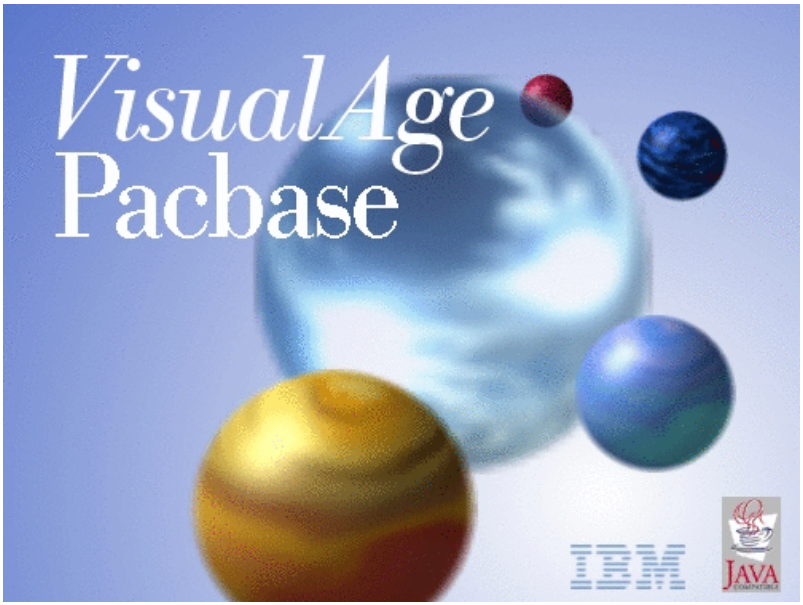
VisualAge Pacbase

DL/1 DATABASE DESCRIPTION

Version 3.5



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Note

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

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- VisualAge Pacbase Version 3.5

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Chapter 1. Introduction

Pacbase Functions

VisualAge Pacbase Products

VisualAge Pacbase is a modular AD solution which is composed of two main products - Pacdesign for application design, Pacbench for application development.

Pacdesign and Pacbench are used to populate the Specifications Database and to ensure the maintenance of existing applications. Each product includes several functions.

Basic Functions

Dictionary

Structured Code

Personalized Documentation Manager (PDM-PDM+)

Generators

On-Line Systems Development

Pacbench Client/Server

Batch Systems Development

COB / Generator

Database Description

DBD

DBD-SQL

Application Revamping

Dialog Web Revamping

Quality Control

Pacbench Quality Control (PQC)

Quality Control Extensibility

Table Management

Pactables

Production Turnover and Follow-up

Support of Configurations Management (SCM)

Pac/Transfer

Development Support Management System (DSMS)

Additionnal services

Pac/Impact

Dictionary Extensibility

Pacbase Access Facility (PAF-PAF+)

DSMS Access Facility (DAF)

Methodology (Merise, YSM, etc.)

Sub-networks comparison utilities

Rename/move entity utility (RMEN)

Journal Statistics utility (ACTI)

RACF / TOPSECRET Security Interface

ENDEVOR

Introduction to the Database Description Function

The Database Description function automatically generates database descriptions adapted to the database management system in use. This is done by using segment and relationship descriptions defined during the application analysis phase.

The DBD function can generate the description of the following DBMS's:

- Relational databases,
- Network databases (CODASYL),
- Hierarchical databases (DL/1),
- Physical File - AS/400 databases and TANDEM DDL,
- DMSII databases.

Each one of these DBMS's is documented in a specific Manual.

DBD/RELATIONAL SQL

This function can only be used in conjunction with the Dictionary: data defined in the Specifications Dictionary (whether or not the METHODOLOGY function is being used) can be used to generate database descriptions.

This information is described through a database description language which is independent of the DBMS in use. This allows the user to generate different descriptions from the same source.

Principles of Description

In this manual, the entities and screens managed by VisualAge Pacbase are described in two parts:

- An introductory comment explaining the purpose and the general characteristics of the entity or screen,
- A detailed description of each screen, including the input fields for on-line screens data entry into the Database.

For the description of batch input, refer to the 'Developer's Procedures' manual.

All on-line fields described in this manual are assigned an order number. These numbers are displayed on the screen examples which appear before the input field descriptions and allow for easy identification of a given field.

NOTE: If you use Developer workbench, refer to the on-line Help.

NOTE: If you use the VisualAge Pacbase WorkStation, refer to the 'WorkStation User Interface' guide which documents the corresponding windows.

NOTE: Each type of Database Block has a specific description. However, several Database Block types may use the same Batch screen.

As a result, fields may have different meanings or may not be used, depending on the type of Database Block.

Chapter 2. Pacbase DL/1

Introduction

INTRODUCTION

This manual is not a training manual for the technical aspects of DL/1.

The user should be familiar with the Specifications Dictionary and with DL/1 Databases.

This manual -- with its many examples -- is designed to guide the user through the description and generation of a DL/1 Database.

THE ROLE OF THE SPECIFICATIONS DICTIONARY

The Specifications Dictionary allows the user to manage the logical description of the different external views to be used by programs. An 'external view' can be described as all or part of a DBD as seen from the program.

The logical description of an external view involves the following entity types:

- Data element,
- Segment (1 segment = 1 segment type),
- Database block

```
1 block = 1 external view
        = 1 hierarchical data structure,
```

- Elements of generation (-GG) lines associated with segments and database blocks.

Once the choice of the physical structures is made, external views are classified into three types:

1. Physical DBD : Physical support of data,
2. Logical DBD : Obtained using logical relationships,
3. PCB : Obtained by segment selection in a physical DBD or by means of a secondary index.

   (It may be necessary to declare new blocks if a physical DBD required in a PSB is never an external view.)

In order for the external views to be used by programs, it is possible to open PSB-type database blocks whose role will be to call the hierarchical structures to be used in the programs. The database blocks called are a physical DBD type, a logical DBD type, or a PCB.

It is possible to keep track of the uses of the different hierarchical structures in an on-line program via cross-references to the various entities using database blocks.

GENERATION OF A DL/1 BLOCK

Basic principle:

A Database Block can generate a DL/1 block. The generator, by using all necessary information defined at the dictionary level (logical level information), will ensure the following according to the Block Type:

- At the block level, the generation of the data description language (DDL) corresponding to the chosen type (DBD, PSB),
- At the segment definition level, the generation of the DDL adapted to DL/1 (SENSEG, SEGM),
- At the segment description level, the adaptation of the description to DL/1 (FIELD).

EXAMPLE:

```
Segments to be used:            FF10  FF20  FF30

Description of block DL1AAA:    Segment        Parent
DP type                         FF10
                                FF20           FF10
                                FF30           FF20

VA Pac will generate :
   DBD   NAME=(DL1AAA)
   SEGM  NAME=FF10
   FIELD NAME=CODACD,
         BYTES=6,START=1,TYPE=C
   FIELD NAME = .....
          ' '
          ' '
   SEGM  NAME=FF20,PARENT=FF10
   FIELD  ' '
          ' '
   SEGM  NAME=FF30,PARENT=FF10
          ' '
          ' '
   DBDGEN
   END
```

All of the generated lines are detailed in this manual. These lines make up the VIRTUAL documentation of blocks or segments. Therefore, they are dynamically accessed on-line. The user can view the DDL lines which will be generated on the 'Generation Elements' (-GG) screen of the Block or of the Block description. These lines are identified by an asterisk (*) in the ACTION CODE field and by the character string '*VIRT' in the LIB field.

Each virtual line is numbered and the insertion points of the description are indicated.

COMPLEMENTARY INFORMATION

Two additional types of blocks are necessary for the description of a DL/1 Database:

IP:: Primary Index, to generate the DBD's of primary indexes,

IS:: Secondary Index, to generate the DBD's of secondary indexes.

An index (primary or secondary) must be described by a segment containing data elements for the SRCH field, SUBSEQ, etc.

An 'IS' or 'IP' type block describes a single-level hierarchy. Therefore, only one description line is necessary.

In a PSB, it is possible to call an 'IS' type block to be used in a program.

COMPLEMENTS TO GENERATED LINES

Information that is not generated by the DBD function, such as, the physical information (access method, pointers) can be inserted by the user on the 'Generation Elements'(-GG) screen.

New lines are created and generated lines are modified or deleted as follows:

- Virtual lines referenced by a number:
  - Creation: insert a line with an appropriate line number,
  - Modification/Deletion: repeat the relevant line number.
- Ranges of insertion:

  The user must choose line numbers that fall between those referenced at the beginning and at the end of the insertion range.
- When only the 'NAME' parameter has to be modified in a 'FIELD' statement, the user modifies the description lines of the relevant segment (S....CE):

In the UPD/TRGET field of the data element whose name is to be modified, the character string 'A*' is entered followed by the new name (maximum length: 8 characters).

EXAMPLE:

```
LIN : ELEM.              UPD/TRGET
110 : CLINUM             A*CLIENTNB
```

Lines on 'Generation Elements' that are to be taken into account at generation time must have the value 'G' in the TYPE OF LINE field.

Comments can be inserted before a generated statement via the 'Generation Elements' screnn (-GG), they are identified by lines with a type '*'.

PARAMETERIZED INPUT AIDS

In order to facilitate input of description lines the user can use a P.I.A. The systematic use of a P.I.A. allows for the implementation of description and documentation standards and for follow-up via the cross-references.

Definition of a Database Block (B)

DEFINITION OF A DATABASE BLOCK

A Database Block is defined by a code, a name and a type.

There are several Types of blocks:

```
.DP = physical DBD,
.DL = logical DBD,
.DR = reduced physical DBD,
.IP = primary index,
.IS = secondary index,
.PC = PCB,
.PS = PSB.
 etc.
```

A specific description corresponds to each one of these Types.

When a Database Block is created, it is not necessary to assign it a specific block Type. Entering a 'TR' type (hierarchical) is sufficient. At generation time, a type other than 'TR' must be assigned to the Database Block.

EXCEPTION: To define a PSB, the 'PS' type must be assigned at creation since it cannot be subsequently modified.

ASSOCIATED LINES

Generation Elements (-GG).

The physical information necessary to generate the database is entered on the Generation Elements lines associated with the Block, in order to complement the logical information entered on the Database Block Definition.

Generation Options (-GO)

In this screen, you specify options such as the prefixing mode, the generation of COMMIT...

Comments (-GC)

In this screen, you enter comments on the Database Block or on the objects it calls.

```
DBMS DESCRIPTIONS   DL/1              *VALIDA.LULU.DL1.3225

BLOCK DEFINITION.............:    DBDAL1   1

NAME..................: DBD CLIENTS      2
TYPE..................: TR TREE-STRUCTURE 3
VERSION...............:                   4

EXTERNAL NAME.........: JMDBYCL          5


CONTROL CARDS....... FRONT:  6      BACK:    7


EXPLICIT KEYWORDS..:         8
UPDATED BY.........:             ON :             AT :            LIB :
SESSION NUMBER.....: 0640        LIBRARY......: DL1    LOCK....:


O: C1 CH: Bdbdal1                      ACTION:
```

NUM	LEN	CLASS VALUE	DESCRIPTION OF FIELDS AND FILLING MODE
1	6		BLOCK CODE (REQUIRED)
			One to six alphanumeric characters.
2	36		NAME OF THE BLOCK (REQUIRED IN CREAT)
			This clear name should be as explicit as possible. Words used here become implicit keywords (subject to limitations specified in Subchapter ″HOW TO BUILD THE THESAURUS″, Chapter ″KEYWORDS″ in the SPECIFICATIONS DICTIONARY Reference Manual).
3	2		TYPE OF BLOCK (REQUIRED IN CREAT)
			For hierarchical or network databases, it is not required, when creating a database block, to enter the definitive block type. The selection of a network or hierarchical structure is sufficient at this point.
			A specific ″physical″ type must be entered when generating the Data Description Language (DDL).
		'TR' 'SE'	Tree-like structure (hierarchical block). Group of sets (network block).
			HIERARCHICAL DATABASES - IMS/DL1
		'DP'	Physical Database Description.
		'DR'	Physical Database Description (same as 'DP', but only the data elements referenced as access keys in the segment description are generated in the 'FIELD.....' statements).

NUM	LEN	CLASS VALUE	DESCRIPTION OF FIELDS AND FILLING MODE
		'DL'	Logical Database Description.
		'PC'	PCB.
		'IP'	Primary Index.
		'IS'	Secondary Index.
		'PS'	PSB (Assigned at creation. Cannot be modified at a later stage).
			RELATIONAL DATABASES
		Q2	DB2 SQL
		Q3	SQL SERVER
		QB	DB2/2 and DB2/6000
		QC	DATACOM/DB
		QN	NONSTOP SQL
		QP	ORACLE
		QR	RDMS
		QS	SQL/DS
		QT	INTEREL RDBC
		QU	INTEREL RFM
		QY	SYBASE
		DB	DB2 (It is recommended to use the Q2 type)
			NETWORK DATABASES
			.CODASYL-DM4 (GCOS8):
		'M1'	DDL schema, only elementary fields are generated,
		'M4'	DDL schema, only group fields are generated,
		'M2'	DMCL schema,
		'M3'	Sub-schema.
			.CODASYL-IDS2 (GCOS7):
		'I1'	DDL schema,
		'I2'	DMCL schema,
		'I3'	SDDL sub-schema.
			.CODASYL-IDMS:
		'D0'	DDL schema (Release 10.0),
		'D1'	DDL schema,
		'D2'	DMCL schema,

NUM	LEN	CLASS VALUE	DESCRIPTION OF FIELDS AND FILLING MODE
		'D3'	Sub-schema,
		'D4'	Sub-schema (Release 5.7).
			.CODASYL-DMS (UNISYS 1100):
		'S1'	DDL Schema,
		'S3'	Sub-schema.
			DDL TANDEM
		TD	TANDEM
			AS/400 PHYSICAL FILE
		PF	AS/400 Physical file (IBM SYS. 38)
		LF	AS/400 Logical file (IBM SYS. 38).
			DMSII DATABASE
		20	DMSII Database (DASDL)
4	4		VERSION
			This field is not used.
5	8		DATABASE BLOCK EXTERNAL NAME
			Necessary at generation time.
			This is the physical name of the System-generated DDL (Data Description Language) module.
			To obtain a list of blocks sorted by this external name, enter 'LEB' in the CHOICE field.
			For TurboImage, only the first six characters are processed.
6	1		CONTROL CARDS IN FRONT OF BLOCK
			Necessary at generation time.
			Enter the one-character code that identifies the job control card to be inserted before the generated block.
7	1		CONTROL CARDS IN BACK OF BLOCK
			Necessary at generation time.
			Enter the one-character code that identifies the job control card to be inserted after the generated block.
8	55		EXPLICIT KEYWORDS
			This field allows you to enter additional (explicit) keywords. By default, keywords are generated from the instance's name (implicit keywords).

NUM	LEN	CLASS VALUE	DESCRIPTION OF FIELDS AND FILLING MODE
			Keywords must be separated by at least one space. Keywords have a maximum length of 13 characters which must be alphanumeric. However, '=' and '*' are reserved for special usage and are therefore ignored in keywords.
			Keywords are not case-sensitive: uppercase and lower-case letters are equivalent.
			NOTE: Accented and special characters can be declared as equivalent to an internal value in order to optimize the search of instances by keywords (Administrator workbench, 'Window' menu, 'Parameters browser' choice, in 'Special Characters' tab).
			A maximum of ten explicit keywords can be assigned to one entity. For more details, refer to the 'Character Mode User Interface' guide, chapter 'Search for Instances', subchapter 'Searching by Keywords'.

Chapter 3. Physical and Logical DBD

Definition (B)

DEFINITION

A physical or logical DBD must be defined by means of the Database Block entity. (Refer to preceding Subchapter ″DEFINITION OF A DATABASE BLOCK″).

ASSOCIATED LINES

Comments lines associated with the Block (-GC).

The definition and description lines of a Database Block support all of the logical information necessary for the generation of the block in source language.

Options are entered on the 'Generation Options' (-GO) screen.

This can be facilitated by the use of pre-defined Parameterized Input Aids (P.I.A.'s).

The physical level information is entered on the 'Generation Elements' (-GG) screen associated with the definition and description lines of the Database block.

1. Lines associated with a Physical DBD (type of Block = DP):

Several virtual lines are associated with a physical DBD, i.e. a 'DP'-type Database Block.

However, the System does not have the necessary information to determine the physical characteristics of the database in question (ACCESS, DATASET, etc.). Virtual generated lines must therefore be completed by the user. Several methods are available:

- Calling one of the PIA's referenced in Chapter ″PARAMETERIZED INPUT AIDS″,
- Building a PIA according to specific needs,
- Entering manual lines:

```
'DATASET DD1 = XX
        DEVICE = ......'
```

1. Lines associated with a Physical DBD (Type of Block = DR):

The definition of a 'DR'-type block is identical to that of a 'DP'-type block.

All of the data elements called into a segment used in a 'DP'-TYPE Database Block are generated as 'FIELD' statements.

The user may want to reduce the DBD description to just those data elements used as access keys.

The 'DR'-type Database Block allows for the generation of 'FIELD' statements ONLY for those data elements which are identified by an alphanumeric character in the KEY INDICATOR FOR ACCESS OR SORT field, labeled 'K', on the Segment Call of Elements (-CE) screen.

The Virtual lines are identical to those of the "DP"-type Database Block.

1. Lines associated with a Logical DBD (Type of Block = DL):

The generated lines (Block Name and 'ACCESS=LOGICAL") are sufficient and do not have to be rewritten by the user.

NOTE:: Only the lines whose TYPE OF LINE = 'G' will be taken into account at generation time. Lines with a '*' in the TYPE OF LINE field have a documentary value only.

```
                  DBMS DESCRIPTIONS   DL/1              *VALIDA.LULU.DL1.3225

BLOCK DEFINITION.............:    DBDCDE

NAME..................: DBD ORDERS
TYPE..................: DP PHYSICAL DBD
VERSION...............:

EXTERNAL NAME.........: JMDBYCM



CONTROL CARDS....... FRONT:         BACK:


EXPLICIT KEYWORDS..:


UPDATED BY.........:             ON :             AT :            LIB :
SESSION NUMBER.....: 0640        LIBRARY.......: DL1    LOCK....:


O: C1 CH: Bdbdcde                     ACTION:
```

```
|                  DBMS DESCRIPTIONS   DL/1              *VALIDA.LULU.DL1.3225 |
| GENERATION ELEMENTS FOR BLOCK          DBDCDE DBD ORDERS                     |
|                                                                              |
| A LIN : T DESCRIPTION                                                  LIB   |
| * 100 : G DBD         NAME=(EXTERNAL NAME)                             *VIRT |
| * 700 :          ---> DBD INSERTION SPOT  <---                         *VIRT |
| * 900 : G DBDGEN                                                       *VIRT |
| * 980 : G END                                                          *VIRT |
|       :                                                                      |
|       :                                                                      |
|       :                                                                      |
|       :                                                                      |
|       :                                                                      |
|       :                                                                      |
|       :                                                                      |
|       :                                                                      |
|       :                                                                      |
|       :                                                                      |
|       :                                                                      |
|       :                                                                      |
|       :                                                                      |
|                                                                              |
| O: C1 CH: -GG                                                                |
```

Description (-DH)

DESCRIPTION

The Hierarchical Block Description (-DH) screen allows the user to describe the relationships between the segments in a physical ('DP') or logical ('DL') DBD.

GENERAL CHARACTERISTICS

Each description line identifies a segment and its parent, except for the first line, which identifies the root segment. The exact position of the segment in the hierarchical structure is indicated according to DL/1 standards, that is from top to bottom and from left to right.

PREREQUISITES

The 'DP'- or 'DL'-type Database Block, including all of the called entities, must have been previously defined.

ASSOCIATED LINES

Comment lines can be added to document each description lines.

Comment lines with a type '*' can be created on the 'GG' screen now. They are not taken into account at generation.

The 'Generation Elements' screen (-GG) is used to provide the physical information necessary in order to generate the block. This screen is associated with each description line and is accessed by the choice '-DHnnnGG' (where 'nnn' represents the description LINE NUMBER of the entity concerned).

VIRTUAL DOCUMENTATION LINES ON -GG SCREEN

- PHYSICAL DBD:

  The virtual documentation lines associated with a description line of a physical DBD retrieve the segment descriptions as defined in the Specifications Dictionary. They do not need to be rewritten.

  However, the user may complete, modify or delete these lines (declaration of an index) in several ways:

  – By calling one of the PIA's referenced in Chapter "PARAMETERIZED INPUT AIDS",
  – By creating a PIA for specific user needs,
  – By entering manual lines.

  A 'FIELD' description can be modified on the virtual lines associated with a physical DBD description line (-DHnnnGG).

  In order to do this, the user enters the following input between documentation virtual lines 700 and 800 (begining and ending FIELD insertion points):

  1. In the TYPE OF LINE field on the first line: 'G'.
  2. In COMMENT field: <DELCO >

     This is the 6-character data element code corresponding the FIELD to be modified. It must be left-justified.
  3. In the TYPE OF LINE field on the second line: 'G'.
  4. In the COMMENT field on the second line: the new description of 'FIELD'.

     EXAMPLE:

```
730    G   <DELCO >
760    G   FIELD NAME=(NUM,SEQ,U),BYTES=7,...
```

- LOGICAL DBD

  The virtual documentation lines associated with a description line of a logical DBD retrieve, for each segment of the DBD, the name of the segment and the name of the parent segment.

  The user must complete each line by identifying the source of the segment.

  SOURCE = ((name of segment,,name of DBD))

NOTE:: The lines whose TYPE OF LINE = 'G' will be taken into account at generation time.

```
                  DBMS DESCRIPTIONS   DL/1              *VALIDA.LULU.DL1.3225
BLOCK DESC. HIERARCHI. PHYSICAL DBD DBDCDE DBD ORDERS
                                  1
2 3     4    5    6      7 8      9  10
A LIN : SEGM PRNT MODEL  K DOC  OCC. COMMENT/RELATIONSHIP/KEYLENGTH    LIBR.
  100 : CD05             U           CC=8                               0613
  120 : CD10 CD05        U   *                                          0602
  140 : CD20 CD05        U           PR=G                               0609
  160 : CD30 CD05        U                                              0606
      :
      :
      :
      :
      :
      :
      :
      :
      :
      :
      :
      :
      :
*** END ***
0: C1 CH: -DH
```

NUM	LEN	CLASS VALUE	DESCRIPTION OF FIELDS AND FILLING MODE
1	6		BLOCK CODE (REQUIRED)
			One to six alphanumeric characters.
2	1		ACTION CODE
		'C'	Creation of the line
		M	Modification of the line
		D or 'A'	Deletion of the line
		T	Transfer of the line
		B	Beginning of multiple deletion
		G	Multiple transfer
		?	Request for HELP documentation
		E or '-'	Inhibit implicit update
		X	Implicit update without upper/lowercase processing
3	3		Line number
			Numeric.

NUM	LEN	CLASS VALUE	DESCRIPTION OF FIELDS AND FILLING MODE
			It is advisable to begin with line number '100' and then number in intervals of 20. This facilitates subsequent line insertions, as necessary. Alphanumeric if you generate a customized SQL access.
			It is possible to enter letters in the 'NLG' field in this case. You are allowed to create more than the '1000' limited lines.
4	4		SEGMENT CODE (REQUIRED IN CREAT)
			This field is entered with the PACBASE Segment Code.
5	4		PARENT SEGMENT CODE
			This is the code of the segment upon which the given segment is hierarchically dependent.
			FOR INDEX-type DBD's: This field is not used for 'IP'- or 'IS'-type Data- base Blocks.
6	6		MODEL ENTITY RELATIONSHIP CODE
			OPTIONAL INPUT FIELD: Code of the Model Relationship corresponding to the DL/1 Relationship.
			The System automatically creates the cross-references of the Model Relationship to DL/1 Relationships.
			NOTE: Model Relationships are described through the PACMODEL function.
7	1		KEY INDICATOR
			Used for a symbolic reference of the key data element of a given segment in a given DBD. The character indicated in this field must also appear on the Segment Call of Elements (-CE) screen in the KEY INDICATOR FOR ACCESS OR SORT field, on the key data element line.
		'U'	References a unique key.
		'M'	References a multiple key.
		1 to 9	DL/1 Secondary index.
		$	In a PCB or a physical or logical DBD (Block type PC, DB, or DL), generates a non-qualified SSA (used in OLSD).
			All other values designate a search field.
			NOTE: Sort keys are not permitted on data elements redefining other data elements (see the Segment Call of Elements (-CE)).
8	1		DOCUMENTATION INDICATOR
			This field is used in on-line mode only. It is a read-only field.

NUM	LEN	CLASS VALUE	DESCRIPTION OF FIELDS AND FILLING MODE
		'*'	A Comment, a Generation Element or an Error Message has been assigned to the element called on this line.
			Access to line nnn: -CEnnn, or -Dxnnn for a Database Block (with x = C, H or R depending on the Block type)
			To access the Comment, Generation Element or Error Message assigned to the called element, enter the access to line nnn followed (without blank) by GC (for Comment), GG (for Generation Element) or GE (for Error Message).
9	5		EST. NUMBER OF CHILD/PARENT LINKS
			This is the average number of occurrences of a child segment linked to one occurrence of its parent segment.
10	36		COMMENT / RELATIONSHIP / KEY LENGTH
			When generating "PS"-type Database Blocks, i.e. a PSB, the DBD function automatically calculates the the length of the longest concatenated key. This is done for:
			. Each DBD called in a PSB, . Each PCB called in a PSB, . Each INDEX Database called as an independent data- base in the PSB.
			This length may be overridden by entering the follow- ing input on the first line: CC=n (with n = 9 to 9999).
			On each segment call line, the user may enter:
			. Comments, or . PR=nnnn, used to generate the parameter PROCOPT=nnnn at the SENSEG Statement level when generating the PSB containing this DBD, PCB, or INDEX Database.
			NOTE: This calculation is done only for a primary Segment. In the case of a secondary index, the CC= parameter is required.

```
                  DBMS DESCRIPTIONS   DL/1              *VALIDA.LULU.DL1.3225
GENERATION ELEMENTS FOR BLOCK DESC     DBDCDE DBD ORDERS                  100

A LIN : T DESCRIPTION                                                    LIB
* 100 : G SEGM        NAME=(SEGMENT CODE)                                *VIRT
* 120 : G             PARENT=(PARENT SEGMENT CODE)                       *VIRT
* 140 : G             BYTES=(SEGMENT LENGTH IN THE PAC BASE)             *VIRT
  150 : G             POINTER=T                                          0722
* 700 :          ---> FIELD INSERTION STARTING POINT <---                *VIRT
* 800 :          ---> FIELD INSERTION ENDING POINT <---                  *VIRT
       :
       :
       :
       :
       :
       :
       :
       :
       :
       :
       :

O: C1 CH: -DH100GG
```

Chapter 4. Index

Definition (B)

DEFINITION

An INDEX (primary or secondary) must be defined by means of an 'IP'- or 'IS'-type Database Block (Refer to Subchapter "DEFINITION OF A DATABASE BLOCK", Chapter "PACBASE DL/1").

ASSOCIATED LINES

Comments lines (-GC).

The definition and description lines of a Database Block support all of the logical information necessary for the generation of the block in source language.

The physical level information is entered on the 'Generation Elements' (-GG) screen associated with the definition and description lines of the Database block.

Options are entered on the 'Generation Options' (-GO) screen.

This can be facilitated by the use of pre-defined Parameterized Input Aids (P.I.A.'s).

VIRTUAL DOCUMENTATION LINES ON -GG SCREEN:

Several virtual documentation lines are associated with an 'IP'- or 'IS'-type Database Block.

VA Pac does not have the necessary information to determine the characteristics of a given Index (ACCESS, PASSWD, DATASET, etc.). Therefore, the generated virtual lines must be completed by the user to provide this information. Several methods may be used:

- Calling one of the PIA's referred to in Chapter "PARAMETERIZED INPUT AIDS",
- Creating a PIA for specific user needs,
- Input of manual lines:

```
'       ACCESS = (XXXX,YYYY)
        PASSWD = ---...... '
```

NOTE:: Only the lines whose TYPE OF LINE = 'G' will be taken into account at generation time. Lines with a 'blank' in the TYPE OF LINE field have a documentary value only.

```
DBMS DESCRIPTIONS   DL/1              *VALIDA.LULU.DL1.3225

BLOCK DEFINITION.............:    INDCDE

NAME..................: PRIMARY INDEX FOR DBDCDE
TYPE..................: IP PRIMARY INDEX
VERSION...............:

EXTERNAL NAME.........: JMDBWER



CONTROL CARDS....... FRONT: X       BACK: X


EXPLICIT KEYWORDS..:

UPDATED BY.........:             ON :             AT :            LIB :
SESSION NUMBER.....: 0640        LIBRARY......: DL1    LOCK....:


O: C1 CH: Bindcde                     ACTION:
```

```
                  DBMS DESCRIPTIONS   DL/1              *VALIDA.LULU.DL1.3225
GENERATION ELEMENTS FOR BLOCK      INDCDE PRIMARY INDEX FOR DBDCDE

A LIN : T DESCRIPTION                                                    LIB
* 100 : G DBD         NAME=(EXTERNAL NAME)                               *VIRT
* 120 : G             ACCESS=(INDEX,VSAM)________                        *VIRT
      : G             PASSWD=___                                         INDEX
      : G DATASET     DD1=INDEX1__                                       INDEX
      : G             DEVICE=3380_____                                   INDEX
      : G             OVFLW=________                                     INDEX
      : G             BLOCK=_____________                                INDEX
      : G             SIZE=_____________                                 INDEX
      : G             RECORD=_____________                               INDEX
* 700 :          ---> DBD INSERTION SPOT <---                            *VIRT
* 900 : G DBDGEN                                                         *VIRT
* 980 : G END                                                            *VIRT
      :
      :
      :
      :
      :
      :

O: C1 CH: -GG
```

Description (-DH)

DESCRIPTION

The INDEX (primary or secondary) Database Block Description (-DH) screen is used to associate the given 'Index' database block with the segment containing its description. This is done on a single line, and no input validation is performed on this line.

PREREQUISITES

The 'Index' type database block must have been defined as well as the entities called into its description.

ASSOCIATED LINES

On the 'Comments' screen (-GC), lines with a blank type can be created to document description lines. This type of line is not taken into account at generation.

Comment lines with a type '*' can be created on the 'GG' screen now. They are taken into account at generation.

The 'Generation Elements' screen (-GG) is used to provide the physical information necessary in order to generate the block. This screen is associated with each description line and is accessed by the choice '-DHnnnGG' (where 'nnn' represents the description LINE NUMBER of the entity concerned).

VIRTUAL DOCUMENTATION LINES (ON -GG)

Virtual documentation lines associated with the Index database block description line retrieve the segment description from the Specifications Dictionary.

VA Pac does not have the necessary information for the description of a given Index (LCHILD, etc.). Therefore, the generated virtual documentation lines must be completed by the user to provide this information. Several methods may be used:

- Calling one of the PIA's referred to in Chapter "PARAMETERIZED INPUT AIDS".
- Creating a PIA for specific user needs,
- Input of manual lines.

NOTE:: The lines whose TYPE OF LINE = 'G' will be taken into account at generation time.

```
                  DBMS DESCRIPTIONS   DL/1              *VALIDA.LULU.DL1.3225
BLOCK DESC. HIER. PRIMARY INDEX     INDCDE PRIMARY INDEX FOR DBDCDE
                                    1
2 3     4         6      7 8    9    10
A LIN : SEGM PRNT MODEL  K DOC  OCC. COMMENT/RELATIONSHIP/KEYLENGTH    LIBR.
  100 : PT00                 *                                        0622
      :
      :
      :
      :
      :
      :
      :
      :
      :
      :
      :
      :
      :
      :
      :
      :
*** END ***
O: C1 CH: -DH
```

NUM	LEN	CLASS VALUE	DESCRIPTION OF FIELDS AND FILLING MODE
1	6		BLOCK CODE (REQUIRED)
			One to six alphanumeric characters.
2	1		ACTION CODE
		'C'	Creation of the line
		M	Modification of the line
		D or 'A'	Deletion of the line
		T	Transfer of the line
		B	Beginning of multiple deletion
		G	Multiple transfer
		?	Request for HELP documentation
		E or '-'	Inhibit implicit update
		X	Implicit update without upper/lowercase processing
3	3		Line number
			Numeric.

NUM	LEN	CLASS VALUE	DESCRIPTION OF FIELDS AND FILLING MODE
			It is advisable to begin with line number '100' and then number in intervals of 20. This facilitates subsequent line insertions, as necessary. Alphanumeric if you generate a customized SQL access.
			It is possible to enter letters in the 'NLG' field in this case. You are allowed to create more than the '1000' limited lines.
4	4		SEGMENT CODE (REQUIRED IN CREAT)
			This field is entered with the PACBASE Segment Code.
5	4		PARENT SEGMENT CODE
			This is the code of the segment upon which the given segment is hierarchically dependent.
			FOR INDEX-type DBD's: This field is not used for 'IP'- or 'IS'-type Data- base Blocks.
6	6		MODEL ENTITY RELATIONSHIP CODE
			OPTIONAL INPUT FIELD: Code of the Model Relationship corresponding to the DL/1 Relationship.
			The System automatically creates the cross-references of the Model Relationship to DL/1 Relationships.
			NOTE: Model Relationships are described through the PACMODEL function.
7	1		KEY INDICATOR
			Used for a symbolic reference of the key data element of a given segment in a given DBD. The character indicated in this field must also appear on the Segment Call of Elements (-CE) screen in the KEY INDICATOR FOR ACCESS OR SORT field, on the key data element line.
		'U'	References a unique key.
		'M'	References a multiple key.
		1 to 9	DL/1 Secondary index.
		$	In a PCB or a physical or logical DBD (Block type PC, DB, or DL), generates a non-qualified SSA (used in OLSD).
			All other values designate a search field.
			NOTE: Sort keys are not permitted on data elements redefining other data elements (see the Segment Call of Elements (-CE)).
8	1		DOCUMENTATION INDICATOR
			This field is used in on-line mode only. It is a read-only field.

NUM	LEN	CLASS VALUE	DESCRIPTION OF FIELDS AND FILLING MODE
		'*'	A Comment, a Generation Element or an Error Message has been assigned to the element called on this line.
			Access to line nnn: -CEnnn, or -Dxnnn for a Database Block (with x = C, H or R depending on the Block type)
			To access the Comment, Generation Element or Error Message assigned to the called element, enter the access to line nnn followed (without blank) by GC (for Comment), GG (for Generation Element) or GE (for Error Message).
9	5		EST. NUMBER OF CHILD/PARENT LINKS
			This is the average number of occurrences of a child segment linked to one occurrence of its parent segment.
10	36		COMMENT / RELATIONSHIP / KEY LENGTH
			When generating "PS"-type Database Blocks, i.e. a PSB, the DBD function automatically calculates the the length of the longest concatenated key. This is done for:
			. Each DBD called in a PSB, . Each PCB called in a PSB, . Each INDEX Database called as an independent data- base in the PSB.
			This length may be overridden by entering the follow- ing input on the first line: CC=n (with n = 9 to 9999).
			On each segment call line, the user may enter:
			. Comments, or . PR=nnnn, used to generate the parameter PROCOPT=nnnn at the SENSEG Statement level when generating the PSB containing this DBD, PCB, or INDEX Database.
			NOTE: This calculation is done only for a primary Segment. In the case of a secondary index, the CC= parameter is required.

```
                  DBMS DESCRIPTIONS   DL/1              *VALIDA.LULU.DL1.3225
GENERATION ELEMENTS FOR BLOCK       INDCDE PRIMARY INDEX FOR DBDCDE      100

A LIN : T DESCRIPTION                                                    LIB
* 100 : G SEGM        NAME=(SEGMENT CODE)                               *VIRT
* 140 : G             BYTES=(SEGMENT LENGTH IN THE PAC BASE)            *VIRT
  200 : G             FREQ=__________                                   INDEX
      : G             RULES=____________________                        INDEX
      : G LCHILD      NAME=____________________                         INDEX
      : G             INDEX=______                                      INDEX
* 700 :          ---> FIELD INSERTION STARTING POINT <---               *VIRT
* 800 :          ---> FIELD INSERTION ENDING POINT <---                 *VIRT
      :
      :
      :
      :
      :
      :
      :
      :
      :
      :
*** END ***
O: C1 CH: -DH100GG
```

Chapter 5. PCB

Definition (B)

DEFINITION

A PCB is defined via a 'PC'-type Database Block. Refer to the "DEFINITION OF A DATABASE BLOCK" Subchapter in Chapter "VA Pac DL/1".

ASSOCIATED LINES

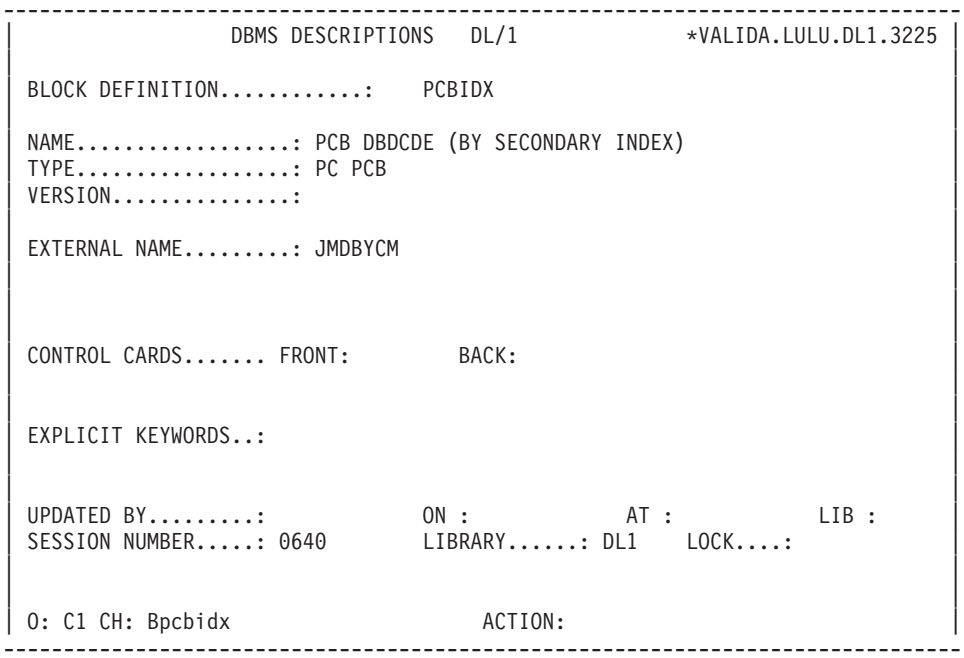
On the 'Generation Elements' screen:

No virtual lines are associated to a PCB Database Block.

The user may modify the definition of a PCB through the virtual lines on -GG associated to the description lines of the PSB using this PCB.

On the 'Comments' screen:

The definition of a PCB can be documented on one or more -GC screen lines.


DBMS DESCRIPTIONS DL/1 *VALIDA.LULU.DL1.3225
BLOCK DEFINITION.....: PCBIDX
NAME.....: PCB DBDCDE (BY SECONDARY INDEX)
TYPE.....: PC PCB
VERSION.....:
EXTERNAL NAME.....: JMDBYCM
CONTROL CARDS..... FRONT: BACK:
EXPLICIT KEYWORDS..:
UPDATED BY.....: ON : AT : LIB :
SESSION NUMBER.....: 0640 LIBRARY.....: DL1 LOCK....:
O: C1 CH: Bpcbidx ACTION:

```
                  DBMS DESCRIPTIONS   DL/1              *VALIDA.LULU.DL1.3225
BLOCK COMMENTS                  PCBIDX PCB DBDCDE (BY SECONDARY INDEX)

A LIN : T DESCRIPTION                                                      LIB
  100 :   Access PCB to the Order Management Database via secondary      0722
  110 :   index on the root segment and made up of the Order Reference   0722
  120 :   Number.                                                        0722
      :
      :
      :
      :
      :
      :
      :
      :
      :
      :
      :
      :
      :
      :

O: C1 CH: -GC
```

Description (-DH)

DESCRIPTION

The Hierarchical Block Description (-DH) screen of a PCB is used to describe the relationships between segments in a PCB.

Each line designates a segment and its parent (except the first line which introduces the first segment of a PCB).

The exact position of the segment in the hierarchy is indicated according to DL/1 standards, that is top to bottom and left to right.

PREREQUISITES

The PCB Database Block and all the entities called into its desription must have been defined previously.

ASSOCIATED LINES

No virtual lines are associated with a PCB Database Block.

The user can modify a PCB description through the virtual documentation lines associated with the description lines of a PSB using this PCB.

Comment lines can be created to document PCB description lines:

- lines with a 'blank' type, on the 'Comments' screen (-GC),
- lines with a '*' type, on the 'Generation Elements' screen (-GG).

```
                    DBMS DESCRIPTIONS   DL/1              *VALIDA.LULU.DL1.3225
BLOCK DESC. HIERARCHICAL PCB        PCBIDX PCB DBDCDE (BY SECONDARY INDEX)
                                       1

2 3     4    5    6      7 8    9    10
A LIN : SEGM PRNT MODEL  K DOC  OCC. COMMENT/RELATIONSHIP/KEYLENGTH     LIBR.
  100 : CD05             1           CC=8                               0622
  110 : CD10 CD05        U                                              0640
  120 : CD20 CD05        U                                              0640
  130 : CD30 CD05        U                                              0640

      :
      :
      :
      :
      :
      :
      :
      :
      :
      :
      :
*** END ***
O: C1 CH: -DH
```

NUM	LEN	CLASS VALUE	DESCRIPTION OF FIELDS AND FILLING MODE
1	6		BLOCK CODE (REQUIRED)
			One to six alphanumeric characters.
2	1		ACTION CODE
		'C'	Creation of the line
		M	Modification of the line
		D or 'A'	Deletion of the line
		T	Transfer of the line
		B	Beginning of multiple deletion
		G	Multiple transfer
		?	Request for HELP documentation
		E or '-'	Inhibit implicit update
		X	Implicit update without upper/lowercase processing
3	3		Line number
			Numeric.

NUM	LEN	CLASS VALUE	DESCRIPTION OF FIELDS AND FILLING MODE
			It is advisable to begin with line number '100' and then number in intervals of 20. This facilitates subsequent line insertions, as necessary. Alphanumeric if you generate a customized SQL access.
			It is possible to enter letters in the 'NLG' field in this case. You are allowed to create more than the '1000' limited lines.
4	4		SEGMENT CODE (REQUIRED IN CREAT)
			This field is entered with the PACBASE Segment Code.
5	4		PARENT SEGMENT CODE
			This is the code of the segment upon which the given segment is hierarchically dependent.
			FOR INDEX-type DBD's: This field is not used for 'IP'- or 'IS'-type Data- base Blocks.
6	6		MODEL ENTITY RELATIONSHIP CODE
			OPTIONAL INPUT FIELD: Code of the Model Relationship corresponding to the DL/1 Relationship.
			The System automatically creates the cross-references of the Model Relationship to DL/1 Relationships.
			NOTE: Model Relationships are described through the PACMODEL function.
7	1		KEY INDICATOR
			Used for a symbolic reference of the key data element of a given segment in a given DBD. The character indicated in this field must also appear on the Segment Call of Elements (-CE) screen in the KEY INDICATOR FOR ACCESS OR SORT field, on the key data element line.
		'U'	References a unique key.
		'M'	References a multiple key.
		1 to 9	DL/1 Secondary index.
		$	In a PCB or a physical or logical DBD (Block type PC, DB, or DL), generates a non-qualified SSA (used in OLSD).
			All other values designate a search field.
			NOTE: Sort keys are not permitted on data elements redefining other data elements (see the Segment Call of Elements (-CE)).
8	1		DOCUMENTATION INDICATOR
			This field is used in on-line mode only. It is a read-only field.

NUM	LEN	CLASS VALUE	DESCRIPTION OF FIELDS AND FILLING MODE
		'*'	A Comment, a Generation Element or an Error Message has been assigned to the element called on this line.
			Access to line nnn: -CEnnn, or -Dxnnn for a Database Block (with x = C, H or R depending on the Block type)
			To access the Comment, Generation Element or Error Message assigned to the called element, enter the access to line nnn followed (without blank) by GC (for Comment), GG (for Generation Element) or GE (for Error Message).
9	5		EST. NUMBER OF CHILD/PARENT LINKS
			This is the average number of occurrences of a child segment linked to one occurrence of its parent segment.
10	36		COMMENT / RELATIONSHIP / KEY LENGTH
			When generating "PS"-type Database Blocks, i.e. a PSB, the DBD function automatically calculates the the length of the longest concatenated key. This is done for:
			. Each DBD called in a PSB, . Each PCB called in a PSB, . Each INDEX Database called as an independent data- base in the PSB.
			This length may be overridden by entering the follow- ing input on the first line: CC=n (with n = 9 to 9999).
			On each segment call line, the user may enter:
			. Comments, or . PR=nnnn, used to generate the parameter PROCOPT=nnnn at the SENSEG Statement level when generating the PSB containing this DBD, PCB, or INDEX Database.
			NOTE: This calculation is done only for a primary Segment. In the case of a secondary index, the CC= parameter is required.

Alternate or Express PCB (IMS)

ALTERNATE OR EXPRESS PCB (IMS)

An ALTERNATE or EXPRESS PCB is defined via a 'PC'-type Database Block. (See Subchapter "DEFINITION OF A DATABASE BLOCK" in Chapter "VA Pac DL/1").

VIRTUAL DOCUMENTATION LINES

No virtual documentation lines are associated with an Alternate PCB Database Block.

VA Pac does not have the information concerning the characteristics of the ALTERNATE or EXPRESS PCB (LTERM, MODIFY, etc.).

Therefore, the corresponding DDL lines must be entered by the user on the 'Generation Elements' screen (-GG) lines associated with the description lines of the PSB calling the PCB.

In order to do this several methods may be used:

- Calling one of the PIA's referred to in Chapter "PARAMETERIZED INPUT AIDS",
- Creating a PIA for specific user needs,
- Input of Documentation lines:

```
'       TYPE=TP,
        NAME=......,
        EXPRESS=YES   '
```

Virtual lines associated with an ALTERNATE or EXPRESS PCB call line - for a given PSB - are not taken into account in that PSB generation.

NOTE:: Only the Documentation lines whose TYPE OF LINE = 'G' will be taken into account at generation time.

```
                  DBMS DESCRIPTIONS   DL/1              *VALIDA.LULU.DL1.3225

BLOCK DEFINITION.............:    ALTPCB

NAME..................: ALTERNATE PCB
TYPE..................: PC PCB
VERSION...............:


EXTERNAL NAME.........:



CONTROL CARDS....... FRONT:         BACK:


EXPLICIT KEYWORDS..:


UPDATED BY.........:             ON :             AT :            LIB :
SESSION NUMBER.....: 0640        LIBRARY......: IMD    LOCK....:


O: C1 CH: Baltpcb                     ACTION:
```

Chapter 6. PSB

Definition (B)

DEFINITION

A PSB is defined via a 'PS'-type Database Block. (See Subchapter "DEFINITION OF A DATABASE BLOCK" in Chapter "VA Pac DL/1").

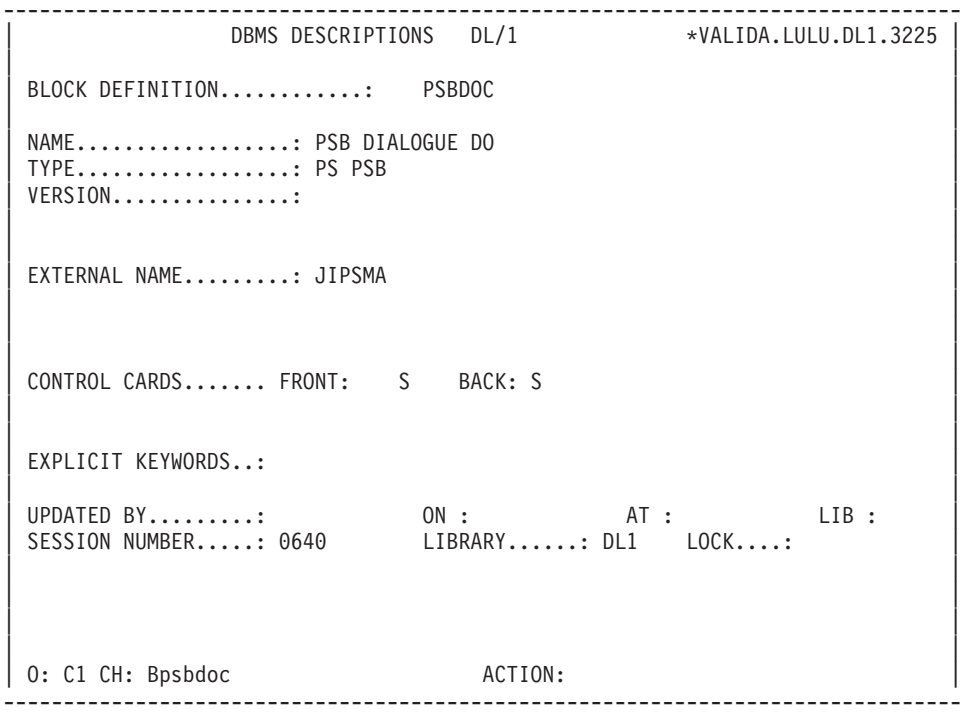
VIRTUAL DOCUMENTATION LINES

Several virtual Documentation lines are associated with the definition of a PSB.

These lines do not need to be rewritten. However, the user may complete, modify, or delete lines on the -GG screen lines. Several methods may be used:

- Calling one of the PIA's referred to in Chapter "PARAMETERIZED INPUT AIDS",
- Creating a 'PIA' for specific user needs,
- Input of Documentation lines.

NOTE:: Only the Documentation lines whose TYPE OF LINE = 'G' will be taken into account at generation time.


DBMS DESCRIPTIONS DL/1 *VALIDA.LULU.DL1.3225
BLOCK DEFINITION.....: PSBDOC
NAME.....: PSB DIALOGUE DO
TYPE.....: PS PSB
VERSION.....:
EXTERNAL NAME.....: JIPSMA
CONTROL CARDS..... FRONT: S BACK: S
EXPLICIT KEYWORDS..:
UPDATED BY.....: ON : AT : LIB :
SESSION NUMBER.....: 0640 LIBRARY.....: DL1 LOCK....:
O: C1 CH: Bpsbdoc ACTION:

```
|                  DBMS DESCRIPTIONS   DL/1              *VALIDA.LULU.DL1.3225 |
| GENERATION ELEMENTS FOR BLOCK         PSBDOC PSB DIALOGUE DO                 |
|                                                                              |
| A LIN : T DESCRIPTION                                                   LIB  |
| * 700 :          ---> DB-PCB INSERTION SPOT <---                        *VIRT |
| * 900 : G PSBGEN      PSBNAME=(EXTERNAL NAME)                           *VIRT |
| * 920 : G             LANG=COBOL                                        *VIRT |
|   930 : G             CMPAT=YES                                         0722  |
| * 980 : G END                                                           *VIRT |
|       :                                                                      |
|       :                                                                      |
|       :                                                                      |
|       :                                                                      |
|       :                                                                      |
|       :                                                                      |
|       :                                                                      |
|       :                                                                      |
|       :                                                                      |
|       :                                                                      |
|       :                                                                      |
|       :                                                                      |
|                                                                              |
| O: C1 CH: -GG                                                                |
```

Description (-DH)

DESCRIPTION

The Hierarchical Block Description (-DH) screen allows the VA Pac user to enter the description of a PSB, i.e. to list the hierarchies used in the given PSB.

Each description line identifies a ″DP″-, ″DL″-, ″DR″-, ″PC″-, or ″IS″-type Database Block and may also include the number of block occurrences and comments.

PREREQUISITES

The PSB and all of the entities called into its description must have been previously defined.

ASSOCIATED LINES

Comment lines can be added to document each description line.

Comment lines with a type ’*’ can be created on the ’GG’ screen now. They are not taken into account at generation.

The 'Generation Elements' screen (-GG) is used to provide the physical information necessary in order to generate the block. This screen is associated with each description line and is accessed by the choice '-DHnnnGG' (where 'nnn' represents the description LINE NUMBER of the entity concerned).

VIRTUAL DOCUMENTATION LINES ON -GG SCREEN

Virtual lines associated with PSB description lines retrieve the segment description(s) making up the called PCB from the Specifications Dictionary. They do not need to be rewritten. However, the user can complete, modify or delete these lines (insertion of a PROCSEQ, etc.).

Several methods may be used:

- Calling one of the PIA's referred to in Chapter "PARAMETERIZED INPUT AIDS",
- Creating a PIA for specific user needs,
- Input of General Documentation lines:

```
'   POS=....
    PROCSEQ=DBST1Y01   '
```

A 'SENSEG' description can be modified on the -GG screen lines associated with a PSB Description line (CH: -DHnnnGG).

In order to do this, the user enters the following input between virtual lines 700 and 800 (starting and ending SENSEGS insertion points):

1. In the TYPE OF LINE field on the first line: 'G'.
2. In the DESCRIPTION field on the first line: <DDSS>

   This is the 4-character Segment Code corresponding to the 'SENSEG' to be modified. It must be left-justified.
3. In the TYPE OF LINE field on the second line: 'G'.
4. In the DESCRIPTION field on the second line: the new description of 'SENSEG'.

   EXAMPLE:

```
730    G   <CD10>
760    G   SENSEG NAME=CLCDE,PARENT=COCRD,PROCOPT=G
```

NOTE:: The Documentation lines whose TYPE OF LINE = 'G' will be taken into account at generation time.

IMPORTANT NOTE

On the PSB description lines where the PROCOPT is specified, the value "A" in the OPTION field ("O" column) means that the called PCB is an ALTERNATE or EXPRESS PCB (and not that the value of PROCOPT is "A").

The PROCOPT default value is ″ALL″, which corresponds to a ’blank’ in the OPTION field.

```
                  DBMS DESCRIPTIONS   DL/1              *VALIDA.LULU.DL1.3225
BLOCK DESC. HIERARCHICAL PSB        PSBDOC PSB DIALOGUE DO
                                  1
2 3             6       7  8        10
A LIN :         PCB/DBD O  DOC      COMMENT/RELATIONSHIP NAME         LIBR.
  100 :          DBDFOU    *                                         0722
  120 :          DBDMES                                             0722
  140 :          DBDCLI                                             0722
  160 :          DBDCDE                                             0722
  180 :          DBDLER                                             0722
  210 :          DBDHEL                                             0722
      :
      :
      :
      :
      :
      :
      :
      :
      :
      :
      :
      :
*** END ***
O: C1 CH: -DH
```

NUM	LEN	CLASS VALUE	DESCRIPTION OF FIELDS AND FILLING MODE
1	6		BLOCK CODE (REQUIRED)
			One to six alphanumeric characters.
2	1		ACTION CODE
		'C'	Creation of the line
		M	Modification of the line
		D or 'A'	Deletion of the line
		T	Transfer of the line
		B	Beginning of multiple deletion
		G	Multiple transfer
		?	Request for HELP documentation
		E or '-'	Inhibit implicit update
		X	Implicit update without upper/lowercase processing
3	3		Line number
			Numeric.

NUM	LEN	CLASS VALUE	DESCRIPTION OF FIELDS AND FILLING MODE
			It is advisable to begin with line number '100' and then number in intervals of 20. This facilitates subsequent line insertions, as necessary. Alphanumeric if you generate a customized SQL access.
			It is possible to enter letters in the 'NLG' field in this case. You are allowed to create more than the '1000' limited lines.
4	1		NOT USED WITH THE DL/1 FUNCTION
5	1		NOT USED WITH THE DL/1 FUNCTION
6	6		PCB / DBD CODE (REQUIRED IN CREAT)
			PACBASE code of the Database Block called by the PSB, (Block TYPE = DP, DR, DL, PC or IS (not validated)).
7	1		OPTION
			Value of 'PROCOPT', (processing option), generated at the PCB macro level. To specify a 'PROCOPT' greater than one character, modify the 'PROCOPT' directly on the virtual line.
			To specify a segment level 'PROCOPT', replace the generated virtual line.
		Blank	ALL
		A	ALTERNATE or EXPRESS PCB
8	1		DOCUMENTATION INDICATOR
			This field is used in on-line mode only. It is a read-only field.
		'*'	A Comment, a Generation Element or an Error Message has been assigned to the element called on this line.
			Access to line nnn: -CEnnn, or -Dxnnn for a Database Block (with x = C, H or R depending on the Block type)
			To access the Comment, Generation Element or Error Message assigned to the called element, enter the access to line nnn followed (without blank) by GC (for Comment), GG (for Generation Element) or GE (for Error Message).
9	1		NOT USED WITH THE DL/1 FUNCTION
10	36		COMMENT/RELATIONSHIP NAME
			Optional input field: . Number of times the entity is called: OCC=n . The generated PROCOPT in the 'PROCOPT=' parameter used in the 'PCB' statement: PR=nnnn

NUM	LEN	CLASS VALUE	DESCRIPTION OF FIELDS AND FILLING MODE
		'(CHG)'	This value is used in conjunction with value 'A' in the OPTION field for the OLSD function. Refer to the IMS OLSD Reference Manual for further information.

```
|                  DBMS DESCRIPTIONS   DL/1              *VALIDA.LULU.DL1.3225 |
| GENERATION ELEMEnTS FOR BLOCK DESC    PSBDOC PSB DIALOGUE DO              100 |
|                                                                               |
| A LIN : T DESCRIPTION                                                 LIBR.   |
| * 100 : G PCB         TYPE=DB                                         *VIRT   |
| * 120 : G             DBDNAME=(DBD NAME)                              *VIRT   |
| * 140 : G             PROCOPT=(OPTION)                                *VIRT   |
| * 160 : G             KEYLEN=(LENGTH CC=9999 SPECIFIED IN THE PCB)    *VIRT   |
| * 700 :          ---> SENSEGS INSERTION STARTING POINT <---           *VIRT   |
| * 800 :          ---> SENSEGS INSERTION ENDING POINT <---             *VIRT   |
|       :                                                                       |
|       :                                                                       |
|       :                                                                       |
|       :                                                                       |
|       :                                                                       |
|       :                                                                       |
|       :                                                                       |
|       :                                                                       |
|       :                                                                       |
|       :                                                                       |
|       :                                                                       |
|                                                                               |
| O: C1 CH: -DH100GG                                                            |
```

Chapter 7. Access Commands

On-line Access Commands

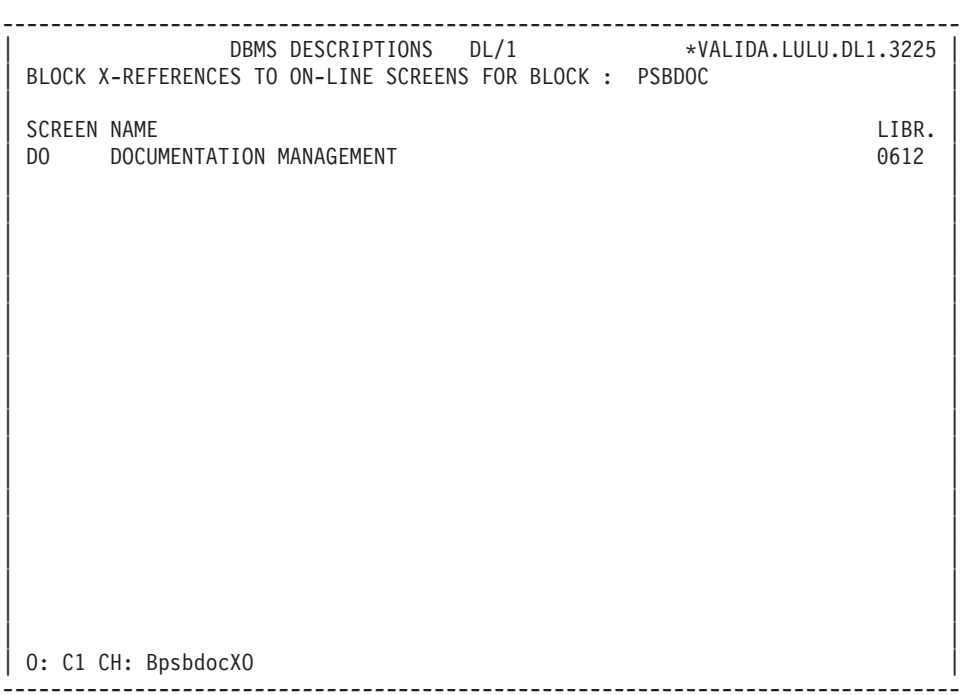
```
LISTS
CHOICE             SCREEN                                  UPD
------             ------                                  ---
LCBaaaaaa          List of Database Blocks by code          NO
                   (starting with block 'aaaaaa').
LNBaaaaaa          List of Database Blocks by name          NO
                   (starting with block 'aaaaaa')
                   (case sensitive).
LTBaabbbbbb        List of Database Blocks by type          NO
                   (starting with type 'aa' and Database
                   Block 'bbbbbb').
LEBaaaaaaaa        List of Database Blocks by external      NO
                   name (starting with name 'aaaaaaaa').
DESCRIPTION OF BLOCK 'aaaaaa'
CHOICE             SCREEN                                  UPD
------             ------                                  ---
Baaaaaa            Definition of Database Block 'aaaaaa' YES
BaaaaaaCR          Instances linked to Database Block      YES
                   'aaaaaa' through User Relations.
BaaaaaaGCbbb       Comments for Database Block 'aaaaaa'    YES
                   (starting with line 'bbb').
BaaaaaaGGbbb       Generation Elements for Database        YES
                   Block 'aaaaaa' (starting with line
                   'bbb').
BaaaaaaGObbb       Generation Options for Database         YES
                   Block 'aaaaaa' (starting with line
                   'bbb').
BaaaaaaATbbbbbb    Text Assigned to Database Block          NO
                   'aaaaaa' (starting with text 'bbbbbb').
BaaaaaaX           Cross-references of Database Block       NO
                   'aaaaaa'.
BaaaaaaXBbbbbbb    Cross-references of Database Block       NO
                   'aaaaaa' to PSB's (starting with
                   PSB 'bbbbbb').
BaaaaaaXObbbbbb    Cross-references of Database Block       NO
                   'aaaaaa' to Screens (starting with
                   Screen 'bbbbbb').
BaaaaaaXObbbbbbCScdddd
                   Cross-references of Database Block       NO
                   'aaaaaa' to the Call of Segments
```

	of Screen 'bbbbbb'(starting with category 'c' and with Segment 'dddd'). Note: 'c' is equal to & for the Screen-top category.	
BaaaaaaXObbbbbbWccddd	Cross-references of Database Block 'aaaaaa' to the Work Areas of Screen 'bbbbbb' (starting with Work Area 'cc', line number 'ddd').	NO
BaaaaaaXQbbbbbb	List of occurrences linked to Database Block 'aaaaaa' through User-Defined Relation (starting with Relation 'bbbbbb').	NO
BaaaaaaXVvvvvvv	Cross-references of Database Block 'aaaaaa' to Volumes (starting with Volume 'vvvvvv').	NO
BaaaaaaXPbbbbbb	Cross-references of Database Block 'aaaaaa' to Programs (starting with Program 'bbbbbb').	NO
BaaaaaaXPbbbbbbWccddd	Cross-references of Database Block 'aaaaaa' to Work Areas of Program 'bbbbbb' (starting with Work Area 'cc', line number 'ddd').	NO
BaaaaaaDHbbb	Description of Hierarchical Database Block 'aaaaaa' (starting with line 'bbb')	YES
BaaaaaaDHbbbGCccc	Comments on Hierarchical Database Block 'aaaaaa' description line 'bbb' starting with Comments line 'ccc').	YES
BaaaaaaDHbbbGGccc	Generation Elements for Hierarchical Block 'aaaaaa' description line 'bbb' starting with line 'ccc').	YES

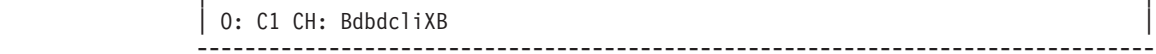
```
                DBMS DESCRIPTIONS   DL/1              *VALIDA.LULU.DL1.3225
LIST OF BLOCKS BY CODE

CODE   NAME                                T  TYPE                    LIBR.
ALTPCB ALTERNATE PCB                       PC PCB                     0640
DBDCDE DBD ORDERS                          DP PHYSICAL DBD            0640
DBDCLI DBD CLIENTS                         DP                         0640
DBDFOU DBD SUPPLIERS                       DP                         0640
DBDHEL BACK UP OF CALL SCREEN HELP FCT     DP                         0640
DBDLER DBD ERROR MESSAGES                  DP                         0640
DBDMES DBD MAIL BOX                        DP                         0640
INDCDE SECONDARY INDEX FOR DBDCDE          IS SECONDARY INDEX         0640
PCBIDX PCB DBDCDE (BY SECONDARY INDEX)     PC PCB                     0640
PLDCDE psb loading of dbdcde               PS PSB                     0640
PLDCLI psb loading of dbdcli               PS                         0640
PLDFOU psb loading of dbdfou               PS                         0640
PLDLER psb loading of dbdler               PS                         0640
PLDMES psb loading of dbdmes               PS                         0640
PSBDOC PSB DIALOGUE DO                     PS                         0640




O: C1 CH: LCB
```

```
                DBMS DESCRIPTIONS   DL/1              *VALIDA.LULU.DL1.3225
LIST OF BLOCKS BY TYPE

T  TYPE              CODE    NAME                                      LIBR.
DP PHYSICAL DBD      DBDCDE  DBD ORDERS                                0640
                     DBDCLI  DBD CLIENTS                               0640
                     DBDFOU  DBD SUPPLIERS                             0640
                     DBDHEL  BACK UP OF CALL SCREEN HELP FCT           0640
                     DBDLER  DBD ERROR MESSAGES                        0640
                     DBDMES  DBD MAIL BOX                              0640
IS SECONDARY INDEX   INDCDE  SECONDARY INDEX FOR DBDCDE                0640
PC PCB               ALTPCB  ALTERNATE PCB                             0640
                     PCBIDX  PCB DBDCDE (BY SECONDARY INDEX)           0640
                     XTABD   PCB PACTABLE                              0640
                     XTABV   PCB PACTABLE                              0640
PS PSB               PLDCDE  psb loading of dbdcde                     0640
                     PLDCLI  psb loading of dbdcli                     0640
                     PLDFOU  psb loading of dbdfou                     0640
                     PLDLER  psb loading of dbdler                     0640
                     PLDMES  psb loading of dbdmes                     0640
                     PSBDOC  PSB DIALOGUE DO                           0640


O: C1 CH: LTB
```

```
                DBMS DESCRIPTIONS   DL/1              *VALIDA.LULU.DL1.3225
LIST OF BLOCKS BY EXTERNAL NAME

TYPE               EXT NAME NAME                                CODE     LIBR.
DP PHYSICAL DBD    JMDBXCM  DBD MAIL BOX                        DBDMES   0640
DP                 JMDBYAR  BACK UO OF CALL SCREEN HELP FCT    DBDHEL   0640
DP                 JMDBYCL  DBD CLIENTS                        DBDCLI   0640
DP                 JMDBYCM  DBD ORDERS                         DBDCDE   0640
DP                 JMDBYER  DBD ERROR MESSAGES                 DBDLER   0640
DP                 JMDBYFO  DBD SUPPLIERS                      DBDFOU   0640
IS SECONDARY INDEX JMDBWER  SECONDARY INDEX FOR DBDCDE         INDCDE   0640
PC PCB             JMDBYCM  PCB DBDCDE (BY SECONDARY INDEX)    PCBIDX   0640
PC                 PACDTBDC PCB PACTABLE                       XTABD    0640
PC                 PACDTVBC PCB PACTABLE                       XTABV    0640
PS PSB             JIPSMA   PSB DIALOGUE DO                    PSBDOC   0640
PS                 PSLDCDE  psb loading of dbdcde              PLDCDE   0640
PS                 PSLDCLI  psb loading of dbdcli              PLDCLI   0640
PS                 PSLDFOU  psb loading of dbdfou              PLDFOU   0640
PS                 PSLDLER  psb loading of dbdler              PLDLER   0640
PS                 PSLDMES  psb loading of dbdmes              PLDMES   0640


*** END ***
O: C1 CH: LEB
```


DBMS DESCRIPTIONS DL/1 *VALIDA.LULU.DL1.3225
BLOCK X-REFERENCES TO ON-LINE SCREENS FOR BLOCK : PSBDOC
SCREEN NAME LIBR.
DO DOCUMENTATION MANAGEMENT 0612
O: C1 CH: BpsbdocXO

```
                  DBMS DESCRIPTIONS   DL/1              *VALIDA.LULU.DL1.3225
BLOCK CROSS-REFERENCES                    DBDCLI

PSB     PSB NAME                            LIN                         LIBR.
PLDCLI  psb loading of dbdcli               010                         0653
PSBDOC  PSB DIALOGUE DO                     140                         0602
```



Generation and/or Printing

GENERATION AND/OR PRINTING

The generation and printing of Database Blocks is requested on-line on the Generation and Print Commands screen (CH: GP) or in batch mode, on the generation and printing command 'Z'.

LISTS

```
LTB      Lists all database blocks of the libraries from the
         selected sub-network, sorted by type.
        .C1 OPTION: Without keywords,
        .C2 OPTION: With explicit keywords.
LCB      Identical to 'LTB' but sorted by code.
LEB      Identical to 'LTB' but sorted by external name.
```

It is possible to request a list of Database Blocks related by keyword(s). The corresponding command must be accompanied by a continuation line, on which the keywords used as selection criteria are indicated (refer to the 'Character Mode User Interface' guide). The list is sorted by code.

```
LKB      Same as 'LCB' but sorted by keyword.
         Option 'C2' cannot be used.
```

DESCRIPTION

DTB Description of the database block whose code is indicated in the entity field, description of all database blocks if the field is not entered.

In the latter case, it is possible to request the descriptions of all blocks of a given type, by specifying it in the printing request.

GENERATION OPTION

GCB Generation of a Database Block whose code must be indicated.
Same printing option as for DTB.

Chapter 8. Parameterized Input Aids

PARAMETERIZED INPUT AIDS

To complete the generated DDL lines, the user can enter virtual lines or create PIA's corresponding to his/her specific needs.

VA Pac also provides a series of PIA's which have been developed in order to respond to the standard needs of a user working on a DL/1 Database description.

The list of these PIA's and their descriptions, are found on the following pages.

```
                DBMS DESCRIPTIONS   DL/1              *VALIDA.LULU.DL1.3225
LIST OF INPUT AIDS BY CODE

P.I.A. NAME                                  T TYPE                    LIBR.
HDAM   DL/1 HDAM DATABASE DECLARATION        I IMS                     0658
HDAMSE HDAM DATABASE SEGMENT COMPLEMENT      I IMS                     0658
HIDAM  DL/1 HIDAM DATABASE DECLARATION       I IMS                     0658
HIDAMS HIDAM DATABASE SEGMENT COMPLEMENT     I IMS                     0658
HISAM  DL/1 HISAM DATABASE DECLARATION       I IMS                     0658
HSAM   DL/1 HSAM DATABASE DECLARATION        I IMS                     0658
HSAMSE HSAM DATABASE SEGMENT COMPLEMENT      I IMS                     0658
INDEX  DL/1 INDEX DATABASE DECLARATION       I IMS                     0658
INDEXS INDEX DATABASE SEGMENT COMPLEMENT     I IMS                     0658









*** END ***
O: C1 CH: LCI H
```

```
                  DBMS DESCRIPTIONS   DL/1              *VALIDA.LULU.DL1.3225
INPUT AID DESCRIPTION......:     HDAM  DL/1 HDAM DATABASE DECLARATION

A LIN : T LABEL                INITIAL VALUE              LEN G REFER. LIBR.
  100 :                ACCESS= (HDAM,VSAM)               011 G ACCESS 0651
  120 :                RMNAME= (DFSHDC...,000,000,000)   030 G RMNAME 0651
  140 :                PASSWD=                           003 G PASSWD 0651
  160 :   DATASET         DD1=                           008 G DDNAME 0651
  180 :                DEVICE=                           015 G        0651
  200 :                 BLOCK=                           006 G        0651
  220 :                  SIZE=                           006 G        0651
  240 :                  SCAN=                           002 G        0651
  260 :                 FRSPC=                           008 G        0651
  800 : T $1                   3380                                   0651
      :
      :
      :
      :
      :
      :
      :
      :
*** END ***
O: C1 CH: iHDAM d
```

```
|                  DBMS DESCRIPTIONS   DL/1              *VALIDA.LULU.DL1.3225 |
| INPUT AID DESCRIPTION......:     HDAMSE HDAM DATABASE SEGMENT COMPLEMENT     |
|                                                                              |
| A LIN : T LABEL               INITIAL VALUE              LEN G REFER. LIBR.  |
|   100 :               POINTER=                           030 G PTR    0651   |
|   120 :                 RULES=                           020 G RULES  0651   |
|   140 :               COMPRTN=                           025 G        0651   |
|       :                                                                      |
|       :                                                                      |
|       :                                                                      |
|       :                                                                      |
|       :                                                                      |
|       :                                                                      |
|       :                                                                      |
|       :                                                                      |
|       :                                                                      |
|       :                                                                      |
|       :                                                                      |
|       :                                                                      |
|       :                                                                      |
|       :                                                                      |
| *** END ***                                                                  |
| O: C1 CH: iHDAMSE d                                                          |
```

```
                 DBMS DESCRIPTIONS   DL/1              *VALIDA.LULU.DL1.3225
INPUT AID DESCRIPTION......:     HIDAM  DL1 HIDAM DATABASE DECLARATION

A LIN : T LABEL               INITIAL VALUE              LEN G REFER. LIBR.
  100 :                ACCESS= (HIDAM,VSAM)              020 G ACCESS 0651
  140 :                PASSWD=                           003 G PASSWD 0651
  160 :   DATASET         DD1=                           008 G DDNAME 0651
  180 :                DEVICE=                           015 G        0651
  200 :                 BLOCK=                           006 G        0651
  220 :                  SIZE=                           006 G        0651
  240 :                  SCAN=                           002 G        0651
  260 :                 FRSPC=                           008 G        0651
  800 : T $1                   3380,MODEL=1                           0651
  820 : T $2                   3380,MODEL=2                           0651
      :
      :
      :
      :
      :
      :
      :
      :
*** END ***
O: C1 CH: iHIDAM d
```

```
                  DBMS DESCRIPTIONS   DL/1            *VALIDA.LULU.DL1.3225
INPUT AID DESCRIPTION......:     HIDAMS HIDAM DATABASE SEGMENT COMPLEMENT

A LIN : T LABEL               INITIAL VALUE              LEN G REFER. LIBR.
  100 :               POINTER=                          030 G PTR    0651
  120 :                 RULES=                          020 G RULES  0651
  140 :               COMPRTN=                          025 G        0651
      :
      :
      :
      :
      :
      :
      :
      :
      :
      :
      :
      :
      :
      :
*** END ***
O: C1 CH: iHIDAMS d
```

```
                  DBMS DESCRIPTIONS   DL/1              *VALIDA.LULU.DL1.3225
INPUT AID DESCRIPTION......:     HISAM  DL1 HISAM DATABASE DECLARATION

A LIN : T LABEL                INITIAL VALUE              LEN G REFER. LIBR.
  100 :                ACCESS= (HISAM,VSAM)               020 G ACCESS 0651
  120 :                PASSWD=                            003 G        0651
  140 :   DATASET         DD1=                            008 G DDNAME 0651
  160 :                DEVICE=                            015 G        0651
  180 :                 OVFLW=                            008 G        0651
  200 :                 BLOCK=                            016 G        0651
  220 :                  SIZE=                            012 G        0651
  240 :                RECORD=                            012 G        0651
      :                                                                0651
      :                                                                0651
      :
      :
      :
      :
      :
      :
      :
      :
*** END ***
O: C1 CH: iHISAM d
```

```
|                  DBMS DESCRIPTIONS   DL/1              *VALIDA.LULU.DL1.3225 |
| INPUT AID DESCRIPTION......:     HSAM  DL/1 HSAM DATABASE DECLARATION         |
|                                                                               |
| A LIN : T LABEL                INITIAL VALUE              LEN G REFER. LIBR.  |
|   100 :                ACCESS= (HSAM,VSAM)               020 G ACCESS 0651   |
|   120 :                PASSWD=                           003 G        0651   |
|   140 :   DATASET         DD1=                           008 G DDNAME 0651   |
|   160 :                DEVICE=                           015 G        0651   |
|   180 :                   DD2=                           008 G DDNAME 0651   |
|   200 :                 BLOCK=                           016 G        0651   |
|   220 :                RECORD=                           012 G        0651   |
|       :                                                             0651   |
|       :                                                             0651   |
|       :                                                                    |
|       :                                                                    |
|       :                                                                    |
|       :                                                                    |
|       :                                                                    |
|       :                                                                    |
|       :                                                                    |
|       :                                                                    |
| *** END ***                                                                |
| O: C1 CH: iHSAM d                                                          |
```

```
                  DBMS DESCRIPTIONS   DL/1              *VALIDA.LULU.DL1.3225
INPUT AID DESCRIPTION......:     HSAMSE HSAM DATABASE SEGMENT COMPLEMENT

A LIN : T LABEL                INITIAL VALUE              LEN G REFER. LIBR.
  100 :                  FREQ=                            010 G        0651
  120 :                 RULES=                            020 G RULES  0651
      :
      :
      :
      :
      :
      :
      :
      :
      :
      :
      :
      :
      :
      :
      :
      :
*** END ***
O: C1 CH: iHSAMSE d
```

```
                  DBMS DESCRIPTIONS   DL/1              *VALIDA.LULU.DL1.3225
INPUT AID DESCRIPTION.......:     INDEX  DL1 INDEX DATABASE DECLARATION

A LIN : T LABEL                INITIAL VALUE              LEN G REFER. LIBR.
  100 :                ACCESS= (INDEX,VSAM)              020 G ACCESS 0651
  120 :                PASSWD=                           003 G        0651
  140 :   DATASET         DD1=                           008 G DDNAME 0651
  160 :                DEVICE=                           015 G        0651
  180 :                 OVFLW=                           008 G        0651
  200 :                 BLOCK=                           016 G        0651
  220 :                  SIZE=                           012 G        0651
  240 :                RECORD=                           012 G        0651
  800 : T $1                   3380,MODEL=1                           0651
  820 : T $2                   3380,MODEL=2                           0651
      :
      :
      :
      :
      :
      :
      :
      :
*** END ***
O: C1 CH: iINDEX d
```

```
                  DBMS DESCRIPTIONS   DL/1              *VALIDA.LULU.DL1.3225
INPUT AID DESCRIPTION......:     INDEXS INDEX DATABASE SEGMENT COMPLEMENT

A LIN : T LABEL                INITIAL VALUE              LEN G REFER. LIBR.
  100 :                  FREQ=                             010 G        0651
  120 :                 RULES=                             020 G RULES  0651
  130 :   LCHILD         NAME=                             020 G        0651
  140 :                 INDEX=                             006 G        0651
      :
      :
      :
      :
      :
      :
      :
      :
      :
      :
      :
      :
      :
*** END ***
O: C1 CH: iINDEXS d
```

Chapter 9. Positioning of Generated Lines

POSITIONING OF GENERATED LINES

Description lines of a DL/1 Database are generated in column 4 or 16. However, the user may request that they be positioned in column 1 via the:

- Generation Elements lines associated to the Database Block (CH: BaaaaaaGG).
- Generation Elements lines associated to the Database Block description (CH: -DHnnnGG).
- PIA call on the -GG screen of the Database Block.

Whatever the Type of Line value, the description lines to be positioned in column 1 must contain '£1' (to get a '£', use sterling pound or sharp key, depending on your keyboard) in the first two positions of the DESCRIPTION field.

EXAMPLE:

A LIN : T DESCRIPTION

```
100   G £1This line will be generated in column 1.
120   G £1That one too.
```

NOTE:: If the line positioned in column 1 is a comment line, it must be inserted after the DL/1 statements.

Chapter 10. Examples of Generated Descriptions

EXAMPLES OF GENERATED DESCRIPTIONS

This chapter presents two examples of VA Pac-generated descriptions for two different types of Database Blocks.

1. 'DP'-type Database Block: PHYSICAL DBD

   Coded DBDCDE, defined and described in Chapter "PHYSICAL AND LOGICAL DBD".

2. 'PS'-type Database Block: PSB

   Coded PSBDOC, defined and described in Chapter "PSB".

```
     GENERATION OF DBDCDE PHYSICAL DBD
     ---------------------------------


DBD         NAME=JMDBYCM,                                   *
            ACCESS=(HDAM,VSAM),                             *
            RMNAME=(DFSHDC40,040,008,100)
DATASET         DD1=PACCDE,                                 *
            DEVICE=3380
SEGM        NAME=CD05,                                      *
            BYTES=122
FIELD       NAME=(CLECD,SEQ,U),                             *
            BYTES=5,START=1,TYPE=C
FIELD       NAME=DATE,                                      *
            BYTES=6,START=1,TYPE=C
FIELD       NAME=NUCOM,                                     *
            BYTES=5,START=7,TYPE=C
FIELD       NAME=REFCLI,                                    *
            BYTES=30,START=12,TYPE=C
FIELD       NAME=NUCLIE,                                    *
            BYTES=8,START=42,TYPE=C
FIELD       NAME=COPOS,                                     *
            BYTES=5,START=50,TYPE=C
FIELD       NAME=VILLE,                                     *
            BYTES=20,START=55,TYPE=C
FIELD       NAME=CORRES,                                    *
            BYTES=25,START=75,TYPE=C
FIELD       NAME=REMIS,                                     *
            BYTES=6,START=100,TYPE=C
FIELD       NAME=RELEA,                                     *
            BYTES=3,START=106,TYPE=C
FIELD       NAME=LANGU,                                     *
            BYTES=1,START=109,TYPE=C
FIELD       NAME=MATE,                                      *
            BYTES=8,START=115,TYPE=C
SEGM        NAME=CD10,                                      *
            PARENT=CD05,                                    *
```

```
            BYTES=7,                                          *
            POINTER=T
FIELD       NAME=(FOURNI,SEQ,U),                              *
            BYTES=3,START=1,TYPE=C
FIELD       NAME=QTMAL,                                       *
            BYTES=2,START=4,TYPE=C
FIELD       NAME=QTMAC,                                       *
            BYTES=2,START=6,TYPE=C
SEGM        NAME=CD20,                                        *
            PARENT=CD05,                                      *
            BYTES=1
FIELD       NAME=(EDIT,SEQ,U),                                *
            BYTES=1,START=1,TYPE=C
SEGM        NAME=CD30,                                        *
            PARENT=CD05,                                      *
            BYTES=6
FIELD       NAME=(COCARA,SEQ,U),                              *
            BYTES=1,START=1,TYPE=C
FIELD       NAME=NUCOM,                                       *
            BYTES=5,START=2,TYPE=C
DBDGEN
END
```

GENERATION OF PSBDOC PSB

```
 PCB         TYPE=DB,                                         *
             DBDNAME=JMDBYFO,                                 *
             PROCOPT=A,                                       *
             KEYLEN=20
 SENSEG      NAME=FO10
 PCB         TYPE=DB,                                         *
             DBDNAME=JMDBXCM,                                 *
             PROCOPT=A,                                       *
             KEYLEN=7
 SENSEG      NAME=ME00
 PCB         TYPE=DB,                                         *
             DBDNAME=JMDBYCL,                                 *
             PROCOPT=A,                                       *
             KEYLEN=9
 SENSEG      NAME=CL10
 SENSEG      NAME=CL20,PARENT=CL10
 PCB         TYPE=DB,                                         *
             DBDNAME=JMDBYCM,                                 *
             PROCOPT=A,                                       *
             KEYLEN=8
 SENSEG      NAME=CD05
 SENSEG      NAME=CD10,PARENT=CD05
 SENSEG      NAME=CD20,PARENT=CD05,PROCOPT=G
 SENSEG      NAME=CD30,PARENT=CD05
 PCB         TYPE=DB,                                         *
             DBDNAME=JMDBYER,                                 *
             PROCOPT=A,                                       *
             KEYLEN=17
 SENSEG      NAME=DBDLER
```

```
PCB         TYPE=DB,                                        *
            DBDNAME=JMDBYAR,                                *
            PROCOPT=A,                                      *
            KEYLEN=8
SENSEG      NAME=HE10
PSBGEN      PSBNAME=JIPSMA,                                 *
            LANG=COBOL,                                     *
            CMPAT=YES
END
```

Part Number: DDDL1000351A - 7634

Printed in USA