13007  PICTURE X(3).                                *AA049
        05    T13016  PICTURE X(2).                                *AA049
        05    T13026  PICTURE X(2).                                *AA049
        05    T13035  PICTURE X(2).                                *AA049
        05    T13042  PICTURE X(35).                               *AA049
        05    T14003  PICTURE X(1).                                *AA049
        05    T14007  PICTURE X(3).                                *AA049
        05    T14016  PICTURE X(2).                                *AA049
        05    T14026  PICTURE X(2).                                *AA049
        05    T14035  PICTURE X(2).                                *AA049
        05    T14042  PICTURE X(35).                               *AA049
        05    T15003  PICTURE X(1).                                *AA049
        05    T15007  PICTURE X(3).                                *AA049
        05    T15016  PICTURE X(2).                                *AA049
        05    T15026  PICTURE X(2).                                *AA049
        05    T15035  PICTURE X(2).                                *AA049
        05    T15042  PICTURE X(35).                               *AA049
        05    T16003  PICTURE X(1).                                *AA049
        05    T16007  PICTURE X(3).                                *AA049
        05    T16016  PICTURE X(2).                                *AA049
        05    T16026  PICTURE X(2).                                *AA049
        05    T16035  PICTURE X(2).                                *AA049
        05    T16042  PICTURE X(35).                               *AA049
        05    T17003  PICTURE X(1).                                *AA049
        05    T17007  PICTURE X(3).                                *AA049
        05    T17016  PICTURE X(2).                                *AA049
        05    T17026  PICTURE X(2).                                *AA049
        05    T17035  PICTURE X(2).                                *AA049
        05    T17042  PICTURE X(35).                               *AA049
        05    T18003  PICTURE X(1).                                *AA049
        05    T18007  PICTURE X(3).                                *AA049
        05    T18016  PICTURE X(2).                                *AA049
        05    T18026  PICTURE X(2).                                *AA049
        05    T18035  PICTURE X(2).                                *AA049
        05    T18042  PICTURE X(35).                               *AA049
        05    T20022  PICTURE X(1).                                *AA049
        05    T23002  PICTURE X(75).                               *AA049
        05    T24002  PICTURE X(72).                               *AA049
    01          OUTPUT-SCREEN-FIELDS REDEFINES OUTPUT-0030.        *AA050
        02      O-0030.                                            *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-VILLE  PICTURE X(20).                       *AA050
        05      O-0030-COPOS  PICTURE X(5).                        *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-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
```

4.5. 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.

COMMUNICATION AREA

The CMES-COMMUNICATION level is a communication area with the sub-program. It contains the following:

```
  CMES-YR009   : Logical message.

  CMES-Y0009   : Description table of logical fields.

  CMES-NBZVAR9 : '0': No variable field in the message.
                 '1': At least one variable field.

  CMES-YCRE9   : Operation type:
                 'X': Sending message in the event of
                      error,
                 'E': Sending message without error.
```

```
CMES-YPCUR9  : Cursor line-column position.

CMES-NUMFLD9 : Field number in table AT-0030-MESSO.

CMES-LTHDIS9 : Number of characters which can be sent in
               a DISPLAY command.

CMES-FMES9   : '0': First screen display.

               '1': This is not the first screen display.

CMES-STATUS9 : Return code of the operations executed in
               the sub-program (not used).

I-PFKEY9     : PFKEY value.
```

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").

```
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      CMES-COMMUNICATION.                                     *AA060
  05    CMES-YR00     PICTURE X(4000).                          *AA060
  05    CMES-YO00     PICTURE X(6000).                          *AA060
  05    CMES-NBZVAR   PICTURE X.                                *AA060
  05    CMES-YCRE     PICTURE X.                                *AA060
  05    CMES-YPCUR    PICTURE 9(5).                             *AA060
  05    CMES-XTERM    PICTURE X(10).                            *AA060
  05    CMES-LTHDIS   PICTURE 9999.                             *AA060
  05    CMES-FMES     PICTURE X.                                *AA060
  05    CMES-STATUS.                                            *AA060
    10  CMES-RETCOD   PICTURE 99.                              *AA060
  05    I-PFKEY       PICTURE XX.                               *AA060
  05    FILLER        PICTURE X(100).                           *AA060
01           VALIDATION-TABLE-FIELDS.                           *AA150
     02      DE-ERR.                                            *AA150
     05       DE-ER        PICTURE X                           *AA150
                    OCCURS 045.                                 *AA150
     02      DE-E   REDEFINES DE-ERR.                          *AA150
     03     ER-0030-BEGIN.                                      *AA150
     05          ER-0030-MATE   PICTURE X.                      *AA150
     05          ER-0030-RELEA  PICTURE X.                      *AA150
     05          ER-0030-RUE    PICTURE X.                      *AA150
     05          ER-0030-COPOS  PICTURE X.                      *AA150
     05          ER-0030-REFCLI PICTURE X.                      *AA150
     05          ER-0030-DATE   PICTURE X.                      *AA150
     05          ER-0030-CORRES PICTURE X.                      *AA150
     05          ER-0030-REMIS  PICTURE X.                      *AA150
     03       PS-30-LINE   OCCURS 9.                            *AA150
     05      FILLER        PICTURE X(0004).                    *AA150
     03     ER-0030-END.                                        *AA150
     05          ER-0030-EDIT   PICTURE X.                      *AA150
     02     ER-0030-LINE.                                       *AA150
     05          ER-0030-CODMVT PICTURE X.                      *AA150
     05          ER-0030-FOURNI PICTURE X.                      *AA150
     05          ER-0030-QTMAC  PICTURE X.                      *AA150
     05          ER-0030-INFOR  PICTURE X.                      *AA150
01   TT-DAT.                                                    *AA200
     05 T-DAT      PICTURE X OCCURS 5.                         *AA200
01   LEAP-YEAR.                                                 *AA200
     05 LEAP-FLAG  PICTURE X.                                  *AA200
     05 LEAP-REM   PICTURE 99.                                 *AA200
01   USERS-ERROR.                                               *AA200
     05 XEMKY.                                                 *AA200
        10 XPROGR   PICTURE X(6).                              *AA200
        10 XERCD    PICTURE X(4).                              *AA200
     05 T-XEMKY     OCCURS       01.                           *AA200
        10 T-XPROGR PICTURE X(6).                              *AA200
        10 T-XERCD  PICTURE X(4).                              *AA200
01    PACBASE-INDEXES COMPUTATIONAL.                           *AA200
     05  TALLI      PICTURE S9(4) VALUE ZERO.                  *AA200
     05 K01         PICTURE S9(4).                             *AA200
     05 K02         PICTURE S9(4).                             *AA200
     05 K03         PICTURE S9(4).                             *AA200
     05 K04         PICTURE S9(4).                             *AA200
     05 K50R        PICTURE S9(4) VALUE ZERO.                  *AA200
     05 K50L        PICTURE S9(4) VALUE ZERO.                  *AA200
     05 K50M        PICTURE S9(4)                              *AA200
                    VALUE      +01.                            *AA200
     05 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-CA00-LTH  PICTURE S9(4) VALUE +0147.              *AA200
     05    5-CD00-LTH  PICTURE S9(4) VALUE +0166.              *AA200
     05    5-CD05-LTH  PICTURE S9(4) VALUE +0157.              *AA200
     05    5-CD05-LTHV PICTURE S9(4) VALUE +0166.              *AA200
     05    5-CD10-LTH  PICTURE S9(4) VALUE +0139.              *AA200
     05    5-CD10-LTHV PICTURE S9(4) VALUE +0148.              *AA200
     05    5-CD20-LTH  PICTURE S9(4) VALUE +0001.              *AA200
     05    5-CD20-LTHV PICTURE S9(4) VALUE +0010.              *AA200
     05    5-FO10-LTH  PICTURE S9(4) VALUE +0057.              *AA200
     05    5-FO10-LTHV PICTURE S9(4) VALUE +0057.              *AA200
     05    5-ME00-LTH  PICTURE S9(4) VALUE +0082.              *AA200
     05    LTH         PICTURE S9(4) VALUE ZERO.               *AA200
     05      5-0030-LENGTH PICTURE S9(4)                       *AA200
```

```
                        VALUE      +0853.                        *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
```

4.6. TABLE-OF-ATTRIBUTS AND SEGMENT VARIABLES

TABLE-OF-ATTRIBUTES AND SEGMENT VARIABLES

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

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

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

The coding for each Data Element is formatted as follows:

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

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

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

The table positions correspond to the attributes:

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

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

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

The 'AT-SV' level is generated if there is at least one in- put field in the screen. It indicates the actual rank of the Data Element in the screen. This rank is used as an index to search AT-0001-MESSO.

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

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

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

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

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

Example:

```
05  CD10-FST   PICTURE X.

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

```
01          TABLE-OF-ATTRIBUTES.                                *AA250
     02     DE-ATT.                                             *AA250
     03     DE-ATT1          OCCURS 4.                          *AA250
     05     DE-AT   PICTURE X                                   *AA250
                  OCCURS 045.                                   *AA250
     02     DE-A    REDEFINES DE-ATT.                           *AA250
     03     DE-ATT2          OCCURS 4.                          *AA250
     04     A-0030-BEGIN.                                       *AA250
     05     A-0030-MATE   PICTURE X.                            *AA250
     05     A-0030-RELEA  PICTURE X.                            *AA250
     05     A-0030-RUE    PICTURE X.                            *AA250
     05     A-0030-COPOS  PICTURE X.                            *AA250
     05     A-0030-REFCLI PICTURE X.                            *AA250
     05     A-0030-DATE   PICTURE X.                            *AA250
     05     A-0030-CORRES PICTURE X.                            *AA250
     05     A-0030-REMIS  PICTURE X.                            *AA250
     04     B-0030-LINE   OCCURS 9.                             *AA250
     05     FILLER        PICTURE X(0004).                      *AA250
     04     A-0030-END.                                         *AA250
     05     A-0030-EDIT   PICTURE X.                            *AA250
     02     A-0030-LINE       OCCURS 4.                         *AA250
     05     A-0030-CODMVT PICTURE X.                            *AA250
     05     A-0030-FOURNI PICTURE X.                            *AA250
     05     A-0030-QTMAC  PICTURE X.                            *AA250
     05     A-0030-INFOR  PICTURE X.                            *AA250
01     AT-SV.                                                   *AA260
      10   FILLER PICTURE X(6) VALUE "010NNW".                  *AA260
      10   FILLER PICTURE X(6) VALUE "012NNW".                  *AA260
      10   FILLER PICTURE X(6) VALUE "015NNW".                  *AA260
      10   FILLER PICTURE X(6) VALUE "017NNW".                  *AA260
      10   FILLER PICTURE X(6) VALUE "019NNW".                  *AA260
      10   FILLER PICTURE X(6) VALUE "021NNW".                  *AA260
      10   FILLER PICTURE X(6) VALUE "023NNW".                  *AA260
      10   FILLER PICTURE X(6) VALUE "025NNW".                  *AA260
      10   FILLER PICTURE X(6) VALUE "032NNW".                  *AA260
      10   FILLER PICTURE X(6) VALUE "033NNW".                  *AA260
      10   FILLER PICTURE X(6) VALUE "034NNW".                  *AA260
      10   FILLER PICTURE X(6) VALUE "037NNW".                  *AA260
      10   FILLER PICTURE X(6) VALUE "038NNW".                  *AA260
      10   FILLER PICTURE X(6) VALUE "039NNW".                  *AA260
      10   FILLER PICTURE X(6) VALUE "040NNW".                  *AA260
      10   FILLER PICTURE X(6) VALUE "043NNW".                  *AA260
      10   FILLER PICTURE X(6) VALUE "044NNW".                  *AA260
      10   FILLER PICTURE X(6) VALUE "045NNW".                  *AA260
      10   FILLER PICTURE X(6) VALUE "046NNW".                  *AA260
      10   FILLER PICTURE X(6) VALUE "049NNW".                  *AA260
      10   FILLER PICTURE X(6) VALUE "050NNW".                  *AA260
      10   FILLER PICTURE X(6) VALUE "051NNW".                  *AA260
      10   FILLER PICTURE X(6) VALUE "052NNW".                  *AA260
      10   FILLER PICTURE X(6) VALUE "055NNW".                  *AA260
      10   FILLER PICTURE X(6) VALUE "056NNW".                  *AA260
      10   FILLER PICTURE X(6) VALUE "057NNW".                  *AA260
      10   FILLER PICTURE X(6) VALUE "058NNW".                  *AA260
      10   FILLER PICTURE X(6) VALUE "061NNW".                  *AA260
      10   FILLER PICTURE X(6) VALUE "062NNW".                  *AA260
      10   FILLER PICTURE X(6) VALUE "063NNW".                  *AA260
      10   FILLER PICTURE X(6) VALUE "064NNW".                  *AA260
      10   FILLER PICTURE X(6) VALUE "067NNW".                  *AA260
      10   FILLER PICTURE X(6) VALUE "068NNW".                  *AA260
      10   FILLER PICTURE X(6) VALUE "069NNW".                  *AA260
      10   FILLER PICTURE X(6) VALUE "070NNW".                  *AA260
      10   FILLER PICTURE X(6) VALUE "073NNW".                  *AA260
      10   FILLER PICTURE X(6) VALUE "074NNW".                  *AA260
      10   FILLER PICTURE X(6) VALUE "075NNW".                  *AA260
      10   FILLER PICTURE X(6) VALUE "076NNW".                  *AA260
      10   FILLER PICTURE X(6) VALUE "079NNW".                  *AA260
      10   FILLER PICTURE X(6) VALUE "080NNW".                  *AA260
      10   FILLER PICTURE X(6) VALUE "081NNW".                  *AA260
      10   FILLER PICTURE X(6) VALUE "082NNW".                  *AA260
      10   FILLER PICTURE X(6) VALUE "085NNW".                  *AA260
      10   FILLER PICTURE X(6) VALUE "087NNW".                  *AA260
01     TABLE-SV-AT REDEFINES AT-SV.                             *AA265
     02 LIGNE-SV-AT OCCURS 045.                                 *AA265
     05 SV-AT     PICTURE 999.                                  *AA265
     05 SV-ATTRI  PICTURE X.                                    *AA265
     05 SV-ATTRP  PICTURE X.                                    *AA265
     05 SV-ATTRC  PICTURE X.                                    *AA265
```

```
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              WW10-QTMAR                                      *BB200
                      PICTURE 99                                *BB200
                VALUE ZERO.                                     *BB201
01                WP00.                                         *WP000
 02               WP10.                                         *WP010
  05              FILLER PIC X(25) VALUE                        *WP020
                  "23400BRISBANE           ".                   *WP030
  05              FILLER PIC X(25) VALUE                        *WP040
                  "56400VICTORIA           ".                   *WP050
  05              FILLER PIC X(25) VALUE                        *WP060
                  "76500ALICE SPRINGS      ".                   *WP070
  05              FILLER PIC X(25) VALUE                        *WP080
                  "55300MELBOURNE          ".                   *WP090
  05              FILLER PIC X(25) VALUE                        *WP100
                  "11000CANBERRA           ".                   *WP110
  05              FILLER PIC X(25) VALUE                        *WP120
                  "34500PERTH              ".                   *WP130
  05              FILLER PIC X(25) VALUE                        *WP140
                  "85270DARWIN             ".                   *WP150
  05              FILLER PIC X(25) VALUE                        *WP160
                  "94000HOBART             ".                   *WP170
  05              FILLER PIC X(25) VALUE                        *WP180
                  "89300SYDNEY             ".                   *WP190
 02               WP20 REDEFINES WP10 OCCURS 9.                 *WP300
  05              WP20-COPOS                                    *WP320
                        PICTURE X(5).                           *WP320
  05              WP20-VILLE                                    *WP340
                        PICTURE X(20).                          *WP340
 02               WP30.                                         *WP400
  05              WP30-COPOS                                    *WP410
                        PICTURE X(5).                           *WP410
 02               WP40.                                         *WP500
  05              WP40-VILLE                                    *WP510
                        PICTURE X(20).                          *WP510
  05              WP40-VILLEL                                   *WP520
                        PICTURE X(20).                          *WP520
```

4.7. COMMUNICATION AREA

COMMUNICATION AREA

As well as the screen COMMON-AREA, the LINKAGE-SECTION also contains the COMMUNICATION-MONITOR area, which includes the fields necessary for communication between the monitor and the screens (see Chapter "GENERATED MONITOR EXAMPLE", Subchapter "DATA DIVISION").

```
LINKAGE SECTION.                                                *00000
01      COMMON-AREA.                                            *00000
     02     K-S0030-PROGR PICTURE X(6).                         *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-CPOSL PICTURE S9(4) COMPUTATIONAL.          *00002
     02     K-S0030-LIBRA PICTURE XXX.                          *00002
     02     K-S0030-PROHE PICTURE X(8).                         *00002
     02     K-S0030-ERCOD.                                      *00002
       05   K-S0030-ERCOD9 PICTURE 999.                        *00002
     02     K-S0030-ERTYP PICTURE X.                            *00002
     02     K-S0030-LINUM PICTURE 999.                          *00002
     02     K-S0030-XTERM PICTURE X(10).                        *00002
     02      K-0030.                                            *00002
     03     K-A0030-DEBUT.                                      *00002
      05        K-ACD05-KEYCD  PICTURE X(00009).               *00002
     03     K-R0030-LINE   OCCURS 2.                            *00002
      05        K-RCD10-KEYCD  PICTURE X(00009).               *00002
     03     K-Z0030-END.                                        *00002
      05        K-ZME00-CLEME  PICTURE X(7).                   *00002
     02      FILLER        PICTURE X(0666).                    *00002
01           COMMUNICATION-MONITOR.                             *00010
     02    S-WWSS.                                             *00010
       10    S-WWSS-OPER   PICTURE X.                          *00010
       10    S-WWSS-PROGE  PICTURE X(8).                       *00010
       10    S-WWSS-XFILE  PICTURE X(8).                       *00010
       10    S-WWSS-XFUNCT PICTURE X(8).                       *00010
       10    S-WWSS-STATUS PICTURE XXXX.                       *00010
```

5. GENERATED PROGRAM: PROCEDURE DIVISION

5.1. STRUCTURE OF THE PROCEDURE DIVISION

STRUCTURE OF THE PROCEDURE DIVISION

```
F0A       DECLARATIVES
F01       INITIALIZATION
F0101     OPEN files
F0105     Initialization of the attributes
F0110     Initialization
F0112     First screen : retrieval of the terminal code

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

F05       RECEPTION     (ICF = '1')
F0501     Read screen
F0510     Receive message
F0512     Set up HELP documentation
F0520     Set and Test OPER
F10       CATEGORY PROCESSING LOOP            <--------
F15       VALIDATION OF TRANSACTION CODE               !
F20       DATA ELEMENT VALIDATION                      !
F25       SEGMENT ACCESS FOR VALIDATION                !
F30       DATA ELEMENT TRANSFER                        !
F35       SEGMENT ACCESS FOR UPDATE                    !
F3999-ITER-FN. Go To F10.  ----------------------------
F3999-ITER-FT. Exit.

F40       END OF RECEPTION
F4010     Display of new screen
F4020     Set Keys for scrolling
F4030     End of transaction
F4040     Transfer to another screen

END-OF-RECEPTION.   (F45-FN)

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

F50       DISPLAY PREPARATION  (OCF = '1')

F5010     Initialization

F55       CATEGORY PROCESSING LOOP          <---------
F60       SEGMENT ACCESS FOR DISPLAY                  !
F65       DATA ELEMENT TRANSFER                       !
F6999-ITER-FN. Go To F55.  ----------------------------
F6999-ITER-FT. Exit.

F70       ERROR PROCESSING
F7020     Positioning of attributes
```

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

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

F8Z        DISPLAY AND END OF PROGRAM

F8Z05      Memorization of the screen
F8Z10      Sub-program call for display
F8Z20      End of processing. Return to the beginning
           of the iteration (F0105)

------   Called functions   --------------------------

F80        PHYSICAL ACCESS TO FILES
F81ER      Abnormal end routine
F81FI      CLOSE files
F81UT      Error memorization
F8105      Filling in of literals
F8110      Numeric class validation
F8115      Initialization of the variable fields
F8120      Date format validation
F8130      Help function procedure
F8145      Filling in of the logical message fields
F8155      Transfer of messages in the reception fields
```

5.2. DECLARATIVES (F0A)

F0A : DECLARATIVES

The F0A function contains an F0Axx sub-function for each xx-file in the FILE-SECTION.

Each F0Axx sub-function manages the return codes of the corresponding file access.

```
PROCEDURE DIVISION USING COMMON-AREA                          *99999
                         COMMUNICATION-MONITOR.               *99999
DECLARATIVES.                                                 DO0030
SECCD SECTION.                                                DO0030
      USE AFTER ERROR PROCEDURE ON CD-FILE.                   DO0030
F0ACD.                                                        DO0030
      MOVE 1-CD00-STATUS TO S-WWSS-STATUS.                    DO0030
      MOVE "DOCD00  " TO S-WWSS-XFILE                         DO0030
        IF 1-CD00-STATUS NOT = "90"                           DO0030
       AND 1-CD00-STATUS NOT = "91"                           DO0030
       AND 1-CD00-STATUS NOT = "92"                           DO0030
      MOVE "1" TO IK.                                         DO0030
F0ACD-FN.    EXIT.                                            DO0030
SECEM SECTION.                                                DO0030
      USE AFTER ERROR PROCEDURE ON EM-FILE.                   DO0030
F0AEM.                                                        DO0030
      MOVE 1-EM00-STATUS TO S-WWSS-STATUS.                    DO0030
       MOVE "DODOLE  " TO S-WWSS-XFILE                        DO0030
        IF 1-EM00-STATUS NOT = "90"                           DO0030
       AND 1-EM00-STATUS NOT = "91"                           DO0030
       AND 1-EM00-STATUS NOT = "92"                           DO0030
      MOVE "1" TO IK.                                         DO0030
F0AEM-FN.    EXIT.                                            DO0030
SECFO SECTION.                                                DO0030
      USE AFTER ERROR PROCEDURE ON FO-FILE.                   DO0030
F0AFO.                                                        DO0030
      MOVE 1-FO00-STATUS TO S-WWSS-STATUS.                    DO0030
      MOVE "DOFO00  " TO S-WWSS-XFILE                         DO0030
        IF 1-FO00-STATUS NOT = "90"                           DO0030
       AND 1-FO00-STATUS NOT = "91"                           DO0030
       AND 1-FO00-STATUS NOT = "92"                           DO0030
      MOVE "1" TO IK.                                         DO0030
F0AFO-FN.    EXIT.                                            DO0030
SECHE SECTION.                                                DO0030
      USE AFTER ERROR PROCEDURE ON HE-FILE.                   DO0030
F0AHE.                                                        DO0030
      MOVE 1-HE00-STATUS TO S-WWSS-STATUS.                    DO0030
       MOVE "SAVESCR " TO S-WWSS-XFILE                        DO0030
        IF 1-HE00-STATUS NOT = "90"                           DO0030
       AND 1-HE00-STATUS NOT = "91"                           DO0030
       AND 1-HE00-STATUS NOT = "92"                           DO0030
       MOVE "1" TO IK.                                        DO0030
F0AHE-FN.    EXIT.                                            DO0030
SECME SECTION.                                                DO0030
      USE AFTER ERROR PROCEDURE ON ME-FILE.                   DO0030
F0AME.                                                        DO0030
      MOVE 1-ME00-STATUS TO S-WWSS-STATUS.                    DO0030
      MOVE "DOME00  " TO S-WWSS-XFILE                         DO0030
        IF 1-ME00-STATUS NOT = "90"                           DO0030
       AND 1-ME00-STATUS NOT = "91"                           DO0030
       AND 1-ME00-STATUS NOT = "92"                           DO0030
      MOVE "1" TO IK.                                         DO0030
F0AME-FN.    EXIT.                                            DO0030
END DECLARATIVES.                                             DO0030
MAIN SECTION.                                                 DO0030
F0A99-FN.    EXIT.                                            DO0030
F0A-FN.      EXIT.                                            DO0030
```

5.3. INITIALIZATIONS (F01)

F01 : INITIALIZATIONS

Function F01 is always generated.

F0101 includes the file OPEN.

F0105 re-initializes the attributes of the logical message table to their initial values.

F0110 initializes the work areas.

It sets the procedure to be executed if there is an error.

It ensures the branching to the physical display function after consultation of the HELP documentation (if a documentation call has been entered on the Screen Definition screen).

It indicates the cursor position for the first display.

```
*          ************************************                DO0030
*          *                                  *                DO0030
*          *  INITIALIZATIONS                 *                DO0030
*          *                                  *                DO0030
*          ************************************                DO0030
 F01.          EXIT.                                           DO0030
 F0101.                                                        DO0030
       MOVE "OPEN    " TO S-WWSS-XFUNCT   MOVE "0" TO IK.      DO0030
       OPEN I-O          CD-FILE    ALLOWING ALL.              DO0030
       IF IK = "1" GO TO F81ER.                                DO0030
       OPEN INPUT        EM-FILE    ALLOWING ALL.              DO0030
       IF IK = "1" GO TO F81ER.                                DO0030
       OPEN I-O          FO-FILE    ALLOWING ALL.              DO0030
       IF IK = "1" GO TO F81ER.                                DO0030
       OPEN I-O  HE-FILE    ALLOWING ALL.                      DO0030
       IF IK = "1" GO TO F81ER.                                DO0030
       OPEN INPUT        ME-FILE    ALLOWING ALL.              DO0030
       IF IK = "1" GO TO F81ER.                                DO0030
 F0101-FN.    EXIT.                                            DO0030
 F0105.                                                        DO0030
       MOVE ZERO TO K01.                                       DO0030
 F0105-B.  ADD 1 TO K01.                                       DO0030
       MOVE SV-AT (K01) TO K02.                                DO0030
       MOVE SV-ATTRI (K01) TO AT-0030-ATTRI (K02)              DO0030
       MOVE SV-ATTRP (K01) TO AT-0030-ATTRP (K02)              DO0030
       MOVE SV-ATTRC (K01) TO AT-0030-ATTRC (K02).             DO0030
       IF K01 < INT    GO TO F0105-B.                          DO0030
 F0105-FN.    EXIT.                                            DO0030
 F0110.                                                        DO0030
       ACCEPT TIMCO FROM TIME.                                 DO0030
       ACCEPT  DATOR FROM DATE.                                DO0030
       MOVE ZERO TO CATX FT K50L.                              DO0030
       MOVE "1" TO ICF OCF SCR-ER.                             DO0030
       MOVE ZERO TO VALIDATION-TABLE-FIELDS.                   DO0030
       MOVE SPACE TO CATM OPER OPERD CAT-ER.                   DO0030
       MOVE SPACE TO TABLE-OF-ATTRIBUTES.                      DO0030
       MOVE ZERO TO CONFIGURATIONS.                            DO0030
       IF  PROGR   NOT =      K-S0030-PROGR                    DO0030
                    MOVE    ZERO  TO  ICF.                     DO0030
       IF ICF = ZERO                                           DO0030
       OR   K-S0030-DOC = "2"                                  DO0030
       OR   K-S0030-DOC = "3"                                  DO0030
       MOVE SPACE TO CMES-COMMUNICATION                        DO0030
       MOVE LOW-VALUE TO  O-0030                               DO0030
       PERFORM F8115 THRU F8115-FN                             DO0030
       MOVE "1" TO CMES-FMES                                   DO0030
       MOVE  5-0030-LTHDIS TO CMES-LTHDIS.                     DO0030
       MOVE K-S0030-XTERM  TO HE00-XTERM.                      DO0030
         IF K-S0030-DOC = "2"  OR   K-S0030-DOC = "3"          DO0030
       MOVE "1" TO K-S0030-DOC     GO TO F8Z05.                DO0030
       MOVE "X" TO DE-AT (4, 009).                             DO0030
       MOVE SPACE      TO            O-0030-ERMSG (01).        DO0030
 F0110-FN.    EXIT.                                            DO0030
 F0160.                                                        DO0030
       IF ICF = ZERO MOVE "A" TO OPER                          DO0030
       GO TO F3999-ITER-FT.                                    DO0030
 F0160-FN.    EXIT.                                            DO0030
 F01-FN.      EXIT.                                            DO0030
*             +----------------------------------+             P000
* LEVEL 10    I INIT. NUMBER OF LOADED ITEMS      I            P000
*             +----------------------------------+             P000
 F02CP.                                                        P000
     MOVE        IWP20M TO IWP20L.                             P100
 F02CP-FN.    EXIT.                                            P000
```

5.4. RECEPTION (F05)

F05 : RECEPTION

The RECEPTION (F05) function contains the conditions for all the procedures which concern 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 at least one variable Data Element (NATURE = 'V') is defined on the screen.

F0510 includes the reception of the screen on program entry and transfers it to the INPUT-SCREEN-FIELDS; and, for Data Elements whose NATURE = 'V', transfers it to the OUTPUT-SCREEN-FIELDS.

If an initialization character is entered on the Screen Definition screen, this character is set to blank (except when a branch to a HELP documentation screen is executed).

F0512 is generated if a HELP documentation call is entered on the Screen Definition screen. It ensures the initialization of the fields necessary for branching to the documentation screen.

F0520 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 (-CE).

The internal Operation Code 'OPER' is positioned based on the values of:

- the screen Data Element defined as an Operation Code (value specified with TYPE OF LINE = 'O' on the Data Element Description (-D) screen);

- the special PFKEY Data Element (value entered on the Screen Call of Elements (-CE)).

If an error occurs on the Operation Code value, the subsequent 'RECEPTION' procedures are not executed.

```
*           ************************************                DO0030
*           *                                  *                DO0030
*           *  RECEPTION                       *                DO0030
*           *                                  *                DO0030
*           ************************************                DO0030
 F05.   IF ICF = ZERO GO TO END-OF-RECEPTION.                    DO0030
 F0510.                                                          DO0030
        IF CMES-RETCOD NOT = ZERO                                DO0030
        MOVE CMES-STATUS TO S-WWSS-STATUS                        DO0030
        MOVE "TERM"      TO S-WWSS-XFILE                         DO0030
        MOVE "RECEIVE "  TO S-WWSS-XFUNCT                       DO0030
        GO TO F81ER.                                             DO0030
        MOVE CMES-YPCUR TO CURPOS.                               DO0030
        MOVE CMES-YR00 TO 0030-MESSO.                            DO0030
        PERFORM F8155 THRU F8155-FN.                             DO0030
        MOVE "A" TO OPER  MOVE SPACE TO OPERD.                   DO0030
           IF I-PFKEY NOT = "11"                                 DO0030
                         AND I-PFKEY NOT = "10"                  DO0030
        INSPECT I-0030 REPLACING ALL "-" BY SPACE.               DO0030
 F0510-FN.    EXIT.                                              DO0030
 F0512.     IF    I-PFKEY = "11"  OR  I-PFKEY = "10"             DO0030
            NEXT SENTENCE ELSE GO TO F0512-FN.                   DO0030
        MOVE "2"   TO K-S0030-DOC                                DO0030
        MOVE ZERO  TO K-S0030-CPOSL  K-S0030-LINUM               DO0030
        MOVE PROGE TO K-S0030-PROGE                              DO0030
        MOVE LIBRA TO K-S0030-LIBRA.                             DO0030
            IF    I-PFKEY = "11"                                 DO0030
        MOVE "3"  TO  K-S0030-DOC                                DO0030
        MOVE CPOSL TO K-S0030-CPOSL                              DO0030
        MOVE CPOSC TO K-S0030-LINUM.                             DO0030
        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  GO TO F4040.                           DO0030
 F0512-FN.    EXIT.                                              DO0030
*           ************************************                DO0030
*           *                                  *                DO0030
*           *  VALIDATION OF OPERATION CODE    *                DO0030
*           *                                  *                DO0030
*           ************************************                DO0030
 F0520.                                                          DO0030
           IF      I-PFKEY      = "01"                           DO0030
            MOVE    "DO0000  "   TO   5-0030-PROGE               DO0030
        MOVE  "O"  TO  OPER       GO TO F40-A.                   DO0030
           IF      I-PFKEY      = "02"                           DO0030
            MOVE    "DO0010  "   TO   5-0030-PROGE               DO0030
        MOVE  "O"  TO  OPER       GO TO F40-A.                   DO0030
           IF      I-PFKEY      = "03"                           DO0030
            MOVE    "DO0020  "   TO   5-0030-PROGE               DO0030
        MOVE  "O"  TO  OPER       GO TO F40-A.                   DO0030
           IF      I-PFKEY      = "04"                           DO0030
            MOVE    "DO0040  "   TO   5-0030-PROGE               DO0030
        MOVE  "O"  TO  OPER       GO TO F40-A.                   DO0030
           IF      I-PFKEY      = "05"                           DO0030
            MOVE    "DO0050  "   TO   5-0030-PROGE               DO0030
        MOVE  "O"  TO  OPER       GO TO F40-A.                   DO0030
           IF      I-PFKEY      = "12"                           DO0030
            MOVE    "DO0070  "   TO   5-0030-PROGE               DO0030
        MOVE  "O"  TO  OPER       GO TO F40-A.                   DO0030
           IF      I-PFKEY      = "00"                           DO0030
        MOVE  "E"  TO  OPER       GO TO F40-A.                   DO0030
           IF      I-PFKEY      = "07"                           DO0030
        MOVE "M" TO OPER GO TO F0520-900.                        DO0030
           IF      I-PFKEY      = "08"                           DO0030
        MOVE "S" TO OPER GO TO F0520-900.                        DO0030
 F0520-900.                                                      DO0030
        IF OPER NOT = "A" AND OPER NOT = "M" AND OPER NOT = "O"  DO0030
        GO TO F3999-ITER-FT.                                     DO0030
 F0520-FN.    EXIT.                                              DO0030
 F05-FN.      EXIT.                                              DO0030
*            +-----------------------------------+               P000
* LEVEL 10    I NO UPDATE ==> END OF RECEIVE      I              P000
*            +-----------------------------------+               P000
```

```
F08BB.    IF    OPER NOT = "M"                                  P000
          NEXT SENTENCE ELSE GO TO     F08BB-FN.                P000
    GO TO F3999-ITER-FT.                                        P100
F08BB-FN.    EXIT.                                              P000
```

5.5. CATEGORY POSITIONING (F10)

F10 : CATEGORY POSITIONING

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

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

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

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

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

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

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

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

5.6. (TRANS)ACTION CODE POSITIONING (F15)

F15 : TRANSACTION CODE POSITIONING

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

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

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

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

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

.F15A for the screen-top category,

.F15R for the repetitive category,

.F15Z for the screen-bottom category.

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

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

5.7. DATA ELEMENT VALIDATION (F20)

F20 : DATA ELEMENT VALIDATION

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

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

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

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

. Presence validation.

. Numeric class validation.

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

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

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

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

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

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

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

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

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

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

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

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

5.8. SEGMENT ACCESS FOR VALIDATION (F25)

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.

GENERATED PROGRAM: PROCEDURE DIVISION 5
SEGMENT ACCESS FOR VALIDATION (F25) 8

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.       IF CAT-ER NOT = SPACE GO TO F25-FN.                  DO0030
 F25A.  IF CATX NOT = " " GO TO F25A-FN.                         DO0030
 F2501.                                                          DO0030
        MOVE "0" TO CD05-CF.                                     DO0030
        IF CATM = SPACE                  GO TO F2501-FN.         DO0030
        MOVE    SPACES            TO    CD00-KEYCD              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" AND IK = "1"                           DO0030
                    MOVE  "F019" TO XERCD                        DO0030
                    PERFORM F81UT         GO TO F2501-FN.        DO0030
 F2501-FN.    EXIT.                                              DO0030
 F25A-FN.   EXIT.                                                DO0030
 F25R.  IF CATX NOT = "R" GO TO F25R-FN.                         DO0030
 F2502.                                                          DO0030
        MOVE "0" TO CD10-CF.                                     DO0030
        IF CATM = SPACE                  GO TO F2502-FN.         DO0030
        MOVE    "C"               TO    CD00-KEYCD              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" AND IK = "1" MOVE "C" TO CATM.             DO0030
        IF CATM = "X" AND IK = "0" MOVE "M" TO CATM.             DO0030
        IF CATM = "C" AND IK = "0"                               DO0030
                    MOVE  "F028" TO XERCD                        DO0030
                    PERFORM F81UT         GO TO F2502-FN.        DO0030
        IF CATM NOT = "C" AND IK = "1"                           DO0030
                    MOVE  "F029" TO XERCD                        DO0030
                    PERFORM F81UT         GO TO F2502-FN.        DO0030
*             +-----------------------------------+              P000
* LEVEL 12    I ACCESS TO FO10                    I              P000
*             +-----------------------------------+              P000
 F25BB.                                                          P000
     MOVE        "1" TO CD10-CF.                                 P100
 F25BB-FN.    EXIT.                                              P000
 F2502-FN.    EXIT.                                              P000
 F2503.                                                          DO0030
        MOVE "0" TO FO10-CF.                                     DO0030
        IF          CD10-CF NOT = "1"   GO TO   F2503-FN.        DO0030
        IF CATM = SPACE                   GO TO F2503-FN.        DO0030
        MOVE  I-0030-FOURNI       TO    FO10-CLEFO              DO0030
        MOVE    CA00-LANGU        TO    FO10-LANGU              DO0030
        MOVE  I-0030-RELEA        TO    FO10-RELEA              DO0030
        MOVE  I-0030-MATE         TO    FO10-MATE               DO0030
        PERFORM F80-FO10-RU THRU F80-FN.                         DO0030
        IF IK = "0"                                              DO0030
        MOVE "1" TO FO10-CF.                                     DO0030
        IF IK = "1" MOVE  "F039" TO XERCD                        DO0030
                    PERFORM F81UT         GO TO F2503-FN.        DO0030
 F2503-FN.    EXIT.                                              DO0030
 F25R-FN.   EXIT.                                                DO0030
 F25Z.  IF CATX NOT = "Z" GO TO F25Z-FN.                         DO0030
 F2505.                                                          DO0030
        MOVE "0" TO CD20-CF.                                     DO0030
        IF CATM = SPACE                  GO TO F2505-FN.         DO0030
        MOVE    SPACES            TO    CD00-KEYCD              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" AND IK = "1" MOVE "C" TO CATM.             DO0030
        IF CATM = "X" AND IK = "0" MOVE "M" TO CATM.             DO0030
        IF CATM = "C" AND IK = "0"                               DO0030
                    MOVE  "F058" TO XERCD                        DO0030
                    PERFORM F81UT         GO TO F2505-FN.        DO0030
        IF CATM NOT = "C" AND IK = "1"                           DO0030
```

```
                    MOVE  "F059" TO XERCD                          DO0030
                    PERFORM F81UT         GO TO F2505-FN.          DO0030
   F2505-FN.    EXIT.                                              DO0030
   F25Z-FN.   EXIT.                                                DO0030
   F2599.     IF CAT-ER = SPACE GO TO F2599-FN.                    DO0030
          IF          CD05-CF = "1"                                DO0030
          PERFORM F80-CD05-UN THRU F80-FN.                         DO0030
          IF          CD10-CF = "1"                                DO0030
          PERFORM F80-CD10-UN THRU F80-FN.                         DO0030
          IF          FO10-CF = "1"                                DO0030
          PERFORM F80-FO10-UN THRU F80-FN.                         DO0030
          IF          CD20-CF = "1"                                DO0030
          PERFORM F80-CD20-UN THRU F80-FN.                         DO0030
          IF CATX = " " AND DE-AT (4, 009) = "X"                   DO0030
          MOVE  " "   TO  DE-AT (4, 009).                          DO0030
          IF CATX = " "                                            DO0030
          MOVE  "X"   TO A-0030-MATE   (4).                        DO0030
          IF CATX = "R" AND DE-AT (4, 009) = "X"                   DO0030
          MOVE  " "   TO  DE-AT (4, 009).                          DO0030
          IF CATX = "R"                                            DO0030
          MOVE  "X"   TO A-0030-CODMVT (4).                        DO0030
          IF CATX = "Z" AND DE-AT (4, 009) = "X"                   DO0030
          MOVE  " "   TO  DE-AT (4, 009).                          DO0030
          IF CATX = "Z"                                            DO0030
          MOVE  "X"   TO A-0030-EDIT   (4).                        DO0030
   F2599-FN.    EXIT.                                              DO0030
   F25-FN.      EXIT.                                              DO0030
  *             +-----------------------------------+              P000
  * LEVEL 10    I STOCK UPD.: ORDER DELETION/UPD    I              P000
  *             +-----------------------------------+              P000
   F28BH.    IF    (CATM = "A" OR "M")                            P000
             AND   CATX = "R"                                       P100
             AND   CAT-ER = SPACES                                  P120
             NEXT SENTENCE ELSE GO TO     F28BH-FN.                 P120
       ADD         CD10-QTMAL TO FO10-QTMAS.                      P100
   F28BH-FN.    EXIT.                                              P000
```

5.9. DATA ELEMENT TRANSFER (F30)

F30: DATA ELEMENT TRANSFER

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

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

. F30A for the screen-top category.

. F30R for the repetitive category.

. F30Z for the screen-bottom category.

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

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

5.10. SEGMENT ACCESS FOR UPDATE (F35)

F35: SEGMENT ACCESS FOR UPDATE

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

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

. F35A for the screen-top category.

. F35R for the repetitive category.

. F35Z for the screen-bottom category.

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

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

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

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

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

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

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

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

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

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

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

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

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

```
*           ************************************                DO0030
*           *                                  *                DO0030
*           *  SEGMENT ACCESS FOR UPDATE       *                DO0030
*           *                                  *                DO0030
*           ************************************                DO0030
 F35.     IF CAT-ER NOT = SPACE OR CATM = SPACE GO TO F35-FN.    DO0030
 F35A.  IF CATX NOT = " " GO TO F35A-FN.                        DO0030
 F3501.                                                         DO0030
        IF CATM NOT = "C" AND CATM NOT = "A"                    DO0030
        PERFORM F80-CD05-RW THRU F80-FN.                        DO0030
 F3501-FN.    EXIT.                                             DO0030
 F35A-FN.   EXIT.                                               DO0030
 F35R.  IF CATX NOT = "R" GO TO F35R-FN.                        DO0030
 F3502.                                                         DO0030
        IF CATM = "C"                                           DO0030
        PERFORM F80-CD10-W  THRU F80-FN.                        DO0030
        IF CATM = "A"                                           DO0030
        PERFORM F80-CD10-D  THRU F80-FN.                        DO0030
        IF CATM NOT = "C" AND CATM NOT = "A"                    DO0030
        PERFORM F80-CD10-RW THRU F80-FN.                        DO0030
 F3502-FN.    EXIT.                                             DO0030
 F3503.                                                         DO0030
        IF          FO10-CF = "1"                               DO0030
        PERFORM F80-FO10-RW THRU F80-FN.                        DO0030
 F3503-FN.    EXIT.                                             DO0030
 F35R-C3.   MOVE   SPACE     TO       O-0030-CODMVT.            DO0030
 F35R-FN.   EXIT.                                               DO0030
 F35Z.  IF CATX NOT = "Z" GO TO F35Z-FN.                        DO0030
 F3505.                                                         DO0030
        IF CATM = "C"                                           DO0030
        PERFORM F80-CD20-W  THRU F80-FN.                        DO0030
        IF CATM NOT = "C" AND CATM NOT = "A"                    DO0030
        PERFORM F80-CD20-RW THRU F80-FN.                        DO0030
 F3505-FN.    EXIT.                                             DO0030
 F35Z-D0.   MOVE   SPACE     TO       O-0030-EDIT.              DO0030
 F35Z-FN.   EXIT.                                               DO0030
 F35-FN.      EXIT.                                             DO0030
 F3999-ITER-FI.  GO TO F10.                                     DO0030
 F3999-ITER-FT.     EXIT.                                       DO0030
 F3999-FN.    EXIT.                                             DO0030
```

5.11. END OF RECEPTION (F40)

F40 : END OF RECEPTION

This function contains the procedures for the END OF RECEPTION processing. It is executed if no errors are found.

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

F4010 NEW SCREEN DISPLAY

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

Depending on the categories defined on the screen, the access key to the display segment is stored in one of the following:

. F40A for the screen-top category,
. F40R for the repetitive category,
. F40Z for the screen-bottom category.

F4020 DISPLAY OF THE SCREEN CONTINUATION

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

F4030 END OF CONVERSATION

This is executed for an end-of-conversation operation. The following is executed:

. Stored screen is cleared,
. Files are closed,
. Return to the monitor.

F4040 TRANSFER TO ANOTHER SCREEN

This is executed for a screen transfer operation. The following is executed:

. Return to the monitor,
. Transfer of new screen code,
. Close files.

```
 F40.       IF SCR-ER > "1"  MOVE "A" TO OPER  GO TO F40-FN.      DO0030
 F40-A.     IF OPERD NOT = SPACE   MOVE OPERD TO OPER.            DO0030
*           ************************************                  DO0030
*           *                                  *                  DO0030
*           *  SET-UP KEYS FOR NEW DISPLAY     *                  DO0030
*           *                                  *                  DO0030
*           ************************************                  DO0030
 F4010.     IF OPER NOT = "A" AND NOT = "M" GO TO F4010-FN.       DO0030
 F40A.                                                            DO0030
        MOVE    SPACES            TO    CD00-KEYCD               DO0030
        MOVE    "B"               TO    CD00-COCARA              DO0030
        MOVE    CA00-NUCOM        TO    CD00-NUCOM               DO0030
        MOVE        CD00-KEYCD    TO K-ACD05-KEYCD.              DO0030
 F40A-FN.   EXIT.                                                 DO0030
 F40R.                                                            DO0030
        MOVE  J-0030-LINE   (1) TO                                DO0030
              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-KEYCD    TO K-RCD10-KEYCD  (1).         DO0030
 F40R-FN.   EXIT.                                                 DO0030
 F40Z.                                                            DO0030
        MOVE    CA00-CLEME        TO    ME00-CLEME               DO0030
        MOVE        ME00-CLEME    TO K-ZME00-CLEME.              DO0030
 F40Z-FN.   EXIT.                                                 DO0030
 F4010-FN.    EXIT.                                               DO0030
*           ************************************                  DO0030
*           *                                  *                  DO0030
*           *  SET-UP KEYS FOR SCREEN PAGING   *                  DO0030
*           *                                  *                  DO0030
*           ************************************                  DO0030
 F4020.     IF OPER NOT = "S" GO TO F4020-FN.                     DO0030
        MOVE     K-RCD10-KEYCD  (2) TO                            DO0030
                 K-RCD10-KEYCD  (1).                              DO0030
 F4020-FN.    EXIT.                                               DO0030
*           ************************************                  DO0030
*           *                                  *                  DO0030
*           *  END OF TRANSACTION              *                  DO0030
*           *                                  *                  DO0030
*           ************************************                  DO0030
 F4030.     IF OPER NOT = "E" GO TO F4030-FN.                     DO0030
        MOVE OPER TO S-WWSS-OPER.                                 DO0030
        MOVE K-S0030-XTERM  TO HE00-XTERM                         DO0030
        PERFORM F80-HELP-D  THRU F80-FN.                          DO0030
        PERFORM F81FI THRU F81FI-FN.                              DO0030
 F4030-A.   EXIT PROGRAM.                                         DO0030
 F4030-FN.    EXIT.                                               DO0030
*           ************************************                  DO0030
*           *                                  *                  DO0030
*           *  TRANSFER TO ANOTHER SCREEN      *                  DO0030
*           *                                  *                  DO0030
*           ************************************                  DO0030
 F4040.     IF OPER NOT = "O" GO TO F4040-FN.                     DO0030
        MOVE  5-0030-PROGE TO S-WWSS-PROGE.                       DO0030
        MOVE OPER TO S-WWSS-OPER.                                 DO0030
        PERFORM F81FI THRU F81FI-FN.                              DO0030
 F4040-A.   EXIT PROGRAM.                                         DO0030
 F4040-FN.    EXIT.                                               DO0030
 F40-FN.      EXIT.                                               DO0030
 END-OF-RECEPTION.      EXIT.                                     DO0030
```

5.12. DISPLAY PREPARATION (F50)

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

5.13. CATEGORY PROCESSING LOOP (F55)

F55: CATEGORY PROCESSING LOOP

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

. '0' Beginning of display.

. ' ' Screen-top category.

. 'R' Repetitive category.

. 'Z' Screen-bottom category.

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

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

For the repetitive category this function includes:

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

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

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

5.14. SEGMENT ACCESS FOR DISPLAY (F60)

F60: SEGMENT ACCESS FOR DISPLAY

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

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

. F60A for the screen-top category,

. F60R for the repetitive category,

. F60Z for the screen-bottom category.

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

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

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

- Direct read (F80-ddss-R),

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

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

. Error processing, if necessary.

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

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

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

```
*           ************************************                DO0030
*           *                                  *                DO0030
*           *  SEGMENT ACCESS FOR DISPLAY      *                DO0030
*           *                                  *                DO0030
*           ************************************                DO0030
 F60.          EXIT.                                            DO0030
 F60A.  IF CATX NOT = " " GO TO F60A-FN.                        DO0030
 F6001.                                                         DO0030
        MOVE "0" TO CD05-CF.                                    DO0030
        MOVE     K-ACD05-KEYCD     TO   CD00-KEYCD              DO0030
        PERFORM F80-CD05-R  THRU F80-FN.                        DO0030
        IF IK = "1" MOVE  "G019" TO XERCD                       DO0030
        PERFORM F81UT THRU F81UT-FN       GO TO F6001-FN.       DO0030
        MOVE "1" TO CD05-CF.                                    DO0030
 F6001-FN.    EXIT.                                             DO0030
 F60A-FN.   EXIT.                                               DO0030
 F60R.  IF CATX NOT = "R" OR FT = "1" GO TO F60R-FN.            DO0030
 F6003.                                                         DO0030
        MOVE "0" TO CD10-CF.                                    DO0030
        IF          CD10-FST = "1"                              DO0030
        MOVE     K-RCD10-KEYCD  (1) TO  CD00-KEYCD              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 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" MOVE  "G039" TO XERCD MOVE "1" TO FT        DO0030
        PERFORM F81UT THRU F81UT-FN       GO TO F6003-FN.       DO0030
        MOVE "1" TO CD10-CF.                                    DO0030
        MOVE        CD00-KEYCD    TO K-RCD10-KEYCD  (2).        DO0030
 F6003-FN.    EXIT.                                             DO0030
 F60R-FN.   EXIT.                                               DO0030
 F60Z.  IF CATX NOT = "Z" GO TO F60Z-FN.                        DO0030
 F6006.                                                         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" MOVE  "G069" TO XERCD                       DO0030
        PERFORM F81UT THRU F81UT-FN       GO TO F6006-FN.       DO0030
        MOVE "1" TO ME00-CF.                                    DO0030
 F6006-FN.    EXIT.                                             DO0030
 F60Z-FN.   EXIT.                                               DO0030
 F60-FN.      EXIT.                                             DO0030
*            +----------------------------------+               P000
* LEVEL 10    I PREPARATION DISPLAY DATE/HOUR     I           P000
*            +----------------------------------+               P000
 F64DA.    IF    CATX = " "                                     P000
           NEXT SENTENCE ELSE GO TO     F64DA-FN.              P000
     ACCEPT  DATOR  FROM DATE                                   P040
     MOVE            DATOR                                      P040
     TO DAT6 DAT8                                               P040
     MOVE DAT63 TO DAT61 MOVE DAT81 TO DAT63                    P040
     MOVE      DATOR                                            P080
     TO  DAT6                                                   P080
     PERFORM F8120-I  THRU F8120-Z                              P080
     MOVE  DAT8C TO   DAT8C.                                    P080
     ACCEPT  TIMCO  FROM  TIME                                  P120
     MOVE            TIMCOG                                     P160
          TO TIMCOG                                             P160
     MOVE TIMCOH TO TIMHOU                                      P160
     MOVE TIMCOM TO TIMMIN                                      P160
     MOVE TIMCOS TO TIMSEC                                      P160
     MOVE ":"    TO TIMS1  TIMS2                                P160
     MOVE TIMDAY TO   TIMDAY.                                   P160
 F64DA-FN.    EXIT.                                             P000
```

5.15. DATA ELEMENT TRANSFER (F65)

F65: DATA ELEMENT TRANSFER

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

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

. F65A for the screen-top category,

. F65R for the repetitive category,

. F65Z for the screen-bottom category.

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

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

```
*           ************************************                DO0030
*           *                                  *                DO0030
*           *  DATA ELEMENT TRANSFER           *                DO0030
*           *                                  *                DO0030
*           ************************************                DO0030
 F65.          EXIT.                                            DO0030
 F65A.  IF CATX NOT = " " GO TO F65A-FN.                        DO0030
        MOVE    PROGE           TO                              DO0030
              O-0030-PROGE.                                     DO0030
        MOVE    SESSI           TO                              DO0030
              O-0030-SESSI.                                     DO0030
        MOVE    DAT8C           TO                              DO0030
              O-0030-DATEM.                                     DO0030
        MOVE    TIMDAY          TO                              DO0030
              O-0030-HEURE.                                     DO0030
 F65A-A7.                                                       DO0030
        MOVE    CA00-NUCOM      TO                              DO0030
              O-0030-NUCOM.                                     DO0030
 F65A-A7-FN. EXIT.                                              DO0030
 F65A-A8.                                                       DO0030
        MOVE    CA00-RAISOC     TO                              DO0030
              O-0030-RAISOC.                                    DO0030
 F65A-A8-FN. EXIT.                                              DO0030
 F65A-CD05.                                                     DO0030
        IF      CD05-CF   NOT = "1" GO  TO  F65A-CD05-FN.       DO0030
        MOVE    CD05-MATE       TO                              DO0030
              O-0030-MATE.                                      DO0030
 F65A-B0.                                                       DO0030
        MOVE    CD05-RELEA      TO                              DO0030
              O-0030-RELEA.                                     DO0030
 F65A-B0-FN. EXIT.                                              DO0030
 F65A-B1.                                                       DO0030
        MOVE    CD05-VILLE      TO                              DO0030
              O-0030-VILLE.                                     DO0030
 F65A-B1-FN. EXIT.                                              DO0030
 F65A-B2.                                                       DO0030
        MOVE    CD05-COPOS      TO                              DO0030
              O-0030-COPOS.                                     DO0030
 F65A-B2-FN. EXIT.                                              DO0030
 F65A-B3.                                                       DO0030
        MOVE    CD05-REFCLI     TO                              DO0030
              O-0030-REFCLI.                                    DO0030
 F65A-B3-FN. EXIT.                                              DO0030
 F65A-B4.                                                       DO0030
        MOVE    CD05-DATE       TO                              DO0030
              O-0030-DATE.                                      DO0030
 F65A-B4-FN. EXIT.                                              DO0030
 F65A-B5.                                                       DO0030
        MOVE    CD05-CORRES     TO                              DO0030
              O-0030-CORRES.                                    DO0030
 F65A-B5-FN. EXIT.                                              DO0030
 F65A-B6.                                                       DO0030
        MOVE    CD05-REMIS      TO                              DO0030
              O-0030-REMIS.                                     DO0030
 F65A-B6-FN. EXIT.                                              DO0030
 F65A-CD05-FN. EXIT.                                            DO0030
 F65A-FN.   EXIT.                                               DO0030
 F65R.  IF CATX NOT = "R" OR FT = "1" GO TO F65R-FN.            DO0030
                     IF ICATR > IRR GO TO F65R-FN.              DO0030
 F65R-A4.                                                       DO0030
        MOVE    CD00-FOURNI     TO                              DO0030
              O-0030-FOURNI.                                    DO0030
 F65R-A4-FN. EXIT.                                              DO0030
 F65R-CD10.                                                     DO0030
        IF      CD10-CF   NOT = "1" GO  TO  F65R-CD10-FN.       DO0030
        MOVE    CD10-QTMAC      TO                              DO0030
              O-0030-QTMAC.                                     DO0030
 F65R-A6.                                                       DO0030
        MOVE    CD10-QTMAL      TO                              DO0030
              O-0030-QTMAL.                                     DO0030
 F65R-A6-FN. EXIT.                                              DO0030
 F65R-A7.                                                       DO0030
        MOVE    CD10-INFOR      TO                              DO0030
              O-0030-INFOR.                                     DO0030
 F65R-A7-FN. EXIT.                                              DO0030
 F65R-CD10-FN. EXIT.                                            DO0030
*            +----------------------------------+                P000
```

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

5.16. ERROR PROCESSING (F70)

F70 : ERROR PROCESSING

This function is systematically generated.

F7010 includes:

. In F7010-A, testing of the DE-ERR vector, setting the error field attribute, access to the error message file, and loading of the screen error message,

. In F7010-B, testing of T-XEMKEY user error tables, access to error message file, and loading of the screen error message.

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

This sub-function positions the screen field attributes when there is an error on a variable field and positions the cursor on the first erroneous field.

```
*           ************************************                DO0030
*           *                                  *                DO0030
*           *  ERROR PROCESSING                *                DO0030
*           *                                  *                DO0030
*           ************************************                DO0030
 F7010.     MOVE ZERO TO K01 K02 K04 MOVE 1 TO K03.             DO0030
        MOVE LIBRA TO EM00-LIBRA MOVE PROGR TO EM00-PROGR       DO0030
        MOVE ZERO TO EM00-LINUM MOVE "H" TO EM00-ENTYP.         DO0030
 F7010-A.   IF K02 = INR AND K03 < IRR MOVE INA TO K02          DO0030
        ADD 1 TO K03. ADD 1 TO K01 K02.                         DO0030
        IF DE-ER (K01) > "1" OR < "0" MOVE "Y" TO DE-AT (4, K01) DO0030
        MOVE "N" TO DE-AT (1, K01)                              DO0030
        MOVE "N" TO DE-AT (2, K01)                              DO0030
        MOVE "W" TO DE-AT (3, K01)                              DO0030
           IF K04 < IER MOVE DE-ER (K01) TO EM00-ERTYP          DO0030
        MOVE K02 TO EM00-ERCOD9 MOVE EM00-XEMKY TO EM00-ERMSG   DO0030
        PERFORM F80-EM00-R THRU F80-FN ADD 1 TO K04              DO0030
        MOVE  EM00-ERMSG  TO    O-0030-ERMSG (K04).             DO0030
        IF K01 < INT      GO TO F7010-A.                        DO0030
        MOVE ZERO TO K50R.                                      DO0030
 F7010-B.                                                       DO0030
         ADD 1 TO K50R IF K50R > K50L OR K04 NOT < IER GO TO     DO0030
         F7010-FN. MOVE T-XEMKY (K50R) TO EM00-XEMKY EM00-ERMSG DO0030
         PERFORM F80-EM00-R THRU F80-FN. ADD 1 TO K04           DO0030
        MOVE  EM00-ERMSG  TO    O-0030-ERMSG (K04)              DO0030
        GO TO F7010-B.                                          DO0030
 F7010-FN.    EXIT.                                             DO0030
*           ************************************                DO0030
*           *                                  *                DO0030
*           *  POSITIONING OF ATTRIBUTES       *                DO0030
*           *                                  *                DO0030
*           ************************************                DO0030
 F7020.                                                         DO0030
        MOVE ZERO TO TALLI  INSPECT DE-ATT1 (4)                 DO0030
        TALLYING TALLI FOR CHARACTERS BEFORE "Y".               DO0030
        IF TALLI     NOT <       0045                           DO0030
        MOVE ZERO TO TALLI  INSPECT DE-ATT1 (4)                 DO0030
        TALLYING TALLI FOR CHARACTERS BEFORE "Z".               DO0030
        IF TALLI     NOT <       0045                           DO0030
        MOVE ZERO TO TALLI  INSPECT DE-ATT1 (4)                 DO0030
        TALLYING TALLI FOR CHARACTERS BEFORE "X".               DO0030
        IF TALLI     NOT <       0045                           DO0030
        MOVE ZERO TO TALLI.                                     DO0030
        ADD 1 TO TALLI                                          DO0030
        MOVE SV-AT (TALLI) TO K01                               DO0030
        MOVE AT-0030-YPCUR (K01) TO CMES-YPCUR.                 DO0030
        MOVE ZERO TO K01.                                       DO0030
 F7020-A.                                                       DO0030
        ADD 1 TO K01. IF K01 > INT GO TO F7020-FN.              DO0030
        MOVE SV-AT (K01) TO K02.                                DO0030
        IF SV-ATTRI (K01) = "D" AND DE-AT (1, K01) NOT = "D"    DO0030
        MOVE "D" TO DE-AT (1, K01).                             DO0030
        IF DE-AT (1, K01) NOT = SPACE                           DO0030
           MOVE DE-AT (1, K01) TO AT-0030-ATTRI (K02).          DO0030
        IF DE-AT (2, K01) NOT = SPACE                           DO0030
           MOVE DE-AT (2, K01) TO AT-0030-ATTRP (K02).          DO0030
        IF DE-AT (3, K01) NOT = SPACE                           DO0030
           MOVE DE-AT (3, K01) TO AT-0030-ATTRC (K02).          DO0030
        GO TO F7020-A.                                          DO0030
 F7020-FN.    EXIT.                                             DO0030
 F70-FN.      EXIT.                                             DO0030
 END-OF-DISPLAY.    EXIT.                                       DO0030
```

5.17. DISPLAY AND END OF PROGRAM (F8Z)

F8Z : DISPLAY AND END OF PROGRAM

F8Z05 is generated if a call for HELP documentation is entered on the Screen Definition screen. It ensures that the fields of the screen are memorized in the 'HE' file.

F8Z10 includes the sending of the CMES-COMMUNICATION area, which contains the message, to the formatting sub-program.

F8Z20 contains the end of the reception-display iteration. The CMES-FMES area is set to '0' indicating that the screen has already been displayed. The sub-function ends with a return to Function F0105 for reception processing.

```
 F8Z.          EXIT.                                              DO0030
 F8Z05.   IF SCR-ER = "1"                                         DO0030
        NEXT SENTENCE ELSE GO TO F8Z05-FN.                        DO0030
          IF K-S0030-DOC NOT = "1"     GO TO F8Z05-A.            DO0030
        MOVE K-S0030-ERCOD9 TO K01 K02.                           DO0030
        IF K02 > INR                                              DO0030
        COMPUTE K02 = K01 + (INR - INA) * (IRR - 1).              DO0030
        IF K02 < 1 OR K02 > INT MOVE 1 TO K02.                    DO0030
        MOVE "X"  TO DE-AT (4, K02)                               DO0030
        PERFORM F7020 THRU F7020-FN.                              DO0030
 F8Z05-A.                                                         DO0030
        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      GO TO F8Z05-FN.              DO0030
          IF K-S0030-DOC NOT = ZERO      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  ELSE                     DO0030
        PERFORM F80-HELP-RW THRU F80-FN.                          DO0030
 F8Z05-FN.    EXIT.                                               DO0030
*           ************************************                  DO0030
*           *                                  *                  DO0030
*           *  DISPLAY                         *                  DO0030
*           *                                  *                  DO0030
*           ************************************                  DO0030
 F8Z10.                                                           DO0030
        IF SCR-ER  NOT > "1"                                      DO0030
        AND DE-AT (4, 009) = "X"                                  DO0030
        PERFORM F7020 THRU F7020-FN.                              DO0030
        PERFORM F8145 THRU F8145-FN.                              DO0030
        MOVE "1" TO CMES-NBZVAR.                                  DO0030
        MOVE "X"  TO CMES-YCRE.                                   DO0030
        IF SCR-ER NOT > "1"                                       DO0030
        MOVE PROGR     TO          K-S0030-PROGR                  DO0030
        PERFORM F8105 THRU F8105-FN                               DO0030
        MOVE "E"  TO CMES-YCRE.                                   DO0030
        MOVE    0030-MESSO TO CMES-YR00.                          DO0030
        MOVE AT-0030-MESSA TO CMES-YO00.                          DO0030
        CALL PRCGI USING CMES-COMMUNICATION.                      DO0030
 F8Z10-FN.    EXIT.                                               DO0030
*           ************************************                  DO0030
*           *                                  *                  DO0030
*           *  END OF PROGRAM                  *                  DO0030
*           *                                  *                  DO0030
*           ************************************                  DO0030
 F8Z20.                                                           DO0030
        MOVE "DO0030  " TO S-WWSS-PROGE.                          DO0030
        MOVE OPER TO S-WWSS-OPER.                                 DO0030
        MOVE "0"  TO CMES-FMES.                                   DO0030
        GO TO F0105.                                              DO0030
 F8Z20-FN.    EXIT.                                               DO0030
 F8Z-FN.      EXIT.                                               DO0030
```

5.18. PHYSICAL ACCESS TO SEGMENTS (F80)

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.          EXIT.                                            DO0030
 F80-CD05-R.                                                    DO0030
       MOVE "READ    " TO S-WWSS-XFUNCT   MOVE "0" TO IK.       DO0030
       READ    CD-FILE    ALLOWING UPDATERS                     DO0030
            KEY IS CD00-KEYCD  INVALID KEY GO TO F80-KO.        DO0030
       IF IK = "1" GO TO F81ER ELSE GO TO F80-OK.               DO0030
 F80-CD05-RU.                                                   DO0030
       MOVE "READUPD " TO S-WWSS-XFUNCT   MOVE "0" TO IK.       DO0030
       READ    CD-FILE    ALLOWING NO OTHERS                    DO0030
            KEY IS CD00-KEYCD  INVALID KEY GO TO F80-KO.        DO0030
       IF IK = "1" GO TO F81ER ELSE GO TO F80-OK.               DO0030
 F80-CD05-RW.                                                   DO0030
       MOVE "REWRITE " TO S-WWSS-XFUNCT   MOVE "0" TO IK.       DO0030
       REWRITE     CD05 ALLOWING NO OTHERS                      DO0030
           INVALID KEY GO TO F80-KO.                            DO0030
       IF IK = "1" GO TO F81ER ELSE GO TO F80-CD05-UN.          DO0030
 F80-CD05-UN.                                                   DO0030
       MOVE "UNLOCK  " TO S-WWSS-XFUNCT   MOVE "0" TO IK.       DO0030
           UNLOCK  CD-FILE.                                     DO0030
       IF IK = "1" GO TO F81ER ELSE GO TO F80-OK.               DO0030
 F8001-FN.    EXIT.                                             DO0030
 F80-CD10-R.                                                    DO0030
       MOVE "READ    " TO S-WWSS-XFUNCT   MOVE "0" TO IK.       DO0030
       READ    CD-FILE    ALLOWING UPDATERS                     DO0030
            KEY IS CD00-KEYCD  INVALID KEY GO TO F80-KO.        DO0030
       IF IK = "1" GO TO F81ER ELSE GO TO F80-OK.               DO0030
 F80-CD10-RU.                                                   DO0030
       MOVE "READUPD " TO S-WWSS-XFUNCT   MOVE "0" TO IK.       DO0030
       READ    CD-FILE    ALLOWING NO OTHERS                    DO0030
            KEY IS CD00-KEYCD  INVALID KEY GO TO F80-KO.        DO0030
       IF IK = "1" GO TO F81ER ELSE GO TO F80-OK.               DO0030
 F80-CD10-P.                                                    DO0030
       MOVE "START   " TO S-WWSS-XFUNCT   MOVE "0" TO IK.       DO0030
       START   CD-FILE    KEY NOT <                            DO0030
                  CD00-KEYCD  ALLOWING UPDATERS                 DO0030
       INVALID KEY GO TO F80-KO. IF IK = "1" GO TO F81ER.       DO0030
 F80-CD10-RN.                                                   DO0030
       MOVE "READNEXT" TO S-WWSS-XFUNCT   MOVE "0" TO IK.       DO0030
       READ    CD-FILE    NEXT ALLOWING UPDATERS                DO0030
           AT END GO TO F80-KO.                                 DO0030
       IF IK = "1" GO TO F81ER ELSE GO TO F80-OK.               DO0030
 F80-CD10-W.                                                    DO0030
       MOVE "WRITE   " TO S-WWSS-XFUNCT   MOVE "0" TO IK.       DO0030
       WRITE       CD10 ALLOWING NO OTHERS                      DO0030
           INVALID KEY GO TO F80-KO.                            DO0030
       IF IK = "1" GO TO F81ER ELSE GO TO F80-CD10-UN.          DO0030
 F80-CD10-RW.                                                   DO0030
       MOVE "REWRITE " TO S-WWSS-XFUNCT   MOVE "0" TO IK.       DO0030
       REWRITE     CD10 ALLOWING NO OTHERS                      DO0030
           INVALID KEY GO TO F80-KO.                            DO0030
       IF IK = "1" GO TO F81ER ELSE GO TO F80-CD10-UN.          DO0030
 F80-CD10-D.                                                    DO0030
       MOVE "DELETE  " TO S-WWSS-XFUNCT   MOVE "0" TO IK.       DO0030
       DELETE  CD-FILE    INVALID KEY GO TO F80-KO.             DO0030
       IF IK = "1" GO TO F81ER.                                 DO0030
 F80-CD10-UN.                                                   DO0030
       MOVE "UNLOCK  " TO S-WWSS-XFUNCT   MOVE "0" TO IK.       DO0030
           UNLOCK  CD-FILE.                                     DO0030
       IF IK = "1" GO TO F81ER ELSE GO TO F80-OK.               DO0030
 F8002-FN.    EXIT.                                             DO0030
 F80-CD20-RU.                                                   DO0030
       MOVE "READUPD " TO S-WWSS-XFUNCT   MOVE "0" TO IK.       DO0030
       READ    CD-FILE    ALLOWING NO OTHERS                    DO0030
            KEY IS CD00-KEYCD  INVALID KEY GO TO F80-KO.        DO0030
       IF IK = "1" GO TO F81ER ELSE GO TO F80-OK.               DO0030
 F80-CD20-W.                                                    DO0030
       MOVE "WRITE   " TO S-WWSS-XFUNCT   MOVE "0" TO IK.       DO0030
       WRITE       CD20 ALLOWING NO OTHERS                      DO0030
           INVALID KEY GO TO F80-KO.                            DO0030
       IF IK = "1" GO TO F81ER ELSE GO TO F80-CD20-UN.          DO0030
 F80-CD20-RW.                                                   DO0030
       MOVE "REWRITE " TO S-WWSS-XFUNCT   MOVE "0" TO IK.       DO0030
```

```
       REWRITE     CD20 ALLOWING NO OTHERS                          DO0030
           INVALID KEY GO TO F80-KO.                                DO0030
       IF IK = "1" GO TO F81ER ELSE GO TO F80-CD20-UN.              DO0030
F80-CD20-UN.                                                        DO0030
       MOVE "UNLOCK  " TO S-WWSS-XFUNCT   MOVE "0" TO IK.           DO0030
           UNLOCK  CD-FILE.                                         DO0030
       IF IK = "1" GO TO F81ER ELSE GO TO F80-OK.                   DO0030
F8003-FN.    EXIT.                                                  DO0030
F80-FO10-RU.                                                        DO0030
       MOVE "READUPD " TO S-WWSS-XFUNCT   MOVE "0" TO IK.           DO0030
       READ    FO-FILE    ALLOWING NO OTHERS                        DO0030
            KEY IS FO10-CLEFO  INVALID KEY GO TO F80-KO.            DO0030
       IF IK = "1" GO TO F81ER ELSE GO TO F80-OK.                   DO0030
F80-FO10-RW.                                                        DO0030
       MOVE "REWRITE " TO S-WWSS-XFUNCT   MOVE "0" TO IK.           DO0030
       REWRITE     FO10 ALLOWING NO OTHERS                          DO0030
           INVALID KEY GO TO F80-KO.                                DO0030
       IF IK = "1" GO TO F81ER ELSE GO TO F80-FO10-UN.              DO0030
F80-FO10-UN.                                                        DO0030
       MOVE "UNLOCK  " TO S-WWSS-XFUNCT   MOVE "0" TO IK.           DO0030
           UNLOCK  FO-FILE.                                         DO0030
       IF IK = "1" GO TO F81ER ELSE GO TO F80-OK.                   DO0030
F8004-FN.    EXIT.                                                  DO0030
F80-ME00-R.                                                         DO0030
       MOVE "READ    " TO S-WWSS-XFUNCT   MOVE "0" TO IK.          DO0030
       READ    ME-FILE    ALLOWING UPDATERS                        DO0030
            KEY IS ME00-CLEME  INVALID KEY GO TO F80-KO.            DO0030
       IF IK = "1" GO TO F81ER ELSE GO TO F80-OK.                   DO0030
F8005-FN.    EXIT.                                                  DO0030
F80-HELP-R.                                                         DO0030
       MOVE "READ    " TO S-WWSS-XFUNCT   MOVE "0" TO IK.          DO0030
       READ    HE-FILE    ALLOWING UPDATERS                        DO0030
       INVALID KEY GO TO F80-KO.                                    DO0030
       IF IK = "1" GO TO F81ER ELSE GO TO F80-OK.                   DO0030
F80-HELP-W.                                                         DO0030
       MOVE "WRITE   " TO S-WWSS-XFUNCT   MOVE "0" TO IK.           DO0030
       WRITE   HE00 ALLOWING NO OTHERS                              DO0030
       INVALID KEY GO TO F80-KO.                                    DO0030
       IF IK = "1" GO TO F81ER ELSE GO TO F80-HELP-UN.              DO0030
F80-HELP-RW.                                                        DO0030
       MOVE "REWRITE " TO S-WWSS-XFUNCT   MOVE "0" TO IK.           DO0030
       REWRITE   HE00 ALLOWING NO OTHERS                            DO0030
       INVALID KEY GO TO F80-KO.                                    DO0030
       IF IK = "1" GO TO F81ER ELSE GO TO F80-HELP-UN.              DO0030
F80-HELP-D.                                                         DO0030
       MOVE "DELETE  " TO S-WWSS-XFUNCT   MOVE "0" TO IK.           DO0030
       DELETE  HE-FILE    INVALID KEY GO TO F80-KO.                 DO0030
       IF IK = "1" GO TO F81ER ELSE GO TO F80-HELP-UN.              DO0030
F80-HELP-UN.                                                        DO0030
       MOVE "UNLOCK  " TO S-WWSS-XFUNCT   MOVE "0" TO IK.           DO0030
       UNLOCK  HE-FILE.                                             DO0030
       IF IK = "1" GO TO F81ER ELSE GO TO F80-OK.                   DO0030
F8095-FN.    EXIT.                                                  DO0030
F80-EM00-R.                                                         DO0030
       MOVE "READ    " TO S-WWSS-XFUNCT   MOVE "0" TO IK.          DO0030
       READ    EM-FILE    ALLOWING UPDATERS                        DO0030
           INVALID KEY GO TO F80-KO.                                DO0030
       IF IK = "1" GO TO F81ER ELSE GO TO F80-OK.                   DO0030
F8098-FN.    EXIT.                                                  DO0030
F80-OK.  MOVE "0" TO IK MOVE PROGR TO XPROGR GO TO F80-FN.          DO0030
F80-KO.  MOVE "1" TO IK MOVE PROGR TO XPROGR.                       DO0030
F8099-FN.    EXIT.                                                  DO0030
F80-FN.      EXIT.                                                  DO0030
```

5.19. CALLED VALIDATION FUNCTIONS (F81)

F81 : PERFORMED VALIDATION FUNCTIONS

This function is automatically generated.

F81ER contains the abend routine.

F81FI contains the CLOSE of the files used in the program.

F81UT contains the storing of user errors.

F8105 contains the moves of the error messages.

F8110 is generated if the screen contains at least one numeric field. It contains the procedures which format the field to be validated in a working area, the numeric class validation and the possible positioning of error messages.

F8115 ensures the initialization of variable output areas. It is performed in Function F0510 if the processsing indicator for reception, 'ICF', is equal to '0'.

F8120 is generated if at least one variable data element ('V') has a date format, or if a date processing operator is used in the program (in which case the F8120-ER and F8120-KO levels are not generated). It contains date formatting and validation.

F8130 is generated if a HELP documentation call is entered on the Screen Definition screen. It prepares the area to be saved in 'HE'.

F8145 ensures the moves of the display fields to be passed to the message formatting sub-program.

F8155 ensures the transfer of messages received in the reception fields (INPUT-SCREEN-FIELDS).

F8150 searches the first character of each input field in order to detect the two documentation request characters (documentation on the screen, or documentation of

F8155 ensures the transfer of messages received in the reception fields (INPUT-SCREEN-FIELDS).

```
 F81.          EXIT.                                                  DO0030
*           ************************************                      DO0030
*           *                                  *                      DO0030
*           *  ABNORMAL END PROCEDURE          *                      DO0030
*           *                                  *                      DO0030
*           ************************************                      DO0030
 F81ER.                                                               DO0030
        MOVE "X" TO S-WWSS-OPER.                                      DO0030
 F81ER-A. EXIT PROGRAM.                                               DO0030
 F81ER-FN.    EXIT.                                                   DO0030
 F81FI.                                                               DO0030
        MOVE "CLOSE   " TO S-WWSS-XFUNCT   MOVE "0" TO IK.            DO0030
        CLOSE   CD-FILE.                                              DO0030
        IF IK = "1" GO TO F81ER.                                      DO0030
        CLOSE   EM-FILE    IF IK = "1" GO TO F81ER.                   DO0030
        CLOSE   FO-FILE.                                              DO0030
        IF IK = "1" GO TO F81ER.                                      DO0030
        CLOSE HE-FILE.                                                DO0030
        IF IK = "1" GO TO F81ER.                                      DO0030
        CLOSE   ME-FILE.                                              DO0030
        IF IK = "1" GO TO F81ER.                                      DO0030
 F81FI-FN.    EXIT.                                                   DO0030
*           ************************************                      DO0030
*           *                                  *                      DO0030
*           *  MEMORIZATION OF USER'S ERRORS   *                      DO0030
*           *                                  *                      DO0030
*           ************************************                      DO0030
 F81UT.     IF K50L < K50M ADD 1 TO K50L                              DO0030
        MOVE XEMKY TO T-XEMKY (K50L). MOVE "E" TO CAT-ER.             DO0030
 F81UT-FN.    EXIT.                                                   DO0030
 F8105.                                                               DO0030
      MOVE   "-"                                      TO S01013.     DO0030
      MOVE   "***  ORDER INPUT SCREEN  ***  "         TO S01025.     DO0030
      MOVE   "ORDER NUMBER:"                          TO S03004.     DO0030
      MOVE   "SYSTEM:"                                TO S03026.     DO0030
      MOVE   "RELEASE:"                               TO S03054.     DO0030
      MOVE   "CUST."                                  TO S04004.     DO0030
      MOVE   "CUST. REF.:"                            TO S06004.     DO0030
      MOVE   "ORDER DATE:"                            TO S06049.     DO0030
      MOVE   "COORDINATOR:"                           TO S07005.     DO0030
      MOVE   "DISCOUNT RATE:"                         TO S07046.     DO0030
      MOVE   "A"                                      TO S09003.     DO0030
      MOVE   "ITEM  "                                 TO S09007.     DO0030
      MOVE   "ORDERED "                               TO S09016.     DO0030
      MOVE   "DELIV. "                                TO S09026.     DO0030
      MOVE   "OUTST."                                 TO S09035.     DO0030
      MOVE   "REMARKS                            "    TO S09042.     DO0030
      MOVE   "PRINTING OF FORM  :"                    TO S20002.     DO0030
      MOVE   "UPD : PF07,"                            TO S20035.     DO0030
      MOVE   "ORDERS (NEXT) : PF08,"                  TO S20047.     DO0030
      MOVE   "MENU : PF01, CUSTOMER LIST :"           TO S21002.     DO0030
      MOVE   "PF02, CUST. HIST : PF03, ORDER"         TO S21031.     DO0030
      MOVE   "LIST : PF04,"                           TO S21062.     DO0030
      MOVE   "END : PF12"                             TO S22002.     DO0030
      MOVE   "SCREEN DOC : PF10, "                    TO S22013.     DO0030
      MOVE   "DATA EL. DOC : PF11,"                   TO S22033.     DO0030
 F8105-FN.    EXIT.                                                   DO0030
*           ************************************                      DO0030
*           *                                  *                      DO0030
*           *  NUMERIC VALIDATION              *                      DO0030
*           *                                  *                      DO0030
*           ************************************                      DO0030
 F8110.   MOVE ZERO TO TPOINT K01 K02 K03 ZONUM3 ZONUM2               DO0030
                    C9 C91.                                           DO0030
 F8110-1.   IF K01 > 26 OR K02 > 17 GO TO F8110-5.                    DO0030
        ADD 1 TO K01.                                                 DO0030
        IF C1 (K01) = SPACE OR C1 (K01) = "." GO TO F8110-1.          DO0030
      IF C1 (K01) NOT = "-" AND C1 (K01) NOT = "+" GO TO F8110-2.     DO0030
        IF C9 NOT = ZERO                                              DO0030
        MOVE "5" TO DEL-ER GO TO F8110-FN.                            DO0030
        IF K02 = ZERO MOVE "1" TO C91.                                DO0030
        IF C1 (K01) = "+" MOVE 1 TO C9   GO TO F8110-1.               DO0030
        IF SIGNE = " " MOVE "5" TO DEL-ER GO TO F8110-FN.             DO0030
        MOVE -1 TO C9 GO TO F8110-1.                                  DO0030
 F8110-2. IF C1 (K01) NOT = "," GO TO F8110-4.                        DO0030
        IF TPOINT = "1" OR NBCHP = 0                                  DO0030
        MOVE "5" TO DEL-ER GO TO F8110-FN.                            DO0030
```

```
   F8110-3. IF K02 > NBCHA MOVE "5" TO DEL-ER GO TO F8110-FN.       DO0030
          COMPUTE K04 = 18 - NBCHA + K02 MOVE 1 TO C3 (K04)         DO0030
          DIVIDE ZONUM4 INTO ZONUM9 MOVE NBCHA TO K02               DO0030
          MOVE "1" TO TPOINT GO TO F8110-1.                         DO0030
   F8110-4. IF C1 (K01) NOT NUMERIC MOVE "4" TO DEL-ER              DO0030
          GO TO F8110-FN.                                           DO0030
          IF C9 NOT = ZERO AND C91 = ZERO                           DO0030
          MOVE "5" TO DEL-ER  GO TO F8110-FN.                       DO0030
          IF C1 (K01) = "0" AND K02 = ZERO AND TPOINT = "0"         DO0030
          GO TO F8110-1. ADD 1 TO K02 MOVE C1 (K01) TO C2 (K02).    DO0030
          IF TPOINT = "1" ADD 1 TO K03. IF K03 > NBCHP MOVE "5"     DO0030
          TO DEL-ER GO TO F8110-FN. GO TO F8110-1.                  DO0030
   F8110-5. IF TPOINT = "0" AND K02 > ZERO GO TO F8110-3.           DO0030
          IF SIGNE NOT =  "+" GO TO F8110-FN.                       DO0030
          IF C9 = ZERO MOVE 1 TO C9.                                DO0030
          ADD NBCHA NBCHP GIVING K01 MULTIPLY C9 BY C29 (K01).      DO0030
          IF C29 (K01) = ZERO AND C9 = -1 MOVE C4 TO C2 (K01).      DO0030
   F8110-FN.    EXIT.                                               DO0030
   F8115.                                                           DO0030
          MOVE ALL "-"                                              DO0030
            TO  O-0030-MATE.                                        DO0030
          MOVE ALL "-"                                              DO0030
            TO  O-0030-RELEA.                                       DO0030
          MOVE ALL "-"                                              DO0030
            TO  O-0030-RUE.                                         DO0030
          MOVE ALL "-"                                              DO0030
            TO  O-0030-COPOS.                                       DO0030
          MOVE ALL "-"                                              DO0030
            TO  O-0030-REFCLI.                                      DO0030
          MOVE "..__.."                                             DO0030
            TO  O-0030-DATE.                                        DO0030
          MOVE ALL "-"                                              DO0030
            TO  O-0030-CORRES.                                      DO0030
          MOVE ALL "-"                                              DO0030
            TO  F-0030-REMIS.                                       DO0030
          MOVE  ZERO  TO  ICATR.                                    DO0030
   F8115-GRP.   ADD 1 TO  ICATR                                     DO0030
          MOVE  P-0030-LINE  (ICATR) TO O-0030-LINE                 DO0030
          MOVE ALL "-"                                              DO0030
            TO  O-0030-CODMVT.                                      DO0030
          MOVE ALL "-"                                              DO0030
            TO  O-0030-FOURNI.                                      DO0030
          MOVE ALL "-"                                              DO0030
            TO  F-0030-QTMAC.                                       DO0030
          MOVE ALL "-"                                              DO0030
            TO  O-0030-INFOR.                                       DO0030
          MOVE  O-0030-LINE          TO P-0030-LINE  (ICATR).       DO0030
       IF ICATR  < IRR GO TO F8115-GRP.                             DO0030
          MOVE ALL "-"                                              DO0030
            TO  O-0030-EDIT.                                        DO0030
   F8115-FN.    EXIT.                                               DO0030
  *           ************************************                 DO0030
  *           *                                  *                 DO0030
  *           *  VALIDATION AND SETTING OF DATE  *                 DO0030
  *           *                                  *                 DO0030
  *           ************************************                 DO0030
   F8120.        EXIT.                                             DO0030
   F8120-C. MOVE DAT73C TO DATCTY.                                  DO0030
            MOVE DAT71C TO DAT71.                                   DO0030
            MOVE DAT72C TO DAT72.                                   DO0030
            MOVE DAT74C TO DAT73.                                   DO0030
            MOVE "00111" TO TT-DAT GO TO F8120-T.                   DO0030
   F8120-D. MOVE CENTUR TO DATCTY DAT73C.                           DO0030
            MOVE DAT71 TO DAT71C.                                   DO0030
            MOVE DAT72 TO DAT72C                                    DO0030
            MOVE DAT73 TO DAT74C.                                   DO0030
            MOVE "00111" TO TT-DAT GO TO F8120-T.                   DO0030
   F8120-E. MOVE CENTUR TO DATCTY DAT83C.                           DO0030
            MOVE DAT81 TO DAT81C.                                   DO0030
            MOVE DAT82 TO DAT82C.                                   DO0030
            MOVE DAT83 TO DAT84C  MOVE DATSEP TO DAT8S1C DAT8S2C.   DO0030
            MOVE "01011" TO TT-DAT GO TO F8120-T.                   DO0030
   F8120-G. MOVE DAT81G TO DATCTY.                                  DO0030
            MOVE DAT82G TO DAT61.                                   DO0030
            MOVE DAT83G TO DAT62.                                   DO0030
            MOVE DAT84G TO DAT63.                                   DO0030
            MOVE "10110" TO TT-DAT GO TO F8120-T.                   DO0030
```

```
F8120-I. MOVE CENTUR TO DATCTY DAT61C.                          DO0030
         MOVE DAT61 TO DAT62C.                                  DO0030
         MOVE DAT62 TO DAT63C.                                  DO0030
         MOVE DAT63 TO DAT64C.                                  DO0030
         MOVE "10101" TO TT-DAT GO TO F8120-T.                  DO0030
F8120-M. MOVE DAT83C TO DATCTY.                                 DO0030
         MOVE DAT81C TO DAT81.                                  DO0030
         MOVE DAT82C TO DAT82.                                  DO0030
         MOVE DAT84C TO DAT83  MOVE DATSEP TO DAT8S1 DAT8S2.    DO0030
         MOVE "01011" TO TT-DAT GO TO F8120-T.                  DO0030
F8120-S. MOVE DAT61C TO DATCTY.                                 DO0030
         MOVE DAT62C TO DAT61.                                  DO0030
         MOVE DAT63C TO DAT62.                                  DO0030
         MOVE DAT64C TO DAT63.                                  DO0030
         MOVE "10101" TO TT-DAT.                                DO0030
F8120-T. IF T-DAT (1) = "1"                                     DO0030
            MOVE DAT61 TO DAT73 DAT74C                          DO0030
            MOVE DAT62 TO DAT72 DAT72C                          DO0030
            MOVE DAT63 TO DAT71 DAT71C                          DO0030
            MOVE DATCTY TO DAT73C.                              DO0030
         IF T-DAT (2) = "1"                                     DO0030
            MOVE DAT81 TO DAT71 DAT71C                          DO0030
            MOVE DAT82 TO DAT72 DAT72C                          DO0030
            MOVE DAT83 TO DAT73 DAT74C                          DO0030
            MOVE DATCTY TO  DAT73C.                             DO0030
         IF T-DAT (3) = "1"                                     DO0030
            MOVE DAT71 TO DAT81 DAT81C                          DO0030
            MOVE DAT72 TO DAT82 DAT82C                          DO0030
            MOVE DAT73 TO DAT83 DAT84C                          DO0030
            MOVE DATSEP TO DAT8S1 DAT8S2 DAT8S1C DAT8S2C        DO0030
            MOVE DATCTY TO DAT83C.                              DO0030
         IF T-DAT (4) = "1"                                     DO0030
            MOVE DAT71 TO DAT63 DAT64C                          DO0030
            MOVE DAT72 TO DAT62 DAT63C                          DO0030
            MOVE DAT73 TO DAT61 DAT62C                          DO0030
            MOVE DATCTY TO DAT61C.                              DO0030
         IF T-DAT (5) = "1"                                     DO0030
            MOVE DAT61 TO DAT82G                                DO0030
            MOVE DAT62 TO DAT83G                                DO0030
            MOVE DAT63 TO DAT84G                                DO0030
            MOVE DATSET TO DAT8S1G DAT8S2G                      DO0030
            MOVE DATCTY TO DAT81G.                              DO0030
F8120-Z.      EXIT.                                             DO0030
F8120-ER.   MOVE "1"   TO DEL-ER.                               DO0030
         IF DAT6 NOT NUMERIC               GO TO F8120-KO.      DO0030
         IF DATCTY NOT NUMERIC             GO TO F8120-KO.      DO0030
         IF DAT62 > "12" OR DAT62 = "00" OR                     DO0030
            DAT63 > "31" OR DAT63 = "00"    GO TO F8120-KO.     DO0030
         IF DAT63 > "30" AND                                    DO0030
           (DAT62 = "04" OR DAT62 = "06" OR                     DO0030
            DAT62 = "09" OR DAT62 = "11")   GO TO F8120-KO.     DO0030
         IF DAT62 NOT = "02"               GO TO F8120-FN.      DO0030
         IF DAT63 > "29"                   GO TO F8120-KO.      DO0030
         IF   DAT619  = ZERO                                    DO0030
         DIVIDE  DATCTY9    BY 4 GIVING  LEAP-REM               DO0030
         COMPUTE LEAP-REM = DATCTY9 - 4 * LEAP-REM              DO0030
         ELSE DIVIDE DAT619  BY 4 GIVING LEAP-REM               DO0030
         COMPUTE LEAP-REM = DAT619 - 4 * LEAP-REM.              DO0030
         IF DAT63 < "29" OR LEAP-REM = ZERO GO TO F8120-FN.     DO0030
F8120-KO. MOVE "5" TO DEL-ER.                                   DO0030
F8120-FN.    EXIT.                                              DO0030
*          ************************************                 DO0030
*          *                                  *                 DO0030
*          *  HELP SUB-FUNCTION               *                 DO0030
*          *                                  *                 DO0030
*          ************************************                 DO0030
F8130.                                                          DO0030
       MOVE  I-0030-MATE          TO O-0030-MATE.               DO0030
       MOVE  I-0030-RELEA         TO O-0030-RELEA.              DO0030
       MOVE  I-0030-RUE           TO O-0030-RUE.                DO0030
       MOVE  I-0030-COPOS         TO O-0030-COPOS.              DO0030
       MOVE  I-0030-REFCLI        TO O-0030-REFCLI.             DO0030
       MOVE  I-0030-DATE          TO O-0030-DATE.               DO0030
       MOVE  I-0030-CORRES        TO O-0030-CORRES.             DO0030
       MOVE  E-0030-REMIS         TO F-0030-REMIS.              DO0030
       MOVE  ZERO  TO  ICATR.                                   DO0030
F8130-GRP.   ADD 1 TO  ICATR                                    DO0030
```

```
          MOVE  J-0030-LINE  (ICATR) TO I-0030-LINE                DO0030
          MOVE  P-0030-LINE  (ICATR) TO O-0030-LINE                DO0030
          MOVE  I-0030-CODMVT        TO O-0030-CODMVT.             DO0030
          MOVE  I-0030-FOURNI        TO O-0030-FOURNI.             DO0030
          MOVE  E-0030-QTMAC         TO F-0030-QTMAC.              DO0030
          MOVE  I-0030-INFOR         TO O-0030-INFOR.              DO0030
          MOVE  O-0030-LINE          TO P-0030-LINE  (ICATR).      DO0030
       IF ICATR  < IRR GO TO F8130-GRP.                            DO0030
          MOVE  I-0030-EDIT          TO O-0030-EDIT.               DO0030
   F8130-FN.    EXIT.                                              DO0030
   F8145.                                                          DO0030
          MOVE  T01004 TO   S01004.                                DO0030
          MOVE  T01015 TO   S01015.                                DO0030
          MOVE  T01060 TO   S01060.                                DO0030
          MOVE  T01071 TO   S01071.                                DO0030
          MOVE  T03018 TO   S03018.                                DO0030
          MOVE  T03034 TO   S03034.                                DO0030
          MOVE  T03063 TO   S03063.                                DO0030
          MOVE  T04013 TO   S04013.                                DO0030
          MOVE  T05009 TO   S05009.                                DO0030
          MOVE  T05052 TO   S05052.                                DO0030
          MOVE  T05074 TO   S05074.                                DO0030
          MOVE  T06016 TO   S06016.                                DO0030
          MOVE  T06061 TO   S06061.                                DO0030
          MOVE  T07018 TO   S07018.                                DO0030
          MOVE  T07061 TO   S07061.                                DO0030
          MOVE  T10003 TO   S10003.                                DO0030
          MOVE  T10007 TO   S10007.                                DO0030
          MOVE  T10016 TO   S10016.                                DO0030
          MOVE  T10026 TO   S10026.                                DO0030
          MOVE  T10035 TO   S10035.                                DO0030
          MOVE  T10042 TO   S10042.                                DO0030
          MOVE  T11003 TO   S11003.                                DO0030
          MOVE  T11007 TO   S11007.                                DO0030
          MOVE  T11016 TO   S11016.                                DO0030
          MOVE  T11026 TO   S11026.                                DO0030
          MOVE  T11035 TO   S11035.                                DO0030
          MOVE  T11042 TO   S11042.                                DO0030
          MOVE  T12003 TO   S12003.                                DO0030
          MOVE  T12007 TO   S12007.                                DO0030
          MOVE  T12016 TO   S12016.                                DO0030
          MOVE  T12026 TO   S12026.                                DO0030
          MOVE  T12035 TO   S12035.                                DO0030
          MOVE  T12042 TO   S12042.                                DO0030
          MOVE  T13003 TO   S13003.                                DO0030
          MOVE  T13007 TO   S13007.                                DO0030
          MOVE  T13016 TO   S13016.                                DO0030
          MOVE  T13026 TO   S13026.                                DO0030
          MOVE  T13035 TO   S13035.                                DO0030
          MOVE  T13042 TO   S13042.                                DO0030
          MOVE  T14003 TO   S14003.                                DO0030
          MOVE  T14007 TO   S14007.                                DO0030
          MOVE  T14016 TO   S14016.                                DO0030
          MOVE  T14026 TO   S14026.                                DO0030
          MOVE  T14035 TO   S14035.                                DO0030
          MOVE  T14042 TO   S14042.                                DO0030
          MOVE  T15003 TO   S15003.                                DO0030
          MOVE  T15007 TO   S15007.                                DO0030
          MOVE  T15016 TO   S15016.                                DO0030
          MOVE  T15026 TO   S15026.                                DO0030
          MOVE  T15035 TO   S15035.                                DO0030
          MOVE  T15042 TO   S15042.                                DO0030
          MOVE  T16003 TO   S16003.                                DO0030
          MOVE  T16007 TO   S16007.                                DO0030
          MOVE  T16016 TO   S16016.                                DO0030
          MOVE  T16026 TO   S16026.                                DO0030
          MOVE  T16035 TO   S16035.                                DO0030
          MOVE  T16042 TO   S16042.                                DO0030
          MOVE  T17003 TO   S17003.                                DO0030
          MOVE  T17007 TO   S17007.                                DO0030
          MOVE  T17016 TO   S17016.                                DO0030
          MOVE  T17026 TO   S17026.                                DO0030
          MOVE  T17035 TO   S17035.                                DO0030
          MOVE  T17042 TO   S17042.                                DO0030
          MOVE  T18003 TO   S18003.                                DO0030
          MOVE  T18007 TO   S18007.                                DO0030
          MOVE  T18016 TO   S18016.                                DO0030
```

```
           MOVE  T18026 TO   S18026.                                    DO0030
           MOVE  T18035 TO   S18035.                                    DO0030
           MOVE  T18042 TO   S18042.                                    DO0030
           MOVE  T20022 TO   S20022.                                    DO0030
           MOVE  T23002 TO   S23002.                                    DO0030
           MOVE  T24002 TO   S24002.                                    DO0030
       F8145-FN.    EXIT.                                               DO0030
       F8155.                                                           DO0030
           MOVE  S03034 TO   R03034 T03034.                             DO0030
           MOVE  S03063 TO   R03063 T03063.                             DO0030
           MOVE  S05009 TO   R05009 T05009.                             DO0030
           MOVE  S05052 TO   R05052.                                    DO0030
           MOVE  S05074 TO   R05074 T05074.                             DO0030
           MOVE  S06016 TO   R06016 T06016.                             DO0030
           MOVE  S06061 TO   R06061 T06061.                             DO0030
           MOVE  S07018 TO   R07018 T07018.                             DO0030
           MOVE  S07061 TO   R07061 T07061.                             DO0030
           MOVE  S10003 TO   R10003 T10003.                             DO0030
           MOVE  S10007 TO   R10007 T10007.                             DO0030
           MOVE  S10016 TO   R10016 T10016.                             DO0030
           MOVE  S10026 TO   R10026.                                    DO0030
           MOVE  S10035 TO   R10035.                                    DO0030
           MOVE  S10042 TO   R10042 T10042.                             DO0030
           MOVE  S11003 TO   R11003 T11003.                             DO0030
           MOVE  S11007 TO   R11007 T11007.                             DO0030
           MOVE  S11016 TO   R11016 T11016.                             DO0030
           MOVE  S11026 TO   R11026.                                    DO0030
           MOVE  S11035 TO   R11035.                                    DO0030
           MOVE  S11042 TO   R11042 T11042.                             DO0030
           MOVE  S12003 TO   R12003 T12003.                             DO0030
           MOVE  S12007 TO   R12007 T12007.                             DO0030
           MOVE  S12016 TO   R12016 T12016.                             DO0030
           MOVE  S12026 TO   R12026.                                    DO0030
           MOVE  S12035 TO   R12035.                                    DO0030
           MOVE  S12042 TO   R12042 T12042.                             DO0030
           MOVE  S13003 TO   R13003 T13003.                             DO0030
           MOVE  S13007 TO   R13007 T13007.                             DO0030
           MOVE  S13016 TO   R13016 T13016.                             DO0030
           MOVE  S13026 TO   R13026.                                    DO0030
           MOVE  S13035 TO   R13035.                                    DO0030
           MOVE  S13042 TO   R13042 T13042.                             DO0030
           MOVE  S14003 TO   R14003 T14003.                             DO0030
           MOVE  S14007 TO   R14007 T14007.                             DO0030
           MOVE  S14016 TO   R14016 T14016.                             DO0030
           MOVE  S14026 TO   R14026.                                    DO0030
           MOVE  S14035 TO   R14035.                                    DO0030
           MOVE  S14042 TO   R14042 T14042.                             DO0030
           MOVE  S15003 TO   R15003 T15003.                             DO0030
           MOVE  S15007 TO   R15007 T15007.                             DO0030
           MOVE  S15016 TO   R15016 T15016.                             DO0030
           MOVE  S15026 TO   R15026.                                    DO0030
           MOVE  S15035 TO   R15035.                                    DO0030
           MOVE  S15042 TO   R15042 T15042.                             DO0030
           MOVE  S16003 TO   R16003 T16003.                             DO0030
           MOVE  S16007 TO   R16007 T16007.                             DO0030
           MOVE  S16016 TO   R16016 T16016.                             DO0030
           MOVE  S16026 TO   R16026.                                    DO0030
           MOVE  S16035 TO   R16035.                                    DO0030
           MOVE  S16042 TO   R16042 T16042.                             DO0030
           MOVE  S17003 TO   R17003 T17003.                             DO0030
           MOVE  S17007 TO   R17007 T17007.                             DO0030
           MOVE  S17016 TO   R17016 T17016.                             DO0030
           MOVE  S17026 TO   R17026.                                    DO0030
           MOVE  S17035 TO   R17035.                                    DO0030
           MOVE  S17042 TO   R17042 T17042.                             DO0030
           MOVE  S18003 TO   R18003 T18003.                             DO0030
           MOVE  S18007 TO   R18007 T18007.                             DO0030
           MOVE  S18016 TO   R18016 T18016.                             DO0030
           MOVE  S18026 TO   R18026.                                    DO0030
           MOVE  S18035 TO   R18035.                                    DO0030
           MOVE  S18042 TO   R18042 T18042.                             DO0030
           MOVE  S20022 TO   R20022 T20022.                             DO0030
       F8155-FN.    EXIT.                                               DO0030
       F81-FN.      EXIT.                                               DO0030
```

5.20. CALLED USER FONCTIONS (F93)

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

6. GENERATED 'HELP' PROGRAM

GENERATED 'HELP' PROGRAM

This Chapter gives an example of the generated 'HELP' program. For further information, refer to the corresponding chapter in the OLSD Reference Manual.

```
--------------------------------------------------------------------------------
!                   DEC-VAX APPLICATION                      *PDIE.NDOC.ADV.18!
! ON-LINE SCREEN DEFINITION.....: DOHELP                                       !
!                                                                              !
! SCREEN NAME.....................: HELP FUNCTION SCREEN                       !
!                                                                              !
! SCREEN TYPE ....................:           STANDARD SCREEN                    !
! SCREEN SIZE (LINES, COLUMNS) ...:   24      080                              !
! LABEL TYPE, TABS, INITIALIZATION...:   L    01      _                        !
! HELP CHARACTER SCREEN, DATA ELEMENT:   10   11                               !
!                                                                              !
!                                                                              !
!                                  LABELS  DISPLAY  INPUT  ER.MESS. ER.FLD.!
! INTENSITY ATTRIBUTE ............:   N       N       N       N       N  !
! PRESENTATION ATTRIBUTE .........:   N       N       N       N       N  !
! COLOR ATTRIBUTE ................:   W       W       W       W       W  !
!                                                                              !
! TYPE OF COBOL AND MAP TO GENERATE..:   I   0     DEC / VAX                  !
! 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:                                   !
--------------------------------------------------------------------------------
```

```
--------------------------------------------------------------------------------
!                                                                              !
!DOCUMENTATION OF THE SCREEN :  *** ORDER DETAIL    ***                         !
!                                                                              !
!                                                                              !
!      ON THIS SCREEN YOU ENTER AN ORDER FOR PACBASE DOCUMEN-                  !
!      TATION FOR ANY GIVEN CLIENT.                                            !
!      EACH ACCESSIBLE FIELD OF THIS SCREEN IS DOCUMENTED. IN                  !
!      ORDER TO OBTAIN THIS DOCUMENTATION, PLACE THE CURSOR                    !
!      UNDER THE CHOSEN FIELD AND USE THE PROGRAMMABLE FUNC-                   !
!      TION KEY PF11.                                                          !
!      FROM THIS SCREEN, IT IS POSSIBLE TO ACCESS ANY SCREEN                   !
!      TRANSACTION BY USING THE OFFERED CHOICES WHICH APPEAR                   !
!      AT THE BOTTOM OF THE SCREEN.                                            !
!      THE UPDATE IS VALIDATED BY THE PROGRAMMABLE FUNCTION                    !
!      KEY PF07. IF THE SCREEN APPEARS INSUFFICIENT; IT IS                     !
!      POSSIBLE TO SCROLL FORWARD BY USING THE PF08 KEY.                       !
!                                                                              !
! F019 UNKNOWN ZIP CODE.                                                       !
!                                                                              !
! F028 TECHNICAL PROBLEM  CALL E.D.P. DEPT.(CODE 030-CD05 F8)                  !
!                                                                              !
!                                                                              !
!CHOICE.............: S    (E: END - T: TOP - S: NEXT)                        !
!                                                                              !
--------------------------------------------------------------------------------
```

```
--------------------------------------------------------------------------------
!                                                                              !
!DOCUMENTATION OF DATA ELEMENT: QUANTITY ORDERED                               !
!                                                                              !
!                                                                              !
!      IN THE 'ORDER FIELD' YOU ENTER THE NUMBER OF MANUALS                    !
!      ORDERED.                                                                !
!      DEPENDING UPON THE STOCK AVAILABLE, THE SYSTEM CALCU-                   !
!      LATES THE QUANTITY DELIVERED AND, IF NEEDED, THE AMOUNT                 !
!      OUTSTANDING.                                                            !
! (01 50)      ABOVE 50  SEND BY ANOTHER CHANNEL                               !
!                                                                              !
! 0112 INVALID ABSENCE FOR THE FIELD QUANTITY ORDERED                          !
!                                                                              !
! 0114 NON-NUMERICAL CLASS FIELD     QUANTITY ORDERED                          !
!                                                                              !
! 0115 INVALID VALUE FOR THE FIELD   QUANTITY ORDERED                          !
!                                                                              !
!                                                                              !
!                                                                              !
!                                                                              !
!                                                                              !
!                                                                              !
!CHOICE.............: S    (E: END - T: TOP - S: NEXT)                        !
!                                                                              !
--------------------------------------------------------------------------------
```

```
    IDENTIFICATION DIVISION.
    PROGRAM-ID. DOP050.                                                 DOHELP
    AUTHOR.     HELP FUNCTION SCREEN.                                   DOHELP
    DATE-COMPILED. 04/29/96.                                            DOHELP
    ENVIRONMENT DIVISION.                                               DOHELP
    CONFIGURATION SECTION.                                              DOHELP
    SOURCE-COMPUTER. VAX.                                               DOHELP
    OBJECT-COMPUTER. VAX.                                               DOHELP
    SPECIAL-NAMES.                                                      DOHELP
         DECIMAL-POINT IS COMMA.                                        DOHELP
    INPUT-OUTPUT SECTION.                                               DOHELP
    FILE-CONTROL.                                                       DOHELP
         SELECT    EM-FILE                                            DOHELP
         ASSIGN  TO     DODOLE                                        DOHELP
         ORGANIZATION INDEXED                                         DOHELP
         ACCESS IS DYNAMIC                                            DOHELP
         RECORD KEY IS EM00-EMKEY                                     DOHELP
         FILE STATUS 1-EM00-STATUS.                                   DOHELP
    I-O-CONTROL.                                                        DOHELP
           APPLY LOCK-HOLDING   ON   EM-FILE.                           DOHELP
    DATA DIVISION.                                                      DOHELP
    FILE SECTION.                                                       DOHELP
    FD           EM-FILE.                                               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   CURPOS.                                                     DOHELP
        10  CPOSL         PICTURE 99.                                   DOHELP
        10  CPOSC         PICTURE 999.                                  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 : 23/06/95                                       DOHELP
    *            PACE80 : 16/01/96   PAC7SG : 960115                    DOHELP
         05 FILLER PICTURE X(50) VALUE                                  DOHELP
         "0524 ADV04/29/96DOHELPDOP050  15:18:42PDMCA   NDOC".         DOHELP
    01   CONSTANTS-PACBASE REDEFINES PACBASE-CONSTANTS.                 DOHELP
         05 SESSI  PICTURE X(5).                                        DOHELP
         05 LIBRA  PICTURE X(3).                                        DOHELP
         05 DATGN  PICTURE X(8).                                        DOHELP
         05 PROGR  PICTURE X(6).                                        DOHELP
         05 PROGE  PICTURE X(8).                                        DOHELP
         05 TIMGN  PICTURE X(8).                                        DOHELP
         05 USERCO PICTURE X(8).                                        DOHELP
         05 COBASE PICTURE X(4).                                        DOHELP
    01   PACBASE-WORK.                                                  DOHELP
         05 PRCGI  PICTURE X(8) VALUE "ZAR980".                         DOHELP
```

```
     05      5-HELP-PROGE  PICTURE X(8).                          DOHELP
     05      5-HELP-LTHDIS PICTURE 9(4) VALUE 1000.              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  DATSET     PICTURE X VALUE "-".                              DOHELP
01  DATCTY.                                                      DOHELP
  05  DATCTY9  PICTURE 99.                                       DOHELP
01  DAT6C.                                                       DOHELP
  10  DAT61C   PICTURE XX.                                       DOHELP
  10  DAT62C   PICTURE XX.                                       DOHELP
  10  DAT63C   PICTURE XX.                                       DOHELP
  10  DAT64C   PICTURE XX.                                       DOHELP
01  DAT7C.                                                       DOHELP
  10  DAT71C   PICTURE XX.                                       DOHELP
  10  DAT72C   PICTURE XX.                                       DOHELP
  10  DAT73C   PICTURE XX.                                       DOHELP
  10  DAT74C   PICTURE XX.                                       DOHELP
01  DAT8C.                                                       DOHELP
  10  DAT81C   PICTURE XX.                                       DOHELP
  10  DAT8S1C  PICTURE X    VALUE "/".                           DOHELP
  10  DAT82C   PICTURE XX.                                       DOHELP
  10  DAT8S2C  PICTURE X    VALUE "/".                           DOHELP
  10  DAT83C   PICTURE XX.                                       DOHELP
  10  DAT84C   PICTURE XX.                                       DOHELP
01  DAT8G.                                                       DOHELP
  10  DAT81G   PICTURE XX.                                       DOHELP
  10  DAT82G   PICTURE XX.                                       DOHELP
  10  DAT8S1G  PICTURE X    VALUE "-".                           DOHELP
  10  DAT83G   PICTURE XX.                                       DOHELP
  10  DAT8S2G  PICTURE X    VALUE "-".                           DOHELP
  10  DAT84G   PICTURE XX.                                       DOHELP
01  TIMCO.                                                       DOHELP
 02  TIMCOG.                                                     DOHELP
   05  TIMCOH  PICTURE XX.                                      DOHELP
   05  TIMCOM  PICTURE XX.                                      DOHELP
   05  TIMCOS  PICTURE XX.                                      DOHELP
  02 TIMCOC    PICTURE XX.                                      DOHELP
01  TIMDAY.                                                     DOHELP
   05  TIMHOU  PICTURE XX.                                      DOHELP
   05  TIMS1   PICTURE X    VALUE ":".                          DOHELP
   05  TIMMIN  PICTURE XX.                                      DOHELP
   05  TIMS2   PICTURE X    VALUE ":".                          DOHELP
   05  TIMSEC  PICTURE XX.                                      DOHELP
01    CONFIGURATIONS.                                           DOHELP
     05      EM00-CF      PICTURE X.                           DOHELP
01     STATUS-AREA.                                             DOHELP
     05    1-EM00-STATUS PICTURE XX VALUE ZERO.                 DOHELP
01              K-HELP-CLE.                                     *AA010
     03         K-RHELP-LIGNE  OCCURS 1.                        *AA010
     10         K-REM00-EMKEY  PICTURE X(17).                   *AA010
01         HELP-MESSO.                                         *AA040
   02      HELP-MESSI.                                         *AA040
     05    S01002  PICTURE X(011).                             *AA040
     05    S03002  PICTURE X(030).                             *AA040
     05    S03033  PICTURE X(036).                             *AA040
     05    S05004  PICTURE X(074).                             *AA040
```

```
      05    S06004  PICTURE X(074).                                *AA040
      05    S07004  PICTURE X(074).                                *AA040
      05    S08004  PICTURE X(074).                                *AA040
      05    S09004  PICTURE X(074).                                *AA040
      05    S10004  PICTURE X(074).                                *AA040
      05    S11004  PICTURE X(074).                                *AA040
      05    S12004  PICTURE X(074).                                *AA040
      05    S13004  PICTURE X(074).                                *AA040
      05    S14004  PICTURE X(074).                                *AA040
      05    S15004  PICTURE X(074).                                *AA040
      05    S16004  PICTURE X(074).                                *AA040
      05    S17004  PICTURE X(074).                                *AA040
      05    S18004  PICTURE X(074).                                *AA040
      05    S19004  PICTURE X(074).                                *AA040
      05    S20004  PICTURE X(074).                                *AA040
      05    S21004  PICTURE X(074).                                *AA040
      05    S23002  PICTURE X(019).                                *AA040
      05    S23022  PICTURE X(001).                                *AA040
      05    S23028  PICTURE X(030).                                *AA040
      05    S24002  PICTURE X(072).                                *AA040
01      AT-HELP-MESSO.                                             *AA041
       05 AT-S01002  PICTURE X(12) VALUE "01002011LNNW".           *AA041
       05 AT-S03002  PICTURE X(12) VALUE "03002030FNNW".           *AA041
       05 AT-R000101-LIBEC  REDEFINES AT-S03002 PICTURE X(12).     *AA041
       05 AT-S03033  PICTURE X(12) VALUE "03033036FNNW".           *AA041
       05 AT-R000101-LIENT  REDEFINES AT-S03033 PICTURE X(12).     *AA041
       05 AT-S05004  PICTURE X(12) VALUE "05004074FNNW".           *AA041
       05 AT-R010101-ERMSGD REDEFINES AT-S05004 PICTURE X(12).     *AA041
       05 AT-S06004  PICTURE X(12) VALUE "06004074FNNW".           *AA041
       05 AT-R020101-ERMSGD REDEFINES AT-S06004 PICTURE X(12).     *AA041
       05 AT-S07004  PICTURE X(12) VALUE "07004074FNNW".           *AA041
       05 AT-R030101-ERMSGD REDEFINES AT-S07004 PICTURE X(12).     *AA041
       05 AT-S08004  PICTURE X(12) VALUE "08004074FNNW".           *AA041
       05 AT-R040101-ERMSGD REDEFINES AT-S08004 PICTURE X(12).     *AA041
       05 AT-S09004  PICTURE X(12) VALUE "09004074FNNW".           *AA041
       05 AT-R050101-ERMSGD REDEFINES AT-S09004 PICTURE X(12).     *AA041
       05 AT-S10004  PICTURE X(12) VALUE "10004074FNNW".           *AA041
       05 AT-R060101-ERMSGD REDEFINES AT-S10004 PICTURE X(12).     *AA041
       05 AT-S11004  PICTURE X(12) VALUE "11004074FNNW".           *AA041
       05 AT-R070101-ERMSGD REDEFINES AT-S11004 PICTURE X(12).     *AA041
       05 AT-S12004  PICTURE X(12) VALUE "12004074FNNW".           *AA041
       05 AT-R080101-ERMSGD REDEFINES AT-S12004 PICTURE X(12).     *AA041
       05 AT-S13004  PICTURE X(12) VALUE "13004074FNNW".           *AA041
       05 AT-R090101-ERMSGD REDEFINES AT-S13004 PICTURE X(12).     *AA041
       05 AT-S14004  PICTURE X(12) VALUE "14004074FNNW".           *AA041
       05 AT-R100101-ERMSGD REDEFINES AT-S14004 PICTURE X(12).     *AA041
       05 AT-S15004  PICTURE X(12) VALUE "15004074FNNW".           *AA041
       05 AT-R110101-ERMSGD REDEFINES AT-S15004 PICTURE X(12).     *AA041
       05 AT-S16004  PICTURE X(12) VALUE "16004074FNNW".           *AA041
       05 AT-R120101-ERMSGD REDEFINES AT-S16004 PICTURE X(12).     *AA041
       05 AT-S17004  PICTURE X(12) VALUE "17004074FNNW".           *AA041
       05 AT-R130101-ERMSGD REDEFINES AT-S17004 PICTURE X(12).     *AA041
       05 AT-S18004  PICTURE X(12) VALUE "18004074FNNW".           *AA041
       05 AT-R140101-ERMSGD REDEFINES AT-S18004 PICTURE X(12).     *AA041
       05 AT-S19004  PICTURE X(12) VALUE "19004074FNNW".           *AA041
       05 AT-R150101-ERMSGD REDEFINES AT-S19004 PICTURE X(12).     *AA041
       05 AT-S20004  PICTURE X(12) VALUE "20004074FNNW".           *AA041
       05 AT-R160101-ERMSGD REDEFINES AT-S20004 PICTURE X(12).     *AA041
       05 AT-S21004  PICTURE X(12) VALUE "21004074FNNW".           *AA041
       05 AT-R170101-ERMSGD REDEFINES AT-S21004 PICTURE X(12).     *AA041
       05 AT-S23002  PICTURE X(12) VALUE "23002019FNNW".           *AA041
       05 AT-R000101-LICHOI REDEFINES AT-S23002 PICTURE X(12).     *AA041
       05 AT-S23022  PICTURE X(12) VALUE "23022001 NNW".           *AA041
       05 AT-R000101-OPDOC  REDEFINES AT-S23022 PICTURE X(12).     *AA041
       05 AT-S23028  PICTURE X(12) VALUE "23028030FNNW".           *AA041
       05 AT-R000101-LIOPT  REDEFINES AT-S23028 PICTURE X(12).     *AA041
       05 AT-S24002  PICTURE X(12) VALUE "24002072FNNW".           *AA041
       05 AT-R000101-ERMSG  REDEFINES AT-S24002 PICTURE X(12).     *AA041
01      AT-HELP-MESSA   REDEFINES   AT-HELP-MESSO.                 *AA041
     05 AT-HELP-LIGNE   OCCURS 024.                                *AA041
     10 AT-HELP-YPCUR   PICTURE 9(5).                              *AA041
     10 AT-HELP-LENGTH  PICTURE 999.                               *AA041
     10 AT-HELP-ATTRN   PICTURE X.                                 *AA041
     10 AT-HELP-ATTRI   PICTURE X.                                 *AA041
     10 AT-HELP-ATTRP   PICTURE X.                                 *AA041
     10 AT-HELP-ATTRC   PICTURE X.                                 *AA041
01        INPUT-HELP.                                               *AA042
```

```
     05    R23022  PICTURE X(1).                                    *AA042
01           INPUT-SCREEN-FIELDS  REDEFINES  INPUT-HELP.          *AA045
     02      I-HELP.                                               *AA045
     05      I-HELP-OPDOC  PICTURE X.                              *AA045
01       OUTPUT-HELP.                                              *AA049
     05    T03002  PICTURE X(30).                                  *AA049
     05    T03033  PICTURE X(36).                                  *AA049
     05    T05004  PICTURE X(74).                                  *AA049
     05    T06004  PICTURE X(74).                                  *AA049
     05    T07004  PICTURE X(74).                                  *AA049
     05    T08004  PICTURE X(74).                                  *AA049
     05    T09004  PICTURE X(74).                                  *AA049
     05    T10004  PICTURE X(74).                                  *AA049
     05    T11004  PICTURE X(74).                                  *AA049
     05    T12004  PICTURE X(74).                                  *AA049
     05    T13004  PICTURE X(74).                                  *AA049
     05    T14004  PICTURE X(74).                                  *AA049
     05    T15004  PICTURE X(74).                                  *AA049
     05    T16004  PICTURE X(74).                                  *AA049
     05    T17004  PICTURE X(74).                                  *AA049
     05    T18004  PICTURE X(74).                                  *AA049
     05    T19004  PICTURE X(74).                                  *AA049
     05    T20004  PICTURE X(74).                                  *AA049
     05    T21004  PICTURE X(74).                                  *AA049
     05    T23002  PICTURE X(19).                                  *AA049
     05    T23022  PICTURE X(1).                                   *AA049
     05    T23028  PICTURE X(30).                                  *AA049
     05    T24002  PICTURE X(72).                                  *AA049
01           OUTPUT-SCREEN-FIELDS REDEFINES OUTPUT-HELP.          *AA050
     02      O-HELP.                                               *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      O-HELP-LIGNE.                                         *AA050
     05      O-HELP-ERMSGD PICTURE X(74).                          *AA050
01      CMES-COMMUNICATION.                                       *AA060
  05    CMES-YR00     PICTURE X(4000).                            *AA060
  05    CMES-YO00     PICTURE X(6000).                            *AA060
  05    CMES-NBZVAR   PICTURE X.                                  *AA060
  05    CMES-YCRE     PICTURE X.                                  *AA060
  05    CMES-YPCUR    PICTURE 9(5).                               *AA060
  05    CMES-XTERM    PICTURE X(10).                              *AA060
  05    CMES-LTHDIS   PICTURE 9999.                               *AA060
  05    CMES-FMES     PICTURE X.                                  *AA060
  05    CMES-STATUS.                                              *AA060
    10  CMES-RETCOD   PICTURE 99.                                 *AA060
  05    I-PFKEY       PICTURE XX.                                 *AA060
  05    FILLER        PICTURE X(100).                             *AA060
01           VALIDATION-TABLE-FIELDS.                             *AA150
     02      DE-ERR.                                               *AA150
     05       DE-ER        PICTURE X                              *AA150
                    OCCURS 001.                                   *AA150
     02      DE-E   REDEFINES DE-ERR.                              *AA150
     03     ER-HELP-ENDRE.                                         *AA150
     05          ER-HELP-OPDOC  PICTURE X.                         *AA150
01   TT-DAT.                                                       *AA200
     05 T-DAT      PICTURE X OCCURS 5.                            *AA200
01   USERS-ERROR.                                                 *AA200
     05 XEMKY.                                                    *AA200
        10 XPROGR   PICTURE X(6).                                 *AA200
        10 XERCD    PICTURE X(4).                                 *AA200
     05 T-XEMKY     OCCURS       01.                             *AA200
        10 T-XPROGR PICTURE X(6).                                 *AA200
        10 T-XERCD  PICTURE X(4).                                 *AA200
01    PACBASE-INDEXES COMPUTATIONAL.                              *AA200
     05  TALLI      PICTURE S9(4) VALUE ZERO.                     *AA200
     05 K01         PICTURE S9(4).                                *AA200
     05 K02         PICTURE S9(4).                                *AA200
     05 K03         PICTURE S9(4).                                *AA200
```

```
     05 K04         PICTURE S9(4).                          *AA200
     05 K50R        PICTURE S9(4) VALUE ZERO.               *AA200
     05 K50L        PICTURE S9(4) VALUE ZERO.               *AA200
     05 K50M        PICTURE S9(4)                           *AA200
                    VALUE       +01.                       *AA200
     05    5-EM00-LTH  PICTURE S9(4) VALUE +0090.           *AA200
     05    5-CA00-LTH  PICTURE S9(4) VALUE +0147.           *AA200
     05    LTH         PICTURE S9(4) VALUE ZERO.            *AA200
     05      5-HELP-LENGTH PICTURE S9(4)                    *AA200
                       VALUE      +0853.                    *AA200
01           TABLE-OF-ATTRIBUTES.                           *AA250
     02      DE-ATT.                                        *AA250
     03      DE-ATT1           OCCURS 4.                    *AA250
     05      DE-AT   PICTURE X                              *AA250
                    OCCURS 001.                             *AA250
     02      DE-A    REDEFINES DE-ATT.                      *AA250
     03      DE-ATT2           OCCURS 4.                    *AA250
     04      A-HELP-ENDRE.                                  *AA250
     05      A-HELP-OPDOC  PICTURE X.                       *AA250
01      AT-SV.                                              *AA260
      10   FILLER PICTURE X(6) VALUE "022NNW".              *AA260
01      TABLE-SV-AT REDEFINES AT-SV.                        *AA265
     02 LIGNE-SV-AT OCCURS 001.                            *AA265
     05 SV-AT     PICTURE 999.                             *AA265
     05 SV-ATTRI  PICTURE X.                               *AA265
     05 SV-ATTRP  PICTURE X.                               *AA265
     05 SV-ATTRC  PICTURE X.                               *AA265
01    FIRST-ON-SEGMENT.                                     *AA301
     05      EM00-FST    PICTURE X.                        *AA301
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           7-HELP-POSIT.                                  *AA400
   05        7-HELP-POCEC.                                  *AA400
     10      7-HELP-POCEC9  PICTURE 999.                    *AA400
   05        7-HELP-POLEC.                                  *AA400
     10      7-HELP-POLEC9  PICTURE 99.                     *AA400
01             XZ00.                                        *AA400
    10         XZ00-EMKEY   PICTURE X(17).                  *AA400
    10         XZ00-ERLVL   PICTURE X.                      *AA400
    10         XZ00-ERMSG   PICTURE X(66).                  *AA400
    10         FILLER       PICTURE X(6).                   *AA400
LINKAGE SECTION.                                            *00000
01      COMMON-AREA.                                        *00000
     02     K-SHELP-PROGR PICTURE X(6).                     *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-CPOSL PICTURE S9(4) COMPUTATIONAL.          *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     K-SHELP-XTERM PICTURE X(10).                        *00002
      02      FILLER        PICTURE X(0700).                     *00002
01            COMMUNICATION-MONITOR.                            *00010
      02    S-WWSS.                                             *00010
        10    S-WWSS-OPER   PICTURE X.                          *00010
        10    S-WWSS-PROGE  PICTURE X(8).                       *00010
        10    S-WWSS-XFILE  PICTURE X(8).                       *00010
        10    S-WWSS-XFUNCT PICTURE X(8).                       *00010
        10    S-WWSS-STATUS PICTURE XXXX.                       *00010
PROCEDURE DIVISION USING COMMON-AREA                            *99999
                         COMMUNICATION-MONITOR.                 *99999
DECLARATIVES.                                                   DOHELP
SECEM SECTION.                                                  DOHELP
      USE AFTER ERROR PROCEDURE ON EM-FILE.                     DOHELP
F0AEM.                                                          DOHELP
      MOVE 1-EM00-STATUS TO S-WWSS-STATUS.                      DOHELP
       MOVE "DODOLE  " TO S-WWSS-XFILE                          DOHELP
        IF 1-EM00-STATUS NOT = "90"                             DOHELP
       AND 1-EM00-STATUS NOT = "91"                             DOHELP
       AND 1-EM00-STATUS NOT = "92"                             DOHELP
      MOVE "1" TO IK.                                           DOHELP
F0AEM-FN.    EXIT.                                              DOHELP
END DECLARATIVES.                                               DOHELP
MAIN SECTION.                                                   DOHELP
F0A99-FN.    EXIT.                                              DOHELP
F0A-FN.      EXIT.                                              DOHELP
*           ************************************                DOHELP
*           *                                  *                DOHELP
*           *  INITIALIZATIONS                 *                DOHELP
*           *                                  *                DOHELP
*           ************************************                DOHELP
F01.          EXIT.                                             DOHELP
F0101.                                                          DOHELP
       MOVE "OPEN    " TO S-WWSS-XFUNCT   MOVE "0" TO IK.       DOHELP
       OPEN INPUT        EM-FILE    ALLOWING ALL.              DOHELP
       IF IK = "1" GO TO F81ER.                                 DOHELP
F0101-FN.    EXIT.                                              DOHELP
F0105.                                                          DOHELP
       MOVE ZERO TO K01.                                        DOHELP
F0105-B.  ADD 1 TO K01.                                         DOHELP
       MOVE SV-AT (K01) TO K02.                                 DOHELP
       MOVE SV-ATTRI (K01) TO AT-HELP-ATTRI (K02)               DOHELP
       MOVE SV-ATTRP (K01) TO AT-HELP-ATTRP (K02)               DOHELP
       MOVE SV-ATTRC (K01) TO AT-HELP-ATTRC (K02).              DOHELP
       IF K01 < INT    GO TO F0105-B.                           DOHELP
F0105-FN.    EXIT.                                              DOHELP
F0110.                                                          DOHELP
       MOVE ZERO TO CATX FT K50L.                               DOHELP
       MOVE "1" TO ICF OCF SCR-ER.                              DOHELP
       MOVE ZERO TO VALIDATION-TABLE-FIELDS.                    DOHELP
       MOVE SPACE TO CATM OPER OPERD CAT-ER.                    DOHELP
       MOVE SPACE TO TABLE-OF-ATTRIBUTES.                       DOHELP
       MOVE ZERO TO CONFIGURATIONS.                             DOHELP
       MOVE SPACE TO XEMKY.                                     DOHELP
       IF  PROGR   NOT =      K-SHELP-PROGR                     DOHELP
       AND (K-SHELP-CDOC = "2" OR K-SHELP-CDOC = "3")           DOHELP
                     MOVE    ZERO  TO  ICF.                     DOHELP
       IF ICF = ZERO                                            DOHELP
       MOVE SPACE TO CMES-COMMUNICATION                         DOHELP
       MOVE LOW-VALUE TO  O-HELP                                DOHELP
       PERFORM F8115 THRU F8115-FN                              DOHELP
```

```
        MOVE "1" TO CMES-FMES                                    DOHELP
        MOVE  5-HELP-LTHDIS TO CMES-LTHDIS.                      DOHELP
        MOVE "X" TO DE-AT (4, 001).                              DOHELP
        MOVE SPACE      TO            O-HELP-ERMSG (01).         DOHELP
 F0110-FN.    EXIT.                                               DOHELP
 F0120.                                                           DOHELP
        MOVE "1" TO OCF.                                         DOHELP
        IF K-SHELP-CDOC = "D" OR K-SHELP-CDOC = "R"              DOHELP
        MOVE "1" TO ICF     GO TO F0120-FN.                      DOHELP
        MOVE "A"  TO OPER                                        DOHELP
        MOVE SPACE TO K-SHELP-ERTYP                              DOHELP
        MOVE SPACE TO K-SHELP-ERCOD                              DOHELP
        IF K-SHELP-CDOC = "2"                                    DOHELP
        MOVE ZERO  TO K-SHELP-LINUM                              DOHELP
        MOVE "D" TO K-SHELP-CDOC   GO TO F3999-ITER-FT.          DOHELP
        MOVE "R"  TO K-SHELP-CDOC.                               DOHELP
        MOVE K-SHELP-CPOSL TO 7-HELP-POLEC9                      DOHELP
        MOVE K-SHELP-LINUM TO 7-HELP-POCEC9                      DOHELP
        MOVE ZERO         TO K-SHELP-LINUM.                      DOHELP
        MOVE SPACE          TO EM00-EMKEY                        DOHELP
        MOVE K-SHELP-LIBRA  TO EM00-LIBRA                        DOHELP
        MOVE  "I"           TO EM00-ENTYP                        DOHELP
        MOVE K-SHELP-PROGR  TO EM00-PROGR                        DOHELP
        MOVE 7-HELP-POLEC9  TO EM00-ERCOD                        DOHELP
        PERFORM F80-EM00-P THRU F80-FN.                          DOHELP
        IF IK = "0"                                              DOHELP
          IF  EM00-LIBRA NOT = K-SHELP-LIBRA                     DOHELP
          OR  EM00-ENTYP NOT = "I"                               DOHELP
          OR  EM00-PROGR NOT = K-SHELP-PROGR                     DOHELP
        MOVE "1" TO IK.                                          DOHELP
        IF IK = "1"  MOVE "D" TO K-SHELP-CDOC                    DOHELP
        MOVE SPACE TO EM00-EMKEY  GO TO F3999-ITER-FT.           DOHELP
        IF 7-HELP-POLEC  <  EM00-ERCOD                           DOHELP
        OR (7-HELP-POLEC =  EM00-ERCOD                           DOHELP
        AND 7-HELP-POCEC9 NOT > EM00-LINUM)                      DOHELP
        MOVE EM00-ERMSG TO K-SHELP-ERCOD                         DOHELP
        GO TO F3999-ITER-FT.                                     DOHELP
 F0120-A.                                                        DOHELP
        IF IK = "1"  MOVE SPACE TO EM00                          DOHELP
        MOVE "D" TO K-SHELP-CDOC  GO TO F3999-ITER-FT.           DOHELP
        MOVE EM00  TO XZ00                                       DOHELP
        PERFORM F80-EM00-RN  THRU F80-FN.                        DOHELP
        IF IK = "0"                                              DOHELP
          IF  EM00-LIBRA NOT = K-SHELP-LIBRA                     DOHELP
          OR  EM00-ENTYP NOT = "I"                               DOHELP
          OR  EM00-PROGR NOT = K-SHELP-PROGR                     DOHELP
        MOVE "1" TO IK.                                          DOHELP
        IF IK = "1"                                              DOHELP
        OR 7-HELP-POLEC  < EM00-ERCOD                            DOHELP
        OR 7-HELP-POCEC9 < EM00-LINUM                            DOHELP
        MOVE XZ00-ERMSG TO K-SHELP-ERCOD                         DOHELP
        MOVE SPACE      TO EM00      GO TO F3999-ITER-FT.        DOHELP
        IF 7-HELP-POLEC  = EM00-ERCOD                            DOHELP
        AND 7-HELP-POCEC9 = EM00-LINUM                           DOHELP
        MOVE EM00-ERMSG TO K-SHELP-ERCOD                         DOHELP
        MOVE SPACE TO EM00           GO TO F3999-ITER-FT.        DOHELP
 F0120-B.   GO TO F0120-A.                                       DOHELP
 F0120-FN.    EXIT.                                              DOHELP
 F01-FN.      EXIT.                                              DOHELP
*          ************************************                  DOHELP
*          *                                  *                  DOHELP
*          *  RECEPTION                       *                  DOHELP
*          *                                  *                  DOHELP
*          ************************************                  DOHELP
 F05.   IF ICF = ZERO GO TO END-OF-RECEPTION.                    DOHELP
 F0510.                                                          DOHELP
        IF CMES-RETCOD NOT = ZERO                                DOHELP
        MOVE CMES-STATUS TO S-WWSS-STATUS                        DOHELP
        MOVE "TERM"      TO S-WWSS-XFILE                         DOHELP
        MOVE "RECEIVE "  TO S-WWSS-XFUNCT                        DOHELP
        GO TO F81ER.                                             DOHELP
        MOVE CMES-YPCUR TO CURPOS.                               DOHELP
        MOVE CMES-YR00 TO HELP-MESSO.                            DOHELP
        PERFORM F8155 THRU F8155-FN.                             DOHELP
        MOVE "A" TO OPER  MOVE SPACE TO OPERD.                   DOHELP
 F0510-FN.    EXIT.                                              DOHELP
*          ************************************                  DOHELP
```

```
*           *                                   *                DOHELP
*           *  VALIDATION OF OPERATION CODE     *                DOHELP
*           *                                   *                DOHELP
*           *************************************                DOHELP
 F0520.                                                          DOHELP
           IF I-HELP-OPDOC   =  "E" OR "F"                       DOHELP
        MOVE  K-SHELP-PROGE  TO 5-HELP-PROGE                     DOHELP
        MOVE "O" TO OPER OPERD GO TO F0520-900.                  DOHELP
           IF I-HELP-OPDOC   =  "T" OR "D"                       DOHELP
        MOVE  SPACE TO K-SHELP-ERCOD K-SHELP-ERTYP               DOHELP
        MOVE  ZERO  TO K-SHELP-LINUM                             DOHELP
        MOVE  "A" TO OPER      GO TO F0520-900.                  DOHELP
           IF I-HELP-OPDOC   =  "S"                              DOHELP
        MOVE  "A" TO OPER      GO TO F0520-900.                  DOHELP
        MOVE "5" TO    ER-HELP-OPDOC  MOVE "4" TO SCR-ER         DOHELP
        GO TO F3999-ITER-FT.                                     DOHELP
 F0520-900.                                                      DOHELP
        IF OPER NOT = "A" AND OPER NOT = "O"                     DOHELP
        GO TO F3999-ITER-FT.                                     DOHELP
 F0520-FN.    EXIT.                                              DOHELP
 F05-FN.      EXIT.                                              DOHELP
*           *************************************                DOHELP
*           *                                   *                DOHELP
*           *  CATEGORY PROCESSING LOOP         *                DOHELP
*           *                                   *                DOHELP
*           *************************************                DOHELP
 F10.          EXIT.                                             DOHELP
 F1010.     MOVE SPACE TO CATM.                                   DOHELP
       IF CAT-ER = "E" MOVE "4" TO SCR-ER GO TO F3999-ITER-FT.   DOHELP
        MOVE SPACE TO CAT-ER.                                    DOHELP
        IF CATX = "0" MOVE "Z" TO CATX GO TO F1010-FN.           DOHELP
 F1010-A.   GO TO F3999-ITER-FT.                                 DOHELP
 F1010-FN.    EXIT.                                              DOHELP
 F10-FN.      EXIT.                                              DOHELP
*           *************************************                DOHELP
*           *                                   *                DOHELP
*           *  DATA ELEMENT VALIDATION          *                DOHELP
*           *                                   *                DOHELP
*           *************************************                DOHELP
 F20.          EXIT.                                             DOHELP
 F20Z.  IF CATX NOT = "Z" GO TO F20Z-FN.                         DOHELP
 F20A7.                                                          DOHELP
           IF I-HELP-OPDOC  NOT = SPACE                          DOHELP
        MOVE "1" TO    ER-HELP-OPDOC.                            DOHELP
 F20A7-FN.    EXIT.                                              DOHELP
 F20Z-FN.   EXIT.                                                DOHELP
 F20-FN.      EXIT.                                              DOHELP
 F3999-ITER-FI.  GO TO F10.                                      DOHELP
 F3999-ITER-FT.     EXIT.                                        DOHELP
 F3999-FN.    EXIT.                                              DOHELP
 F40.       IF SCR-ER > "1"  MOVE "A" TO OPER  GO TO F40-FN.     DOHELP
 F40-A.     IF OPERD NOT = SPACE   MOVE OPERD TO OPER.           DOHELP
 F4005. IF OPER NOT = "O"          GO TO F4005-FN.               DOHELP
        IF K-SHELP-CDOC = "D"                                    DOHELP
        MOVE "2" TO K-SHELP-CDOC.                                DOHELP
        IF K-SHELP-CDOC = "R"                                    DOHELP
        MOVE "3" TO K-SHELP-CDOC.                                DOHELP
        MOVE ZERO TO K-SHELP-LINUM.                              DOHELP
        IF K-SHELP-ERCOD = SPACE                                 DOHELP
        OR K-SHELP-ERCOD NOT NUMERIC                             DOHELP
        MOVE "001"  TO  K-SHELP-ERCOD.                           DOHELP
        IF K-SHELP-ERCOD > "001"                                 DOHELP
        SUBTRACT 1 FROM K-SHELP-ERCOD9.                          DOHELP
 F4005-FN.    EXIT.                                              DOHELP
 F4010.  IF OPER NOT = "A"    GO TO F4010-FN.                     DOHELP
        MOVE  SPACE          TO EM00-EMKEY                       DOHELP
        MOVE  K-SHELP-LIBRA  TO EM00-LIBRA                       DOHELP
        MOVE  "H"            TO EM00-ENTYP                       DOHELP
        MOVE  K-SHELP-PROGR  TO EM00-PROGR                       DOHELP
        MOVE  K-SHELP-ERCOD  TO EM00-ERCOD                       DOHELP
        MOVE  K-SHELP-ERTYP  TO EM00-ERTYP                       DOHELP
        MOVE  K-SHELP-LINUM  TO EM00-LINUM                       DOHELP
        MOVE  EM00-EMKEY     TO K-REM00-EMKEY (1).               DOHELP
 F4010-FN.    EXIT.                                              DOHELP
*           *************************************                DOHELP
*           *                                   *                DOHELP
*           *  END OF TRANSACTION               *                DOHELP
```

```
*           *                                   *                DOHELP
*           *************************************                DOHELP
 F4030.     IF OPER NOT = "E" GO TO F4030-FN.                     DOHELP
        MOVE OPER TO S-WWSS-OPER.                                 DOHELP
        PERFORM F81FI THRU F81FI-FN.                              DOHELP
 F4030-A.   EXIT PROGRAM.                                         DOHELP
 F4030-FN.    EXIT.                                               DOHELP
*           *************************************                DOHELP
*           *                                   *                DOHELP
*           *  TRANSFER TO ANOTHER SCREEN       *                DOHELP
*           *                                   *                DOHELP
*           *************************************                DOHELP
 F4040.     IF OPER NOT = "O" GO TO F4040-FN.                     DOHELP
        MOVE  5-HELP-PROGE TO S-WWSS-PROGE.                       DOHELP
        MOVE OPER TO S-WWSS-OPER.                                 DOHELP
        PERFORM F81FI THRU F81FI-FN.                              DOHELP
 F4040-A.   EXIT PROGRAM.                                         DOHELP
 F4040-FN.    EXIT.                                               DOHELP
 F40-FN.      EXIT.                                               DOHELP
 END-OF-RECEPTION.      EXIT.                                     DOHELP
*           *************************************                DOHELP
*           *                                   *                DOHELP
*           *  DISPLAY PREPARATION              *                DOHELP
*           *                                   *                DOHELP
*           *************************************                DOHELP
 F50.      IF OCF = "0" GO TO END-OF-DISPLAY.                      DOHELP
 F5010.                                                           DOHELP
        MOVE ZERO TO CATX.                                        DOHELP
        MOVE ZERO TO CONFIGURATIONS.                              DOHELP
        MOVE ALL "1" TO FIRST-ON-SEGMENT.                         DOHELP
        IF SCR-ER  NOT > "1" MOVE SPACE TO O-HELP.                DOHELP
        IF SCR-ER > "1"  GO TO F6999-ITER-FT.                     DOHELP
        PERFORM F8115 THRU F8115-FN.                              DOHELP
 F5010-FN.    EXIT.                                               DOHELP
 F5020.    IF  K-SHELP-ERTYP NOT = SPACE                          DOHELP
           NEXT SENTENCE ELSE   GO TO F5020-FN.                   DOHELP
        MOVE  SPACE  TO EM00-ERTYP.                               DOHELP
          IF K-SHELP-ERCOD < "001"                                DOHELP
        MOVE  SPACE  TO EM00-ERCOD.                               DOHELP
        MOVE  ZERO   TO EM00-LINUM                                DOHELP
        PERFORM F80-EM00-P  THRU F80-FN.                          DOHELP
          IF IK = "1"   GO TO F5020-FN.                           DOHELP
          IF EM00-ERCOD  NOT = SPACE                              DOHELP
        MOVE  EM00-ERMSG TO 7-HELP-ERMS                           DOHELP
        MOVE 7-HELP-ERMSC TO HELP-LIENT                           DOHELP
        MOVE  "DOCUMENTATION OF DATA ELEMENT "                    DOHELP
               TO HELP-LIBEC         ELSE                       DOHELP
        MOVE   EM00-ERMSG TO HELP-LIENT                           DOHELP
        MOVE  "DOCUMENTATION OF THE SCREEN   "                    DOHELP
               TO HELP-LIBEC.                                     DOHELP
 F5020-FN.    EXIT.                                               DOHELP
 F50-FN.      EXIT.                                               DOHELP
*           *************************************                DOHELP
*           *                                   *                DOHELP
*           *  CATEGORY PROCESSING LOOP         *                DOHELP
*           *                                   *                DOHELP
*           *************************************                DOHELP
 F55.          EXIT.                                             DOHELP
 F5510.                                                           DOHELP
        MOVE SPACE TO CAT-ER.                                     DOHELP
        IF CATX = "0" MOVE " " TO CATX GO TO F5510-FN.            DOHELP
        IF CATX = " " MOVE "R" TO CATX MOVE ZERO TO ICATR.        DOHELP
        IF CATX NOT = "R" OR  ICATR > IRR GO TO F5510-R.          DOHELP
        IF ICATR > ZERO                                           DOHELP
        MOVE  O-HELP-LIGNE           TO                           DOHELP
              P-HELP-LIGNE   (ICATR).                             DOHELP
        ADD 1 TO ICATR.                                           DOHELP
        IF ICATR NOT > IRR                                        DOHELP
        MOVE  P-HELP-LIGNE   (ICATR) TO                           DOHELP
              O-HELP-LIGNE.                                       DOHELP
        GO TO F5510-FN.                                           DOHELP
 F5510-R.      EXIT.                                             DOHELP
 F5510-Z.                                                         DOHELP
        IF CATX = "R" MOVE "Z" TO CATX GO TO F5510-FN.            DOHELP
 F5510-900. GO TO F6999-ITER-FT.                                  DOHELP
 F5510-FN.    EXIT.                                               DOHELP
 F55-FN.      EXIT.                                               DOHELP
```

```
*           ************************************                DOHELP
*           *                                  *                DOHELP
*           *  SEGMENT ACCESS FOR DISPLAY      *                DOHELP
*           *                                  *                DOHELP
*           ************************************                DOHELP
 F60.          EXIT.                                            DOHELP
 F60R.  IF CATX NOT = "R" OR FT = "1" GO TO F60R-FN.            DOHELP
 F60R-FN.   EXIT.                                               DOHELP
 F6010.  IF CATX NOT = "R" OR FT = "1"  GO TO F6010-FN.         DOHELP
        MOVE "0" TO EM00-CF.                                    DOHELP
        IF          EM00-FST = "1"                              DOHELP
        MOVE     K-REM00-EMKEY  (1) TO EM00-EMKEY               DOHELP
        MOVE        EM00-LIBRA   TO  C-HELP-LIBRA               DOHELP
        MOVE        EM00-ENTYP   TO  C-HELP-ENTYP               DOHELP
        MOVE        EM00-PROGR   TO  C-HELP-PROGR               DOHELP
        MOVE        EM00-ERCOD   TO  C-HELP-ERCOD               DOHELP
        PERFORM F80-EM00-P  THRU F80-FN                         DOHELP
        MOVE ZERO TO EM00-FST    ELSE                           DOHELP
        PERFORM F80-EM00-RN THRU F80-FN.                        DOHELP
        IF IK = "0"                                             DOHELP
          IF        EM00-LIBRA NOT = C-HELP-LIBRA               DOHELP
          OR        EM00-ENTYP NOT = C-HELP-ENTYP               DOHELP
          OR        EM00-PROGR NOT = C-HELP-PROGR               DOHELP
        MOVE "1" TO IK.                                         DOHELP
        IF IK = "1" MOVE "G109" TO XERCD MOVE "1" TO FT         DOHELP
        PERFORM F81UT THRU F81UT-FN      GO TO F6010-FN.        DOHELP
        MOVE "1" TO EM00-CF.                                    DOHELP
        MOVE  EM00-ERCOD  TO K-SHELP-ERCOD                      DOHELP
        MOVE  EM00-ERTYP  TO K-SHELP-ERTYP                      DOHELP
        MOVE  EM00-LINUM  TO K-SHELP-LINUM.                     DOHELP
        IF   EM00-ERCOD  NOT = C-HELP-ERCOD                     DOHELP
        AND  EM00-ERCOD  > "000"                                DOHELP
        MOVE "1"  TO FT    GO TO F6010-FN.                      DOHELP
        IF   EM00-ERTYP  = SPACE                                DOHELP
        NEXT SENTENCE ELSE GO TO F6010-FN.                      DOHELP
        IF   EM00-ERCOD  > ZERO                                 DOHELP
        MOVE EM00-ERMSG    TO 7-HELP-ERMS                       DOHELP
        MOVE 7-HELP-ERMSC  TO HELP-LIENT                        DOHELP
        MOVE  "DOCUMENTATION OF DATA ELEMENT "                  DOHELP
                TO HELP-LIBEC                                   DOHELP
               ELSE                                             DOHELP
        MOVE  EM00-ERMSG     TO HELP-LIENT                      DOHELP
        MOVE  "DOCUMENTATION OF THE SCREEN   "                  DOHELP
                TO HELP-LIBEC.                                  DOHELP
        GO TO F6010.                                            DOHELP
 F6010-FN.    EXIT.                                             DOHELP
 F60-FN.      EXIT.                                             DOHELP
*           ************************************                DOHELP
*           *                                  *                DOHELP
*           *  DATA ELEMENT TRANSFER           *                DOHELP
*           *                                  *                DOHELP
*           ************************************                DOHELP
 F65.          EXIT.                                            DOHELP
 F6520. IF FT = "1" OR EM00-ERTYP = " " GO TO F6520-FN.         DOHELP
        IF ICATR > IRR  GO TO F6520-FN.                         DOHELP
         MOVE SPACE TO 7-HELP-ERMSGD.                           DOHELP
          IF  EM00-ERTYP = "1"                                  DOHELP
         MOVE   EM00-ERMSG  TO 7-HELP-ERMS                      DOHELP
         MOVE 7-HELP-ERMSG2 TO 7-HELP-SIGNI                     DOHELP
         MOVE 7-HELP-ERMSC  TO 7-HELP-ERMSC1                    DOHELP
         MOVE 7-HELP-ERMSG1 TO 7-HELP-VALRU                     DOHELP
         GO TO F6520-900.                                       DOHELP
         IF  EM00-ERTYP = "0"                                   DOHELP
         MOVE   SPACE       TO 7-HELP-XEMKY                     DOHELP
         MOVE   EM00-ERMSG  TO 7-HELP-LITAC                     DOHELP
         GO TO F6520-900.                                       DOHELP
         MOVE   EM00-ERMSG  TO 7-HELP-LITAC.                    DOHELP
         IF     EM00-LINUM  NOT = ZERO                          DOHELP
         GO TO F6520-900.                                       DOHELP
         MOVE   EM00-ERCOD  TO 7-HELP-XEMKY                     DOHELP
         MOVE   EM00-ERTYP  TO 7-HELP-ERTYP.                    DOHELP
         MOVE   SPACE       TO O-HELP-ERMSGD.                   DOHELP
         IF  ICATR NOT < IRR ADD 1 TO ICATR  GO TO F55.         DOHELP
         MOVE O-HELP-LIGNE  TO P-HELP-LIGNE (ICATR)             DOHELP
         ADD 1 TO ICATR                                         DOHELP
         MOVE P-HELP-LIGNE (ICATR) TO O-HELP-LIGNE.             DOHELP
 F6520-900.                                                     DOHELP
```

```
         MOVE 7-HELP-ERMSGD TO O-HELP-ERMSGD.                      DOHELP
 F6520-FN.    EXIT.                                                DOHELP
 F6530.   IF CATX NOT = "Z"  GO TO F6530-FN.                       DOHELP
         MOVE  HELP-LIENT  TO O-HELP-LIENT                         DOHELP
         MOVE  HELP-LIBEC  TO O-HELP-LIBEC.                        DOHELP
         MOVE "CHOICE.....:" TO O-HELP-LICHOI                      DOHELP
         MOVE "(E: END - T: TOP - S: NEXT)   "                     DOHELP
               TO O-HELP-LIOPT.                                    DOHELP
          IF XERCD NOT = "G109"                                    DOHELP
         MOVE "S"  TO O-HELP-OPDOC  GO TO F6530-FN.                DOHELP
         MOVE "E"  TO O-HELP-OPDOC.                                DOHELP
         IF K-SHELP-ERCOD NUMERIC AND K-SHELP-ERCOD > ZERO         DOHELP
         ADD 1 TO K-SHELP-ERCOD9.                                  DOHELP
 F6530-FN.    EXIT.                                                DOHELP
 F65-FN.      EXIT.                                                DOHELP
 F6999-ITER-FI.  GO TO F55.                                        DOHELP
 F6999-ITER-FT.     EXIT.                                          DOHELP
 F6999-FN.    EXIT.                                                DOHELP
 F70.                                                              DOHELP
        GO TO F7020.                                               DOHELP
*           ************************************                   DOHELP
*           *                                  *                   DOHELP
*           *  ERROR PROCESSING                *                   DOHELP
*           *                                  *                   DOHELP
*           ************************************                   DOHELP
 F7010.     MOVE ZERO TO K01 K02 K04 MOVE 1 TO K03.                 DOHELP
        MOVE LIBRA TO EM00-LIBRA MOVE PROGR TO EM00-PROGR          DOHELP
        MOVE ZERO TO EM00-LINUM MOVE "H" TO EM00-ENTYP.            DOHELP
 F7010-A.   IF K02 = INR AND K03 < IRR MOVE INA TO K02             DOHELP
        ADD 1 TO K03. ADD 1 TO K01 K02.                            DOHELP
        IF DE-ER (K01) > "1" OR < "0" MOVE "Y" TO DE-AT (4, K01)   DOHELP
        MOVE "N" TO DE-AT (1, K01)                                 DOHELP
        MOVE "N" TO DE-AT (2, K01)                                 DOHELP
        MOVE "W" TO DE-AT (3, K01)                                 DOHELP
           IF K04 < IER MOVE DE-ER (K01) TO EM00-ERTYP             DOHELP
        MOVE K02 TO EM00-ERCOD9 MOVE EM00-XEMKY TO EM00-ERMSG      DOHELP
        PERFORM F80-EM00-R THRU F80-FN ADD 1 TO K04                DOHELP
        MOVE  EM00-ERMSG  TO    O-HELP-ERMSG (K04).                DOHELP
        IF K01 < INT      GO TO F7010-A.                           DOHELP
        MOVE ZERO TO K50R.                                         DOHELP
 F7010-B.                                                          DOHELP
         ADD 1 TO K50R IF K50R > K50L OR K04 NOT < IER GO TO       DOHELP
         F7010-FN. MOVE T-XEMKY (K50R) TO EM00-XEMKY EM00-ERMSG    DOHELP
         PERFORM F80-EM00-R THRU F80-FN. ADD 1 TO K04              DOHELP
        MOVE  EM00-ERMSG  TO    O-HELP-ERMSG (K04)                 DOHELP
        GO TO F7010-B.                                             DOHELP
 F7010-FN.    EXIT.                                                DOHELP
*           ************************************                   DOHELP
*           *                                  *                   DOHELP
*           *  POSITIONING OF ATTRIBUTES       *                   DOHELP
*           *                                  *                   DOHELP
*           ************************************                   DOHELP
 F7020.                                                            DOHELP
        MOVE ZERO TO TALLI  INSPECT DE-ATT1 (4)                    DOHELP
        TALLYING TALLI FOR CHARACTERS BEFORE "Y".                  DOHELP
        IF TALLI     NOT <       0001                              DOHELP
        MOVE ZERO TO TALLI  INSPECT DE-ATT1 (4)                    DOHELP
        TALLYING TALLI FOR CHARACTERS BEFORE "Z".                  DOHELP
        IF TALLI     NOT <       0001                              DOHELP
        MOVE ZERO TO TALLI  INSPECT DE-ATT1 (4)                    DOHELP
        TALLYING TALLI FOR CHARACTERS BEFORE "X".                  DOHELP
        IF TALLI     NOT <       0001                              DOHELP
        MOVE ZERO TO TALLI.                                        DOHELP
        ADD 1 TO TALLI                                             DOHELP
        MOVE SV-AT (TALLI) TO K01                                  DOHELP
        MOVE AT-HELP-YPCUR (K01) TO CMES-YPCUR.                    DOHELP
        MOVE ZERO TO K01.                                          DOHELP
 F7020-A.                                                          DOHELP
        ADD 1 TO K01. IF K01 > INT GO TO F7020-FN.                 DOHELP
        MOVE SV-AT (K01) TO K02.                                   DOHELP
        IF SV-ATTRI (K01) = "D" AND DE-AT (1, K01) NOT = "D"       DOHELP
        MOVE "D" TO DE-AT (1, K01).                                DOHELP
        IF DE-AT (1, K01) NOT = SPACE                              DOHELP
           MOVE DE-AT (1, K01) TO AT-HELP-ATTRI (K02).             DOHELP
        IF DE-AT (2, K01) NOT = SPACE                              DOHELP
           MOVE DE-AT (2, K01) TO AT-HELP-ATTRP (K02).             DOHELP
        IF DE-AT (3, K01) NOT = SPACE                              DOHELP
```

```
           MOVE DE-AT (3, K01) TO AT-HELP-ATTRC (K02).           DOHELP
         GO TO F7020-A.                                          DOHELP
 F7020-FN.    EXIT.                                              DOHELP
 F7030.                                                          DOHELP
             IF    ER-HELP-OPDOC = "5"                           DOHELP
         MOVE  "INVALID CHOICE" TO O-HELP-ERMSG (1).             DOHELP
         IF  XERCD = "G109"                                      DOHELP
         MOVE  "*** END ***   " TO O-HELP-ERMSG (1).             DOHELP
 F7030-FN.    EXIT.                                              DOHELP
 F70-FN.      EXIT.                                              DOHELP
 END-OF-DISPLAY.    EXIT.                                        DOHELP
 F8Z.          EXIT.                                             DOHELP
*           ************************************                DOHELP
*           *                                  *                DOHELP
*           *  DISPLAY                         *                DOHELP
*           *                                  *                DOHELP
*           ************************************                DOHELP
 F8Z10.                                                          DOHELP
         IF SCR-ER  NOT > "1"                                    DOHELP
         AND DE-AT (4, 001) = "X"                                DOHELP
         PERFORM F7020 THRU F7020-FN.                            DOHELP
         PERFORM F8145 THRU F8145-FN.                            DOHELP
         MOVE "1" TO CMES-NBZVAR.                                DOHELP
         MOVE "X"  TO CMES-YCRE.                                 DOHELP
         IF SCR-ER NOT > "1"                                     DOHELP
         PERFORM F8105 THRU F8105-FN                             DOHELP
         MOVE "E"  TO CMES-YCRE.                                 DOHELP
         MOVE    HELP-MESSO TO CMES-YR00.                        DOHELP
         MOVE AT-HELP-MESSA TO CMES-YO00.                        DOHELP
         CALL PRCGI USING CMES-COMMUNICATION.                    DOHELP
 F8Z10-FN.    EXIT.                                              DOHELP
*           ************************************                DOHELP
*           *                                  *                DOHELP
*           *  END OF PROGRAM                  *                DOHELP
*           *                                  *                DOHELP
*           ************************************                DOHELP
 F8Z20.                                                          DOHELP
         MOVE "DOP050  " TO S-WWSS-PROGE.                        DOHELP
         MOVE OPER TO S-WWSS-OPER.                               DOHELP
         MOVE "0"  TO CMES-FMES.                                 DOHELP
         GO TO F0105.                                            DOHELP
 F8Z20-FN.    EXIT.                                              DOHELP
 F8Z-FN.      EXIT.                                              DOHELP
*           ************************************                DOHELP
*           *                                  *                DOHELP
*           *  PHYSICAL SEGMENT ACCESS ROUTINES *               DOHELP
*           *                                  *                DOHELP
*           ************************************                DOHELP
 F80.          EXIT.                                             DOHELP
 F80-EM00-R.                                                     DOHELP
         MOVE "READ    " TO S-WWSS-XFUNCT   MOVE "0" TO IK.      DOHELP
         READ    EM-FILE    ALLOWING UPDATERS                    DOHELP
              KEY IS EM00-EMKEY  INVALID KEY GO TO F80-KO.       DOHELP
         IF IK = "1" GO TO F81ER ELSE GO TO F80-OK.              DOHELP
 F80-EM00-P.                                                     DOHELP
         MOVE "START   " TO S-WWSS-XFUNCT   MOVE "0" TO IK.      DOHELP
         START   EM-FILE    KEY NOT <                            DOHELP
                    EM00-EMKEY  ALLOWING UPDATERS                DOHELP
         INVALID KEY GO TO F80-KO. IF IK = "1" GO TO F81ER.      DOHELP
 F80-EM00-RN.                                                    DOHELP
         MOVE "READNEXT" TO S-WWSS-XFUNCT   MOVE "0" TO IK.      DOHELP
         READ    EM-FILE    NEXT ALLOWING UPDATERS               DOHELP
             AT END GO TO F80-KO.                                DOHELP
         IF IK = "1" GO TO F81ER ELSE GO TO F80-OK.              DOHELP
 F8001-FN.    EXIT.                                              DOHELP
 F80-OK.  MOVE "0" TO IK MOVE PROGR TO XPROGR GO TO F80-FN.      DOHELP
 F80-KO.  MOVE "1" TO IK MOVE PROGR TO XPROGR.                   DOHELP
 F8099-FN.    EXIT.                                              DOHELP
 F80-FN.      EXIT.                                              DOHELP
 F81.          EXIT.                                             DOHELP
*           ************************************                DOHELP
*           *                                  *                DOHELP
*           *  ABNORMAL END PROCEDURE          *                DOHELP
*           *                                  *                DOHELP
*           ************************************                DOHELP
 F81ER.                                                          DOHELP
         MOVE "X" TO S-WWSS-OPER.                                DOHELP
```

```
 F81ER-A. EXIT PROGRAM.                                                 DOHELP
 F81ER-FN.    EXIT.                                                     DOHELP
 F81FI.                                                                 DOHELP
        MOVE "CLOSE   " TO S-WWSS-XFUNCT   MOVE "0" TO IK.              DOHELP
        CLOSE   EM-FILE.                                                DOHELP
        IF IK = "1" GO TO F81ER.                                        DOHELP
 F81FI-FN.    EXIT.                                                     DOHELP
*           ************************************                        DOHELP
*           *                                  *                        DOHELP
*           *  MEMORIZATION OF USER'S ERRORS   *                        DOHELP
*           *                                  *                        DOHELP
*           ************************************                        DOHELP
 F81UT.     IF K50L < K50M ADD 1 TO K50L                                DOHELP
        MOVE XEMKY TO T-XEMKY (K50L). MOVE "E" TO CAT-ER.               DOHELP
 F81UT-FN.    EXIT.                                                     DOHELP
 F8105.                                                                 DOHELP
      MOVE   "           "                          TO S01002.       DOHELP
 F8105-FN.    EXIT.                                                     DOHELP
 F8115.        EXIT.                                                    DOHELP
 F8115-FN.    EXIT.                                                     DOHELP
 F8145.                                                                 DOHELP
        MOVE  T03002 TO   S03002.                                       DOHELP
        MOVE  T03033 TO   S03033.                                       DOHELP
        MOVE  T05004 TO   S05004.                                       DOHELP
        MOVE  T06004 TO   S06004.                                       DOHELP
        MOVE  T07004 TO   S07004.                                       DOHELP
        MOVE  T08004 TO   S08004.                                       DOHELP
        MOVE  T09004 TO   S09004.                                       DOHELP
        MOVE  T10004 TO   S10004.                                       DOHELP
        MOVE  T11004 TO   S11004.                                       DOHELP
        MOVE  T12004 TO   S12004.                                       DOHELP
        MOVE  T13004 TO   S13004.                                       DOHELP
        MOVE  T14004 TO   S14004.                                       DOHELP
        MOVE  T15004 TO   S15004.                                       DOHELP
        MOVE  T16004 TO   S16004.                                       DOHELP
        MOVE  T17004 TO   S17004.                                       DOHELP
        MOVE  T18004 TO   S18004.                                       DOHELP
        MOVE  T19004 TO   S19004.                                       DOHELP
        MOVE  T20004 TO   S20004.                                       DOHELP
        MOVE  T21004 TO   S21004.                                       DOHELP
        MOVE  T23002 TO   S23002.                                       DOHELP
        MOVE  T23022 TO   S23022.                                       DOHELP
        MOVE  T23028 TO   S23028.                                       DOHELP
        MOVE  T24002 TO   S24002.                                       DOHELP
 F8145-FN.    EXIT.                                                     DOHELP
 F8155.                                                                 DOHELP
        MOVE  S23022 TO   R23022 T23022.                                DOHELP
 F8155-FN.    EXIT.                                                     DOHELP
 F81-FN.      EXIT.                                                     DOHELP
```

7. TABLE OF VARIABLES AND CONSTANTS

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

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

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

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

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