VisualAge Pacbase 2.5

DL/1 DBD
REFERENCE MANUAL

DDDL1000021A

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1. INTRODUCTION

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PACBASE FUNCTIONS 1

1.1. PACBASE FUNCTIONS

THE VisualAge Pacbase Application Development Solution

VisualAge Pacbase is an Application Development tool operating on mainframe, OS/2, UNIX or Windows NT. It has been designed to ensure the complete management of various information systems.

Consistency is ensured by all the data being stored in one Specification database and managed in a unique way by the System.

INTRODUCTION 1
PACBASE FUNCTIONS 1

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
Client/Server Facility
Batch Systems Development
COB / Generator

Database Description

DBD
DBD-SQL

Application Revamping

Pacbench Automatic Windowing (PAW) (releases older than VisualAge Pacbase 2.0)

Pacbase Web Connection

INTRODUCTION 1
PACBASE FUNCTIONS 1

Quality Control

Pacbench Quality Control (PQC)
Quality Control Extensibility

Table Management

Pactables

Production Turnover and Follow-up

Production Environment (PEI)
PacTransfer
Development Support Management System (DSMS)
PC function: revamped DSMS (in releases older than VisualAge Pacbase 2.0)

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
VisualAge Smalltalk-VisualAge Pacbase bridge
Team Connection-VisualAge Pacbase bridge

INTRODUCTION 1
INTRODUCTION TO THE DATABASE DESCRIPTION FUNCTION 2

1.2. INTRODUCTION TO THE DATABASE DESCRIPTION FUNCTION

INTRODUCTION TO THE D.B.D. 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,

. TurboImage databases,

. DMSII databases.

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

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PRINCIPLES OF DESCRIPTION 3

1.3. PRINCIPLES OF DESCRIPTION

DESCRIPTION PRINCIPLES

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 both on-line (screens) and batch (forms) data entry into the Database.

Since input screens and batch forms usually contain the same fields, their descriptions are often identical.

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

For certain descriptions, there may be slight differences between the screen and the corresponding batch form. This can be explained by the fact that batch mode is less flexible than on-line mode and often needs additional input fields for some indicators which already exist on the screen.

In addition, the user may find that the field sequence on a screen is different from the field sequence on the corresponding batch form. If that occurs, the numbers referencing the fields may not appear in ascending sequence on either the screen example or the batch form.

>>>> If you use the VisualAge Pacbase WorkStation, the graphical interface of the corresponding windows is described in the VisualAge Pacbase WorkStation Reference Manual.

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

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

2. PACBASE DL/1

2.1. 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,
```

. General Documentation (-G) 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

PACBASE 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 General 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 General Documentation (-G) 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 General Documentation (-G) screens.

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
```

General Documentation lines 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 following input:

. In the TYPE OF LINE field: 'G'
. In the COMMENT field: '£1' followed by the comment. (See Chapter "POSITIONING OF GENERATED LINES").

PARAMETERIZED INPUT AIDS

In order to facilitate input on General Documentation 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.

2.2. 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.

GENERAL DOCUMENTATION

The Definition and Description information of a Database Block provides PACBASE with all of the logical information necessary for block generation.

The physical information must be entered on the General Documentation (-G) lines attached to the block. (For more details, refer to the chapters for each specific block type).

PACBASE DL/1 **2**
DEFINITION OF A DATABASE BLOCK (B) **2**

```
--------------------------------------------------------------------------------
!                  DBMS DESCRIPTIONS   DL/1              +VALIDA.LULU.DL1.725 !
!                                                                              !
! 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                                               !
!                                                                              !
!                                                                              !
! 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 (REQ. IN CREATION) 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 (REQ. IN CREATION) For hierarchical or network databases, it is not necessary, 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	Tree-like structure (hierarchical block).
		SE	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).
		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
		Q4	DB2/400
		QA	ALLBASE/SQL
		QB	DB2/2 and DB2/6000
		QC	DATACOM/DB
		QG	INGRES/SQL
		QI	INFORMIX-ESQL
		QN	NONSTOP SQL

NUM	LEN	CLASS VALUE	DESCRIPTION OF FIELDS AND FILLING MODE
		QO	ORACLE (releases earlier than V6)
		QP	ORACLE (from release V6 on)
		QR	RDMS
		QS	SQL/DS
		QT	INTEREL RDBC
		QU	INTEREL RFM
		QV	VAX SQL
		QY	SYBASE
		DB	DB2 (It is recommended to use the Q2 type)
			NETWORK DATABASES

			.CODASYL-DM4 (BULL 66 or DPS8):

		M1	DDL schema, only elementary fields are generated,
		M4	DDL schema, only group fields are generated,
		M2	DMCL schema,
		M3	Sub-schema.
			.CODASYL-IDS2 (BULL 64 or DPS7):

		I1	DDL schema,
		I2	DMCL schema,
		I3	SDDL sub-schema.
			.CODASYL-IDMS:

		D0	DDL schema (Release 10.0),
		D1	DDL schema,
		D2	DMCL schema,
		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

NUM	LEN	CLASS VALUE	DESCRIPTION OF FIELDS AND FILLING MODE
		PF	AS/400 Physical file (IBM SYS. 38)
		LF	AS/400 Logical file (IBM SYS. 38).
			DDL TURBOIMAGE ----------
		TI	TurboImage Database.
			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 the user to enter additional (explicit) keywords. By default, keywords are generated from an occurrence's clear name (implicit keywords). This field only exists on-line. In batch mode, keywords are entered on Batch Form 'G'. Keywords must be separated by at least one space. Keywords have a maximum length of 13 characters which

NUM LEN	CLASS VALUE	DESCRIPTION OF FIELDS AND FILLING MODE
		must be alphanumeric. However, '=' and '*' are reserved for special usage, and are therefore not permitted in keywords. Keywords are not case-sensitive: upper-case and lower-case letters are equivalent. NOTE: Characters bearing an accent and special characters can be declared as equivalent to an internal value in order to facilitate occurrence search by keywords. Refer to the Operations Manual - Part II "Administrator's Guide", Chapter "Database Management Utilities", Subchapter "PARM: Update of User Parameters". A maximum of ten explicit keywords can be assigned to one entity. For more details, refer to Chapter "KEYWORDS" Subchapter "BUILDING THE THESAURUS" in the SPECIFICATIONS DICTIONARY Reference Manual.

3. PHYSICAL AND LOGICAL DBD

3.1. 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").

VIRTUAL GENERAL DOCUMENTATION LINES

1. PHYSICAL DBD (TYPE OF BLOCK = DP):

Several lines of virtual General Documentation 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 General Documentation (-G) lines:

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

2. REDUCED PHYSICAL DBD (TYPE OF BLOCK = DR):

The defniition 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 General Documentation lines are identical to those of the "DP"-type Database Block.

3. LOGICAL DBD (TYPE OF BLOCK = DL):

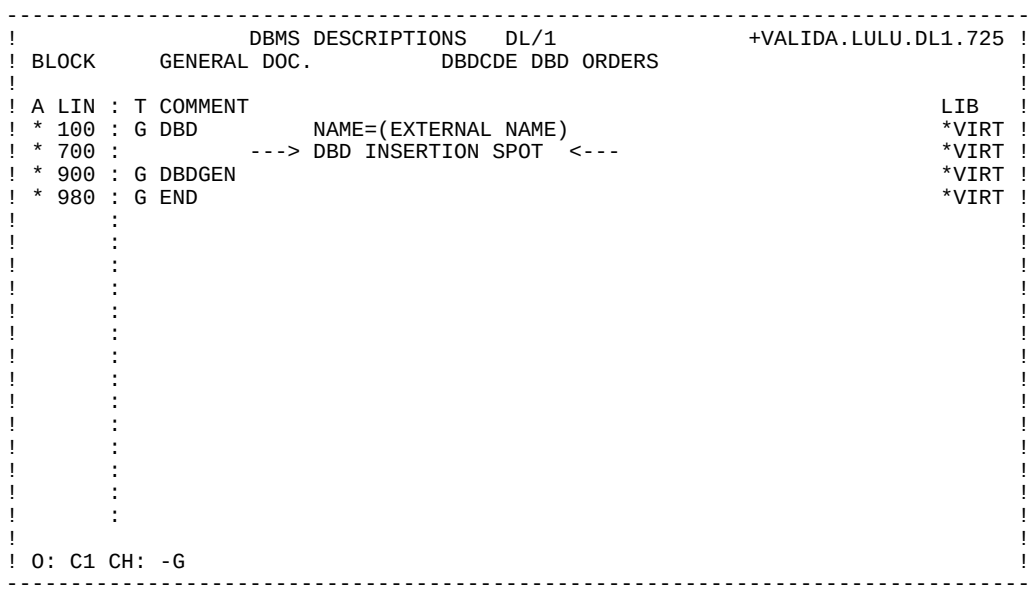
The generated lines (Block Name and 'ACCESS=LOGICAL") are sufficient and do not have to be rewritten by the user.

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

PHYSICAL AND LOGICAL DBD 3
DEFINITION (B) 1

```
--------------------------------------------------------------------------------
!                 DBMS DESCRIPTIONS   DL/1              +VALIDA.LULU.DL1.725 !
!                                                                              !
! BLOCK DEFINITION.............:    DBDCDE                                     !
!                                                                              !
! NAME.................: DBD ORDERS                                           !
! TYPE.................: DP PHYSICAL DBD                                      !
!                                                                              !
!                                                                              !
! EXTERNAL NAME.........: JMDBYCM                                             !
!                                                                              !
!                                                                              !
!                                                                              !
! CONTROL CARDS....... FRONT:         BACK:                                    !
!                                                                              !
!                                                                              !
! EXPLICIT KEYWORDS..:                                                        !
!                                                                              !
!                                                                              !
! SESSION NUMBER.....: 0640        LIBRARY......: DL1    LOCK....:             !
!                                                                              !
!                                                                              !
!                                                                              !
!                                                                              !
! O: C1 CH: Bdbdcde                    ACTION:                                 !
--------------------------------------------------------------------------------
```

PHYSICAL AND LOGICAL DBD 3
DEFINITION (B) 1



3.2. 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.

VIRTUAL GENERAL DOCUMENTATION LINES

- PHYSICAL DBD:

  The virtual 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 General Documentation (-G) lines.

A 'FIELD' description can be modified on the General Documentation (-G) lines associated with a physical DBD description line (-DHnnnG). In order to do this, the user enters the following input between virtual lines 700 and 800 (beginning 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 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: Only the General Documentation lines whose TYPE OF LINE = 'G' will be taken into account at generation time. Documentation lines with a 'blank' in the TYPE OF LINE field have a documentary value only.

PHYSICAL AND LOGICAL DBD 3
DESCRIPTION (-DH) 2

```
!                  DBMS DESCRIPTIONS   DL/1              +VALIDA.LULU.DL1.725 !
! 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 ***                                                                  !
! 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
3	3		LINE NUMBER PURE NUMERIC FIELD It is advisable to begin with line number '100' and then number in intervals of 20. This facilitates subsequent line insertions, as necessary.
4	4		SEGMENT CODE (REQ. IN CREATION) 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 indi-cated 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.

NUM	LEN	CLASS VALUE	DESCRIPTION OF FIELDS AND FILLING MODE
			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 a display field used on-line only. It does not accept input.
		*	General documentation exists for the element on this line. Access to line nnn: -CEnnn Access to the documentation of line nnn: -CEnnnG For more details, see the "GENERAL DOCUMENTATION" chapter in the SPECIFICATIONS DICTIONARY Reference Manual.
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.

PHYSICAL AND LOGICAL DBD 3
DESCRIPTION (-DH) 2

```
--------------------------------------------------------------------------------
!                  DBMS DESCRIPTIONS   DL/1              +VALIDA.LULU.DL1.725 !
! BLOCK DESC GENERAL DOC.         DBDCDE DBD ORDERS                       100 !
!                                                                             !
! A LIN : T COMMENT                                                  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: -DH100G                                                           !
--------------------------------------------------------------------------------
```

4. INDEX

4.1. 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").

VIRTUAL GENERAL DOCUMENTATION LINES

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

PACBASE 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 General Documentation lines:

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

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

INDEX 4
DEFINITION (B) 1

```
--------------------------------------------------------------------------------
!                 DBMS DESCRIPTIONS   DL/1              +VALIDA.LULU.DL1.725 !
!                                                                              !
! BLOCK DEFINITION.............:    INDCDE                                     !
!                                                                              !
! NAME..................: PRIMARY INDEX FOR DBDCDE                            !
! TYPE..................: IP PRIMARY INDEX                                    !
!                                                                              !
!                                                                              !
! EXTERNAL NAME.........: JMDBWER                                             !
!                                                                              !
!                                                                              !
!                                                                              !
! CONTROL CARDS....... FRONT: X       BACK: X                                  !
!                                                                              !
!                                                                              !
! EXPLICIT KEYWORDS..:                                                        !
!                                                                              !
!                                                                              !
! SESSION NUMBER.....: 0640        LIBRARY......: DL1    LOCK....:             !
!                                                                              !
!                                                                              !
!                                                                              !
!                                                                              !
! O: C1 CH: Bindcde                    ACTION:                                 !
--------------------------------------------------------------------------------
```

INDEX 4
DEFINITION (B) 1

```
--------------------------------------------------------------------------------
!                 DBMS DESCRIPTIONS   DL/1              +VALIDA.LULU.DL1.725 !
! BLOCK     GENERAL DOC.          INDCDE PRIMARY INDEX FOR DBDCDE               !
!                                                                              !
! A LIN : T COMMENT                                                 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: -G                                                                 !
--------------------------------------------------------------------------------
```

4.2. 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.

VIRTUAL GENERAL DOCUMENTATION LINES

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

PACBASE does not have the necessary information for the description of a given Index (LCHILD, 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 General Documentation lines.

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

INDEX 4
DESCRIPTION **(-DH)** 2

```
--------------------------------------------------------------------------------
!                  DBMS DESCRIPTIONS   DL/1              +VALIDA.LULU.DL1.725 !
! 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
3	3		LINE NUMBER PURE NUMERIC FIELD It is advisable to begin with line number '100' and then number in intervals of 20. This facilitates subsequent line insertions, as necessary.
4	4		SEGMENT CODE (REQ. IN CREATION) 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.

NUM	LEN	CLASS VALUE	DESCRIPTION OF FIELDS AND FILLING MODE
			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 a display field used on-line only. It does not accept input.
		*	General documentation exists for the element on this line. Access to line nnn: -CEnnn Access to the documentation of line nnn: -CEnnnG For more details, see the "GENERAL DOCUMENTATION" chapter in the SPECIFICATIONS DICTIONARY Reference Manual.
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.

INDEX 4
DESCRIPTION **(-DH)** 2

```
--------------------------------------------------------------------------------
!                  DBMS DESCRIPTIONS   DL/1              +VALIDA.LULU.DL1.725 !
! BLOCK DESC GENERAL DOC.         INDCDE PRIMARY INDEX FOR DBDCDE          100 !
!                                                                              !
! A LIN : T COMMENT                                                  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: -DH100G                                                            !
--------------------------------------------------------------------------------
```

5. PCB

5.1. DEFINITION (B)

DEFINITION

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

VIRTUAL GENERAL DOCUMENTATION LINES

No virtual lines are associated to a PCB Database Block.

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

NOTE:

The definition of a PCB can be documented on one or more General Documentation (-G) lines.

PCB 5
DEFINITION (B) 1

```
!                  DBMS DESCRIPTIONS   DL/1              +VALIDA.LULU.DL1.725 !
!                                                                               !
! BLOCK DEFINITION.............:    PCBIDX                                      !
!                                                                               !
! NAME..................: PCB DBDCDE (BY SECONDARY INDEX)                       !
! TYPE..................: PC PCB                                                !
!                                                                               !
!                                                                               !
! EXTERNAL NAME.........: JMDBYCM                                               !
!                                                                               !
!                                                                               !
!                                                                               !
! CONTROL CARDS....... FRONT:         BACK:                                     !
!                                                                               !
!                                                                               !
! EXPLICIT KEYWORDS..:                                                          !
!                                                                               !
!                                                                               !
! SESSION NUMBER.....: 0640        LIBRARY......: DL1    LOCK....:              !
!                                                                               !
!                                                                               !
!                                                                               !
!                                                                               !
! O: C1 CH: Bpcbidx                     ACTION:                                 !
```

PCB **5**
DEFINITION **(B)** **1**

```
!                  DBMS DESCRIPTIONS   DL/1              +VALIDA.LULU.DL1.725 !
! BLOCK     GENERAL DOC.          PCBIDX PCB DBDCDE (BY SECONDARY INDEX)       !
!                                                                              !
! A LIN : T COMMENT                                                      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: -G                                                                 !
```

5.2. 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.

VIRTUAL GENERAL DOCUMENTATION LINES

No virtual lines are associated with a PCB Database Block.

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

NOTE:

PCB description lines can be documented on one or more General Documentation lines.

PCB 5
DESCRIPTION (-DH) 2

```
!                  DBMS DESCRIPTIONS   DL/1              +VALIDA.LULU.DL1.725 !
! 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
3	3		LINE NUMBER PURE NUMERIC FIELD It is advisable to begin with line number '100' and then number in intervals of 20. This facilitates subsequent line insertions, as necessary.
4	4		SEGMENT CODE (REQ. IN CREATION) 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.

NUM	LEN	CLASS VALUE	DESCRIPTION OF FIELDS AND FILLING MODE
			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 a display field used on-line only. It does not accept input.
		*	General documentation exists for the element on this line. Access to line nnn: -CEnnn Access to the documentation of line nnn: -CEnnnG For more details, see the "GENERAL DOCUMENTATION" chapter in the SPECIFICATIONS DICTIONARY Reference Manual.
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.

5.3. 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 "PACBASE DL/1").

VIRTUAL GENERAL DOCUMENTATION LINES

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

PACBASE 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 General Documentation (-G) 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 General 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 General Documentation lines whose TYPE OF LINE = 'G' will be taken into account at generation time. Documentation lines with a 'blank' in the TYPE OF LINE field have a documentary value only.

PCB 5
ALTERNATE OR EXPRESS PCB (IMS) 3

```
!                  DBMS DESCRIPTIONS   DL/1              +VALIDA.LULU.DL1.725 !
!                                                                               !
! BLOCK DEFINITION.............:    ALTPCB                                      !
!                                                                               !
! NAME..................: ALTERNATE PCB                                        !
! TYPE..................: PC PCB                                               !
!                                                                               !
!                                                                               !
! EXTERNAL NAME.........:                                                       !
!                                                                               !
!                                                                               !
!                                                                               !
! CONTROL CARDS....... FRONT:         BACK:                                     !
!                                                                               !
!                                                                               !
! EXPLICIT KEYWORDS..:                                                          !
!                                                                               !
!                                                                               !
! SESSION NUMBER.....: 0640        LIBRARY......: IMD    LOCK....:              !
!                                                                               !
!                                                                               !
!                                                                               !
!                                                                               !
! O: C1 CH: Baltpcb                    ACTION:                                  !
```

6. PSB

6.1. DEFINITION (B)

DEFINITION

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

VIRTUAL GENERALIZED DOCUMENTATION LINES

Several virtual General 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. 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.

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

```
--------------------------------------------------------------------------------
!                 DBMS DESCRIPTIONS   DL/1              +VALIDA.LULU.DL1.725 !
!                                                                              !
! BLOCK DEFINITION............:    PSBDOC                                      !
!                                                                              !
! NAME.................: PSB DIALOGUE DO                                      !
! TYPE.................: PS PSB                                               !
!                                                                              !
!                                                                              !
! EXTERNAL NAME.........: JIPSMA                                               !
!                                                                              !
!                                                                              !
!                                                                              !
! CONTROL CARDS....... FRONT:    S    BACK: S                                  !
!                                                                              !
!                                                                              !
! EXPLICIT KEYWORDS..:                                                         !
!                                                                              !
!                                                                              !
! SESSION NUMBER.....: 0640        LIBRARY......: DL1    LOCK....:             !
!                                                                              !
!                                                                              !
!                                                                              !
!                                                                              !
! O: C1 CH: Bpsbdoc                    ACTION:                                 !
--------------------------------------------------------------------------------
```

PSB **6**
DEFINITION **(B)** **1**

```
!                  DBMS DESCRIPTIONS   DL/1              +VALIDA.LULU.DL1.725 !
! BLOCK     GENERAL DOC.          PSBDOC PSB DIALOGUE DO                        !
!                                                                               !
! A LIN : T COMMENT                                                    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: -G                                                                  !
```

6.2. DESCRIPTION (-DH)

DESCRIPTION

The Hierarchical Block Description (-DH) screen allows the PACBASE 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.

VIRTUAL GENERAL DOCUMENTATION LINES

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 General Documentation lines associated with a PSB Description line (CH: -DHnnnG).
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 COMMENT 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 COMMENT field on the second line: the new description of 'SENSEG'.

EXAMPLE:

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

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

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.

PSB 6
DESCRIPTION **(-DH)** 2

```
!                  DBMS DESCRIPTIONS   DL/1              +VALIDA.LULU.DL1.725 !
! BLOCK DESC. HIERARCHICAL PSB     1  PSBDOC PSB DIALOGUE DO                    !
! 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
3	3		LINE NUMBER PURE NUMERIC FIELD It is advisable to begin with line number '100' and then number in intervals of 20. This facilitates subsequent line insertions, as necessary.
4	1		NOT USED WITH THE DL/1 FUNCTION
5	1		NOT USED WITH THE DL/1 FUNCTION
6	6		PCB / DBD CODE (REQ. IN CREATION) 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 a display field used on-line only. It does not accept input.
		*	General documentation exists for the element on this line. Access to line nnn: -CEnnn Access to the documentation of line nnn: -CEnnnG For more details, see the "GENERAL DOCUMENTATION" chapter in the SPECIFICATIONS DICTIONARY Reference Manual.
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:

NUM	LEN	CLASS VALUE	DESCRIPTION OF FIELDS AND FILLING MODE
			PR=nnnn
		(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.

PSB **6**
DESCRIPTION **(-DH)** **2**

```
!                  DBMS DESCRIPTIONS   DL/1              +VALIDA.LULU.DL1.725 !
! BLOCK DESC GENERAL DOC.         PSBDOC PSB DIALOGUE DO                  100 !
!                                                                             !
! A LIN : T COMMENT                                                  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: -DH100G                                                           !
```

7. ACCESS COMMANDS

7.1. ON-LINE ACCESS COMMANDS

DATABASE BLOCKS: ON-LINE ACCESS

LISTS

CHOICE	SCREEN	UPD
LCBaaaaaa	List of database blocks by code (starting with block 'aaaaaa').	NO
LTBaabbbbbb	List of database blocks by type (starting with type 'aa' and block 'bbbbbb').	NO
LEBaaaaaaaa	List of database blocks by external name (starting with name 'aaaaaaaa').	NO

DESCRIPTION OF BLOCK 'aaaaaa'

CHOICE	SCREEN	UPD
Baaaaaa	Definition of database block 'aaaaaa'	YES
BaaaaaaGbbb	General documentation for block 'aaaaaa' (starting with line 'bbb').	YES
BaaaaaaATbbbbbb	Text assigned to block 'aaaaaa' (starting with text 'bbbbbb').	NO
BaaaaaaX	X-references of block 'aaaaaa'.	NO
BaaaaaaXBbbbbbb	X-references of block 'aaaaaa' to PSB's (starting with PSB 'bbbbbb').	NO
BaaaaaaXObbbbbb	X-references of block 'aaaaaa' to screens (starting with screen 'bbbbbb').	NO
BaaaaaaXObbbbbbCScdddd	X-references of block '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.	NO
BaaaaaaXObbbbbbWccddd	X-references of block 'aaaaaa' to the Work Areas of screen 'bbbbbb' (starting with work area 'cc', line number'ddd').	NO
BaaaaaaXQbbbbbb	List of entities linked to block 'aaaaaa' through user-defined relation-ship 'bbbbbb'.	NO
BaaaaaaXVvvvvvv	X-references of block 'aaaaaa' to volumes (starting with volume 'vvvvvv').	NO
BaaaaaaXPbbbbbb	X-references of block 'aaaaaa' to programs (starting with program 'bbbbbb').	NO
BaaaaaaXPbbbbbbWccddd	X-references of block 'aaaaaa' to Work Areas of program 'bbbbbb' (starting with work area 'cc', line number 'ddd').	NO

```
BaaaaaaDHbbb       Description of hierarchical block     YES
                   'aaaaaa' (starting with line 'bbb')

BaaaaaaDHbbbGccc   General documentation of hierarchical YES
                   block 'aaaaaa' description line 'bbb'
                   (starting with general documentation
                   line 'ccc').
```

NOTES

General Documentation lines associated with a Database Block are accessed in two ways:

- Via "-G" in the CHOICE field:

  All virtual lines associated with the Database Block are displayed.

- Automatic branching from the Database Block Definition screen:

  General Documentation lines are displayed starting with the first non-virtual line (subsequent virtual lines are displayed).

```
!                  DBMS DESCRIPTIONS   DL/1              +VALIDA.LULU.DL1.725 !
! 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.DL1.725 !
! 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                                                               !
```

ACCESS COMMANDS 7
ON-LINE ACCESS COMMANDS 1

```
--------------------------------------------------------------------------------
!                  DBMS DESCRIPTIONS   DL/1              +VALIDA.LULU.DL1.725 !
! 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.DL1.725 !
! 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.DL1.725 !
! BLOCK CROSS-REFERENCES                    DBDCLI                              !
!                                                                               !
! PSB    PSB NAME                             LIN                       LIBR. !
! PLDCLI psb loading of dbdcli                010                       0653  !
! PSBDOC PSB DIALOGUE DO                      140                       0602  !
!                                                                               !
!                                                                               !
!                                                                               !
!                                                                               !
!                                                                               !
!                                                                               !
!                                                                               !
!                                                                               !
!                                                                               !
!                                                                               !
!                                                                               !
!                                                                               !
!                                                                               !
!                                                                               !
! O: C1 CH: BdbdcliXB                                                           !
```

7.2. BATCH ACCESS COMMANDS

DATABASE BLOCKS: BATCH ACCESS

DEFINITION

Batch Form 'L1' is used to define a Database Block.

ACTION CODES

```
C     = Creation of a line in the library.

M     = Modification of a line.

Blank = Creation or modification of a line,  depending
        on its presence or absence in the library.

X     = Creation or modification with possible use of
        ampersands (&).

D     = Deletion of a line.

B     = Deletion of the database block and of its de-
        pendent lines.
```

DATABASE BLOCK DESCRIPTION

BATCH FORM

Batch Form 'L2' is used to describe a hierarchical block.

The General Documentation associated with description lines is entered on Batch Form 'V3' using field 8 (the ENTITY LINE NUMBER) for the association.

ACTION CODES

```
C     = Creation of a line in the library.

M     = Modification of a line.

Blank = Creation or modification of a line,  depending
        on its presence or absence in the library.

X     = Creation or modification with possible use  of
        ampersands (&).

D     = Deletion of a line.

B     = Deletion of database block starting with this
        line (including associated documentation
        lines).

R     = End of multiple deletion.
```

If a 'B' line is not followed by an 'R' line, the deletion ends with the last line of the block.

7.3. 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 Batch Form '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 USER'S Reference Manual). 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 in-
         dicated in the entity field, description of all da-
         tabase 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 spe-
         cifying it in the printing request.
```

GENERATION OPTION

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

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.

PACBASE 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.DL1.725 !
! 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.DL1.725 !
! 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.DL1.725 !
! 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.DL1.725 !
! 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.DL1.725 !
! 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.DL1.725 !
! 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.DL1.725 !
! 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.DL1.725 !
! 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.DL1.725 !
! 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.DL1.725 !
! 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                                                          !
--------------------------------------------------------------------------------
```

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:

- General Documentation lines associated to the Database Block (CH: BaaaaaaG).

- General Documentation lines associated to the Database Block description (CH: -DHnnnG).

- PIA call on the -G 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 COMMENT field.

EXAMPLE:

```
A LIN : T COMMENT  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.

10. EXAMPLES OF GENERATED DESCRIPTIONS

EXAMPLES OF GENERATED DESCRIPTIONS

This chapter presents two examples of PACBASE-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
```