VisualAge Pacbase 2.5

SPECIFICATIONS DICTIONARY
REFERENCE MANUAL

DDSPE000251A

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1. INTRODUCTION

1.1. THE SYSTEM 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.

VISUALAGE PACBASE PRODUCTS

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

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

Basic Functions

Dictionary
Structured Code
Personalized Documentation Manager (PDM-PDM+)

Generators

On-Line Systems Development
Pacbench Client/Server
Batch Systems Development
COB / Generator

Database Description

DBD
DBD-SQL

Application Revamping

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

Pacbase Web Connection

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

1.2. PURPOSE OF THE MANUAL

PURPOSE OF THE MANUAL

The purpose of this reference manual is to describe all the entities managed by the Specifications Dictionary function.

PREREQUISITES FOR USERS

The user who wishes to fully comprehend the information found in this manual should take the appropriate training class.

In order to understand all of the System's facilities, particularly the command language used to access the different screens, the user must consult:

. USER INTERFACE GUIDE.

1.3. GENERAL PRESENTATION

GENERAL PRESENTATION

The SPECIFICATIONS DICTIONARY function is the nucleus of the System. It can be used alone or in conjunction with other functions.

The Specifications Dictionary assures the proper functioning of the four major components of the system:

. The actual Specifications 'Dictionary',

. The Documentation Manager,

. The Specifications Manager,

. The Generator.

The following paragraphs explain the uses of each of these components.

THE SPECIFICATIONS DICTIONARY

The Specifications Dictionary provides for the complete definition and description of:

. All elementary information (data elements) which form the data processing vocabulary of an installation,

. All data groups, standard file records, segments or records of a database, work areas or communication areas used in a program, etc.

The descriptions of these elements are purely logical in nature. A group of data elements described only once can be used both as a record in a standard file or as a work area in a program,

. The relationships between segments.

DOCUMENTATION MANAGER

The Documentation Manager facilitates the documentation of all the information contained in the database by:

. Describing, in a narrative form, all of the procedures associated with a system,

. Assigning specific lines of text to certain entities which may need a more detailed description,

. Introducing standardized documentation on pre-formatted data collection screens called Parameterized Input Aids (PIA's). This ensures homogeneous documentation of the described entities,

. Restructuring all information contained in the database permitting the printing of documentation whose specific destination can be any user of any specific application. The manuals that are generated for each user are presented by chapter and subchapter in a standard 8-1/2 by 11 inch format (parameterized option). They do not contain the technical information used by the data processing team, but rather information that is of specific interest to the end-user of an application,

. Automatically assigning keywords (known as implicit keywords) to each entity contained in the database, thus facilitating the retrieval of information.

A supplementary assignment of explicit keywords, managed by the user, is also possible. This allows for the extension of the thesaurus and, if necessary, the restructuring of information.

SPECIFICATIONS MANAGER

The Specifications Manager ensures the management of all information contained in the Database by means of the following:

. On-line or batch update of all entities contained in the database,

. Automatic establishment of the relationships between the different pieces of information in the Database (facilitates retrieval and maintenance),

. Access security whereby each user is assigned an authorization level, by library, to inquire or update,

. Frozen database sessions allowing PACBASE users to refer to or to make changes in former sessions. For example, it is possible to reconstruct a data structure that has undergone modification,

. The logical and hierarchical structuring of information, which enables the user to define each entity at a level corresponding to its degree of importance. Entities defined in this way may be used by hierarchically inferior levels.

GENERATOR

The Generator ensures the generation of data descriptions which may be used in COBOL programs.

A full chapter at the end of this manual gives details on this function.

1.4. ENTITIES MANAGED BY THE SYSTEM

ENTITIES MANAGED BY THE SYSTEM

The System processes data that are grouped into homogeneous families called ENTITIES.

An entity is made up of one or more screens of three different types:

. Definition screens,

. Description screens,

. General Documentation screens.

A screen is made up of fields. Some fields are used to identify a screen or a line in a unique way, they are called identifiers or keys.

The entities managed by the Specifications Dictionary function are:

. DATA ELEMENTS,

. DATA STRUCTURES,

. SEGMENTS,

. DATABASE BLOCKS,

. TEXTS,

. PARAMETERIZED INPUT AIDS (P.I.A.),

. USER MANUALS,

. KEYWORDS.

A General Documentation screen is provided for each of the entities mentioned above.

DATA ELEMENTS

Data elements (entity 'E') are used to create a dictionary of basic units of data. This entity is made up of a Definition Screen, one or more Description Screens, and may be documented on the General Documentation Screen.

DATA STRUCTURES

The purpose of data structures (entity 'D') is to group segments or reports together in a logical manner.

This entity is made up of a Definition Screen and can be documented on the General Documentation Screen.

SEGMENTS

Segments (entity 'S') are structured sets of data elements.
This entity is made of a Definition screen and one or more description screens (call of elements). Both the definition and each description line may be documented through General Documentation lines.

Other pieces of information may be added, according to the future use of the segment (file record, database segment, table item, work area....).

DATABASE BLOCKS

Database blocks (entity 'B') describe the relation- ships between defined segments. These relationships can be structured hierarchically, in a network, or relationally.

This entity is made up of a Definition Screen (which can be documented on the General Documentation Screen) and one or more Description Screens. Database blocks are described according to type.

One type of description screen is used for hierarchical blocks, a second type is used for blocks organized relationally, and another for blocks organized in networks.

TEXT

A Text (entity 'T') is a narrative presentation of information, which describes and documents a system during its entire life cycle.

This entity is made up of a Definition screen (which can be documented on the

General Documentation Screen) and one or more Description Screens.

GENERAL DOCUMENTATION

The General Documentation (-G) Screen is used to attach documentary information to the different entities.

Note that it is also possible to document an entity by associating a text entity to it. Associated texts may be viewed on the '-AT' screen of the documented entity.

PARAMETERIZED INPUT AID (P.I.A.)

The job of documenting the different entities can be simplified and standardized by using parameterized input aids (P.I.A.'s, entity 'I').

This entity is made up of a Definition Screen (which can be documented on the General Documentation Screen) and one or more Description Screens.

Once created, the P.I.A may be called as an input guideline into the General Documentation screen of any entity.

END-USER MANUALS: USER MANUALS AND VOLUMES

Two end-user documentation entities allow the user to document an application during its entire life cycle: the analysis, design, development and maintenance phases.

These entities are made up of a Definition Screen (which can be documented on the General Documentation Screen) and one or more Description Screens.

These entities are known as the User Manual entity, and the Volume entity. The Volume entity ('V'), more flexible and powerful, is managed by the Personalized Documentation Manager extension and is described in the PERSONALIZED DOCUMENTATION MANAGER Reference Manual.

KEYWORDS

Keywords (entity 'K'), which are assembled into a Thesaurus, are used to manage all the information stored in the Database in a coherent manner, and facilitate data retrieval at the same time.

Keywords are assigned to an entity either automatically from its name, or explicitly on its definition line.

1.5. 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.

2. DATA ELEMENTS

2.1. DATA ELEMENTS: INTRODUCTION

DATA ELEMENTS: INTRODUCTION

The purpose of the Data Element entity is to identify and describe all pieces of information used by the applications of the company.

A data element is a unit of data, considered 'elementary' during at least one stage in the development of a project.

EXAMPLE: During functional analysis, the user keeps track of a piece of information 'DATE OF MARRIAGE', which could, during implementation, be broken down into year, month and day of marriage.

Each one of these four basic units of data is defined as a data element:

.DATE OF MARRIAGE,
.YEAR OF MARRIAGE,
.MONTH OF MARRIAGE,
.DAY OF MARRIAGE.

GENERAL CHARACTERISTICS

The Data Element entity includes the following:

. A Definition screen, (required), for entry of its general characteristics (clear name, formats, keywords, etc.);

. A Description screen, (optional), for entry of all valid values, as well as labels which can be used by the On-Line Systems Development, PACTABLE and DBD functions;

. A General Documentation screen (optional), used for internal information (author, date of creation..).

RESULTS

Once defined, Data Elements appear in:

. Lists sorted by code or name,

. Cross-references to the programs, screens, reports, segments and volumes in which they are used,

. User manuals and volumes for end-users; their descriptions are then adapted

to the targeted readership.

2.2. DATA ELEMENTS: DEFINITION

DEFINITION SCREEN: DATA ELEMENT ENTITY

A data element is defined by a mnemonic code, a clear name and three formats (input, internal and output, which are expressed in COBOL). Whenever the data element is used, it automatically takes on one of these three formats.

NOTE:
If you create a data element by duplication (code overwrite) and if the new code already exists in a lateral library, 'W' is displayed in the ACTION CODE. It inhibits the immediate update. To perform the actual update, press the ENTER key again.

PARENT DATA ELEMENT

Technical variants of data elements, on which the data element's characteristics are modified, may be created.
Each variant is defined as a 'CHILD' data element of the 'PARENT' data element. The characteristics of the parent may be modified on each child data element.

All data elements from the same 'family' are logically linked in the Database.

A child element cannot be a parent element as well.

NOTES:
On a list screen with an operation other than 'C1', (i.e. consultation of other than the selected library and all higher level libraries), the information concerning child data elements is not displayed unless it is different from that of the parent data element.

In a child data element Definition Screen, data different from the parent element are identified by an asterisk ('*').
If the parent element has description lines, it is indicated in the child element Description Screen by a special line marked by an asterisk ('*') in its ACTION CODE field, and labelled "PARENT ELEMENT: .....". These description lines can be visualized with the value 'C2' entered in the OPERATION CODE field of the child element's Description screen.

When a parent data element is consulted, the first 40 child data elements are also listed.
If there are more than 40 child data elements, the 40th line will display the value '*MORE.'. In this case, all child data elements may be viewed on the screens listing data elements by code and by name, 'LCE' and 'LNE' screens, respectively.

DATE PROCESSING

Data elements used to represent dates are automatically managed by the system. A symbolic format can be assigned to these data elements, as follows:

. 'D' for a display type format (input):

X(6) (MMDDYY or DDMMYY according to the value of the DATE FORMAT IN GENERATED PROGRAMS entered on the Library Definition screen),

. 'I' for an internal type format:

X(6) (YYMMDD),

. 'E' for an output format (extended):

X(8) (MM/DD/YY or DD/MM/YY according to the value of the DATE FORMAT IN GENERATED PROGRAMS entered on the Library Definition screen),

. 'C' for a display type format with century (input):

X(8) (MMDDCCYY or DDMMCCYY according to the value of the DATE FORMAT IN GENERATED PROGRAMS entered on the Library Definition screen),

. 'S' for internal type format with century:

X(8) (CCYYMMDD),

. 'M' for an output format with century (extended):

X(10) (MM/DD/CCYY or DD/MM/CCYY according to the value of the DATE FORMAT IN GENERATED PROGRAMS entered on the Library Definition screen).

. 'G' for Gregorian format with century:

X(10) (CCYY-MM-DD),

When using the On-line Systems Development function, date validation is automatically performed.

NUMERIC FIELDS PROCESSING

To enter a numeric data element format longer than 10 characters, omit the '9' that would normally be entered after the 'V'.

EXAMPLE: S9(10)V9(3) must be entered as S9(10)V(3).

This way of coding must not be used when the format is shorter than 10 characters.

AUTOMATIC CONVERSION OF INTERNAL USAGE

The USAGE clause of a COBOL numeric variable allows you to indicate the internal representation of its value. Different USAGEs are available depending on the COBOL variants adapted to the different materials.

The INTERNAL USAGE characteristic of a Data Element corresponds to the COBOL USAGE clause. You should choose a Data Element INTERNAL USAGE according to the following elements:

- The type of COBOL to generate associated with the library where you define the Data Element.
- The internal representation you want.

> For example, if you generate for IBM, C INTERNAL USAGE generates USAGE COMP and F generates USAGE COMP-1. For UNISYS 1100, H INTERNAL USAGE generates USAGE COMP.

You can use this Data Element in a lower level library whose type of COBOL to generate is different to the one of the higher library.

> For example, you have defined the CORUB Data Element in the HIG library with C as INTERNAL USAGE and you use it in a LOW library with a type of COBOL to generate for UNISYS 1100.

When this happens, the System automatically replaces the Data Element INTERNAL USAGE with an equivalent which is compatible with the type of COBOL to generate.

> So, when you visualize CORUB in LOW, the INTERNAL USAGE automatically displayed is H. This value will be used to generate.

If there is no equivalent, or if the provided one does not suit you, you can modify the INTERNAL USAGE of the Data Element in the lower library to obtain the result you want.

UNDEFINED DATA ELEMENTS

It is possible in limited occasions to use element codes which are not defined in the dictionary; for example groups with no functional meaning.

Cross-references and a specific list are also available for these data elements, so that the dictionary administrator is able to control their use.

ASSOCIATED LINES

General Documentation (-G).

These lines allow the user to insert additional explanatory text.

```
--------------------------------------------------------------------------------
!                  PURCHASING MANAGEMENT SYSTEM         SG000008.LILI.CIV.1583 !
!                                                                              !
! DATA ELEMENT CODE    1 CITY                                                  !
!                                                                              !
!                                                                              !
! NAME...............: 2 CITY                                                  !
! TYPE...............: 3 R                                                     !
!                                                                              !
!                                                                              !
! INPUT FORMAT.......: 5 X(15)                              LENGTH...:    15 !
! INTERNAL FORMAT....: 6 X(15)                 USAGE : 7 D  LENGTH...:    15 !
! OUTPUT FORMAT......: 8 X(15)                      Z: 9    LENGTH...:    15 !
!                                                                              !
! EXPLICIT  KEYWORDS:  10                                                      !
!                                                                              !
! PARENT ELEMENT.....: 11                                                      !
!                                                                              !
!                                                                              !
!                                                                              !
!                                                                              !
! SESSION NUMBER.....: 0059        LIBRARY......: CIV    LOCK....:             !
!                                                                              !
! O: C1 CH: Ecity                       ACTION:                                !
--------------------------------------------------------------------------------
```

NUM	LEN	CLASS VALUE	DESCRIPTION OF FIELDS AND FILLING MODE
1	6		DATA ELEMENT CODE (REQUIRED) Enter the mnemonic code which references the data element independently from any data structure, report or screen to which the data element might belong. There is no need to include a report, screen or segment code in the Data Element code since the System does it automatically. This code consists of alphabetic or numeric characters only. Some Data Element codes are reserved by the System for use in data structures, reports or screens and cannot be defined in the Specifications Dictionary:
		SUITE	Prohibited. This code is reserved for the System for program generation.
		FILLER	Data Element that is used for the alignment of fields.
			Options of the BSD Function:
			Error Verification fields on transaction files:
		ENPR	Used for Data Element error verification.
		GRPR	Used for Segment error verification.
		ERUT	Used for user defined errors.
			For more information see DATA ELEMENT CODE on the Segment Call of Elements (-CE) screen.
			For Reports:
		LIGNE	Reserved for the placement and alignment of the layout line.
		LSKP	Reserved usage only in the '00' Report Structure. See STRUCTURE NUMBER on the Report Call of Elements (-CE) screen.
		SAUT	Reserved usage. This code is the counterpart of LSKP and used with the French version of the System.
			Options of the OLSD Function:
		ERMSG	Data Element for the placement of the error message.
		LIERR	Reserved usage. This code is the counterpart of ERMSG and used with the French version of the System.
		PFKEY	Used to represent the programmable function keys.

NUM	LEN	CLASS VALUE	DESCRIPTION OF FIELDS AND FILLING MODE
		*PASWD	(IMS only): Used for passwords on a specific screen. The code of the Data Elements provided with the product begins with ".". For the Data Elements you define, you should not use codes beginning with a ".". For more information, see DATA ELEMENT CODE OR SCREEN CODE TO CALL on the On-Line Screen Call of Elements (-CE) screen.
2	36		NAME OF DATA ELEMENT (REQ. IN CREATION) This 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). This name appears in documentation and in user manuals and volumes each time the data element is used. It is also possible to list data elements sorted by name. In IMS: Use uppercase.
3	1		TYPE
		P	Property: Elementary piece of information defined at the conceptual level. Note: the FORMAT is optional.
		R	Real Data Element (Default value): elementary piece of information, defined at the Specifications Dictionary level. D.B.D. function: CODASYL elementary data, Relational column.
		A	ALIAS Data Element: This value is used in conjunction with the 'A*' value in the DATA STRUCTURE CODE IN GENER. DESCR. field with the 'DATA' PIA, causes the NAME OF DATA ELEMENT to be generated, rather than the standard element name.
4	1		FORMAT TYPE Batch mode only. This field is used to distinguish which format is being entered in the INPUT, INTERNAL or OUTPUT FORMAT field in batch mode data entry.
		E	Input format.
		I	Internal format (default value).
		S	Output format.

NUM	LEN	CLASS VALUE	DESCRIPTION OF FIELDS AND FILLING MODE
			For the input and output formats, only the first ten characters are recognized.
5	10		INPUT FORMAT (Default option: INTERNAL FORMAT). This format is normally used with input transaction files (the conversion to internal format is done when updating master files). The user must ensure the compatibility between input and internal formats. The input format will automatically be used in segment descriptions. For batch programs, the user may select the format on the Call of Data Structures (-CD) screen. The input format must be coded like a COBOL picture (without print characters). USAGE is always display. This format is not necessary for a property. For data elements representing a date, it is possible to assign a symbolic format: Display type formats (input):
		D	Without century (DDMMYY or MMDDYY)
		C	With century (DDMMCCYY or MMDDCCYY)
			Internal type formats:
		I	Without century (YYMMDD)
		S	With century (CCYYMMDD)
			Extended type formats (output) (with slashes):
		E	Without century (DD/MM/YY or MM/DD/YY)
		M	With century (DD/MM/CCYY or MM/DD/CCYY)
		G	Gregorian format (CCYY-MM-DD)
		T	TIME format (HH:MM:SS)
		TS	TIMESTAMP format.

NUM	LEN	CLASS VALUE	DESCRIPTION OF FIELDS AND FILLING MODE
			PACMODEL function: this field may be omitted for a property. For a complete list of the uses of formats with the various Database Block types, see the summary tables in Chapter "COLUMN: DATA ELEMENT" in the RELATIONAL/ SQL DATABASE DESCRIPTION reference manual.
6	10		INTERNAL FORMAT Format normally used in system files (permanent, database and temporary files) and in screen input fields. Like the INPUT FORMAT, the INTERNAL FORMAT will be automatically used in the data segment descriptions. For batch programs, the user may select the format type on the Program Call of Data Structures (-CD) screen. It is also used (with the necessary transformations) in screen descriptions (input fields). (Refer to screen description in the ON-LINE SYSTEMS DEVELOPMENT Reference Manual). The internal format must be coded like a COBOL picture (without print characters). The 'INTERNAL USAGE' clause is associated with this format. For data elements that represent a date, it is possible to assign a symbolic format: Display type formats (input):
		D	Without century (DDMMYY or MMDDYY).
		C	With century (DDMMCCYY or MMDDCCYY).
			Internal type formats:
		I	Without century (YYMMDD).
		S	With century (CCYYMMDD).
			Extended type formats (output) (with slashes):
		E	Without century (DD/MM/YY or MM/DD/YY).
		M	With century (DD/MM/CCYY or MM/DD/CCYY).
		G	Gregorian format (CCYY-MM-DD).
		T	TIME format (HH:MM:SS).

NUM	LEN	CLASS VALUE	DESCRIPTION OF FIELDS AND FILLING MODE
		TS	TIMESTAMP format METHODOLOGY function: This field may be left blank for a property. For details on the use of the formats with the various types of database blocks, see the summary tables in chapter "COLUMNS: DATA ELEMENTS" of the "Relational SQL Database Description" Reference Manual.
7	1		INTERNAL USAGE Corresponds to the COBOL 'USAGE' clause.
		D	DISPLAY (default option), all hardware. Required for data elements indicating dates.
		C	COMPUTATIONAL (binary), IBM or equivalent; COMPUTATIONAL-4 (binary), IBM SYSTEM 38; COMPUTATIONAL-4 IBM 3-15D, COMPUTATIONAL-6 ICL 2900.
		R	COMPUTATIONAL SYNCHRONIZED RIGHT, IBM or equivalent; This value is preferable to 'C' when binary data are aligned on even addresses, since corresponding COBOL statements are more efficient.
		B	COMPUTATIONAL-1 ICL 1900. BINARY-1 UNISYS 1100 associated with format 1(n).
		S	COMPUTATIONAL SYNCHRONIZED RIGHT ICL 1900.
		N	COMPUTATIONAL-4 aligned on a half-byte. The user must add the complement if the length is uneven.
		P	COMPUTATIONAL-1 BULL 66, 6000 and DPS8.
		L	COMPUTATIONAL-1 SYNCHRONIZED RIGHT ICL 1900.
		Q	COMPUTATIONAL BULL 66, 6000 and DPS8.
		F	COMPUTATIONAL-1 IBM or equivalent. COMPUTATIONAL-9 BULL DPS7. COMPUTATIONAL-11 BULL 66 and DPS8. Relational DBD : floating point, simple precision.
		T	COMPUTATIONAL-3 PACKED SYNC. BULL 66 and DPS8.
		X	DISPLAY SIGN IS TRAILING SEPARATE CHARACTER.
		G	COMPUTATIONAL SYNCHRONIZED RIGHT ICL 2900 AND COMPUTATIONAL-5 MICROFOCUS.

NUM	LEN	CLASS VALUE	DESCRIPTION OF FIELDS AND FILLING MODE
		7	COMPUTATIONAL-5 ICL 2900.
		K	COMPUTATIONAL CDC. COMPUTATIONAL UNISYS 1100 (COBOL 85)
		M	COMPUTATIONAL-1 CDC.
		N	COMPUTATIONAL UNISYS-A
		O	COMPUTATIONAL-4 UNISYS 1100
		U	COMPUTATIONAL-1 UNISYS 1100.
		W	COMPUTATIONAL-2 UNISYS 1100. COMPUTATIONAL-12 BULL 66 and DPS8. RELATIONAL DBD : floating point, double precision.
		H	COMPUTATIONAL UNISYS 1100. BINARY UNISYS 1100 (COBOL 85)
		8	COMPUTATIONAL BULL 66 COBOL 74 and DPS8.
		9	COMPUTATIONAL-3 BULL 66 COBOL 74 DPS7 and DPS8.
		J	COMPUTATIONAL-6 BULL 66 COBOL 74 DPS7 and DPS8. REAL UNISYS-A.
		Y	DB-KEY BULL 66 DM4 and DPS8. POINTER IBM.
		I	DISPLAY-1 Unisys 1100
		5	COMPUTATIONAL-1 BULL 64 66 MINI-6 COBOL 74 DPS7 DPS8
		6	COMPUTATIONAL-2 BULL 64 66 MINI-6 COBOL 74 DPS7 DPS8
		3	COMPUTATIONAL-3 IBM or equivalent. COMPUTATIONAL BULL 64 MINI-6 DPS7. COMPUTATIONAL-3 (packed decimal) IBM SYSTEM 38. PACKED-DECIMAL UNISYS 1100 (COBOL 85)
		0	COMPUTATIONAL-7 BULL 66 and DPS8.
		1	DISPLAY-1 NCR (signed extended decimal). DISPLAY SIGN LEADING SEPARATE - UNISYS 1100, DPS8, IBM, TANDEM, DPS7.
		4	DISPLAY-2 NCR (unsigned packed decimal).
		2	DISPLAY-2 BULL = DISPLAY, fields are compared in accordance with the "commercial collating sequence" and not in accordance with the standard BULL sequence.

NUM	LEN	CLASS VALUE	DESCRIPTION OF FIELDS AND FILLING MODE
		Z	In batch mode only: this option, which is only used with an output format, allows for the generation of a 'BLANK WHEN ZERO' clause with the Batch S.D. function. METHODOLOGY function: This field may be left blank for a property.
8	27		OUTPUT FORMAT (Default option: INTERNAL FORMAT) This is the format of a data element as it is used in a printed report, or in a screen as a display field. It can also be used in a segment description. It must be coded like a COBOL picture. USAGE is always DISPLAY. In previous versions, this field was used to generate the BLANK WHEN ZERO clause, which may be displayed in this field. When creating or updating a data element, the BLANK WHEN ZERO CLAUSE field must be used for this purpose. For data elements representing a date, it is possible to assign a symbolic format: Display type formats (input):
		D	Without century (DDMMYY or MMDDYY)
		C	With century (DDMMCCYY or MMDDCCYY)
			Internal type formats:
		I	Without century (YYMMDD)
		S	With century (CCYYMMDD)
			Extended type formats (output) (with slashes):
		E	Without century (DD/MM/YY or MM/DD/YY)
		M	With century (DD/MM/CCYY or MM/DD/CCYY)
		G	Gregorian format (CCYY-MM-DD)
		T	TIME format (HH:MM:SS)
		TS	TIMESTAMP format
			PACMODEL function: This field may be omitted for a property.

NUM	LEN	CLASS VALUE	DESCRIPTION OF FIELDS AND FILLING MODE
			For details on the use of the formats with the various types of database blocks, see the summary tables in chapter "COLUMNS: DATA ELEMENTS" of the "Relational SQL Database Description" Reference Manual.
9	1		BLANK WHEN ZERO CLAUSE This field does not exist in batch mode: the USAGE field must be used instead. With OUTPUT FORMAT only:
		Z	Generates the 'BLANK WHEN ZERO' clause for a Data Element used in a Batch Program only. (For the generation of this clause with the O.L.S.D. function, refer to the Data Element Description screen (-D).)
10	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 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 make easy the search of occurrences 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.
11	6		PARENT ELEMENT CODE Allows data elements sharing the same characteristics

NUM	LEN	CLASS VALUE	DESCRIPTION OF FIELDS AND FILLING MODE
			to be defined under different codes. If a parent data element is indicated, the data element takes on the characteristics of the parent by default. These can be modified at the child level. The parent data element must have been defined previously. METHODOLOGY function: ---------- The notion of 'Parent Data Element' has no significance at the definition level of a property.

2.3. LIST OF DATA ELEMENTS FOR UPDATE

LIST OF DATA ELEMENTS FOR UPDATE

Data elements are the basic units of data managed by the system.

The initial building phase of the Database, or the massive input of new data elements, calls for a system facility which allows quick execution:

For this purpose, data elements may also be updated in a list format.

HOW IT WORKS

The screen used for data element input by list is obtained by the CHOICE 'LUE'. Depending on which code is entered in the OPERATION field, the 'LUE' screen allows input of:

```
.'C1': the basic characteristics of the data elements
       (parent, name, internal format, usage),

.'C2': the input and output formats.
```

The information to be entered here is the same as that found on the Definition Screen and thus undergoes the same validation operations.

Each line entered will appear as a Data Element Definition (E) screen.

NOTE: This screen does not allow for the specification of EXPLICIT KEYWORDS. These must be added as needed, on each individual Data Element Definition screen ('E.....').

DATA ELEMENTS 2
LIST OF DATA ELEMENTS FOR UPDATE 3

```
!                  PURCHASING MANAGEMENT SYSTEM         SG000008.LILI.CIV.1583 !
! LIST OF DATA ELEMENTS FOR UPDATE                                              !
! 1 2        3       4   5                                  6  7               !
! A ELEM.   : PARENT TYPE NAME OF DATA ELEMENT               US INT FORM   LIBR.!
!   ACCTNO  :          R   ACCOUNT NUMBER                    3  9(8)       0059 !
!   ACTION  :          R   TRANSACTION CODE                  D  X          0059 !
! . APPLI   :          R   PACBASE APPLICATION CODE          D  X(03)      *CEN !
!   CHOICE  :          R   OPERATION CODE                    D  X          0059 !
!   CITY    :          R   CITY                              D  X(15)      0059 !
! . CLELE   :          R   PACBASE ERROR MESSAGE KEY         D  X(17)      *CEN !
!   DATE    :          R   STANDARD DATE                     D  X(6)       0059 !
!   ERMSG   :          R   PACBASE ERROR MESSAGE LABEL       D  X(66)      0093 !
! . ERUT    :          R   ERUT VECTOR                       D  X          *CEN !
! . GRAER   :          R   PACBASE ERROR MESSAGE GRAVITY     D  X          *CEN !
!   ITPRIC  :          R   ITEM TOTAL PRICE                  3  9(9)V99    0059 !
!   ITBALN  :          R   ITEM ACCOUNT BALANCE              3  S9(10)V(3) 0059 !
!   ITQORD  :          R   ITEM QUANTITY ORDERED             3  9(6)       0059 !
!   ITQREC  :          R   ITEM QUANTITY RECEIVED            3  9(6)       0059 !
! . LIERR   :          R   PACBASE ERROR MESSAGE LABEL       D  X(66)      *CEN !
! . LINE    :          R   PRINT LINE FOR BATCH REPORTS      D  X(132)     *CEN !
! . NUERR   :          R   PACBASE ERROR MESSAGE NUMBER      D  X(03)      *CEN !
! . NUERR9  :          R   PACBASE ERROR MESSAGE NUMBER      D  9(03)      *CEN !
! . NULIG   :          R   PACBASE LINE NUMBER               D  9(03)      *CEN !
!                                                                               !
! O: C1 CH: LUE                                                                 !
```

2.4. DATA ELEMENTS: DESCRIPTION

DESCRIPTION SCREEN: DATA ELEMENT ENTITY

This screen is used to provide the full description of a data element by assigning explanatory text as well as values or ranges of possible values and their meaning.

It is also used to complement the description by information specific to the data element future use (screen labels and format, relational databases name...).

GENERAL CHARACTERISTICS

Each value or range of values is entered as a code and a label; this label will be used in user documentation. The values or ranges may be used in the data element validation process, if desired, in batch and on-line programs.

The description lines of the parent data element are automatically attributed to its child data elements. These lines are identified by an asterisk (*) in the ACTION CODE field, and may be viewed in option C2.

They cannot be modified or deleted at the level of the child data element.

Description lines specific to the child data element are displayed following those of the parent data element.

It is not necessary to create blank lines, as the SKIP OR ACTION TYPE field provides for line or page skip, both being taken into account in user manuals and volumes.

CHARACTERISTICS SPECIFIC TO ON-LINE SYSTEMS DEVELOPMENT

When using a data element in a screen, a Short Label, a Column Label, a sample value and possibly an on-line format can be defined at this level, if necessary.

Delimiters of data element labels may be parameterized. The delimiter default value may then be overridden if it is used in the given label. A delimiter is required for the column label but optional for the short label.

Conversational Formats: In on-line programs, the format used for unprotected (variable) data elements is calculated by the system, as an expanded version of the INTERNAL FORMAT. For protected fields, the system will use the OUTPUT FORMAT. The user may however, override these formats by specifying a conversational format.

For dates, the symbolic date formats may be used.

Operation and Action codes: their values and the corresponding internal values may be indicated here.

PREREQUISITE

The data element must have been previously defined.

OPERATION FIELD

C1: default value.
C2: displays the source of lines entered.

```
!                  PURCHASING MANAGEMENT SYSTEM         SG000008.LILI.CIV.1583 !
!    ELEMENT DESCRIPTION       1 CITY   CITY                                    !
!                                                                               !
! 2 3     4 5 6          7                                                      !
! A LIN : T S VALUE      SIGNIFICANCE - DESCRIPTION                             !
!   010 :                This field contains the city portion of an             !
!   020 :                address.                                               !
!   030 : L 2            CITY               *** SHORT LABEL  ***                !
!   040 : C              CITY/              *** COLUMN LABEL ***                !
!   050 : P              FALLS CHURCH                                           !
!       :                                                                       !
!       :                                                                       !
!       :                                                                       !
!       :                                                                       !
!       :                                                                       !
!       :                                                                       !
!       :                                                                       !
!       :                                                                       !
!       :                                                                       !
!       :                                                                       !
!                                                                               !
! O: C1 CH: -D                                                                  !
```

NUM	LEN	CLASS VALUE	DESCRIPTION OF FIELDS AND FILLING MODE
1	6		DATA ELEMENT CODE (REQUIRED)
2	1		ACTION CODE (REQUIRED)
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		TYPE OF LINE
		blank	Value and/or description line. With a blank line type, descriptive text is assigned to the Data Element. This text includes all possible values and what they mean.
		D	DATA ELEMENT DEFAULT VALUE One of the values entered can be referenced as the default value. When the value 'D' is entered on the Segment Call of Elements (-CE) screen in the TYPE : VALIDATION, UPDATE, VALUES field, this value is assigned as the initial value. PACBENCH C/S MODULE - for Smalltalk graphic client ----------
		G	This value allows you to define the graphic representation of the Entity when it is displayed in a Smalltalk graphic client. The sample value is entered in the SIGNIFICANCE - DESCRIPTION field. This is a default option; it can be modified by the developper of the graphic client. SPECIAL TYPES (OLSD & PACTABLE functions) ----------
		P	DATA ELEMENT PRESENTATION VALUE: The sample value is entered in the SIGNIFICANCE - DESCRIPTION field. This value is used when simulating a screen for documentary purposes.
		L	DATA ELEMENT SHORT LABEL: Maximum length: 18 characters. NOTE: This length may be shortened by explicitly entering a delimiter (see description of the DATA ELEMENT VALUE field). Default delimiter is '£'.

NUM	LEN	CLASS VALUE	DESCRIPTION OF FIELDS AND FILLING MODE
		C	COLUMN LABEL: The Column Label is defined on a single line but may use up to three lines. A delimiter in the Column Label indicates a line skip. The Column Label length is that of its longest line. Maximum length = 18 characters, including delimiters. A Column Label must be delimited by at least one delimiter (default = '/'). NOTE: To change the default delimiter, enter its value left-justified in the DATA ELEMENT VALUE field (refer to the description of this field).
		F	CONVERSATIONAL FORMAT: Data Elements used in input and output on-line: For Date Data Elements, enter the one-character symbolic value that represents the desired format, in the DATA ELEMENT VALUE field. The system will display the format in the SIGNIFICANCE - DESCRIPTION field. For other Data Elements, enter the desired output format in the SIGNIFICANCE - DESCRIPTION field. For numeric Data Elements, a BLANK WHEN ZERO clause may be obtained by entering 'Z' following the format entered in the SIGNIFICANCE - DESCRIPTION field. EXAMPLE: T ... SIGNIFICANCE - DESCRIPTION F ... 9(4) Z
		O	Declaration of the OPERATION CODE values.
		I	Declaration of the ACTION CODE values. For values 'O' and 'I', see also the SKIP OR ACTION TYPE field, and refer to the "ON-LINE SYSTEMS DEVELOPMENT Reference Manual".
			RELATIONAL DATABASES: ----------
		R	This value generates the data element's relational name on 18 characters, which is entered in the SIGNIFICANCE - DESCRIPTION field. The relational name of a parent Data Element is not carried forward to the child Data Element. With TurboImage, this field generates an Item name

NUM LEN	CLASS VALUE	DESCRIPTION OF FIELDS AND FILLING MODE
		different from the Data Element code. In this case only the first 16 characters are recognized.
	E	This value allows you to input non-standard date format in the SIGNIFICANCE - DESCRIPTION field. You can make up your own date format with one or several of the following elements: . YY : year (YYYY with the century) . MM : month . MON : month's 3 first characters . DD : day . HH : hour . MI : minute . SS : second . FF : fraction of second (millisecond) . AM and PM . delimiters / . : - blank The format indicated on the Data Element Definition screen must be X(n), with n < 28 (or n < 15 for an ORACLE Database for the automatic management of dates in ON-LINE SYSTEMS DEVELOPMENT and C/S FACILITY). This format is taken into account: . in the SQL generation to generate DATE for ORACLE, SYBASE and SQL SERVER, and DATETIME for INFORMIX, NONSTOP SQL. . in the OLSD and C/S generation for the SQL accesses (e.g. by generating the TOCHAR and TODATE functions for ORACLE). Non-standard dates are not not controlled in the generated programs; only standard dates (types C, D, E, G, I, M, S) are controlled. Furthermore, the date operator (AD) cannnot be applied to this non-standard format. The system controls only the elements of the format, and not the way you put them together (ex: MD will be rejected but MMMMMM and YY-DD/MM will be accepted).
		DATA ELEMENTS COMING FROM REVERSE ENGINEERING: ----------
	S	The COBOL data-name(s) of the associated REVERSE Elements are generated in the SIGNIFICANCE - DESCRIPTION field.
		COBOL COPYBOOKS: ----------
	A	For COPYBOOKS, when a variant Data Element is being used as an alias-type Element, the SIGNIFICANCE - DESCRIPTION field contains the SEGMENT CODE of the

NUM	LEN	CLASS VALUE	DESCRIPTION OF FIELDS AND FILLING MODE
			Segment in which the parent is called. LIST OF TURBOIMAGE CLASSES: ----------
		T	Values of the TurboImage class list.
5	1		SKIP OR ACTION TYPE This field is used to specify: Line skip or page skip (only taken into account when printing User Manuals and Volumes). Continuation of a value range when a value does not fit on a single line. Operation or Action Code (also see the TYPE OF LINE field). SKIP: -----
		blank or 1	New line.
		2	1 blank line + 1 new line.
		3 to 9	2 to 8 blank lines + 1 new line.
		*	Only in User Manuals ('U' entity) : Page skip. CONTINUATION OF A VALUE RANGE: ----------
		+	This value indicates a continuation of a value range if it cannot fit on a single line. ACTION (OLSD function only) ----------
			Two categories of value according to the selected TYPE OF LINE: WITH TYPE OF LINE 'I':
		C	Creation.
		M	Modification.
		D	Deletion.
		X	Mod-4 (implicit update).

NUM	LEN	CLASS VALUE	DESCRIPTION OF FIELDS AND FILLING MODE
			WITH TYPE OF LINE 'O':
		A	Display.
		M	Update.
		S	Next screen.
		E	End of session.
		P	Same page.
		O	Call of another screen.
6	10		DATA ELEMENT VALUE This field is used to specify the authorized values of the data element. These values undergo automatic validation if they are entered as either numeric or alphanumeric literals (quotes for the latter), If the Data Element takes on a range of values, the range must be described as two values between parentheses and separated by at least a space. Inverted parentheses indicate that the given value is excluded from the range. EXAMPLES: ('E' 'Z') : from E inclusive to Z inclusive,)0 100(: from 0 exclusive to 100 exclusive. If the description of a value calls for several lines, the value must be entered on the first line. A parent Element's value(s) are automatically assigned to each one of its child Elements. OLSD FUNCTION: ----------
		*9	Numeric Data Element. This causes a COBOL NOT NUMERIC check to be generated.
		*B	Numeric Eata Element: LEADING blanks are replaced by zeros.
		*Z	Numeric Data Element: ALL blanks are replaced by zeros.
		*A	Alphabetic Data Element: checks that all characters

NUM	LEN	CLASS VALUE	DESCRIPTION OF FIELDS AND FILLING MODE
			are alphabetic.
		*L	Alphabetic Data Element: checks that all characters are lowercase alphabetic..
		*U	Alphabetic Data Element: checks that all characters are uppercase alphabetic.
			The system displays a decoded re-presentation, in the SIGNIFICANCE - DESCRIPTION field.
			WITH TYPE OF LINE = 'F'
		I	Without century (picture x(6)): YYMMDD
		S	With century (picture x(8)): CCYYMMDD
		D	Without century (picture x(6)): MMDDYY or DDMMYY depending on the value entered in the DATE FORMAT IN GENERATED PROGRAMS field on the Library Def. screen.
		C	With century (picture x(8)): MMDDCCYY or DDMMCCYY depending on the value entered in the DATE FORMAT IN GENERATED PROGRAMS field on the Library Def. screen.
		G	With century (picture x(10)): CCYY-MM-DD in a Grego-rian format.
			Date with slashes:
		E	Without century (picture x(8)): MM/DD/YY or DD/MM/YY.
		M	With century (picture x(10)): MM/DD/CCYY or DD/MM/CCYY
			WITH TYPE OF LINE = 'C':
			Enter the delimiter for the end of each Column label line (left-justified). Default value is '/'.
			WITH TYPE OF LINE = 'L':
			Enter the delimiter for the end of the short label, (left-justified). Default value is '£'.
			WITH TYPE OF LINE = 'O' OR 'I':
			When setting the value of the Operation and/or Action Codes via an element on the screen, enter the value that corresponds to the specific operation or action. NOTE: These values correspond to the internal opera-

NUM	LEN	CLASS VALUE	DESCRIPTION OF FIELDS AND FILLING MODE
			tion and action codes as entered in the SKIP OR ACTION TYPE field.
		T	Time.
		TS	Timestamp.
			Concerning the use of the formats with the various types of database blocks, see the summary tables in chapter "Columns: Data Elements" of the "RELATIONAL/ SQL DATABASE DESCRIPTION" Reference Manual.
7	54		SIGNIFICANCE - DESCRIPTION The value entered here depends upon the value of the TYPE OF LINE field. With ' ', 'D', 'O', 'I': Enter a descriptive comment (optional). With 'L', 'C', or 'P': Enter the label (with delimiters as needed) or a presentation value. With 'A': Enter the SEGMENT CODE where the parent Data Element is called. With 'G': The graphic representation can be: . HORIZRADIOBUT: an horizontal radio button . VERTRADIOBUT: a vertical radio button . MULTILINE: a multi-line edit box . SPINEDIT: a spinedit . LIST: a list . MULTILIST: a multi-list box . DROPDOWN: a dropdown list . COMBOBOX: a combobox . SCALE: a scale . SLIDER: a slider With 'R': Enter the Relational Column name. With 'E': Enter the non-standard date format. For NONSTOP SQL: input of start field and end field. With 'F' (for Data Elements other than dates): Enter the output format (using standard COBOL syntax). Note: To generate a BLANK WHEN ZERO clause with numeric Data Elements, follow the format with a blank and a 'Z' (Example: 9(4) Z).
		BLANK	With the EO printing option, the $OFF command, left-

NUM	LEN	CLASS VALUE	DESCRIPTION OF FIELDS AND FILLING MODE
			justified, can be used to ignore lines when printing the Data Element description. Inserting a left-justified $ON command after the last line to be ignored cancels the application of the $OFF command for the following lines. For more information about the $OFF and $ON commands, refer to the "Personalized Documentation Manager" Reference manual, Chapter "The Volume Entity", Subchapter "Contents: Occurrence and List Calls".

2.5. DATA ELEMENTS: ON-LINE ACCESS

DATA ELEMENTS: ON-LINE ACCESS

LIST OF DATA ELEMENTS

CHOICE	SCREEN	UPD
LCEaaaaaa	List of Elements by Code (starting with data element 'aaaaaa').	NO
LNEaaaaaaaaaaaaa	List of Data Elements sorted by name (starting with name 'aaaaaaaaaaaaa'). The sort is performed on the following elements: - the first twenty characters of the clear name, - the code of the Data Element. Note: Child Data Elements with no clear name do not appear on the list	NO
LACEaaaaaaaaaaaaaaaaa	List of Elements by COBOL name (starting with data element 'aaaaaaaaaaaaaaaaa') For elements from REVERSE ENG.	NO
LALEaaaaaaaaaaaaa	List of data elements sorted by name (starting with name 'aaaaaaaaaaaaa'). Equivalent of 'LNE'.	NO
LAREaaaaaaaaaaaaaaaaaa	List of data elements sorted by relational name (starting with 'aaaaaaaaaaaaaaaaaa').	NO
LFEaaaaaa	List of undefined data elements by code (starting with element 'aaaaaa').	NO
LUEaaaaaa	List of data elements for update (starting with element 'aaaaaa').	YES

DESCRIPTION OF DATA ELEMENT 'aaaaaa'

CHOICE	SCREEN	UPD
Eaaaaaa	Definition of data element 'aaaaaa'.	YES
EaaaaaaDbbb	Description of data element 'aaaaaa' (starting with line number 'bbb').	YES
EaaaaaaGbbb	General Documentation for data element 'aaaaaa' (starting with line number 'bbb').	YES
EaaaaaaATbbbbbb	Text assigned to the data element 'aaaaaa' (starting with text 'bbbbbb').	NO
EaaaaaaX	X-references of data element 'aaaaaa' to all entities.	NO
EaaaaaaXTbbbbbb	X-references of data element 'aaaaaa' to texts (starting with text 'bbbbbb').	NO
EaaaaaaXMbbbbbb	X-references of data element 'aaaaaa' to the Method Entities (starting with Method Entity 'bbbbbb').	NO
EaaaaaaXQbbbbbb	List of entities linked to data element 'aaaaaa' through user-defined relationship 'bbbbbb'.	NO
EaaaaaaXBbbbbbb	X-references of data element 'aaaaaa' to blocks (starting with block 'bbbbbb').	NO
EaaaaaaXBbbbbbbDCddd	X-references of data element 'aaaaaa' to CODASYL-type blocks (starting with block 'bbbbbb', line number 'ddd')	NO

EaaaaaaXBbbbbbbDHddd	X-references of data element 'aaaaaa' to Hierarchical-type block (starting with block 'bbbbbb', line number 'ddd')	NO
EaaaaaaXBbbbbbbDRddd	X-references of data element 'aaaaaa' to Relational-type block (starting with block 'bbbbbb', line number 'ddd')	NO
EaaaaaaXVbbbbbb	X-references of data element 'aaaaaa' to volumes (starting with volume 'bbbbbb').	NO
EaaaaaaXObbbbbb	X-references of data element 'aaaaaa' to screens (starting with screen 'bbbbbb').	NO
EaaaaaaXObbbbbbWccddd	X-references of data element 'aaaaaa' to work areas (-W) of screen 'bbbbbb' (starting with work area 'cc', line number 'ddd').	NO
EaaaaaaXObbbbbbBccddeee	X-references of data element 'aaaaaa' to Beginning Insertions (-B) of screen 'bbbbbb' (starting with section 'cc', paragraph 'dd', line number 'eee').	NO
EaaaaaaXObbbbbbCPcccccc	X-references of data element 'aaaaaa' to Call of P.M.S.(-CP) of screen 'bbbbbb' (starting with macro-structure 'cccccc').	NO
EaaaaaaXObbbbbbPccddeee	X-references of data element 'aaaaaa' to procedural code (-P) of screen 'bbbbbb' (starting with function/subfunction 'ccdd', line number ' eee').	NO
EaaaaaaXKbbbb	X-references of data element 'aaaaaa' to the key of relational /SQL database blocks (starting with segment 'bbbb').	NO
EaaaaaaXSbbbb	X-references of data element 'aaaaaa' to segments (starting with segment 'bbbb').	NO

EaaaaaaXRbbb	X-references of data element 'aaaaaa' to reports (starting with report 'bbb').	NO
EaaaaaaXRbbbCE	X-references of data element 'aaaaaa' to report call of elements (starting with report 'bbb').	NO
EaaaaaaXPbbbbbb	X-references of data element 'aaaaaa' to programs (starting with program 'bbbbbb').	NO
EaaaaaaXPbbbbbbBccddeee	X-references of data element 'aaaaaa' to Begininning Insertions (-B) of program 'bbbbbb' (starting with section 'cc', paragraph 'dd', line number 'eee').	NO
EaaaaaaXPbbbbbbCPcccccc	X-references of data element 'aaaaaa' to Call of P.M.S. (-CP) of program 'bbbbbb' (starting with macro-structure 'cccccc').	NO
EaaaaaaXPbbbbbbSCfusfnnn	X-references of data element 'aaaaaa' to source code (-SC) of 'reversed' program 'bbbbbb' (starting with function/subfunction 'fusf', line number 'nnn')	NO
EaaaaaaXPbbbbbbWccddd	X-references of data element 'aaaaaa' to work areas (-W) of program 'bbbbbb' (starting with work area 'cc', line number 'ddd')	NO
EaaaaaaXPbbbbbbPfusfnnn	X-references of data element to procedural code (-P) of program 'bbbbbb' (starting with function/ subfunction 'fusf', line number 'nnn').	NO
EaaaaaaXPbbbbbb9cccccc	X-references of data element to Pure COBOL Source Code (-9) of program 'bbbbbb' (starting with -9 line 'cccccc').	NO
EaaaaaaXFbbbbbb	X-references of data element 'aaaaaa' to User Entities (starting with UE 'bbbbbb').	NO

NOTE: After the first choice of type 'Eaaaaaa', 'Eaaaaaa' can be replaced with '-'.

All notations between parentheses are optional.

```
!                  PURCHASING MANAGEMENT SYSTEM         SG000008.LILI.CIV.1583 !
! LIST OF ELEMENTS BY CODE                                                     !
!                                                                              !
! ELEM.  PARENT TYPE NAME                               INTERNAL FORM. US LIBR.!
! ACCTNO           R ACCOUNT NUMBER                     9(8)             3 0059 !
! ACTION           R TRANSACTION CODE                   X                D 0059 !
! APPLI            R PACBASE APPLICATION CODE           X(03)            D *CEN !
! CHOICE           R OPERATION CODE                     X                D 0059 !
! CITY             R CITY                               X(15)            D 0059 !
! CLELE            R PACBASE ERROR MESSAGE KEY          X(17)            D *CEN !
! DATE             R STANDARD DATE                      X(6)             D 0059 !
!    ORADDT        R ORDER ACTUAL DELIVERY DATE         X(6)             D 0059 !
!    ORDATE        R ORDER DATE                         X(6)             D 0059 !
!    ORPDDT        R ORDER PROMISED DELIVERY DATE       X(6)             D 0059 !
! ERMSG            R PACBASE ERROR MESSAGE LABEL        X(66)            D 0093 !
! ERUT             R ERUT VECTOR                        X                D *CEN !
! GRAER            R PACBASE ERROR MESSAGE GRAVITY      X                D *CEN !
! ITPRIC           R ITEM TOTAL PRICE                   9(9)V99          3 0059 !
! ITQORD           R ITEM QUANTITY ORDERED              9(6)             3 0059 !
! ITQREC           R ITEM QUANTITY RECEIVED             9(6)             3 0059 !
! LIERR            R PACBASE ERROR MESSAGE LABEL        X(66)            D *CEN !
! LIGNE            R PRINT LINE FOR BATCH REPORTS       X(132)           D *CEN !
!                                                                              !
! O: C1 CH: LCE                                                                !
```

```
!                  PURCHASING MANAGEMENT SYSTEM         SG000008.LILI.CIV.1583 !
! LIST OF ELEMENTS BY NAME                                                     !
!                                                                              !
! ELEM.  PARENT    T NAME                               INTERNAL FORM. US LIBR.!
! XKEYXY           R key xy file                        X(11)            D *CEN !
! XZ12             R standard data element 12 char.     X(12)            D *CEN !
! XZ2              R standard field 2 characters        XX               D *CEN !
! XZ2A   XZ2       R standard field 2 characters        XX               D *CEN !
! XZ2B   XZ2       R standard field 2 characters        XX               D *CEN !
! XZ2C   XZ2       R standard field 2 characters        XX               D *CEN !
! XZ2D   XZ2       R standard field 2 characters        XX               D *CEN !
! XZ2E   XZ2       R standard field 2 characters        XX               D *CEN !
! XZ3              R standard field 3 characters        XXX              D *CEN !
! XOPSW            R xo password                        X(5)             D *CEN !
! XOAGAC           R Agency address city                X(15)            D *CEN !
! XOAGAS           R Agency address state               XX               D *CEN !
! XOAGAZ           R Agency address zip code            X(5)             D *CEN !
! XOAGA1           R Agency address 1st line            X(20)            D *CEN !
! XOAGA2           R Agency address 2nd line            X(20)            D *CEN !
! XOAGC            R Agency code                        X(5)             D *CEN !
! XOAGNM           R Agency name                        X(20)            D *CEN !
! XOAGPA           R Agency phone area code             XXX              D *CEN !
!                                                                              !
! O: C1 CH: LNE                                                                !
```

```
!                  PURCHASING MANAGEMENT SYSTEM         SG000008.LILI.CIV.1583 !
! LIST ELEMENTS      UNDEFINED IN DICTIONARY                                    !
!                                                                               !
! ELEM.                                                                         !
! $100                                                                          !
! $2                                                                            !
! $200                                                                          !
! $210                                                                          !
! $30                                                                           !
! ALC                                                                           !
! ALCM                                                                          !
! ALTPCB                                                                        !
! APC                                                                           !
! BB00                                                                          !
! BB10                                                                          !
! BB20                                                                          !
! BLC                                                                           !
! BOTTOM                                                                        !
! BPC                                                                           !
! CCOD                                                                          !
! CF                                                                            !
! CF$4                                                                          !
!                                                                               !
! O: C1 CH: LFE                                                                 !
```

```
!                  PURCHASING MANAGEMENT SYSTEM         SG000008.LILI.CIV.1583 !
! ELEMENT X-REFERENCES TO TEXT FOR ELEMENT :         BMODE                      !
!                                                                               !
! TEXT   PA LIN T DESCRIPTION                                            LIBR.! 
! POAR3  GG 870   the PACBASE entities definition screens. In batch mode  0522 !
! YRCFD  GG 395   by a given PACBASE user at a given time. In batch as in 0522 !
! YRCFE  GG 390 2  -in batch mode.                                        0522 !
! YRCFG  GG 535 2 Batch procedures allow for the freezing of the current  0522 !
! YRDCC  GG 600 2  .the automatic establishment of the relationships betw 0522 !
!                                                                               !
!                                                                               !
!                                                                               !
!                                                                               !
!                                                                               !
!                                                                               !
!                                                                               !
!                                                                               !
!                                                                               !
!                                                                               !
!                                                                               !
!                                                                               !
! O: C1 CH: Ebmode XT                                                           !
```

```
!                  PURCHASING MANAGEMENT SYSTEM         SG000008.LILI.CIV.1583 !
! ELEMENT X-REFERENCES TO MODEL ENT. FOR ELEMENT : ZMODER                      !
!                                                                              !
! CODE     LIN    NAME                                  T     GR KEY     LIBR. !
! ZMODEO   300   MERISE OBJECT                      .   O      2  A      0522  !
! ZMODER   200   MERISE RELATIONSHIP                .   R      2  A      0522  !
!                                                                              !
!                                                                              !
!                                                                              !
!                                                                              !
!                                                                              !
!                                                                              !
!                                                                              !
!                                                                              !
!                                                                              !
!                                                                              !
!                                                                              !
!                                                                              !
!                                                                              !
!                                                                              !
! O: C1 CH: EzmoderXM                                                          !
```

```
!                  PURCHASING MANAGEMENT SYSTEM         SG000008.LILI.CIV.1583 !
! ELEMENT X-REFERENCES TO ON-LINE SCREENS FOR ELEMENT : NIVUPA                 !
!                                                                              !
! --- SCREEN PA0000 ------------------------------------------------- LIBR. !
! P  25CC520 M  XM70-NIVUPA  CS00-NIVUTI (1)                          0522  !
! P  25FK140 ERRB CODUTI                          XM70-NIVUPA NOT = '0'   0522  !
! --- SCREEN PA0150 ------------------------------------------------- LIBR. !
! CE 230     TYPE: V      PRESENTATION                                 0522  !
! P  07BM160                                       (V-0150-NIVUPA NOT =   0522  !
! P  07BM170                                        T-0150-NIVUPA)        0522  !
! P  30BB970 M  '0'           XM70-NIVUPA        XM70-NIVUPA = ' '       0522  !
! P  65AL520 M  ' '            O-0150-NIVUPA     O-0150-NIVUPA = '0'     0522  !
!                                                                              !
!                                                                              !
!                                                                              !
!                                                                              !
!                                                                              !
!                                                                              !
!                                                                              !
!                                                                              !
!                                                                              !
!                                                                              !
!                                                                              !
! O: C1 CH: EnivupaXO                                                          !
```

```
!                  PURCHASING MANAGEMENT SYSTEM         SG000008.LILI.CIV.1583 !
! ELEMENT X-REFERENCES TO SEGMENTS FOR ELEMENT : PAGE                          !
!                                                                              !
! SEGM.   LIN  SEGMENT NAME                          GR  K               LIBR. !
! KW  00  090  SEGMENT KW                                                 0522  !
! VC  20  200  TABLE OF CONTENTS AND INDEX LINES                          0522  !
! WH  00  110  SEGMENT WH00                                               0522  !
! WH  17  040  SEGMENT WH17                                               0522  !
! WK  00  090  SEGMENT WK00                                               0522  !
! WK  17  040  SEGMENT WK17                                               0522  !
!                                                                              !
!                                                                              !
!                                                                              !
!                                                                              !
!                                                                              !
!                                                                              !
!                                                                              !
!                                                                              !
!                                                                              !
!                                                                              !
!                                                                              !
!                                                                              !
! O: C1 CH: Epage  XS                                                          !
```

```
!                  PURCHASING MANAGEMENT SYSTEM         SG000008.LILI.CIV.1583 !
! ELEMENT X-REFERENCES TO REPORTS FOR ELEMENT : PAGE                           !
!                                                                              !
! REP. SC LIN PICTURE                    CONDITION                     LIBR. !
! DS C 02 074                                                          1391  !
! DS T 02 074                                                          1322  !
! DS X 01 062 IK = IK ADD 1 TO 7-ET00-PAGE                             1333  !
! DS 1 01 075 IK = IK ADD 1 TO 7-ET00-PAGE                             1322  !
! DS 2 01 075 IK = IK ADD 1 TO 7-ET00-PAGE                             1322  !
! DS 9 01 075                                                          1322  !
! ED 7 01 073                                                          1322  !
! ED 7 10 068                                                          1322  !
! EE E 01 111                                                          1336  !
! EE H 03 073                                                          1336  !
! EE L 06 073                                                          1336  !
! EE M 01 075                                                          1336  !
! EE N 01 111                                                          1336  !
! EE O 01 111                                                          1336  !
! EE R 01 111                                                          1336  !
! EE S 01 068                                                          1336  !
! EF G 01 128                                                          1336  !
! EF H 01 128                                                          1336  !
!                                                                              !
! O: C1 CH: Epage XR                                                           !
```

```
!                  PURCHASING MANAGEMENT SYSTEM         SG000008.LILI.CIV.1583 !
! ELEMENT X-REFERENCES TO PROGRAMS FOR ELEMENT : SERNU                          !
!                                                                               !
! ---- PROGRAM   AMSF01 ------------------------------------------------ LIBR.!
! W  BB130 05 WW10-SERNU                                                 0197 !
! P  30BB230 M  WW10-SERNU CD10-SERCO                                    0126 !
! ---- PROGRAM   COGEN6 ------------------------------------------------ LIBR !
! P  30GG110 M  AT10-COCLI SE10-COCLI      WW10-SERNU = SE10-SERNU       0126 !
!                                                                               !
!                                                                               !
!                                                                               !
!                                                                               !
!                                                                               !
!                                                                               !
!                                                                               !
!                                                                               !
!                                                                               !
!                                                                               !
!                                                                               !
!                                                                               !
!                                                                               !
!                                                                               !
! O: C1 CH: Esernu XP                                                           !
```

2.6. DATA ELEMENTS: BATCH ACCESS

DATA ELEMENT: BATCH ACCESS

DEFINITION

Batch Form 'C' is used to define a data element.

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 data element (all lines & uses
        in all other entities).
```

NOTE CONCERNING DELETION

Deletion of a data element (using ACTION CODE 'D') is only possible if the data element is not used in screens, reports and segments and if it has no child data element.

It is possible to globally delete (using ACTION CODE 'B') a data element and all of its uses in screens, reports or segments.

When a multiple deletion is done on a parent data element, all of its child data elements will be deleted along with all of the uses of the parent and child data elements.

DESCRIPTION

Batch Form 'E' is used to describe a data element.

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 ampersand (&).

D = Deletion of one line.

B = Deletion of description lines, starting with this line.

R = End of multiple line deletion up to and including this line. If no 'R'-coded line follows a line with code 'B', all lines will be deleted.

2.7. DATA ELEMENTS: GENERATION-PRINT

DATA ELEMENTS: GENERATION-PRINT

Lists and description reports on data elements may be obtained by entering certain commands, either on-line on the Generation and Print Commands (GP) screen, or in batch mode by using batch form 'Z'.

LISTS

LCE: List of all data elements, sequenced by code.

C1 OPTION: Without explicit keywords,
C2 OPTION: With explicit keywords.

LKE: List of all data elements, by keywords.

After typing LKE, a selection field (SEL:) enables the user to choose implicit ('L') or explicit ('M') keywords, or both (' '). Keywords are entered on a continuation line or in col- umns 31 to 80 in batch mode.

C1 OPTION: Same as LCE.

LNE: List of all data elements, sequenced by name (sorted on the first 20 characters and the element codes).

C1 OPTION: Same as LCE.

LXE: List of defined Data Elements having Description lines, Comments lines or Keywords, but not used.

C1 OPTION: Same as LCE.

LACE: List of 'REVERSE' data elements by COBOL names.

C1 OPTION: Same as LCE.

DESCRIPTIONS

DCE: Definition, description and general documentation for the data element entered in the ENTITY CODE field. If no code is specified, the information on ALL data ele- ments is printed.

C1 OPTION: Definition, description, general documenta- tion without X-references. (Parent and Child data elements), C2 OPTION: With X-references.

DFE: Description, X-references of undefined data elements.

C1 OPTION: (Only).

3. DATA STRUCTURES

3.1. DATA STRUCTURES: INTRODUCTION

DATA STRUCTURES: INTRODUCTION

All sets of data processed by applications are described via the Data Structure entity.
Data Structures are logical groups of segments, which may be :

. Records of files,

. Segments of databases,

. Work areas of programs,

. Inter-program common areas,

. Table items...

Data structures may also contain report entities.

A data structure is described logically, with no physical characteristics. This description may then be reused for different purposes : for example a given segment may be used in a database and in the programs which access the database.

Information of a physical nature (such as organization, block size, description type, etc.) is added when the data structure is used in programs or database blocks.
(See the DATABASE DESCRIPTION and BATCH SYSTEMS DEVELOPMENT Reference Manuals).

TRANSACTION FILE

Certain files are designed to undergo validation, and then update master (Principal) files or databases.

They are called Transaction Files.

For such files, validation and update procedures are described on the Segment Definition and Call of Elements (-CE) screens (see the BATCH SYSTEMS DEVELOPMENT Reference Manual).

REPORTS AND TABLES

The data structures corresponding to reports and tables are described in the

BATCH SYSTEMS DEVELOPMENT and the Pactables reference manuals, respectively.

GENERAL CHARACTERISTICS

The Data Structure entity includes the following:

. A Definition screen (required), for entry of the general characteristics of the data structure (clear name, nature, keywords, etc.),

. A Documentation screen (optional), where the user normally enters technical information concerning the data structure (according to the type of data structure, for example, operation references, frequency of backups, etc.).

RESULTS

Once the data structures are defined, the user can obtain the following:

. A list of all data structures,

. Cross-references, listing all uses of the data structures in programs or on-line screens.

3.2. DATA STRUCTURES: DEFINITION

DATA STRUCTURES: DEFINITION

A data structure is defined by its code, name and type. The 'type' is mostly used to provide the user with the ability to view data structures sorted by type.

Data structures used by Pactables must be of 'G' or 'T' type.

For the Batch Systems Development function, programs containing the error messages to be used with the application are named in the COMPLEMENT field. For more information see the BATCH SYSTEMS DEVELOPMENT Reference Manual, Chapter "ERROR MESSAGES".

ASSOCIATED LINES

General Documentation (-G).

These lines allow the user to insert additional explanatory text.

DATA STRUCTURES 3
DATA STRUCTURES: DEFINITION 2

```
--------------------------------------------------------------------------------
!                  PURCHASING MANAGEMENT SYSTEM         SG000008.LILI.CIV.1583 !
!                                                                              !
!   DATA STRUCTURE DEFINITION     1  PR                                        !
!                                                                              !
!   NAME.............: 2 PRODUCT FILE                                         !
!                                                                              !
!   COMPLEMENT.......: 3                                                      !
!                                                                              !
!   TYPE.............: 4 Z DATA STRUCTURE                                     !
!                                                                              !
!                                                                              !
!                                                                              !
!                                                                              !
!                                                                              !
!                                                                              !
!   EXPLICIT KEYWORDS: 5                                                      !
!                                                                              !
!                                                                              !
!                                                                              !
!                                                                              !
!                                                                              !
!                                                                              !
! SESSION NUMBER.....: 0059        LIBRARY......: CIV    LOCK:....:            !
!                                                                              !
! O: C1 CH: Dpr                         ACTION:                                !
--------------------------------------------------------------------------------
```

NUM	LEN	CLASS VALUE	DESCRIPTION OF FIELDS AND FILLING MODE
1	2		DATA STRUCTURE CODE (REQUIRED) This code is made up of two alphanumeric characters. This is a logical code internal to the Database and therefore independent of the names used in Database Blocks and Programs.
2	30		NAME OF DATA STRUCTURE (REQ. IN CREATION) This clear name should be as explicit as possible. Words used here become implicit keywords (subject to limitations specified in chapter "KEYWORDS", subchap- ter "HOW TO BUILD THE THESAURUS" in the Specifications Dictionary Reference Manual).
3	44		COMPLEMENT OF DATA STRUCTURE NAME With the Batch Systems Development function only: Error messages corresponding to validation of a transaction file are coded in at most two programs. Those two program codes are indicated in this field, as follows: Blank in column 1, 'E' in column 2, then one or two program codes. Example: Eerrpg1errpg2 Note: The 'E' is entered in column 36, in batch mode. For more information, refer to the BATCH SYSTEMS DEVE- LOPMENT Reference Manual, chapter "ERROR MESSAGES", subchapter "CODING OF ERROR MESSAGES".
4	1		TYPE OF DATA STRUCTURE The TYPE of Data Structure is used for documentary purposes, except the Pactables and Logical View types.
		Z	Data structure (Default value)
		B	Database (described in the DATABASE DESCRIPTION Reference Manual)
		O	Input file
		F	File
		J	Report Support
		G	Table (Historical) used with the Pactables function
		T	Table (without Historical account), Pactables function Once a Data Structure has been assigned the type 'G' or 'T', this type cannot be changed. Once a Data Structure has been assigned another type, this type cannot be changed to 'G' nor 'T'.
		M	Table with historical account, with century.
		N	Table without historical account, with century.
		L	Table which is not associated with the Pactables function.

NUM	LEN	CLASS VALUE	DESCRIPTION OF FIELDS AND FILLING MODE
		W	Work area
		C	Codifications
		R	Records
		X	Data aggregate
		V	Logical view (See the CLIENT/SERVER FACILITY Reference Manual) Once a Data Structure has been assigned type 'V', this type cannot be changed. Once a Data Structure has been assigned another type, this type cannot be changed to 'V'. NOTE: Only the 'J'-type data structures are displayed on the List of Reports. Data Structures of all other types are displayed on the List of Segments.
5	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 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 make easy the search of occurrences 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.

3.3. DATA STRUCTURES: ON-LINE ACCESS

DATA STRUCTURES: ON-LINE ACCESS

LIST OF DATA STRUCTURES

CHOICE	SCREEN	UPD
LCDaa	List of data structures by code (starting with data structure 'aa').	NO
LTDtaa	List of data structures by type (starting with type 't' and D.S. 'aa').	NO
LPDaaaaaa	List of data structures by External Name (starting with external name 'aaaaaa').	NO

DESCRIPTION OF DATA STRUCTURE 'aa'

CHOICE	SCREEN	UPD
Daa	Definition of data structure 'aa'.	YES
DaaGbbb	General documentation for data structure 'aa' (starting with line number 'bbb').	YES
DaaATbbbbbb	Text assigned to the data structure 'aa' (starting with text 'bbbbbb').	NO
DaaX	X-references of data structure 'aa'.	NO
DaaXQbbbbbb	List of entities linked to data structure 'aa' through the 'bbbbbb' user-defined relationship.	NO
DaaXVbbbbbb	X-references of data structure 'aa' to volumes (starting with volume 'bbbbbb'.	NO
DaaXPbbbbbb	X-references to programs for data structure 'aa' (starting with program 'bbbbbb').	NO

DaaXPbbbbbbCPcccccc	X-references of data structure 'aa' to Call of P.M.S. (-CP) of program 'bbbbbbb' (starting with macro-structure 'cccccc').	NO
DaaXPbbbbbbWccddd	X-references of data structure 'aa' to Work Areas (-W) of program 'bbbbb' (starting with work area 'cc', line number 'ddd').	NO
DaaXObbbbbb	X-references of data structure 'aa' to screens (starting with screen 'bbbbbb').	NO
DaaXObbbbbbCPcccccc	X-references of data structure 'aa' to Call of P.M.S. (-CP) of screen 'bbbbbb' (starting with macro-structure 'cccccc').	NO
DaaXObbbbbbWccddd	X-references of data structure 'aa' to Work Areas (-W) of screen 'bbbbbb' (starting with work area 'cc', line number 'ddd').	NO
DaaLSbb	Data structure 'aa' list of segments (starting with segment 'bb'). .C1: default value. .C2: only the segment codes and the transaction code values are displayed.	NO
DaaLRb	Data structure 'aa' list of reports (starting with report 'b').	NO

NOTE: After the first choice of type 'Daa', 'Daa' can be replaced with '-'.

All notations between parentheses are optional.

```
!                  PURCHASING MANAGEMENT SYSTEM         SG000008.LILI.CIV.1583 !
! LIST OF DATA STRUCTURES BY CODE                                               !
!                                                                               !
! DS NAME AND COMPLEMENT                          T TYPE                  LIBR !
! C* *** TEMPORARY FILES                          Z DATA STRUCTURE        0059 !
! CO ORDER PREPARATION                            Z DATA STRUCTURE        0059 !
! E* *** REPORTS                                  J OUTPUT MEDIUM         0059 !
! EO ORDER REPORTS                                J OUTPUT MEDIUM         0059 !
! G* *** PERMANENT FILES                          Z DATA STRUCTURE        0059 !
! LE PACBASE ERROR MESSAGES                       Z DATA STRUCTURE        *CEN !
! OI PURCHASE ORDER INFORMATION                   Z DATA STRUCTURE        0059 !
! PR PRODUCT FILE                                 Z DATA STRUCTURE        0059 !
! TT TABLE DESCRIPTION                            G TABLES                0093 !
! VE VENDOR FILE                                  Z DATA STRUCTURE        0059 !
! W* *** WORKING ZONES                            W WORKING AREAS         0059 !
! X* *** RESERVED FOR LIBRARY CEN                 Z DATA STRUCTURE        *CEN !
! XE REPORTS                                      J OUTPUT MEDIUM         *CEN !
! XO Structure for On-Line guide                  Z DATA STRUCTURE        *CEN !
! XW WORKING MODULES                              W WORKING AREAS         *CEN !
! XY WORKING EXTRACTION PROGRAM                   Z DATA STRUCTURE        *CEN !
!                                                                               !
!                                                                               !
! *** END ***                                                                   !
! O: C1 CH: LCD                                                                 !
```

```
!                  PURCHASING MANAGEMENT SYSTEM         SG000008.LILI.CIV.1583 !
! LIST OF DATA STRUCTURES          BY TYPE                                      !
!                                                                               !
!    TYPE            CODE              NAME                             LIBR.!
!  G TABLES          TT    TABLE DESCRIPTION                            0093 !
!  J OUTPUT MEDIUM   E*    *** REPORTS                                  0059 !
!                    EO    ORDER REPORTS                                0059 !
!                    XE    REPORTS                                      *CEN !
!  W WORKING AREAS   W*    *** WORKING ZONES                            0059 !
!                    XW    WORKING MODULES                              *CEN !
!  Z DATA STRUCTURE  C*    *** TEMPORARY FILES                          0059 !
!                    CO    ORDER PREPARATION                            0059 !
!                    G*    *** PERMANENT FILES                          0059 !
!                    LE    PACBASE ERROR MESSAGES                       *CEN !
!                    OI    PURCHASE ORDER INFORMATION                   0059 !
!                    PR    PRODUCT FILE                                 0059 !
!                    VE    VENDOR FILE                                  0059 !
!                    X*    *** RESERVED FOR LIBRARY CEN                 *CEN !
!                    XO    Structure for On-Line Guide                  *CEN !
!                    XY    XORKING EXTRACTION PROGRAM                   *CEN !
!                                                                               !
!  O: C1 CH: LTD                                                                !
```

```
!                 PURCHASING MANAGEMENT SYSTEM         SG000008.LILI.CIV.1583 !
!  LIST OF DATA STRUCTURES BY         EXTERNAL NAME                            !
!                                                                              !
!  EXTERNAL NAME PC LC OAMOU B M U UNIT SELECTION   PROGRAM              LIBR.!
!      DC        CD CO SSFOU 0 0 R                  DVBSIW              0642 !
!      DC        CD CO SSFOU 0 0 R                  DVBSI2              0736 !
!      EA        EA CO SSFOU 0 0 D      *00         SYNCRO              0683 !
!      ED        AB XE SSFOU 0 0 I      BL1         TAT443              0775 !
!      ED        AB XE SSFOU 0 0 I      BL1         TOT65A              0746 !
!      ED        AD XE SSFOU 0 0 J      BL1         TAT443              0775 !
!      ED        AD XE SSFOU 0 0 J      BL1         TOT65A              0746 !
!      ED        ED XE SSFOU 0 0 I      A=Z         AG                  0746 !
!      ED        ED XE SSFOU 0 0 I      A           ESPAI7              0746 !
!      ED        ED XE SSFOU 0 0 I      F           ES30ED              0169 !
!      ED        ED XE SSFOU 0 0 I      A           FVBSIE              0125 !
!      ED        ED XE SSFOU 0 0 I      BV          FVBSIM              0164 !
!      ED        ED XE SSFOU 0 0 I      B           FVBSIW              0164 !
!      ED        ED XE SSFOU 0 0 I      S           SYNCRO              0169 !
!      ED        ED XE SSFOU 0 0 I      BL1         TAT443              0177 !
!      ED        ED XE SSFOU 0 0 I      BL1         TOT65A              0173 !
!      ED        ED XE SSFOU 0 0 I      BL1         ZTPUT1              0113 !
!      ED        UU XE SSFOU 0 0 I      BL1         TAT443              0177 !
!                                                                              !
!  O: C1 CH: LPD                                                               !
```

```
!                 PURCHASING MANAGEMENT SYSTEM         SG000008.LILI.CIV.1583 !
! DATA STRUCTURE X-REFERENCES TO PROGRAMS FOR D.S. :   PO                      !
!                                                                              !
! ---- PROGRAM   POJ010 ----------------------------------------------------LIBR!
!        DP EXTERN OARFU  BLOCKT  B M U RE SE L UNIT C SELECTION F E R L PL    !
! CD     PA PA     SSFOU      0R      D                           I     1   *DOC!
! CD     PC PC     SSFOU      0R      D                           I     1   *DOC!
! CD     PD PD     SSFOU      0R      D                           I     1   *DOC!
! CD     PO PO     SSFIU      0R      C                           I     1   *DOC!
!                                                                              !
!                                                                              !
!                                                                              !
!                                                                              !
!                                                                              !
!                                                                              !
!                                                                              !
!                                                                              !
!                                                                              !
!                                                                              !
!                                                                              !
!                                                                              !
! O: C1 CH: Dpo XP                                                             !
```

```
!                  PURCHASING MANAGEMENT SYSTEM         SG000008.LILI.CIV.1583 !
! DATA STRUCTURE X-REFERENCES TO ON-LINE SCREEN FOR D.S. : XW                   !
!                                                                              !
! --- SCREEN JIE010 ------------------------------------------------------ LIBR.!
! W XW100 PC: XW LC: XW SEL: 02______ PICT: I DESC: 2 LEV: 1 ORG: _ SS: _ 0380 !
!                                                                              !
!                                                                              !
!                                                                              !
!                                                                              !
!                                                                              !
!                                                                              !
!                                                                              !
!                                                                              !
!                                                                              !
!                                                                              !
!                                                                              !
!                                                                              !
!                                                                              !
!                                                                              !
!                                                                              !
!                                                                              !
! O: C1 CH: DxwXO                                                              !
--------------------------------------------------------------------------------

--------------------------------------------------------------------------------
!                  PURCHASING MANAGEMENT SYSTEM         SG000008.LILI.CIV.1583 !
! DATA STRUCTURE LIST OF SEGMENTS              MD GENERATION/PRINTING REQUEST  !
!                                                                              !
! SEGM NAME                                STR. CODE  CMD456 NBENT  OCCUR. LIBR.!
! MD1Z USER IDENTIFICATION                   * TABLES                     *DOR !
! MD2Y GENERAT. AND PRINTING PAC TABLES      Z                            *DOR !
!                                                                              !
!                                                                              !
!                                                                              !
!                                                                              !
!                                                                              !
!                                                                              !
!                                                                              !
!                                                                              !
!                                                                              !
!                                                                              !
!                                                                              !
!                                                                              !
!                                                                              !
!                                                                              !
!                                                                              !
! *** END ***                                                                  !
! O: C1 CH: D md LS                                                            !
--------------------------------------------------------------------------------
```

3.4. DATA STRUCTURES: BATCH ACCESS

DATA STRUCTURE: BATCH ACCESS

DEFINITION

Batch Form 'A' is used to define a data structure.

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
        ampersand (&).

D     = Deletion of a single line (not possible if the
        data structure contains segments, reports or
        is used in programs).

B     = Deletion of the data structure and of its use
        in reports, segments, programs, screens and
        database blocks.
```

3.5. DATA STRUCTURES: GENERATION-PRINT

DATA STRUCTURES: GENERATION-PRINT

Lists and description reports on data structures may be obtained by entering certain commands, either on-line on the Generation and Print Commands (GP) screen, or in batch mode by using batch form 'Z'. The COMMANDS FOR PRINT REQUEST are listed below:

LISTS

LCD: List of all data structures, sequenced by code.

C1 OPTION: Without explicit keywords,
C2 OPTION: With explicit keywords.

LKD: List of all data structures, by keywords.

After typing LKD, a selection field (SEL:) enables the user to choose implicit ('L') or explicit ('M') keywords, or both (' '). Keywords are entered on a continuation line or in columns 31 to 80 in batch mode.

C1 OPTION: Like LCD.

LPD: List of all data structures, sequenced by external name.

C1 OPTION: Like LCD.

LTD: List of all data structures, sequenced by type.

C1 OPTION: Like LCD.

LED: List of error messages, sequenced by Data Structure or Segment.

C1 OPTION: Like LCD.

DESCRIPTION

DCD: Definition, description and general documentation for the data structure entered in the ENTITY CODE field. If no code is entered, the information on ALL data structures will be printed.

C1 OPTION: Provides definition, description and gene- ral documentation, x-references, and a list of associated reports and segments,
C2 OPTION: With the assigned text.

GENERATION REQUESTS

A data structure may be generated to provide a COBOL description which is stored in a source library and may be copied into a program using the COBOL COPY clause.
This description may be used as many times as needed. For more information, see the "GENERATION OF COPY BOOK" Chapter.

FLD: Specify the flow control cards for the generation of data structures. The user may specify control card options, and parameters (as needed).

NOTE: User parameters may be specified on a continua- tion line or in columns 31 to 80 in batch mode.

GCD: Generation and description of a data structure whose code follows.

C1 OPTION: Without assigned text,
C2 OPTION: With the assigned text.

4. SEGMENTS

4.1. SEGMENTS: INTRODUCTION

SEGMENTS: INTRODUCTION

A Segment entity is made of a structured collection of data elements (elementary or group).
It must belong to a Data Stucture.

Each segment, described only once, can be called into any entity that uses segments (programs, screens, segments or database blocks).
A lot of information may be coded on the Segment definition and description lines. This information may be used according to the way the segment is used by other modules of the System (Pactables, BATCH, DBD..).

For information concerning the use of a Segment as a logical view, refer to the C/S Facility Reference Manual, Business Logic & TUI Clients, Chapter "Logical View".

GENERAL CHARACTERISTICS

The Segment entity includes the following:

. A Definition screen (required) for entry of the general characteristics of a segment. Other information may be added if the segment is to be used in batch validation programs.

. A Description screen, to specify the data elements which make up the segment.

It is also possible to add validation and updating criteria to be used in batch programs or data useful in the description of database segments, or table items. This information will be added according to the future use of the Segment.

. A Documentation screen, for internal information about the segment. It is also possible to document each description line of the segment.

RESULTS

. Cross-references indicating all the uses of the segment (in screens, programs, segments, database blocks),

. Activity calculation, in order to optimize the logical model developed from the conceptual model, when using PACMODEL.

4.2. SEGMENTS: DEFINITION

SEGMENT DEFINITION

A Segment is defined by its code and name.

The Segment code is made of the Data Structure code and a number.

Depending on future needs, it is also possible to specify:

. the number of occurrences of the Segment (used in the activity calculation of the PACMODEL function),

. the maximum number of items of the table, if the Segment describes a table item.

STANDARD FILES

A standard file may have several types of records.

Nevertheless, the sort criteria and keys must be on all the records. This 'common part' is described once in the Segment number '00'.

The specific part of each record is described in a Segment number 'nn'.

In generated programs, a record description will be made of the concatenation of the '00' and the appropriate 'nn' segment descriptions.

A data element used to identify the specific record type has to be defined on the common part : the CODE OF RECORD TYPE.

This data element code is specified on the definition line of segment number '00'; the appropriate value is coded on the definition line of the specific part segment.

For a file that has only one type of record, a unique '00' segment is described.

TRANSACTION FILE (BATCH SYSTEMS DEVELOPMENT FUNCTION)

A transaction file is made of records that update a 'permanent' file.

A data element belonging to the common part of the file is used to identify the type of update being done (Creation, Modification, Deletion, or other cases). It is called the ACTION CODE.

This data element code and values are indicated on the definition line of the '00' Segment, respectively in the 'CODE OF ACTION CODE' and 'VALUES OF TRANSACTION CODE' fields.

When each specific part segment is defined, the rules concerning its presence or absence with each type of update are specified in the corresponding fields.

PREREQUISITE

The data structure must have been previously defined.

ASSOCIATED LINES

General Documentation (-G). These lines are used for documentation purposes.

They can also be used to customize SQL accesses.

Refer to the "Relational Database Description" Reference Manual, Chapter "SQL Accesses", Subchapter "Customized SQL Accesses".

NOTE: A Segment may be defined on-line or in batch mode. Since the two are significantly different, they are described separately, the screen first, followed by Batch Form '2'.

Batch Form '2' has two different structures: one to define the clear name, and one to define all additional data (batch, table, DBD).

SEGMENTS 4
SEGMENTS: DEFINITION 2

```
!                  PURCHASING MANAGEMENT SYSTEM         SG000008.LILI.CIV.1583 !
!                                                                               !
!                             1 2                                               !
! SEGMENT DEFINITION.....: PR00                                                 !
!                                                                               !
! NAME...................: 3 COMPLETE PRODUCT RECORD                           !
!                                                                               !
! OCCUR. OF SEGMENT IN TABLE: 4                                                 !
! EST. NUMBER OF INSTANCES..: 5                                                 !
!                                                                               !
!                                                                               !
! CODE OF RECORD TYPE ELEM..: 6                                                 !
! CODE OF ACTION CODE ELEM..: 7                                                 !
! VALUES OF TRANSACTION CODE: CR:  8    MO:  9    DE: 10                       !
!                             M4: 11    M5: 12    M6: 13                       !
!                                                                               !
!                                                                               !
! EXPLICIT KEYWORDS..: 14                                                       !
!                                                                               !
!                                                                               !
!                                                                               !
! SESSION NUMBER.....: 0059        LIBRARY......: CIV    LOCK....:              !
!                                                                               !
! O: C1 CH: Spr00                       ACTION:                                 !
```

4.3. SEGMENTS: ON-LINE DEFINITION

NUM	LEN	CLASS VALUE	DESCRIPTION OF FIELDS AND FILLING MODE
			DATA STRUCTURE / SEGMENT CODE
1	2		DATA STRUCTURE CODE (REQUIRED) This code is made up of two alphanumeric characters. This is a logical code internal to the Database and therefore independent of the names used in Database Blocks and Programs.
2	2		SEGMENT NUMBER (REQUIRED) The first character must be numeric and the second either numeric or alphabetic. However the second character can be alphabetic only if the first character is other than zero.
		00	For standard files: Used to indicate the common part of records in a file, located at the beginning of each record (Default). The control break sort keys, the record type and the keys of indexed files are contained in this Segment. A file does not necessarily have a common part. Records on files with only one type of record should be coded as a '00' Segment. With the Pactables function, this value is not allowed.
		01-99	Designates a specific Segment. The common part Data Elements are automatically concatenated with each specific part Segment. Although a data element may not be used twice in the same Segment, it may be used in both the common part and in one or more specific Segments (except data structures used as Tables).
3	36		SEGMENT CLEAR NAME (REQ. IN CREATION) This name must be as explicit as possible because it is used in the automatic building of keywords, as detailed in chapter "Keywords" in the SPECIFICATIONS DICTIONARY.
4	4		OCCURRENCES OF SEGMENT IN TABLE PURE NUMERIC FIELD WITH THE BATCH SYSTEMS DEVELOPMENT function:

NUM	LEN	CLASS VALUE	DESCRIPTION OF FIELDS AND FILLING MODE
			This is the amount of space reserved for a Segment in memory (USAGE OF DATA STRUCTURE 'T' or 'X', or RECORD TYPE = 3, or 4. For tables (USAGE OF DATA STRUCTURE 'T' or 'X'), the default value at generation time is 100. Pactables: This field is strictly for documentation purposes. PACBENCH CLIENT/SERVER: The value entered in this field indicates the repetitive read or update capacity of the server which calls the Logical View. This capacity is expressed by a maximum number of repetitions. The Logical View can then be used as a repeated structure. NOTE: The use of a Logical View in a card layout does not exclude its use in a row layout. It is therefore strongly recommended to systematically fill in this field. Moreover, the entered value must be high enough to limit the exchanges between the client and the server.
		999	Maximum authorized value.
5	9		ESTIMATED NUMBER OF INSTANCES PURE NUMERIC FIELD For the Batch Systems Development function, this field is used to specify the estimated number of occurrences for a segment in a database or in a standard file. For the METHODOLOGY function, this field is used for activity calculation on the record or set using the Segment (on-line only). For the DBD function, this field is used to specify the application number of an entity in a SOCRATE/CLIO Block.
6	10		CODE/VALUE OF RECORD ELM. - TABLE ID For the Batch Systems Development function: ---------- CODE OF RECORD TYPE ELEM for the '00' segment: Enter the code of the data element used to identify the type of record (left-justified, six characters

NUM	LEN	CLASS VALUE	DESCRIPTION OF FIELDS AND FILLING MODE
			maximum). VALUE OF RECORD TYPE ELEM for the non-00 segments: Enter the value to differentiate the individual seg- ments from one another. This information is required every time a variable1 file is used in a Segment. DL/1, SQL: --------- Enter the external name of the segment or object 1 to 8 characters, between quotes). For Pactables table segments: --------- Enter the END USER TABLE ID on 6 characters.
7	6		CODE OF ACTION CODE ELEMENT In the BATCH SYSTEMS DEVELOPMENT FUNCTION: Enter the DATA ELEMENT CODE for the element used to identify the transaction type. The System will generate validation logic appropriate for creation, modification, deletion and implicit action codes, as well as user-defined transaction types. Six values are associated with this code. Validation and updates are automatic for these six values: . transaction 1 creation, . transaction 2 modification, . transaction 3 deletion, . transaction 4 modification . transaction 5 modification, . transaction 6 modification. If there is no ACTION CODE ELEMENT, this field remains blank, and the transaction type is a modification. In this case, presence specifications for the segment are entered in the MOD-4 : ACTN CODE VALUE / SEG PRES. field, and for the elements, in the MOD-4 field on the Call of Elements (-CE) screen. The CODE OF ACTION CODE ELEMENT and the values must be entered on only one segment of the data structure, preferably on the common part '00'.
8	5		CREATE : ACTN CODE VALUE / SEG PRES. (Specific to the Batch Systems Development function).

NUM	LEN	CLASS VALUE	DESCRIPTION OF FIELDS AND FILLING MODE
			ACTION CODE VALUE: On the '00' segment, enter the value that stands for "create" for this file: Example: 'ADD'. Note: for alphabetic characters use quotes. SEGMENT PRESENCE: On the non-00 segments, enter the presence specifications for the individual segment.
		O	Obligatory: the segment must be present on a "create"
		I	Invalid: the segment must not be present on a "create"
		F	Optional (default).
9	5		MODIFY : ACTN CODE VALUE / SEG PRES. (Specific to the Batch Systems Development function). ACTION CODE VALUE: On the '00' segment, enter the value that stands for "modify" for this file: Example: 'CHG'. Note: for alphabetic characters use quotes. SEGMENT PRESENCE: On the non-00 segments, enter the presence specifications for the individual segment.
		O	Obligatory: the segment must be present on a "modify"
		I	Invalid: the segment must not be present on a "mofify"
		F	Optional (default)
10	5		DELETE : ACTN CODE VALUE / SEG PRES. (Specific to the Batch Systems Development function). ACTION CODE VALUE: On the '00' segment, enter the value that stands for "delete" for this file: Example: 'DEL'. Note: for alphabetic characters use quotes. SEGMENT PRESENCE: On the non-00 segments, enter the presence specifications for the individual segment.
		O	Obligatory: the segment must be present on a "delete"
		I	Invalid: the segment must not be present on a "delete"

NUM	LEN	CLASS VALUE	DESCRIPTION OF FIELDS AND FILLING MODE
		F	Optional (default).
11	5		MOD-4 : ACTN CODE VALUE / SEG PRES. (Specific to the Batch Systems Development function). ACTION CODE VALUE: On the '00' segment, enter the value that stands for implicit action codes - (creates or modifications). Note: for alphabetic characters use quotes. SEGMENT PRESENCE: On the non-00 segments, enter the presence specifications for the individual segment.
		O	Obligatory: the segment must be present.
		I	Invalid: the segment must not be present.
		F	Optional (default).
12	5		MOD-5 : ACTN CODE VALUE / SEG PRES. (Specific to the Batch Systems Development function). ACTION CODE VALUE: On the '00' segment, enter the value that stands for this user-defined action. Note: for alphabetic characters use quotes. SEGMENT PRESENCE: On the non-00 segments, enter the presence specifications for the individual segment.
		O	Obligatory: the segment must be present.
		I	Invalid: the segment must not be present.
		F	Optional (default).
13	5		MOD-6 : ACTN CODE VALUE / SEG PRES. (Specific to the Batch Systems Development function). ACTION CODE VALUE: On the '00' segment, enter the value that stands for this user-defined action. Note: for alphabetic characters use quotes. SEGMENT PRESENCE:

NUM	LEN	CLASS VALUE	DESCRIPTION OF FIELDS AND FILLING MODE
			On the non-00 segments, enter the presence specifications for the individual segment.
		O	Obligatory: the segment must be present.
		I	Invalid: the segment must not be present.
		F	Optional (default)
14	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 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 make easy the search of occurrences 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.

4.4. SEGMENTS: BATCH DEFINITION

NUM	LEN	CLASS VALUE	DESCRIPTION OF FIELDS AND FILLING MODE
1	1		ACTION CODE The Action Code values are listed in Subchapter "Batch Access".
2	2		DATA STRUCTURE CODE (REQUIRED) This code is made up of two alphanumeric characters. This is a logical code internal to the Database and therefore independent of the names used in Database Blocks and Programs.
3	2		SEGMENT NUMBER (REQUIRED) The first character must be numeric and the second either numeric or alphabetic. However the second character can be alphabetic only if the first character is other than zero.
		00	For standard files: Used to indicate the common part of records in a file, located at the beginning of each record (Default). The control break sort keys, the record type and the keys of indexed files are contained in this Segment. A file does not necessarily have a common part. Records on files with only one type of record should be coded as a '00' Segment. With the Pactables function, this value is not allowed.
		01-99	Designates a specific Segment. The common part Data Elements are automatically concatenated with each specific part Segment. Although a data element may not be used twice in the same Segment, it may be used in both the common part and in one or more specific Segments (except data structures used as Tables).
4	1		TYPE OF SEGMENT DEFINITION LINE In batch mode, it may take more than one line to define a segment. This field is used to specify what type of information is to be contained on this line.
		L	Segment definition 1: clear name, code of record type
		blank	Segment definition 2: code of action code element

NUM	LEN	CLASS VALUE	DESCRIPTION OF FIELDS AND FILLING MODE and action code values.
5	10		CODE/VALUE OF RECORD ELM. - TABLE ID For the Batch Systems Development function: ---------- CODE OF RECORD TYPE ELEM for the '00' segment: Enter the code of the data element used to identify the type of record (left-justified, six characters maximum). VALUE OF RECORD TYPE ELEM for the non-00 segments: Enter the value to differentiate the individual segments from one another. This information is required every time a variable1 file is used in a Segment. DL/1, SQL: --------- Enter the external name of the segment or object 1 to 8 characters, between quotes). For Pactables table segments: ---------- Enter the END USER TABLE ID on 6 characters.
6	36		SEGMENT CLEAR NAME (REQ. IN CREATION) This name must be as explicit as possible because it is used in the automatic building of keywords, as detailed in chapter "Keywords" in the SPECIFICATIONS DICTIONARY.
7	6		CODE OF ACTION CODE ELEMENT In the BATCH SYSTEMS DEVELOPMENT FUNCTION: Enter the DATA ELEMENT CODE for the element used to identify the transaction type. The System will generate validation logic appropriate for creation, modification, deletion and implicit action codes, as well as user-defined transaction types. Six values are associated with this code. Validation and updates are automatic for these six values: . transaction 1 creation, . transaction 2 modification, . transaction 3 deletion, . transaction 4 modification . transaction 5 modification,

NUM	LEN	CLASS VALUE	DESCRIPTION OF FIELDS AND FILLING MODE
			. transaction 6 modification. If there is no ACTION CODE ELEMENT, this field remains blank, and the transaction type is a modification. In this case, presence specifications for the segment are entered in the MOD-4 : ACTN CODE VALUE / SEG PRES. field, and for the elements, in the MOD-4 field on the Call of Elements (-CE) screen. The CODE OF ACTION CODE ELEMENT and the values must be entered on only one segment of the data structure, preferably on the common part '00'.
8	5		CREATION : ACTION CODE VALUE (Specific to the Batch Systems Development function). On the '00' segment, enter the value that stands for "create" for this file: Example: 'ADD'. Note: for alphabetic characters use quotes. In batch mode use columns 28 to 32.
9	5		MODIFICATION : ACTION CODE VALUE (Specific to the Batch Systems Development function). On the '00' segment, enter the value that stands for "modify" for this file: Example: 'CHG'. Note: for alphabetic characters use quotes. In batch mode use columns 33 to 37.
10	5		DELETION : ACTION CODE VALUE (Specific to the Batch Systems Development function). On the '00' segment, enter the value that stands for "delete" for this file: Example: 'DEL'. Note: for alphabetic characters use quotes. In batch mode use columns 38 to 42.
11	5		MOD-4:ACTION CODE VALUE (Specific to the Batch Systems Development function). On the '00' segment, enter the value that stands for implicit action codes - (creates or modifications). Note: for alphabetic characters use quotes. In batch mode use columns 43 to 47.
12	5		MOD-5:ACTION CODE VALUE

NUM	LEN	CLASS VALUE	DESCRIPTION OF FIELDS AND FILLING MODE
			(Specific to the Batch Systems Development function). On the '00' segment, enter the value that stands for this user defined action. Note: for alphabetic characters use quotes. In batch mode use columns 48 to 52.
13	5		MOD-6:ACTION CODE VALUE (Specific to the Batch Systems Development function). On the '00' segment, enter the value that stands for this user defined action. Note: for alphabetic characters use quotes. In batch mode use columns 53 to 57.
14	1		CREATE : SEGMENT PRESENCE (Specific to the Batch Systems Development function). For non-00 segments:
		O	Obligatory: the segment must be present on a "create"
		I	Invalid: the segment must not be present on a "create"
		F	Optional (default value). Note: In batch mode, use column 58.
15	1		MODIFY : SEGMENT PRESENCE (Specific to the Batch Systems Development function). For non-00 segments:
		O	Obligatory: the segment must be present on a "modify"
		I	Invalid: the segment must not be present on a "modify"
		F	Optional (default value). Note: In batch mode, use column 59.
16	1		DELETE : SEGMENT PRESENCE (Specific to the Batch Systems Development function). For non-00 segments:
		O	Obligatory: the segment must be present on a "delete"
		I	Invalid: the segment must not be present on a "delete"

NUM	LEN	CLASS VALUE	DESCRIPTION OF FIELDS AND FILLING MODE
		F	Optional (default value). Note: In batch mode, use column 60.
17	1		MOD-4 : SEGMENT PRESENCE (Specific to the Batch Systems Development function). For non-00 segments:
		O	Obligatory: the segment must be present for this type of modification.
		I	Invalid: the segment must not be present for this type of modification.
		F	Optional (default value). Note: In batch mode, use column 61. Note: For segments without action code fields, enter specifications for segment presence.
18	1		MOD-5 : SEGMENT PRESENCE (Specific to the Batch Systems Development function). For non-00 segments:
		O	Obligatory: the segment must be present for this type of modification.
		I	Invalid: the segment must not be present for this type of modification.
		F	Optional (default value). Note: In batch mode, use column 62.
19	1		MOD-6 : SEGMENT PRESENCE (Specific to the Batch Systems Development function). For non-00 segments:
		O	Obligatory: the segment must be present for this type of modification.
		I	Invalid: the segment must not be present for this type of modification.
		F	Optional (default). Note: In batch mode, use column 63.
20	4		OCCURRENCES OF SEGMENT IN TABLE PURE NUMERIC FIELD

NUM	LEN	CLASS VALUE	DESCRIPTION OF FIELDS AND FILLING MODE
			WITH THE BATCH SYSTEMS DEVELOPMENT function: This is the amount of space reserved for a Segment in memory (USAGE OF DATA STRUCTURE 'T' or 'X', or RECORD TYPE = 3, or 4. For tables (USAGE OF DATA STRUCTURE 'T' or 'X'), the default value at generation time is 100. Pactables: This field is strictly for documentation purposes. PACBENCH CLIENT/SERVER: The value entered in this field indicates the repetitive read or update capacity of the server which calls the Logical View. This capacity is expressed by a maximum number of repetitions. The Logical View can then be used as a repeated structure. NOTE: The use of a Logical View in a card layout does not exclude its use in a row layout. It is therefore strongly recommended to systematically fill in this field. Moreover, the entered value must be high enough to limit the exchanges between the client and the server.
		999	Maximum authorized value.
21	9		ESTIMATED NUMBER OF INSTANCES PURE NUMERIC FIELD For the Batch Systems Development function, this field is used to specify the estimated number of occurrences for a segment in a database or in a standard file. For the METHODOLOGY function, this field is used for activity calculation on the record or set using the Segment (on-line only). For the DBD function, this field is used to specify the application number of an entity in a SOCRATE/CLIO Block.

4.5. SEGMENT DESCRIPTION: CALL OF ELEMENTS

SEGMENT DESCRIPTION: CALL OF ELEMENTS

A segment is described by listing (calling) the data elements it contains. This is done by the -CE screen.
Additional information may be coded, according to the future use of the segment (validation and update for transaction files, keys for database segments, PACTABLE information..).

OPERATION CODE

```
C1: default value (Update).

C2: display of the internal format of the data elements.
    display of Elements of a called "data aggregate"
    (see below).
    display of clear names of elements defined at the
    segment level.

C3: display of the input format of each data element
    called in the Segment.
```

GENERAL CHARACTERISTICS

A segment is described by an ordered sequence of data elements. This sequence may include group data elements, or repetitions of elementary or group data elements.

Redefinitions are possible within a segment.

For files and databases, access and control break sort keys are indicated. Initial values can be defined for work areas.

A segment is described by data elements defined in the Specifications Dictionary. As a result, the clear name of the data element, its formats and USAGE clauses are channeled down to the segment level.
It is not possible to modify those characteristics at the segment level.

It is possible to use data element codes which are not defined in the Specifications Dictionary, only when they do not have a real functional meaning (group elements, fillers, error tables, etc.) In this case, a name and/or a format are required.

It is also possible to describe a segment containing different aggregates of previously defined data, such as segments or entities described with the PACMODEL function (Ojects and Relationships).
It is not possible to modify the description of the called entity at the segment level.

The same data element code, used in more than one place in a segment, will provoke generation of identical data names.

PREREQUISITE

The segment and the data elements (except some technical data elements which can be defined in the segment description lines) must have been previously defined.

ASSOCIATED SCREENS

There is an additional General Documentation (-G) screen associated (via the LINE NUMBER) with each of the entities called onto the Segment Call of Elements (-CE) screen.

These screens are used for additional information concerning Database Blocks (Database Description function), error message generation and/or additional documentation concerning error messages. (Batch Systems Development function).

GROUP ELEMENTS

A Group element is identified in the list by the number of elementary data elements it contains. These elements are listed after the group element.
A group may include other groups. All elementary elements are then counted to define the group.

If a dictionary data element is used as a group, its length is recalculated (sum of the lengths of the elementary data elements), regardless of its dictionary format.

REDEFINITION

Redefinition is possible within a segment (generating the COBOL 'REDEFINES' clause). The following is entered in the UPDATE TARGET field:

```
.'R*'   in the UPDATE TARGET / FIRST PART,
. Blank in the rest of the UPDATE TARGET field.
```

The data element containing this option redefines the data element of the same COBOL level which precedes it in the segment description. (See UPDATE TARGET / FIRST PART.)

If a data element which redefines another data element is contained in a group, it is considered to be an elementary data element. It must be taken into account in the calculation of the number of data elements contained in a group (except for DL1 database Segments).

NOTE: When data elements are redefined, the system does not take their respective lengths into account. This is the user's responsibility.

In the calculation of address length (Segment Level, Address and Length Description (-LAL)), the redefined data element length is used for the address calculation.

DATA AGGREGATES

Segments, Model Objects and Relationships (PACMODEL) are also called "data aggregates". They may be called into other segments.

The data aggregate code is indicated instead of the data element code in the list, and it is specified as a special group (see NO. OF ELEMENTARY ELEMENTS IN A GROUP). It may be occursed (See OCCURRENCES (COBOL 'Occurs' clause)).

The description (list of elements) will be included, but it cannot be modified at this level.

NOTE: On the -CE screen, the list of data elements of a called aggregate is only viewed in O: C2. When a segment description is printed (DCS), only the SEGMENT CODE will appear. The expanded view of the segment may be seen on the Segment Level, Address and Length (-LAL) screen.

LIMITATION

Called segments may also contain segments. This 'nesting' may occur up to three times.

EXAMPLE:

```
-------------------------------------------------------------
!              ELEM.     GR  ! 01 level:  Segment BL00     !
!              ELEM.         ! 01 level:  Segment BL00     !
!S BL00 CE     DELCO1        !  05 level:  Delco1          !
!              CL10      **  !             Segment CL10    !
!----------------------------!                             !
!S CL10 CE     DELCO2        !   10 level:  Delco2         !
!              DL20      **  !              Segment DL20   !
!----------------------------!                             !
!S DL20 CE     DELCO3        !    15 level:  Delco3        !
!              DELCO4        !               Delco4        !
!                            !               Segment AA30  !
!----------------------------!                             !
!S AA30 CE     DELCO5    **  !     20 level:  Delco5       !
-------------------------------------------------------------
```

DATABASES SEGMENT DESCRIPTION

. Existing DL/1 segments

DL/1 segments defined prior to the installation of the System may have used data element codes that are eight characters in length. This does not conform to the System standards.

In that case, it is possible to define the elements in the Dictionary to ensure future management in the System, and associate them with the old codes, to maintain compatibility with the existing applications.

. SQL external names

SQL Data element codes are used also by the end-user, so they must be significant. In some cases, a Data element must be given a code other than its System code.

In these cases, the two codes can be managed as follows:

On the Segment Call of Elements (-CE) screen, enter:

. The data element code in the DATA ELEMENT CODE field,

. 'A*' in the UPDATE TARGET / FIRST PART field,

. The former code (up to 8 characters) in the UPDATE TARGET / SECOND and LAST PARTs.

For DL/1, the 'old' code will be not only used in the Database Block description, but also in generated SSAs for on-line or batch programs.

SEGMENTS **4**
SEGMENT DESCRIPTION: CALL OF ELEMENTS **5**

```
-------------------------------------------------------------------------------
!                  PURCHASING MANAGEMENT SYSTEM         SG000008.LILI.CIV.1583 !
!                           1 2                                                 !
! SEGMENT CALL OF ELEMENTS PR00 COMPLETE PRODUCT RECORD                         !
!                                                                               !
! 3 4     5      7         8 9   10 11 --------------12--------------  13      !
! A LIN : ELEM.  INT.FORM. U OCC GR K CMD456 CONT VALUE/SFC  UPD/TRGET DOC LIBR!
!   000 : PRDKEY                   1 U                                    0059!
!   010 : VENUMB                     B                                    0059!
!   020 : PR01                    **                                      0059!
!       :                                                                       !
!       :                                                                       !
!       :                                                                       !
!       :                                                                       !
!       :                                                                       !
!       :                                                                       !
!       :                                                                       !
!       :                                                                       !
!       :                                                                       !
!       :                                                                       !
!       : NAME    : 6                                                         !
! *** END ***                                                                   !
! O: C1 CH: -CE                                                                 !
-------------------------------------------------------------------------------
```

NUM	LEN	CLASS VALUE	DESCRIPTION OF FIELDS AND FILLING MODE
			DATA STRUCTURE / SEGMENT CODE
1	2		DATA STRUCTURE CODE (REQUIRED) This code is made up of two alphanumeric characters. This is a logical code internal to the Database and therefore independent of the names used in Database Blocks and Programs.
2	2		SEGMENT NUMBER (REQUIRED) The first character must be numeric and the second either numeric or alphabetic. However the second character can be alphabetic only if the first character is other than zero.
		00	For standard files: Used to indicate the common part of records in a file, located at the beginning of each record (Default). The control break sort keys, the record type and the keys of indexed files are contained in this Segment. A file does not necessarily have a common part. Records on files with only one type of record should be coded as a '00' Segment. With the Pactables function, this value is not allowed.
		01-99	Designates a specific Segment. The common part Data Elements are automatically concatenated with each specific part Segment. Although a data element may not be used twice in the same Segment, it may be used in both the common part and in one or more specific Segments (except data structures used as Tables).
3	1		ACTION CODE (REQUIRED)
4	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.
5	6		DATA ELEMENT CODE ELEMENTARY DATA ELEMENT DEFINED IN THE DICTIONARY --- The Data Element automatically assumes the characteristics defined at the Specifications Dictionary level.

NUM LEN	CLASS VALUE	DESCRIPTION OF FIELDS AND FILLING MODE
		If the Data Element is used as a group, its format depends on the characteristics of the elementary Elements that make up the group. If the group is used as a key (sort or access key), the composite format of the elementary Elements must be compatible with the format specified for the group. DATA ELEMENT NOT DEFINED IN THE DICTIONARY --- The name and/or format of undefined Data Elements must be indicated at the segment level. RESERVED DATA ELEMENT CODES --- SUITE Prohibited. This code is reserved for the System for program generation. FILLER Data Element that is used for the alignment of fields. OPTIONS OF THE BATCH SYSTEMS DEVELOPMENT FUNCTION --- These codes (when used) precede other entries made in this field, in the sequence described below. ENPR Used to store Element error verifications in a transaction file. The length is n + 1 where n = either the total number of elementary Elements in the file, or the number of elementary Elements in the '00' Segment added to the largest non-00 Segment. ("Largest" here means the most elementary Elements.) This depends upon the value entered in the RESERVED ERROR CODES IN TRANS FILE field on the Call of Data Structures (-CD) screen. GRPR Used to store Segment error verifications. Its length is n + 1 where n = the number of records. ERUT Used to store error verifications for users. Normally, these last three Data Elements are used in transaction files for error verification fields. When used in other types of files as "optional" Data Elements, they may be used as group fields whose generation may be invoked or suppressed according to the option selected in the RESERVED ERROR CODES IN TRANS. FILE field. (Note: this will affect the elementary

NUM	LEN	CLASS VALUE	DESCRIPTION OF FIELDS AND FILLING MODE
			Elements within the group as well.) CALLING DATA AGGREGATES ---------- A SEGMENT CODE or a Model Entity code (Relationship or Object in the METHODOLOGY function) can be entered in this field. The called data aggregate will be interpreted as if the individual Elements that make it up had been entered. The NO. OF ELEMENTARY ELEMENTS IN GROUP field is used to identify data aggregate calls. Enter the code at the location the elements are to be included in the Segment description. In O:C2, the level of 'nesting' is displayed in the Action Code (up to four levels). The number of authorized nesting levels varies according to the type of generator. Up to 4 nesting levels are authorized for data generation and PAF use. CONTINUATION LINES ---------- It is possible to create continuation lines. This may be necessary if there are many validations on a Data Element. In this case, leave the DATA ELEMENT CODE field blank, and use a LINE NUMBER value that sequentially follows that of the line where the Data Element code was entered.
6	18		NAME OF DATA ELEMENT It is required for a Data Element which is not defined in the Specifications Dictionary. However, it is optional for a data aggregate or a FILLER. Note: For on-line entry of Data Elements that are not declared in the Dictionary, this field cannot be used to input more than one Data Element at a time. There is actually only one available field on this screen, whether for input or for display. To define an Element at the Segment level : - Enter the Element code (and possibly the format) on the -CE, line nnn, - On the 'name' line, repeat the line number (nnn),

NUM	LEN	CLASS VALUE	DESCRIPTION OF FIELDS AND FILLING MODE
			and indicate the name (18 characters maximum), - Use the C2 option to view the name and format. Note: If several undefined Elements have been named in this fashion, the name displayed will be the one that refers to the Element with the lowest line number on the display. To view a specific Element's name use the CHOICE field, selecting the appropriate Element by line number. Example: O: C2 CH: -ce130 will display all Data Elements starting with the one on line 130. If it is an undefined Element, its name will appear in the NAME OF DATA ELEMENT field.
7	10		DATA ELEMENT INTERNAL FORMAT It is required only in the following cases : - For an elementary Data Element not defined in the Dictionary (COBOL format), - For a group Data Element that is or belongs to a key; its length must be the sum of the lengths of its elementary Data Elements, - For a FILLER-type field. It is the internal format; input and output formats will be the same (but with usage Display). It is defined as on a Data Element Definition screen.
8	1		INTERNAL USE For Data Elements not defined in the Specifications Dictionary when the INTERNAL FORMAT OF DATA ELEMENT field has been given a value, enter the appropriate USAGE (default : 'D' for DISPLAY). For valid values, see the USAGE field on the Data Element Definition Screen.
9	3		OCCURRENCES (COBOL "OCCURS" CLAUSE) PURE NUMERIC FIELD This field represents the 'OCCURS' clause at an elementary Data Element level, or at a group level (Maximum of 3 levels). It can be changed into an 'OCCURS DEPENDING ON' clause by entering '**' in the UPDATE TARGET field, followed by the counter's Segment and Data Element codes.

NUM	LEN	CLASS VALUE	DESCRIPTION OF FIELDS AND FILLING MODE
			The COBOL restrictions on the OCCURS clause apply.
10	2		NO. OF ELEMENTARY ELEMENTS IN GROUP PSEUDO NUMERIC FIELD
		1 to 99	For group Data Elements, enter the number of elementary Elements that belong to the group (A Segment call is considered as an elementary Data Element). Groups may contain up to 99 elementary Elements. Group Elements may contain embedded groups however the total number of elementary Elements cannot exceed 99. (The group Data Element codes are not counted). The maximum number of levels of 'nesting' is 9. This field is also used to identify the entity called in the DATA ELEMENT CODE field as Methodology entities or previously defined Segments.
		*M	Call of an Object or a Relationship.
		**	Call of a Segment. SQL DBD function:
		**	Call of a Segment into a view.
11	1		ACCESS OR SORT KEY This field identifies all data elements that might be used as control break sort keys, or as access keys to a file, a database or a Pactables table. Each data element that may belong to a sort key must be referenced by a unique alphabetic or numeric character. It is recommended to reference the indicators by a series (1, 2, 3 ...). The actual sort sequence will be chosen at the program level (on the Call of Data Structures (-CD) screen) by sequencing the characters in the appropriate order. Reminder: The format of key group data elements must have been entered in the Dictionary or at the segment level. PACTABLES: ---
		U	References the access key for a VisualAge Pacbase

NUM	LEN	CLASS VALUE	DESCRIPTION OF FIELDS AND FILLING MODE
			table. This value must be indicated on the group data element if it is a group key.
		S	Indicates that the data element belongs to at least one sub-system. DL1 DBD ------- (See the DL/1 DATABASE DESCRIPTION Reference Manual)
		U	References a unique key for an DL/1 database.
		M	References a multiple key for an DL/1 database.
		1 to 9	Secondary index All other values designate a search field. DBD AS400 physical file ---------- (See the corresponding DBD Reference Manual)
		0 to 9	AS400 physical file key. Relational databases ---------- (See the corresponding DBD Reference Manual)
		V	Variable length column
		Blank	Fixed length column
		W	For DB2 SQL, SQL/DS and ORACLE, generation of a variable length column (VARCHAR).
		L	For DB2 SQL, SQL/DS and ORACLE, generation of a LONG VARCHAR. NOTE: Sort keys are not allowed on data elements redefining other data elements (see VALIDATION and UPDATE FIELDS, below).
12	30		VALIDATION AND UPDATE FIELDS This field is made of four main fields : - 'CMD456' reserved to presence validation - 'CONT' reserved to class and value validation - 'VALUE/FCT' complementary to the previous one - 'UPD/TRGET' reserved to batch update

NUM LEN	CLASS VALUE	DESCRIPTION OF FIELDS AND FILLING MODE
		Those fields are mostly used in batch validation and update programs; their detailed description is to be found in the 'BATCH SYSTEMS DEVELOPMENT' manual. Nevertheless, they may be used for other purposes: DEFINITION OF AN INITIAL VALUE ---------- .'T' column of the 'CONT' field : - 'V' definition of an initial value, which is specified as a litteral in the 'VALUE/FCT' field or on the element description (type 'D' line) (10 characters). - 'W' same as 'V', but the litteral may continue in the 'UPD/TRGT' field (10 more characters). . The initial value will be taken into account in programs and also in the generation of COPY BOOKS (COBOL value clause), if needed. REDEFINITION ---------- . 'UPD/TRG' field : enter R*, left justified. The remaining part of the field should be blank. It means the data element redefines the preceding data element of the same level. Pactables function: ---------- In the 'T' column of the 'CONT' field :
	S	Indicates that the element belongs to one or more sub-schemas. Sub-schemas are indicated by entering the letter 'O' positionally in the VALUES/FCT field as illustrated below: Example: ELEM. CONT VALUE/SFC delco S O OOO The data element 'delco' belongs to sub-schemas 1,3,4 and 5. SQL RELATIONAL DBD:

NUM	LEN	CLASS VALUE	DESCRIPTION OF FIELDS AND FILLING MODE

			.'C' column of the 'CMS456' field : Indicates the presence of a Table Column. .In the 'T' column of the CONT field : S Indicates that the Data Element belongs to one or more sub-schema(s). .VALUES/FCT field : Indicates to which sub-schema(s) the Data Element belongs. .UPD/TRG field : The relational name of a Column may be entered in this field. For more information, refer to Subchapter "Table or View Description" in the "Relational / SQL Database Description" manual.
13	1		DOCUMENTATION INDICATOR This field is used in on-line mode only. It is a read-only field. * 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.

4.6. SEGMENTS: ON-LINE ACCESS

SEGMENTS: ON-LINE ACCESS

LIST OF SEGMENTS

CHOICE	SCREEN	UPD
LCSaaaa	List of segments by code (starting with segment 'aaaa').	NO

DESCRIPTION OF SEGMENT 'aaaa'

CHOICE	SCREEN	UPD
Saaaa	Definition of segment 'aaaa'.	YES
SaaaaGbbb	General documentation for segment 'aaaa' (starting with line number 'bbb').	YES
SaaaaATbbbbbb	Text assigned to segment 'aaaa' (starting with text 'bbbbbb').	NO
SaaaaLSPbbbb	List of parent segments for segment 'aaaa' (starting with parent segment 'bbbb').	NO
SaaaaLSCbbbb	List of child segments for segment 'aaaa' (starting with child segment 'bbbb').	NO
SaaaaX	X-references of segment 'aaaa'.	NO
SaaaaXSbbbb	X-references of segment 'aaaa' to segments (starting with segment 'bbbb').	NO
SaaaaXBbbbbbb	X-references of segment 'aaaa' to blocks (starting with block 'bbbbbb').	NO
SaaaaXQbbbbbb	List of entities linked to segment 'aaaa' through user-defined relation-ship 'bbbbbb'.	NO
SaaaaXVbbbbbb	X-references of segment 'aaaa' to volumes starting with the 'bbbbbb' volume.	NO
SaaaaXPbbbbbb	X-references of segment 'aaaa' to programs (starting with program 'bbbbbb').	NO
SaaaaXPbbbbbbCPcccccc	X-references of segment 'aaaa' to Call of P.M.S. (-CP) of program 'bbbbbb' starting with macro-structure 'cccccc').	NO
SaaaaXPbbbbbbWccddd	X-references of segment 'aaaa' to work areas (-W) of program 'bbbbbb' (starting with work area 'cc', line number 'ddd').	NO
SaaaaXObbbbbb	X-references of segment 'aaaa' to screens (starting with screen 'bbbbbb').	NO
SaaaaXObbbbbbCPcccccc	X-references of segment 'aaaa' to Call of P.M.S.(-CP) of screen 'bbbbbb' (starting with macro-structure 'cccccc').	NO

SaaaaXObbbbbbWccnnn	X-references of segment 'aaaa' to work areas (-W) of screen'bbbbbb' (starting with work area 'cc', line number 'nnn').	NO
SaaaaSSbn	Definition of the sub-schemas or sub-systems of segment 'aaaa' in the PACTABLES function (starting with sub-schema 'n' with 'b' = 's', or sub-system 'n' with 'b' = 'y'.	YES
SaaaaCEbbb	Call of elements/attributes of segment 'aaaa'(starting with line number 'bbb').	YES
SaaaaCEbbbGccc	General Documentation for the element/attribute called on line 'bbb' of segment 'aaaa' (starting with general documentation line number 'ccc').	YES
SaaaaDBEbbb	SQL view source for view 'aaaa' (starting with line 'bbb').	YES
SaaaaLALbbb	Level, address and length of segment 'aaaa' (starting with line 'bbb').	NO
SaaaaDEDbbb	Data element details of segment 'aaaa' (starting with line 'bbb').	NO
	If this choice is used in C2 option, the relational label replaces that of the data element.	NO
SaaaaCNbbbbbb	List of constraints of segment 'aaaa' integrity (from the block 'bbbbbb')	NO
SaaaaSTA	Statistics on segment 'aaaa'.	NO
SaaaaACT	Activity calculation on segment 'aaaa'.	NO

NOTE: After the first choice of type 'Saaaa', 'Saaaa' can be replaced with '-'.

All notations between parentheses are optional.

```
!                  PURCHASING MANAGEMENT SYSTEM         SG000008.LILI.CIV.1583 !
! LIST OF SEGMENTS BY CODE                                                     !
!                                                                              !
! CODE    NAME OF THE SEGMENT OR D.S.           TYPE OF THE D.S.          LIBR.!
! CO      ORDER PREPARATION                     Z DATA STRUCTURE          0059 !
! CO00    ORDER ITEM                                                      0059 !
! LE      PACBASE ERROR MESSAGES                Z DATA STRUCTURE          *CEN !
! LE00    PACBASE ERROR MESSAGES                                          *CEN !
! OI      PURCHASE ORDER INFORMATION            Z DATA STRUCTURE          0059 !
! OI00    PURCHASE ORDER KEYS                                             0059 !
! OI10    BASIC ORDER DATA                                                0059 !
! OI20    ORDER LINE ITEM DATA                                            0059 !
! PR      PRODUCT FILE                          Z DATA STRUCTURE          0059 !
! PR00    COMPLETE PRODUCT RECORD                                         0059 !
! PR01    PRODUCT INFORMATION                                             0059 !
! TT      TABLE DESCRIPTION                     G TABLES                  0093 !
! TT20    AREA CODES                                                      0093 !
! VE      VENDOR FILE                           Z DATA STRUCTURE          0059 !
! VE00    VENDOR INFORMATION                                              0059 !
! XO      STRUCTURE FOR ON-LINE GUIDE           Z DATA STRUCTURE          *CEN !
! XO01    PASSWORD                                                        *CEN !
! XO02    ROOT SEGMENT                                                    *CEN !
!                                                                              !
! O: C1 CH: LCS                                                                !
--------------------------------------------------------------------------------

--------------------------------------------------------------------------------
!                  PURCHASING MANAGEMENT SYSTEM         SG000008.LILI.CIV.1583 !
! SEGMENT   GENERAL DOC.          PR00   COMPLETE PRODUCT RECORD               !
!                                                                              !
! A LIN : T COMMENT                                                       LIB  !
!   100 :   This segment may not be used in another library.              0093 !
!       :                                                                      !
!       :                                                                      !
!       :                                                                      !
!       :                                                                      !
!       :                                                                      !
!       :                                                                      !
!       :                                                                      !
!       :                                                                      !
!       :                                                                      !
!       :                                                                      !
!       :                                                                      !
!       :                                                                      !
!       :                                                                      !
!       :                                                                      !
!       :                                                                      !
!       :                                                                      !
!       :                                                                      !
!       :                                                                      !
!       :                                                                      !
!       :                                                                      !
!                                                                              !
! O: C1 CH: -G                                                                 !
--------------------------------------------------------------------------------
```

```
!                  PURCHASING MANAGEMENT SYSTEM         SG000008.LILI.CIV.1583 !
! SEGMENT LIST OF CHILD SEGMENTS FOR SEGMENT :  MV00                             !
!                                                                                !
! CHLD BLOCK  LIN SET    MODEL   OCC. NAME OF REL./COMMENTS              LIBR !
! MV01 DM4M1  300 SET001           0                                     0431 !
!                                                                                !
!                                                                                !
!                                                                                !
!                                                                                !
!                                                                                !
!                                                                                !
!                                                                                !
!                                                                                !
!                                                                                !
!                                                                                !
!                                                                                !
!                                                                                !
!                                                                                !
!                                                                                !
!                                                                                !
! O: C1 CH: Smv00LSC                                                             !
```

```
!                  PURCHASING MANAGEMENT SYSTEM         SG000008.LILI.CIV.1583 !
! SEGMENT X-REF'S TO BLOCKS FOR SEGMENT :  MV00                                  !
!                                                                                !
! BLOCK  NAME                              LIN TY AR/SET PRNT CHLD  OCC. LIBR.!
! DM4M1  TEST                              200 M3 AREA01              0 0431 !
! DM4M1  TEST                              300 M3 SET001 MV00 MV01    0 0431 !
!                                                                                !
!                                                                                !
!                                                                                !
!                                                                                !
!                                                                                !
!                                                                                !
!                                                                                !
!                                                                                !
!                                                                                !
!                                                                                !
!                                                                                !
!                                                                                !
!                                                                                !
!                                                                                !
!                                                                                !
! O: C1 CH: -XB                                                                  !
```

```
!                  PURCHASING MANAGEMENT SYSTEM         SG000008.LILI.CIV.1583 !
! DESCRIPTION OF SEGMENT : PR00 COMPLETE PRODUCT RECORD                         !
!                                                                              !
! A LIN LEVEL     ELEM.  OCC   INT. FOR.  U LGTH   ADD    INP. FOR.  LGTH  ADD !
!   000 10        PRDKEY                            1                          !
!   010  11       VENUMB       X(5)       D    5     1    X(5)          5      !
!   020 10        PR01          ----> SEGMENT PRODUCT INFORMATION               !
!   100  11       PRNUMB       X(10)      D   10     6    X(10)        10      !
!   110  11       PRDESC       X(30)      D   30    16    X(30)        30    1 !
!   120  11       PRPRIC       9(6)V99    3    5    46    9(6)V99       8    4 !
!   130  11       PRDTIM       999        3    2    51    999           3    5 !
!   140  11       PRMEAS       XX         D    2    53    XX            2    5 !
!                                                                              !
!                                                                              !
!                                                                              !
!                                                                              !
!                                                                              !
!                                                                              !
!                                                                              !
!                                                                              !
!                                                                              !
! *** END ***                                                                  !
! O: C1 CH: Spr00LAL                                                           !
--------------------------------------------------------------------------------

--------------------------------------------------------------------------------
!                  PURCHASING MANAGEMENT SYSTEM         SG000008.LILI.CIV.1583 !
! DESCRIPTION OF SEGMENT : PR00 COMPLETE PRODUCT RECORD                         !
!                                                                              !
! A ELEM.  NAME                          INP. FOR.  INT. FOR.  U OCC GR K LIBR.!
!   PRDKEY PRODUCT KEY                                          1 U 0059 !
!   VENUMB VENDOR NUMBER                 X(5)       X(5)       D    B 0059 !
!   PR01                                                       **   0059 !
!   PRNUMB PRODUCT NUMBER                X(10)      X(10)      D    A 0059 !
!   PRDESC PRODUCT DESCRIPTION           X(30)      X(30)      D      0059 !
!   PRPRIC PRODUCT PRICE                 9(6)V99    9(6)V99    3      0059 !
!   PRDTIM ESTIMATED DELIVERY TIME       999        999        3      0059 !
!   PRMEAS UNIT OF MEASURE               XX         XX         D      0059 !
!                                                                              !
!                                                                              !
!                                                                              !
!                                                                              !
!                                                                              !
!                                                                              !
!                                                                              !
!                                                                              !
!                                                                              !
! *** END ***                                                                  !
! O: C1 CH: -DED                                                               !
--------------------------------------------------------------------------------
```

```
!                  PURCHASING MANAGEMENT SYSTEM         SG000008.LILI.CIV.1583 !
! DESCRIPTION OF SEGMENT : PR00 COMPLETE PRODUCT RECORD                         !
!                                                                               !
!                                  PR00                          TOTAL        !
!                                                                               !
! NUMBER OF DATA ELEMENTS......:      8                             8          !
! NUMBER OF ELEMENTARY FIELDS..:      6                             6          !
!                                                                               !
! INPUT LENGTH.................:     58                            58          !
! INTERNAL LENGTH..............:     54                            54          !
!                                                                               !
!                                                                               !
!                                                                               !
!                                                                               !
!                                                                               !
!                                                                               !
!                                                                               !
!                                                                               !
!                                                                               !
!                                                                               !
! *** END ***                                                                   !
! O: C1 CH: -STA                                                                !
```

4.7. SEGMENTS: BATCH ACCESS

SEGMENTS: BATCH ACCESS

DEFINITION

Batch Form '2' is used to define a segment.

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
        ampersand (&).

D     = Deletion of a segment definition line (if no
        description lines).

B     = Deletion of a segment including all its
        description lines and its use in other
        entities.
```

DESCRIPTION

Batch Form '3' is used to call elements into a segment.

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
        ampersand (&).

D     = Deletion of a line.

B     = Deletion of a  data element/property in a seg-
        ment starting from this line.
        NOTE:  You cannot delete several data elements
        with transaction code 'B'.

R     = End of multiple deletion.
```

4.8. SEGMENTS: GENERATION-PRINT

SEGMENTS: GENERATION-PRINT

Lists and description reports on data structures may be obtained by entering certain commands, either on-line on the Generation and Print Commands (GP) screen, or in batch mode by using batch form 'Z'. The COMMANDS FOR PRINT REQUEST are listed below:

LISTS

LCS: List of Segments sequenced by code.

C1 OPTION: Without explicit keywords,
C2 OPTION: With explicit keywords.

LKS: List of Segments sequenced by keyword.
After typing LKS, a selection field (SEL:) enables the user to choose implicit ('L') or explicit ('M') keywords, or both (' '). Keywords are entered on a continuation line or in columns 31 to 80 in batch mode.

DESCRIPTION

DCS : Segment description

- On-line (GP screen)

Enter the Data Structure code in the ENTITY field. The segment selection is made by listing the 2-characters numbers (00,10,20..) on the continuation line. To get the continuation line, put an '*' in the 'S' field.

The format of the elements may be selected. After typing 'DCS', a FORMAT: field appears.
The valid values are :

.I = internal,
.E = input,
.S = output.
.R = internal, but if there is a relational name,
it replaces the Data Element label.

- Batch Form :

Columns 9 and 10 for the data structure code
Columns 31 to 80 for the segment selection
Column 17 for Format selection

Whatever the library selection code happens to be, the print option for this entity can only be '1' or '2' (C1, U1, etc., C2, U2, etc.).

Option '1' generates the printing of:

. The definition line of the data structure:

Associated keywords and general documentation lines,

Cross-references to programs and screens,

The list of segments belonging to the data structure,

. The definition line of each segment:

Associated keywords and general documentation lines,

Cross-references to all other entities,

. Description lines of each segment:

The list of sub-schemas and sub-systems (Pactables only)

The call of elements (including the documentation),

The statistics of the segment (number of elementary elements and record length).

NOTE: For table segments, see the Pactables Reference Manual.

Option '2' provides the same listings as above, but adds a listing of the texts assigned to the data structure and the segment.

5. DATABASE BLOCKS

5.1. DATABASE BLOCKS: INTRODUCTION

DATABASE BLOCK: INTRODUCTION

The purpose of the Database Block entity is to:

. Describe, at the logical level, hierarchical, relational or network databases,

. Describe, at the physical level, hierarchical, relational, or network databases, taking into account the characteristics of certain DBMSs.

GENERAL CHARACTERISTICS

The definition and description of logical or physical segments is ensured by the Segment entity.

The definition and description of logical or physical relationships between segments is ensured by the Database Block entity.

The Database Block entity includes the following:

. A Definition screen (required), for entry of the general characteristics (clear name, type, external name, keywords, etc.),

. Description screens, which vary according to the type of block,

. A Documentation screen, used for physical access specifications, as well as general technical documentation.

COMMENTS

The actual generation of these descriptions is not accomplished by the Specifications Dictionary function.
The Database Description function actually generates these descriptions according to the syntax required by the DBMS.

The Database Block may be linked to a data model built with the PACMODEL function.

5.2. DATABASE BLOCKS: DEFINITION

DATABASE BLOCK: DEFINITION

A database block is defined by a code, a name and a type.

The Definition is done on a 'B' screen.

There are three categories of Database Blocks:

. Hierarchical blocks used to describe tree-like structured hierarchical databases (for example, DL/1).

. Network blocks used to describe the relationships in network databases (for example, CODASYL).

This category also allows for the description of TANDEM or DB2 databases.

. Relational blocks used to describe the links in relational databases in the SQL language (for example, DB2).

To each one of these block categories corresponds a specific Description.

A Database Block is classified into one of these categories according to the TYPE OF BLOCK. A change in the block type is allowed only when it does not imply a change in the block's category.

ASSOCIATED LINES

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

The physical level information is entered on the General Documentation (-G) screens associated with the definition and description lines of the Database block.

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

For more information, see Chapters "GENERAL DOCUMENTATION" and "PARAMETERIZED INPUT AID (P.I.A)".

DATABASE BLOCKS **5**
DATABASE BLOCKS: DEFINITION **2**

```
!                  PURCHASING MANAGEMENT SYSTEM         SG000008.LILI.CIV.1583 !
!                                                                               !
! BLOCK DEFINITION.............:  1 ORDRDB                                      !
!                                                                               !
! NAME.................: 2 ORDER DATABASE                                       !
! TYPE.................: 3 D1 SCHEMA (DDL)                                      !
!                                                                               !
!                                                                               !
! EXTERNAL NAME.........: 4 ORDRDB00                                            !
! EXT. NAME OF SCHEMA   : 5                                                     !
!                                                                               !
! CONTROL CARDS....... FRONT: 6  L    BACK: 7  L                                !
!                                                                               !
!                                                                               !
! EXPLICIT KEYWORDS..: 8 IMS                                                    !
!                                                                               !
!                                                                               !
!                                                                               !
!                                                                               !
!                                                                               !
! SESSION NUMBER.....: 0059        LIBRARY......: CIV    LOCK....:              !
!                                                                               !
!                                                                               !
! O: C1 CH: Bdbordb                     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 **Error! Bookmark not defined.**).
			.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 NUMBER Version number of the database system.
		2000	DB2/400 : Version 2
		3000	NONSTOP SQL: Version C30
		4000	VAX SQL : Version 4.0
		5000	RDMS 1100 : Version 5RA4
		7000	ORACLE : V7
		Blank	Other systems, all versions.
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	8		EXTERNAL NAME OF THE SCHEMA This field is only used for SE-type blocks (Group of Sets) and for CODASYL Blocks. Otherwise, it is not displayed. This is necessary at generation time if the block is a SUB-SCHEMA or a DMCL. This is the physical name of the schema to which the given block is attached. This field is not used if the block is a schema.
7	1		CONTROL CARDS IN FRONT OF BLOCK Necessary at generation time.

NUM	LEN	CLASS VALUE	DESCRIPTION OF FIELDS AND FILLING MODE
			Enter the one-character code that identifies the job control card to be inserted before the generated block.
8	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.
9	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 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 make easy the search of occurrences 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.

5.3. HIERARCHICAL DATABASE BLOCKS: DESCRIPTION

HIERARCHICAL DATABASE BLOCKS: DESCRIPTION

The -DH screen is used to describe the relationships between segments in a hierarchical database (example: DL/1).

GENERAL CHARACTERISTICS

Each line designates a segment and its parent (except for the line referring to the root segment). The exact position of the segment within the hierarchical structure is indicated according to normal DL/1 standards, that is top to bottom, left to right.

PREREQUISITE

The hierarchical block must be defined as well as all the entities called.

ASSOCIATED SCREENS

General Documentation (-G) screens are used to provide the physical information necessary in order to generate the block. These screens are associated with each description line and are accessed by the choice '-DHnnnG' (where 'nnn' represents the description LINE NUMBER of the entity concerned).

OPERATION FIELD

```
C1: default value.
```

DATABASE BLOCKS **5**
HIERARCHICAL DATABASE BLOCKS: DESCRIPTION **3**

```
!                  PURCHASING MANAGEMENT SYSTEM         SG000008.LILI.CIV.1583 !
! BLOCK DESC. HIERARCHICAL PCB      1 ORDRDB ORDER DATABASE                     !
!                                                                               !
! 2 3     4    5    6      7 8    9    10                                       !
! A LIN : SEGM PRNT MODEL  K DOC  OCC. COMMENT/RELATIONSHIP/KEYLENGTH     LIBR.!
!   100 : OI10             U           Basic order data                    0059 !
!   120 : OI20 OI10                    Order line item data                0059 !
!       :                                                                       !
!       :                                                                       !
!       :                                                                       !
!       :                                                                       !
!       :                                                                       !
!       :                                                                       !
!       :                                                                       !
!       :                                                                       !
!       :                                                                       !
!       :                                                                       !
!       :                                                                       !
!       :                                                                       !
!       :                                                                       !
!       :                                                                       !
! *** 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 (REQUIRED)
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 is the Segment Code as defined in the database.
5	4		PARENT SEGMENT CODE This is the code of the segment upon which the given segment is hierarchically dependent.
6	6		MODEL ENTITY RELATIONSHIP CODE With the PACMODEL function only: Enter the code of the MODEL ENTITY RELATIONSHIP that defines the link between the segment and its parent. The System will automatically create a cross-reference for these relationships. NOTE: The relationships are described via the PAC-MODEL function.
7	1		KEY INDICATOR Used for a symbolic reference of the key data element of a given segment in a given DBD. The character indicated in this field must also appear on the Segment Call of Elements (-CE) screen in the KEY INDICATOR FOR ACCESS OR SORT field, on the key data element line.
		U	References a unique key.
		M	References a multiple key.
		1 to 9	DL/1 Secondary index.
		$	In a PCB or a physical or logical DBD (Block type PC, DB, or DL), generates a non-qualified SSA (used in OLSD). All other values designate a search field. NOTE: Sort keys are not permitted on data elements redefining other data elements (see the Segment

NUM	LEN	CLASS VALUE	DESCRIPTION OF FIELDS AND FILLING MODE
			Call of Elements (-CE)).
8	1		DOCUMENTATION INDICATOR This field is used in on-line mode only. It is a read-only field.
		*	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 LINK PURE NUMERIC FIELD This gives the average number of occurrences of child segments that are linked to an occurrence of a parent segment. This number is used for activity calculation (see the PACMODEL Reference Manual).
10	36		COMMENT/RELATIONSHIP/KEYLENGTH Documentary purpose mostly : it allows to document the defined parent/child link. It is also used to indicate the concatenated key length (cc=...).

5.4. RELATIONAL/SQL DATABASE BLOCKS: DESCRIPTION

RELATIONAL/SQL DATABASE BLOCKS: DESCRIPTION

The -DR screen allows the description of a Database Block's physical model (i.e. table spaces, tables, table views, index or key) used to generate an SQL database description.

On each description line, a special ACTION CODE indicates the type of SQL command to generate for the block's object.

Description lines which are assigned general documentation are specified with a '*'.

PREREQUISITE

The Database Block, as well as all called entities, must have been previously defined.

OPERATION FIELD

```
C1: only value.
```

DATABASE BLOCKS **5**
RELATIONAL/SQL DATABASE BLOCKS: DESCRIPTION **4**

```
!                  PURCHASING MANAGEMENT SYSTEM         SG000008.LILI.CIV.1583 !
! RELATIONAL BLOCK DESCRIP. 1 BLREL1 RELATIONAL DATABASE BLOCK                   !
! 2 3     4 5                    6           7    8                             !
! A LIN : T EXTERNAL NAME      TABLE CODE     KEY  GEN                   LIBR. !
!       :                      VIEW           TY   CDE                         !
!   100 : T EXTSQ1A              SQ1A              C                     1528  !
!   110 : T EXTSQ1B              SQ1B              C                     1528  !
!   120 : T                      SQ1C              C                     1528  !
!   130 : V                      SQ1D              C                     1528  !
!   200 : T EXTTB01              TB01              C                     1528  !
!   210 : T                      TB02              C                     1528  !
!   220 : V                      TB03              C                     1528  !
!   300 : T EXTB20L4             TB20              M                     1528  !
!   310 : T                      TB21              M                     1528  !
!   320 : V                      TB25              M                     1528  !
!       :                                                                      !
!       :                                                                      !
!       :                                                                      !
!       :                                                                      !
!       :                                                                      !
!       :                                                                      !
!       :                                                                      !
! *** END ***                                                                  !
! O: C1 CH: -DR                                                                !
```

NUM	LEN	CLASS VALUE	DESCRIPTION OF FIELDS AND FILLING MODE
1	6		BLOCK CODE 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		SQL RECORD TYPE
		P	Tablespace (except for INTEREL RDBC, INTEREL RFM, INGRES/SQL, DB2/400, VAX/SQL, NONSTOP SQL, INFORMIX, SYBASE and SQL SERVER)
		T	Table For ALLBASE/SQL, when a Primary Key or Foreign Key is defined in the Table (T line type) creation, the closing bracket must be entered on the line 690 of the -DRnnnG screen.
		V	View
		I	Index
		A	Alter Table: Column updating
		K	RDMS 1100, ALLBASE/SQL: Primary Key (Processed with the generation of the table that precedes it.) DB2, DATACOM/DB, INFORMIX-ESQL, SQL/DS, ORACLE V6 and V7, DB2/2, DB2/6000, SYBASE and SQL SERVER: Primary key (Processed with the generation through an ALTER TABLE command.)
		J	DB2, DATACOM/DB, SQL/DS, ORACLE V6 and V7, INFORMIX, SYBASE and SQL SERVER: Foreign key (Processed with the generation through an ALTER TABLE command.) ALLBASE/SQL: Foreign Key (Processed with the generation of the table that precedes it.)
		C	Package (ORACLE V7 only)
		E	Function (ORACLE V7 only)

NUM	LEN	CLASS VALUE	DESCRIPTION OF FIELDS AND FILLING MODE
		Q	Procedure (ORACLE V7, INGRES, SYBASE, SQL SERVER and INFORMIX)
		R	ORACLE V7, SYBASE and SQL SERVER: Trigger INGRES/SQL: Rule
5	27		DATABASE OBJECT EXTERNAL NAME It is the name used by the end-user. It is prohibited for a Primary Key (K-type line, DB2, DB2/2, DB2/6000 or DATACOM/DB). It is required for a Tablespace (P-type line). For all other objects, this name may be defined at several levels. The priority, at generation time, will be as follows: - the external name defined here (-DR), - or the one defined in the CODE OF RECORD TYPE ELEMENT field on the Segment Definition screen, defining the corresponding object. - or the code of the Segment defining the corresponding object. For a Foreign Key (J-type line), two separate codes are required: the constraint name (8 char. maxi) and the Segment code of the reference Table.
6	4		TABLE OR VIEW CODE On a T, V or A-type line, this field contains the code of the Segment which represents the Columns of the Table or View. On an I, K or J-type line, this field contains the code of the Segment which supports the key. On a P-type line, this field must be left blank.
7	1		KEY TYPE On an I-type line:
		U	This value is entered in order to generate the UNIQUE command. Value '0' corresponds to sub-schema '10'.
		0-9	On a V-type line: View of the sub-schema Data Element selection in the Segment. Value 0 corresponds to the sub-schema 10.
		*	All Data Elements of the Segment are included in the View.

NUM	LEN	CLASS VALUE	DESCRIPTION OF FIELDS AND FILLING MODE
			On a J-type line:
		R	Restrict (default value for DB2-type Databases only)
		C	Cascade (DB2, SQL/DS, DB2/2, DB2/6000 and ORACLE V7 only)
		S	S: Set null (DB2, SQL/DS, DB2/2 and DB2/6000 only)
			On a C-type line (ORACLE V7): Indicates the package type.
		B	BODY package
		BLANK	standard package
			On a R-type line: Indicates where the trigger or the rule starts to operate:
		A	After
		B	Before
8	1		TYPE OF GENERATED TRANSACTION This field is entered in order to generate the following SQL commands: CREATE, ALTER, and DROP.
		C	CREATE Default value when the corresponding line is created. (No other value may be entered on A-type lines).
		M	ALTER (Except for SQL/400 and INGRES/SQL) Only taken into account for on-line generation through the '-GEN' screen. Not allowed on K and J-type lines, except for DATACOM, where a K-type line generates an ALTER TABLE ADD PRIMARY KEY command.
		D	Cancellation: generation of a DROP command. For J (Foreign Key) and K (Primary Key) lines, a DROP PRIMARY KEY or DROP FOREIGN KEY command is generated in an ALTER TABLE command.
		Blank	No generation (-GEN); no generation through the GPRT procedure with option 'C2'.

5.5. CODASYL, TANDEM AND DB2 BLOCKS: DESCRIPTION

CODASYL, DB2 AND TANDEM DATABASE BLOCKS: DESCRIPTION

The -DC screen is used to logically describe a CODASYL schema or sub-schema, i.e.:

- declare areas,
- call records and distribute them among areas,
- define and describe sets (code, name, owner record, member record).

By default, a record is mono-area. Should a record be described as multi-area, its description must be overridden by a General Documentation line (-DCnnnG, where nnn is the line number).

DESCRIPTION OF A DB2 OR TANDEM DATABASE BLOCK

PRELIMINARY NOTE: The 'Q2'-type Database Block - used to generate the SQL description of relational databases - is to be used.
The 'DB'-type block corresponds to the first version of the DBD DB2 module.

On the Description screen of a DB2 or TANDEM Database Block, the user calls table views, tables or table spaces.

'Q2'-type blocks are described in the previous subchapter 'Description of a relational block.'

PREREQUISITE

The Database Block, as well as all the called entities, must have been previously defined.

OPERATION FIELD

```
C1: default value.
C2: source display.
```

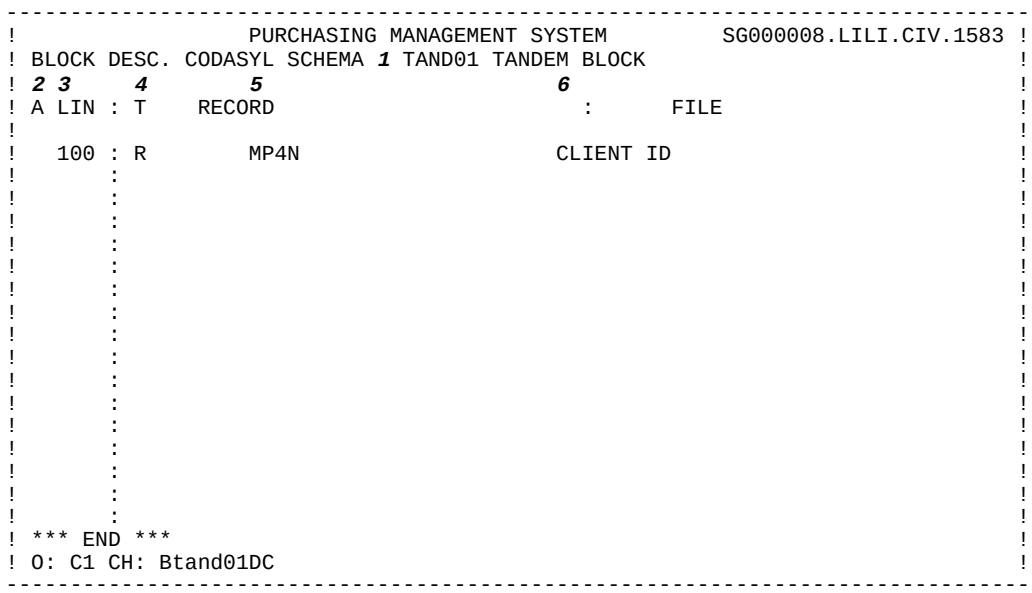
```
!                  PURCHASING MANAGEMENT SYSTEM         SG000008.LILI.CIV.1583 !
! BLOCK DESC. CODASYL SCHEMA 1 SPCH01 LOGICAL SCHEMA                            !
! 2 3     4 5     6     7    8          9   10                                  !
! A LIN : T AREA  OWNER MEM  MODEL      OCC NAME OF AREA,                       !
!       :   SET    SEG  SEG  CODE           SET OR COMMENT                     !
!   100 : S HO1001 CO00 PC10 STATWN         STATE/TOWN                         !
!   110 : S HO1002 PT00 CO00 STATWN         TOWNSHIP AUTHORIZATIONS            !
!   120 : S HO1003 PT00 DN00 HISTO          HISTORICAL ACCOUNT/AUTHORIZATIONS  !
!       :                                                                      !
!       :                                                                      !
!       :                                                                      !
!       :                                                                      !
!       :                                                                      !
!       :                                                                      !
!       :                                                                      !
!       :                                                                      !
!       :                                                                      !
!       :                                                                      !
!       :                                                                      !
!       :                                                                      !
!       :                                                                      !
! *** END ***                                                                   !
! O: C1 CH: -DC                                                                 !
```

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		TYPE (REQUIRED)
		S	Set.
		*	Continuation of a set. For a set with multiple members, the first MEMBER Segment is indicated on an 'S'-type line, the others on '*'-type lines.
		R	Record.
		A	Area.
5	6		AREA OR SET CODE (REQUIRED) CODASYL: In this field, the user enters the code which corresponds to the selected description line type. Type 'S': Set code (6 characters), Type 'A': Area code (6 characters), Type 'R': Code of area to which the record belongs.
6	4		OWNER SEGMENT CODE With TYPE = 'A': Not used. With TYPE = 'R': Enter the code of the segment. With TYPE = 'S': Enter the parent segment code (OWNER).
7	4		MEMBER SEGMENT CODE With TYPE = 'S' , enter the child segment code (MEMBER).
8	6		MODEL RELATIONSHIP CODE SCHEMA ------ Used only with TYPE = 'S'.

NUM	LEN	CLASS VALUE	DESCRIPTION OF FIELDS AND FILLING MODE
			With the Methodology function only: Enter the Relationship code from which the set is derived. VA Pac will automatically create a cross-reference for these relationships. NOTE: The relationships are described via the Methodology Function. SUB-SCHEMA --------- Only used for IDMS ('D3', 'D4' types), DM4 ('M3' type) and DMS ('S3' type) sub-schemas. for 'R'-type lines : It is possible to change the description of the selected record. The user must indicate the code of the segment redefining the selected segment, as follows : '=FFnn'. EXAMPLE: T AREA OWNER MEM METHOD OCC NAME OF AREA, SET SEG SEG CODE SET OR COMMENT R AREA1 FF10 =FF20 In this example record FF10 is generated with the elements belonging to FF20. NOTE: Segment FF20 must have been previously defined and described.
9	5	NUMER.	NUMBER OF OCCURRENCES OF SETS PURE NUMERIC FIELD Used only with TYPE = 'S': This is the average number of occurrences of MEMBER segments that are linked to an occurrence of an OWNER segment. This number is used for Activity Calculation (see the PACMODEL Reference Manual).
10	36		NAME OF AREA, SET, OR COMMENT With TYPE = 'S': Set name, With TYPE = 'A': Area name, With TYPE = 'R': Comment. SUB-SCHEMA IDMS (D4) OR DMS (S3):

NUM	LEN	CLASS VALUE	DESCRIPTION OF FIELDS AND FILLING MODE
			There are four different ways to select a record sub-set, as illustrated in the following example: LIN : T AREA OWNER MEM MODEL OCC NAME OF AREA, SET SEG SEG CODE SET OR COMMENT 001 : R AREA1 FF10 002 : R AREA1 FF10 =FF20 003 : R AREA1 FF10 SS=n 004 : R AREA1 FF10 =FF20 SS=n LINE 001: Record FF10 of the sub-schema is made up of all the data elements of Segment FF10. LINE 002: Record FF10 of the sub-schema is made up of all the data elements of Segment FF20. LINE 003: Record FF10 of the sub-schema is made up of the data elements of Sub-schema n. LINE 004: Record FF10 of the sub-schema is made up of the data elements of Sub-schema n of Segment FF20. IDS2 (I3) sub-schema: It is possible to call an object (area, record, set) without re-describing it, by specifying: INCLUSION.

DATABASE BLOCKS 5
CODASYL, TANDEM AND DB2 BLOCKS: DESCRIPTION 5



NUM	LEN	CLASS VALUE	DESCRIPTION OF FIELDS AND FILLING MODE	
1	6		BLOCK CODE One to six alphanumeric characters.	(REQUIRED)
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	R	TYPE OF DESCRIPTION LINE Record call line.	(REQUIRED)
5	4		TABLE OR VIEW This field contains the Segment code which corresponds to the called record. When the Database Block is generated, this code appears after the 'RECORD' clause.	(REQUIRED)
6	36		FILE NAME This field contains the name of the physical file which supports the data. When the Database Block is generated, this name appears after the 'FILE IS' clause.	(REQUIRED)

5.6. DATABASE BLOCKS: ON-LINE ACCESS

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

CODASYL (NETWORK) DATABASE BLOCK DESCRIPTION

CHOICE	SCREEN	UPD
BaaaaaaDCbbb	Description of CODASYL database block 'aaaaaa' (starting with line 'bbb').	YES
BaaaaaaDCbbbGccc	General documentation of CODASYL database block 'aaaaaa' description line 'bbb' (starting with general documentation line 'ccc').	YES
LCAaaaaaa	List of areas by code (starting with area 'aaaaaa').	NO
LCCaaaaaa	List of CODASYL sets (starting with set 'aaaaaa').	NO
CaaaaaaACT	CODASYL activity on a set (starting with set 'aaaaaa').	NO

HIERARCHICAL DATABASE BLOCK DESCRIPTION

CHOICE	SCREEN	UPD
BaaaaaaDHbbb	Description of hierarchical block 'aaaaaa' (starting with line 'bbb')	YES
BaaaaaaDCbbb	Description of DB2 database block 'aaaaaa' (starting with line 'bbb').	YES
BaaaaaaDHbbbGccc	General documentation of hierarchical block 'aaaaaa' description line 'bbb' (starting with general documentation line 'ccc').	YES
BaaaaaaDCbbbGccc	General documentation of DB2 database block 'aaaaaa' description line 'bbb' (starting with general documentation line 'ccc').	YES
BaaaaaaSQL	Interactive SQL for consultation and update of DB2 catalog for block 'aaaaaa'.	NO

TANDEM DATABASE BLOCK DESCRIPTION

CHOICE	SCREEN	UPD
BaaaaaaDCbbb	Description of TANDEM database block 'aaaaaa' (starting with line 'bbb').	YES
BaaaaaaDCbbbGccc	General documentation of TANDEM database block 'aaaaaa' description line 'bbb' (starting with general documentation line 'ccc').	YES

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

LIST OF RELATIONAL/SQL OBJECTS

CHOICE	SCREEN	UPD
LTStddss	List of relational/SQL objects by type and code (starting with with type 't', code 'ddss').	NO
LESteeeeeeeeeeee	List of relational/SQL objects by type and external name (starting with type 't' and external name 'eeeeeeeeeeee'). Note: If the external name is indicated on the segment definition, it is not taken into account in the list.	NO

RELATIONAL/SQL DATABASE BLOCK DESCRIPTION

CHOICE	SCREEN	UPD
BaaaaaaDRbbb	Description of relational/SQL block 'aaaaaa' (starting with line 'bbb').	YES
BaaaaaaDRbbbGccc	General documentation of relational/SQL block 'aaaaaa' description line 'bbb' (starting with general documentation line 'ccc').	YES
BaaaaaaDRbbbK	Building of relational/SQL key 'K' on description line 'bbb' of block 'aaaaaa'.	YES
BaaaaaaGEN	Generation of SQL commands for relational/SQL block 'aaaaaa'.	YES
BaaaaaaGENnnn	Generation of SQL commands for the object defined on description line 'nnn' of block 'aaaaaa'.	YES

NOTES: After the first choice of type 'Baaaaaa', 'Baaaaaa' can be replaced with '-'.

All notations between parentheses are optional.

```
!                  PURCHASING MANAGEMENT SYSTEM         SG000008.LILI.CIV.1583 !
! BLOCK     GENERAL DOCUMENTATION ORDRDB ORDER DATABASE                         !
!                                                                               !
! A LIN : T COMMENT                                                    LIB      !
! * 100 : G DBD            NAME=(EXTERNAL NAME)                        *VIRT    !
!   200 :   HDAM                                                       0059     !
! * 700 :                    ---> DBD INSERTION SPOT  <---             *VIRT    !
! * 900 : G DBDGEN                                                     *VIRT    !
! * 980 : G END                                                        *VIRT    !
!       :                                                                       !
!       :                                                                       !
!       :                                                                       !
!       :                                                                       !
!       :                                                                       !
!       :                                                                       !
!       :                                                                       !
!       :                                                                       !
!       :                                                                       !
!       :                                                                       !
!       :                                                                       !
!       :                                                                       !
!                                                                               !
! O: C1 CH: BordrdbG                                                            !
```

```
!                  PURCHASING MANAGEMENT SYSTEM         SG000008.LILI.CIV.1583 !
! LIST OF BLOCKS BY CODE                                                        !
!                                                                               !
! CODE   NAME                                T  TYPE                    LIBR.  !
! ALTPCB ALTERNATE PCB                       PC PCB                     *CEN   !
! EXPPCB EXPRESS PCB                         PC                         *CEN   !
! INDEX1 PRIMARY INDEX                       IP PRIMARY INDEX           0093   !
! LEDBD  ERROR MESSAGE DBD                   DP PHYSICAL DBD            *CEN   !
! LEPCB  ERROR MESSAGE PCB                   PC PCB                     *CEN   !
! LEPSB  ERROR MESSAGE PSB                   PS PSB                     *CEN   !
! ORDRDB ORDER DATABASE                      DP PHYSICAL DBD            0059   !
! ORDRPC ORDER PCB                           PC PCB                     0059   !
! ORDRPS ORDER PSB                           PS PSB                     0059   !
! PXO010 PCB FOR XO DIALOGUE                 PC PCB                     *CEN   !
! PXO020 PCB FOR XO DIALOGUE                 PC                         *CEN   !
! SPCH01 LOGICAL SCHEMA                      M1 SCHEMA (DDL)            0093   !
! USPCB  TEST PCB                            PC PCB                     0093   !
! VEPRDB VENDOR PRODUCT DATABASE             DP PHYSICAL DBD            0059   !
! VEPRPC VENDOR PRODUCT PCB                  PC PCB                     0059   !
! XO0010 PSB FOR XO DIALOGUE                 PS PSB                     *CEN   !
!                                                                               !
!                                                                               !
! *** END ***                                                                   !
! O: C1 CH: LCB                                                                 !
```

```
!                  PURCHASING MANAGEMENT SYSTEM         SG000008.LILI.CIV.1583 !
! LIST OF BLOCKS BY TYPE                                                       !
!                                                                              !
! T  TYPE              CODE    NAME                                   LIBR.!
! DP PHYSICAL DBD      LEDBD   ERROR MESSAGE DBD                       *CEN !
!                      ORDRDB  ORDER DATA BASE                        0059 !
!                      VEPRDB  VENDOR PRODUCT DATA BASE               0059 !
! IP PRIMARY INDEX     INDEX1  PRIMARY INDEX                          0093 !
! M1 SCHEMA (DDL)      SPCH01  LOGICAL SCHEMA                         0093 !
! PC PCB               ALTPCB  ALTERNATE PCB                          *CEN !
!                      EXPPCB  EXPRESS PCB                            *CEN !
!                      LEPCB   ERROR MESSAGE PCB                      *CEN !
!                      ORDRPC  ORDER PCB                              0059 !
!                      PXO010  PCB FOR XO DIALOGUE                    *CEN !
!                      PXO020  PCB FOR XO DIALOGUE                    *CEN !
!                      USPCB   TEST PCB                               0093 !
!                      VEPRPC  VENDOR PRODUCT PCB                     0059 !
! PS PSB               LEPSB   ERROR MESSAGE PSB                      *CEN !
!                      ORDRPS  ORDER PSB                              0059 !
!                      XO0010  PSB FOR XO DIALOGUE                    *CEN !
!                                                                            !
!                                                                            !
! *** END ***                                                                !
! O: C1 CH: LTB                                                              !
```

```
!                  PURCHASING MANAGEMENT SYSTEM         SG000008.LILI.CIV.1583 !
! LIST OF BLOCKS BY EXTERNAL NAME                                              !
!                                                                              !
! TYPE               EXT NAME NAME                              CODE     LIBR.!
! DP PHYSICAL DBD    LEDBD    ERROR MESSAGE DBD                 LEDBD    *CEN !
! DP                 ORDRDB00 ORDER DATA BASE                   ORDRDB   0059 !
! DP                 VEPRDB00 VENDOR PRODUCT DATA BASE          VEPRDB   0059 !
! IP PRIMARY INDEX   DBDINDEX PRIMARY INDEX                     INDEX1   0093 !
! PS PSB             LEPSB    ERROR MESSAGE PSB                 LEPSB    *CEN !
! PS                 ORDRPS00 ORDER PSB                         ORDRPS   0059 !
!                                                                            !
!                                                                            !
!                                                                            !
!                                                                            !
!                                                                            !
!                                                                            !
!                                                                            !
!                                                                            !
!                                                                            !
!                                                                            !
!                                                                            !
! *** END ***                                                                !
! O: C1 CH: LEB                                                              !
```

```
--------------------------------------------------------------------------------
!                  PURCHASING MANAGEMENT SYSTEM         SG000008.LILI.CIV.1583 !
! LIST OF CODASYL SETS BY CODE                                                  !
!                                                                               !
! SET    BLOCK  NAME OF THE BLOCK                    LIN OWN  MEM         LIBR.!
! SET001 DM4M1  TEST                                 300 MV00 MV01        0431 !
!                                                                               !
!                                                                               !
!                                                                               !
!                                                                               !
!                                                                               !
!                                                                               !
!                                                                               !
!                                                                               !
!                                                                               !
!                                                                               !
!                                                                               !
!                                                                               !
!                                                                               !
!                                                                               !
!                                                                               !
! *** END ***                                                                   !
! O: C1 CH: LCC                                                                 !
--------------------------------------------------------------------------------
```

5.7. DATABASE BLOCKS: BATCH ACCESS

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.
```

HIERARCHICAL DATABASE BLOCK DESCRIPTION

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

The General Documentation (-G lines) is entered on Batch Form 'V3'. Field 8 (the ENTITY LINE NUMBER) is used for the association.

RELATIONAL/SQL DATABASE BLOCK DESCRIPTION

BATCH FORM

Batch Form 'L4' is used to describe a Relational/SQL Database Block.

CODASYL, DB2, TANDEM DATABASE BLOCK DESCRIPTIONS

Batch Form 'L3' is used to describe CODASYL, DB2, and TANDEM Database blocks.

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.

5.8. DATABASE BLOCKS: GENERATION-PRINT

DATABASE BLOCKS: GENERATION-PRINT

Lists and description reports on Database Blocks may be obtained by entering certain commands, either on-line on the Generation and Print Commands (GP) screen, or in batch mode using Batch Form 'Z'. The COMMANDS FOR PRINT REQUEST are listed below.

LISTS

```
LCB:  List of all database blocks, sequenced by their codes.

      C1 OPTION: Without explicit printed keywords,
      C2 OPTION: With explicit printed keywords.


LEB:  List of database blocks, sequenced by external names,
      without explicit printed keywords.


LTB:  List of database blocks, sequenced by their types.

      C1 OPTION: Without explicit printed keywords,
      C2 OPTION: With explicit printed keywords.


LKB:  List of all database blocks, by keywords.

      After typing LKB, a selection field (SEL:) enables
      the user to choose implicit ('L') or explicit ('M')
      keywords, or both (' ').
      Keywords are entered on a continuation line or in
      columns 31 to 80 in batch mode.


LTS:  List of SQL objects by codes,


LES:  List of SQL objects by external names.
```

DESCRIPTION

DTB: Definition, description and general documentation for the database block entered in the ENTITY CODE field. If no code is specified, ALL occurrences of the Database Block entity type are listed.

A Type selection is requested by entering the desired TYPE CODE field or columns 17-18 in batch mode.

C1 OPTION: Provides definition, description, general documentation, and X-references,
C2 OPTION: With assigned text.

GENERATION OPTION

The Database Description Generation function is used to generate the specific DBMS source language according to the Database Block descriptions.

6. TEXTS

6.1. TEXTS: INTRODUCTION

TEXTS: INTRODUCTION

The Text entity is used to document applications, throughout their whole life-cycle.

For example, if we use the MERISE terminology :

. During the Analysis and Design Phases, it is used to describe processes, procedures, operations, tasks...

. During the Development Phase, it is used to document screens, programs, reports...

GENERAL CHARACTERISTICS

The Text entity includes:

. A Definition screen, (required), for entry of the general characteristics of the entity (clear name, keywords, etc.),

. A Description screen, grouping text by 'paragraphs' or 'sections'.

It is possible to reference a data element (even not yet defined), on each line,

. A General Documentation screen used to enter any kind of technical information about the text (e.g. author's name, date, targeted readership, etc.).

RESULTS

. Texts are called in User Manuals or Volumes targeted to either DP professionals or end-users,

. Texts may be used to create an on-line 'Help' function for on-line applications,

. Texts give cross-references for a given data element. These may be used to complete the Specifications Dictionary during the Analysis Phase, and to facilitate maintenance,

. Texts (or sections) may be assigned to other entities. A cross-reference is created, which facilitates the double (Text plus entity) maintenance.

6.2. TEXTS: DEFINITION

TEXTS: DEFINITION

The Text Definition screen is called by the letter T. Each text is defined by a 6-character TEXT CODE and a TEXT NAME. It is divided into sections identified by a 2-character SECTION CODE.

A TYPE OF TEXT can be used to define the nature of a given text. For example, TYPE OF TEXT can be 'PR' for a text describing a procedure, 'SC' to describe a screen, etc. This will document text related reports and screens.

EXAMPLE: In the following screen image, the label 'COMMENTS' appears at the top. This label is called by the value 'CM' in the TYPE OF TEXT field.

It is also displayed at the top of the Text Description of Section (-D..) screen.

It is possible to get a list of the texts of the same type (for instance, to list all texts of type 'PR', use Choice LTTpr).

In the same manner, a SECTION TYPE is assigned to sections of a text in order to specify their nature.

For example, a procedure can be broken down into operations (type 'OP'), just as a text is divided into sections.

Note that the text and section types and their meanings are managed by the Database Manager.

Sections of texts are created in a given sequence; they may be assembled in another sequence in manuals or volumes; This order is also independent from the actual processing sequence of the application.

TEXTS 6
TEXTS: DEFINITION 2

```
--------------------------------------------------------------------------------
!                  PURCHASING MANAGEMENT SYSTEM         SG000008.LILI.CIV.1583 !
!                                                                              !
!                                                                              !
!                                                                              !
! COMMENTS    BA1ABA                                                           !
!                                                                              !
!                                                                              !
!                                                                              !
! NAME..............: 2 SYSTEM INTRODUCTION                                    !
! TYPE..............: 3 CM                                                     !
!                                                                              !
! PARAGRAPH TYPE.....: 4 PA PARAGRAPH                                          !
!                                                                              !
!                                                                              !
!                                                                              !
!                                                                              !
! EXPLICIT KEYWORDS..: 5                                                       !
!                                                                              !
!                                                                              !
!                                                                              !
! SESSION NUMBER.....: 0059        LIBRARY......: CIV   LOCK....:              !
!                                                                              !
!                                                                              !
! O: C1 CH: Tbababa                     ACTION:                                !
--------------------------------------------------------------------------------
```

NUM	LEN	CLASS VALUE	DESCRIPTION OF FIELDS AND FILLING MODE
1	6		TEXT CODE (REQUIRED) One character, at least, must not be BLANK. Alphabetic or numeric characters only are recommended for this field.
2	36		TEXT NAME (REQ. IN CREATION) This clear name should be as explicit as possible. Words used here become implicit keywords (subject to the limitations specified in Chapter "KEYWORDS", Sub- chapter "HOW TO BUILD THE THESAURUS") in the SPECIFI- CATIONS DICTIONARY Reference Manual.
3	2		TYPE OF TEXT The TYPE OF TEXT field is used for documentation pur- poses only, and allows the user to: .obtain the list of texts sorted by type (CHOICE: LTT), .have explicit titles including the labels corres- ponding to the chosen type of text, on screens and reports which contain the text. The coding of types and labels depends on an external parameter handled by the Database Administrator.
		T	Default value.
4	2		SECTION TYPE The section type is a documentary value only. The label (NAME OF TEXT TYPE) associated with the SECTION TYPE selected will appear on the Text Descrip- tion (-D) screen, and on the corresponding reports. The types and their labels are managed by the database administrator. (See the USER'S MANUAL).
		U	Text (default value).
5	55		EXPLICIT KEYWORDS This field allows the user to enter additional (ex- plicit) keywords. By default, keywords are generated from an occurrence's clear name (implicit keywords). This field only exists on-line. In batch mode, key- words are entered on Batch Form 'G'. Keywords must be separated by at least one space. Keywords have a maximum length of 13 characters which must be alphanumeric. However, '=' and '*' are reser-

NUM	LEN	CLASS VALUE	DESCRIPTION OF FIELDS AND FILLING MODE
			ved 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 make easy the search of occurrences 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.

6.3. TEXTS: SECTION DESCRIPTION

TEXTS: SECTION DESCRIPTION

The description lines (-D) of a Text are used to create the body of the text in the form of Sections. They also allow:

- Assignment to any other entity (program, screen, data structures...) for documentation,
- activity calculation, when using the PACMODEL function (for details, refer to the PACMODEL Reference Manual),
- Cross-referencing data elements or properties,
- Cross-referencing other texts or sections of text,
- Description of entries and selection criteria used to build a volume index (see the PERSONALIZED DOCUMENTATION MANAGER reference manual).

GENERAL CHARACTERISTICS

A text is subdivided into sections referenced by a 2-character SECTION CODE. Text lines are numbered within each section. A title line is mandatory (see field TYPE OF TEXT LINE).

The text summary is given by the list of section titles (Choice -LT).

Line and page skips are indicated in the TYPE OF TEXT LINE, and will be effective when the text is printed in a manual or volume, or in a simulation for a volume.

However, the spacing of the titles and the paragraph indentations may be included in the writing of the text, either by leaving the necessary blanks for a User Manual or by using symbolic parameters for a Volume (See the PERSONALIZED DOCUMENTATION MANAGER Manual).

ASSIGNED TEXTS

Text lines may be used to document other entities: a section or a part of section is assigned to another entity by delimitating it by two special lines (TYPE OF TEXT LINE 'I' for beginning, 'J' for end). These lines are also used to indicate the type and code of the entity or entities (8 maximum) to be documented.

The 'I'-type line can be inserted anywhere within the selected text section, but the assignment will start from the beginning of the section.

Text assignment will end at the end of the text, or when the System encounters a 'J'-type line.

Text lines assigned to a given entity may be consulted on the Entity Assigned Text screen, which is obtained by using the following CHOICE field:

```
CH: -AT
```

With 'C1' in the OPERATION CODE field (O: C1), the lines of text are displayed with the cross-referenced data elements.
With 'C2' (O: C2) the source of each text line is displayed.

CALLING TEXT

A text or a section may be called in the Generalized Documentation of screens or data structures to create a built-in HELP function (see ON-LINE and BATCH manuals).

CROSS-REFERENCES TO DATA ELEMENTS

A Text which describes an application often refers to individual Data Elements. A cross-reference between a Text line and a Data Element is created by entering the Data Element code in the DATA ELEMENT CODE REFERENCED field (labeled ELEM.).

NOTE: Data Element cannot be cross-referenced to D-, F-, I-, J-, and Y-type lines.

Since there is no existence validation on this ELEM. field's contents, codes of Data Element occurrences NOT defined in the Specifications Dictionary can be entered. If so, the List of Undefined Data Elements (LFE) will display them.

CROSS-REFERENCES TO DATA ELEMENTS IN WORKSTATION-UPLOADED TEXT OCCURRENCES:

References to Data Element occurrences present in Workstation-uploaded Text occurrences have a specific presentation: Codes of the cross-referenced Data Element occurrences are not displayed in the ELEM. field but in the TEXT CONTENTS field, preceded by the '$.E=' characters.

The complete references ($.E=occcod) are not printed when called in a Volume nor are they displayed in Text Simulation.

The ELEM. field may still be used, knowing that after a download, and all the more so after a subsequent upload from the WorkStation, its values are transferred to the TEXT CONTENTS field preceded by '$.E='.

PREREQUISITES

A Text Definition screen must be created before any text description lines may be entered.

A section title on the Text Description (-D) screen must be created before any other section description line.

OPERATION FIELD

Three operation codes are possible on the Text Description screen:

C1: Default value. All fields on the screen can be accessed, and the 'ELEM' field on the right side of each line links a Data element to the Text line.

C2: The 'ELEM' field is replaced by the 'LIBR' field, which displays, for each line, the session in which the line was last modified or the code for the Library in which it was defined. The 'LIBR' field is for display only.

C3: Same display as C2, but after a request to insert, repeat or split a line (action codes 'I,' 'R' or 'S'), only the 'DESCRIPTION' field can be input for lines with '>' in the action field.

In this case, be sure that there is not twice the same line number because only the last one will be kept.

TEXTS **6**
TEXTS: SECTION DESCRIPTION **3**

```
--------------------------------------------------------------------------------
!                  PURCHASING MANAGEMENT SYSTEM         SG000008.LILI.CIV.1583 !
! COMMENTARY  1   BADBAD Company Background                 PARAGRAPH    2 BB !
! 3 4     5 6                                                          7      !
! A LIN : T TEXT CONTENTS                                              ELEM.  !
!   000 : L Company Background                                               !
!   005 : I PPGM1  OSCR01 SSG01  SSG02  EELEM01.      .      .               !
!   010 : * Aztech Laboratories, Inc. is a $25 million per year         AZTCOM !
!   020 :   research and engineering firm specializing in biomedical         !
!   030 :   engineering.  The firm does a considerable amount of work        !
!   040 :   under contract to various federal agencies, such as the          !
!   050 :   National Institute of Health (NIH), and the Departments of       !
!   060 :   Defense (DOD) and Health and Human Services (HHS).               !
!   070 : 2 The company spends several millions of dollars each year    HHSORG !
!   080 :   purchasing equipment for use by its scientists and               !
!   090 :   engineers.  It has always been felt by management that          !
!   100 :   there has been a laxity in purchasing management procedures     !
!   110 :   which has resulted in a substantial waste of resources by       !
!   120 :   paying too much for equipment, not buying in quantity and       !
!   130 : Y TEXT01   AZTECH FIGURES                                          !
!   135 : J OSCR01 S      EELEM01.      .      .      .                     !
!   140 : Y TEXTSGPP PURCHASING POLICY                                       !
!                                                                            !
! O: C1 CH: TbadbadDbb                                                       !
--------------------------------------------------------------------------------
```

NUM	LEN	CLASS VALUE	DESCRIPTION OF FIELDS AND FILLING MODE
1	6		TEXT CODE (REQUIRED) One character, at least, must not be BLANK. Alphabetic or numeric characters only are recommended for this field.
2	2		SECTION CODE
		blank	Default value prior to the creation of a section.
			Alphabetic or numeric characters only are recommended for this field.
3	1		ACTION CODE (REQUIRED)
4	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.
5	1		TYPE OF TEXT LINE SECTION TITLE ----------
			A section must always contain a title. In batch, this title must be at the beginning of the section.
		L	Section title. It will NOT appear in an end-user documentation (User Manuals and Volumes).
		K	Same as type 'L' except that this title will appear in the end-user documentation (User Manuals and Volumes).
		-	Same as type 'K' but the title will be underlined with the '-' (dash) character when a Volume is printed.
		_	Same as type 'K' but the title will be underlined with the '_' (underscore) character when a Volume is printed.
		=	Same as type 'K' but the title will be underlined with the '=' character when a Volume is printed.
		+	Same as type 'K' but the title will be underlined with the '+' character when a Volume is printed.
			TEXT DESCRIPTION LINE ----------
		blank	Default option.

NUM	LEN	CLASS VALUE	DESCRIPTION OF FIELDS AND FILLING MODE
			LINE/PAGE SKIP ----------
			Taken into account when the text is printed in a User Manual or a Volume, or in Text simulation.
		1	New line.
		2-9	Skip of 2-9 lines before the given line is printed.
		*	PAGE skip before the given line is printed.
			TEXT ASSIGNMENT ----------
		I	This code is used to assign a text to one or more entities. Wherever the 'I-type' line is, the assignment always starts at the beginning of the section. To facilitate data entry, key in an 'I' in this field and press ENTER. A dotted line will appear in the TEXT CONTENTS field to indicate where each ENTITY TYPE/ENTITY CODE combination is to be entered.
		J	Explicit end of assignment. If there is no data in the TEXT CONTENTS field, the assignment of text to all entities is terminated. Using the same technique and format as with type 'I' above, the user may selectively end the text assignment by ENTITY TYPE/ENTITY CODE, or by ENTITY TYPE. If no 'J' line is entered, the assignment goes to the end of the text.
		Y	This code is used to create a link between this section of text and another text or section, i.e. 'refer to..'. The System displays the title of this text or section. For the referenced text: Choice -XT gives the list of texts referring to the whole text, Choice -LT gives the list of sections, each followed by the sections referring to it. With the PACMODEL function:

NUM	LEN	CLASS VALUE	DESCRIPTION OF FIELDS AND FILLING MODE
		F	Heading line allowing Activity Calculation.
		D	Detail line allowing Activity Calculation. NOTE: The L, I, J, Y, F and D Type lines are not printed in User Manuals or Volumes.
6	60		TEXT CONTENTS The content of this field depends on the input entered in the TYPE OF TEXT LINE field. With TYPE OF TEXT LINE = 'blank', '1' to '9' or '*', enter text. With TYPE OF TEXT LINE = 'L', 'K', '-', '_', '=', '+', enter paragraph titles. With TYPE OF TEXT LINE = 'I' or 'J', enter the ENTITY TYPE/ENTITY CODE combination to which text is being assigned. The following ENTITY TYPE codes are valid: . 'B' Database Block . 'D' Data Structure . 'E' Data Element . 'F' User Entity . 'I' Parameterized Input Aid . 'M' Model Entity . 'O' Screen . 'P' Program . 'Q' User-Defined Relationship . 'R' Report . 'S' Segment . 'T' Text . 'V' Volume . '$' User Entity Occurrence The 'I'- or 'J'-type lines may contain up to 8 occurrences of the set ENTITY TYPE/ENTITY CODE: ENTITY TYPE: 1 character, ENTITY CODE: 6 characters (8 characters for a User Entity Occurrence). With TYPE OF TEXT LINE = 'Y', enter the TEXT CODE followed by the PARAGRAPH CODE in columns 1 to 8 of this field. If all sections should be selected, the 7th and 8th characters are '**'. To refer to a section whose code is blank, simply enter '&&' after the TEXT CODE.

NUM	LEN	CLASS VALUE	DESCRIPTION OF FIELDS AND FILLING MODE
			USE WITH PERSONALIZED DOCUMENTATION MANAGER --- Refer to the PERSONALIZED DOCUMENTATION MANAGER Reference Manual.
7	6		DATA ELEMENT CODE REFERENCED Establishes a cross-reference between text sections and data elements. One data element may be indicated on each line. The data elements need not have been previously defined in the Specifications Dictionary. These cross-references may be viewed via the CHOICE CH: E.....XT. If the Text occurrence has been uploaded from the WorkStation, this field is empty. Instead the TEXT CONTENTS field includes the Data Element code, preceded by the '$.E=' characters. The System produces: - the list of Data Elements used, whether they are defined in the Dictionary or not. - the list of uses of a Data Element in Texts.

6.4. TEXTS: ON-LINE ACCESS

TEXTS: ON-LINE ACCESS

LISTS

CHOICE	SCREEN	UPD
LCTaaaaaa	List of texts by code (starting with text 'aaaaaa').	NO
LTTaaTbbbbbb	List of texts by type (starting with type 'aa' and with text 'bbbbbb').	NO

DESCRIPTION OF TEXT 'aaaaaa'

CHOICE	SCREEN	UPD
Taaaaaa	Definition of text 'aaaaaa'.	YES
TaaaaaaGbbb	General documentation for text 'aaaaaa' (starting with line number 'bbb').	YES
TaaaaaaATbbbbbbcc	Text assigned to text 'aaaaaa' (starting with text 'bbbbbb', paragraph 'cc').	NO
TaaaaaaX	X-references to text 'aaaaaa'.	NO
TaaaaaaXGbbb	X-references of text 'aaaaaa' to General Documentation lines (starting with line 'bbb').	NO
TaaaaaaXUbb OR TaaaaaaXVbbbbbb	X-references of text 'aaaaaa' to user manuals AND volumes (starting with user manual 'bb' and volume 'bbbbbb').	NO
TaaaaaaXTbbbbbbcc	X-references of text 'aaaaaa' to texts (starting with text 'bbbbbb' and paragraph cc).	NO
TaaaaaaLTbb	List of paragraph titles of the text 'aaaaaa' (starting with paragraph 'bb').	NO

TaaaaaaXQbbbbbb	List of entities linked to text 'aaaaaa' through the 'bbbbbb' user-defined relationship.	NO
TaaaaaaDbbccc	Description of text 'aaaaaa' (starting with paragraph 'bb' and line number 'ccc').	YES

TEXT LAYOUT SIMULATION

TaaaaaaSIMbbbDcc	Simulation of paragraph description of text 'aaaaaa' using Report layout 'bbb' (starting with paragraph 'cc'). (To use the standard layout, enter '&&&' as the layout code).	NO

NOTE: After the first choice of type 'Taaaaaa', 'Taaaaaa' can be replaced with '-'.

All notations between parentheses are optional.

```
--------------------------------------------------------------------------------
!                 PURCHASING MANAGEMENT SYSTEM         SG000008.LILI.CIV.1583 !
! ELEMENT ASSIGNED TEXT              ELEM01                                      !
!                                                                                !
! ----- TEXT CMT1 ------------------------------------------------------ D.ELEM !
! BB  000  L  Company Background                                                 !
! BB  005  I  PPGM1  OSCR01 SSG01  SSG02  EELEM01.      .      .                 !
! BB  010  *  Aztech Laboratories, Inc. is a $25 million per year       AZTCOM !
! BB  020     research and engineering firm specializing in biomedical           !
! BB  030     engineering.  The firm does a considerable amount of work          !
! BB  040     under contract to various federal agencies, such as the            !
! BB  050     National Institute of Health (NIH), and the Departments            !
! BB  060     of Defense (DOD) and Health and Human Services (HHS).              !
! BB  070  2  The company spends several millions of dollars each year  HHSORG !
! BB  080     purchasing equipment for use by its scientists and                 !
! BB  090     engineers.  It has always been felt by management that             !
! BB  100     there has been a laxity in purchasing management proce-            !
! BB  110     dures which has resulted in a substantial waste of re-             !
! BB  120     sources by paying too much for equipment, not buying in            !
! BB  230     quantity and the purchase of redundant equipment.                  !
!                                                                                !
!                                                                                !
!                                                                                !
!                                                                                !
! *** END ***                                                                    !
! O: C1 CH: Eelem01AT                                                            !
--------------------------------------------------------------------------------

--------------------------------------------------------------------------------
!                 PURCHASING MANAGEMENT SYSTEM         SG000008.LILI.CIV.1583 !
!    TEXT    ASSIGNED    TO    TEXT :TEXT01                                      !
!                                                                                !
! TEXT      TITLE                                                 LIN LIBR.  !
! BADBAD BB Company Background                                    130 1513   !
!                                                                                !
!                                                                                !
!                                                                                !
!                                                                                !
!                                                                                !
!                                                                                !
!                                                                                !
!                                                                                !
!                                                                                !
!                                                                                !
!                                                                                !
!                                                                                !
!                                                                                !
!                                                                                !
!                                                                                !
!                                                                                !
!                                                                                !
! *** END ***                                                                    !
! O: C1 CH: Ttext01XT                                                            !
--------------------------------------------------------------------------------
```

```
-------------------------------------------------------------------------------
!                  PURCHASING MANAGEMENT SYSTEM         SG000008.LILI.CIV.1583 !
! TREATMENT      TEXTSG PURCHASING POLICY                          SUMMARY     !
!                                                                              !
! TASK                                                                 LIBR.   !
! BB INTRODUCTION                                                              !
! DE PLANNING                                                                  !
! FF BUDGET PLANNING                                                           !
! GG BUYER TRAINING                                                            !
! PP FORECASTS                                                                 !
!      -> BADBAD BB Company Background                                 0688    !
! QR DEPARTMENT ORGANIZATIONAL STRUCTURE                                       !
!                                                                              !
!                                                                              !
!                                                                              !
!                                                                              !
!                                                                              !
!                                                                              !
!                                                                              !
!                                                                              !
!                                                                              !
!                                                                              !
! *** END ***                                                                  !
! O: C1 CH: TtextsgLT                                                          !
-------------------------------------------------------------------------------

-------------------------------------------------------------------------------
!                  PURCHASING MANAGEMENT SYSTEM         SG000008.LILI.CIV.1583 !
! LIST OF TEXTS BY TYPE                                                        !
!                                                                              !
! TYPE                  TEXT      NAME                                 LIBR.!
! CM COMMENTARY         BABABA    System Introduction                  0059 !
!                       BADBAD    Company Background                   0059 !
!                       BAFBAF    System Objectives                    0059 !
!                       BAHBAH    System Overview                      0059 !
! DD DATA               GADGAD    Vendor and Product Data              0059 !
!                       GAFGAF    Purchase Order Data                  0059 !
! OP OPERATION          DADDAD    Purchase Order Receipt               0059 !
!                       DAFDAF    Shipment Receipt                     0059 !
!                       DAHDAH    Purchase Order Update                0059 !
!                       FADFAD    Vendor Master List Maintenance       0059 !
!                       FAFFAF    Product Catalogue Maintenance        0059 !
!                       FAHFAH    Vendor Performance Analysis          0059 !
! PC PROCESS            DADADA    Purchase Order Management            0059 !
!                       FAFAFA    Vendor Information Management        0059 !
! T  TREATMENT          GAGAGA    Physical Data Structure Specificatns 0059 !
!                       XOAXOA    On-line systems devel.guide appendix *CEN !
!                       XOEXOE    Journal extraction                   *CEN !
!                       XOSXOS    On-line systems devel.guide examples *CEN !
!                                                                              !
! O: C1 CH: LTT                                                                !
-------------------------------------------------------------------------------
```

PURCHASING MANAGEMENT SYSTEM SG000008.LILI.CIV.1583

LIST OF TEXTS BY CODE

TEXT	NAME	TYPE	LIBR.
BABABA	System Introduction	CM COMMENTARY	0059
BADBAD	Company Background	CM	0059
BAFBAF	System Objectives	CM	0059
BAHBAH	System Overview	CM	0059
DADADA	Purchase Order Management	PC PROCESS	0059
DADDAD	Purchase Order Receipt	OP OPERATION	0059
DAFDAF	Shipment Receipt	OP	0059
DAHDAH	Purchase Order Update	OP	0059
FADFAD	Vendor Master List Maintenance	OP	0059
FAFAFA	Vendor Information Management	PC PROCESS	0059
FAFFAF	Product Catalogue Maintenance	OP OPERATION	0059
FAHFAH	Vendor Performance Analysis	OP	0059
GADGAD	Vendor and Product Data	DD DATA	0059
GAFGAF	Purchase Order Data	DD	0059
GAGAGA	Physical Data Structure Specificatns	T TREATMENT	0059
XOAXOA	On-line systems devel.guide appendix	T	*CEN
XOEXOE	Journal extraction	T	*CEN
XOSXOS	On-line systems devel.guide examples	T	*CEN

O: C1 CH: LCT

6.5. TEXTS: BATCH ACCESS

TEXTS: BATCH ACCESS

TEXT DEFINITION

Batch Form 'S' is used to define a text.

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 ampersand (&).

D = Deletion of a line.

B = Deletion of the definition and all description lines.

TEXT DESCRIPTION

Batch Form 'T' is used to describe a text.

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 ampersand (&).

D = Deletion of a line.

B = Deletion of several lines in a text, starting with this line number.

R = End of multiple deletion, up to and including this line. If no 'R' line follows a 'B' line, the deletion ends:

- At the end of the Text, if the section code is blank,
- At the end of the section, if the section code is not blank.

NOTE CONCERNING DELETION

- Action code 'D' : If the section has only one title line (Type = 'L', 'K', '-', '_' or '='), all the other lines have to be deleted before the title can be deleted.

  If there are several title lines, all section lines may be deleted at the same time.

- Action code 'B' : All paragraph lines may be deleted in one action.

6.6. GENERATION AND/OR PRINTING

TEXTS: GENERATION-PRINT

Lists and description reports on texts may be obtained by entering certain commands, either on-line on the Generation and Print Commands (GP) screen, or in batch mode by using Batch Form 'Z'. The COMMANDS FOR PRINT REQUEST are listed below:

LISTS

```
LCT:  List of all texts, sequenced by their codes.

      C1 OPTION: Without explicit keywords,
      C2 OPTION: With explicit keywords.
```

LKT: List of all texts by keywords.

After typing LKT, a selection field (SEL:) enables the user to choose implicit ('L') or explicit ('M') keywords, or both (' '). Keywords are entered on a continuation line or in columns 31 to 80 in batch mode.

C1 OPTION: Same as LCT.

LTT: List of texts sequenced by type. The user may specify a specific text type, in order to list texts of just that type.

C1 OPTION: Same as LCT.

L*T: List of section titles of texts, sequenced by text code.

C1 OPTION: Same as LCT.

DESCRIPTIONS

DCT: Definition, description and general documentation for the text entered in the ENTITY CODE field, plus its summary (list of sections, with possible references to other texts/sections) and all cross-references with other entities.

C1 OPTION: Only option.

NOTE: To obtain the complete description of ALL texts, replace the Text code by an asterisk (*).

DTT: Like DCT, however the user may obtain the description of all texts of a specific type. The type is entered in the TYPE field on the Generation and Print Commands (GP) screen, (columns 17-18 in batch form).

C1 OPTION: Only option.

7. PARAMETERIZED INPUT AIDS (P.I.A.)

7.1. P.I.A.: INTRODUCTION

PARAMETERIZED INPUT AIDS: INTRODUCTION

The purpose of the Parameterized Input Aid (P.I.A.) entity is to pre-format the Generalized Documentation screen of an entity, in order to standardize it.

The P.I.A. is defined and described once, then called in the Documentation screens as needed.

A description line of a P.I.A. contains:

. A Fixed part, which contains the LABEL of the input field,

. A Variable part, which is the input field. The contents of this field will be specified when the P.I.A. is called.

NOTE: Input in the variable part of a P.I.A. can be parameterized. See the "DESCRIPTION SCREEN" Subchapter for complete information on parameterization.

The basic types of P.I.A. are :

. The Documentary P.I.A., which is used to standardize the documentation of entities (except keywords),

. The Generator P.I.A., which is used to complete the descriptions of database blocks, automatically generated by the Database Description function,

. Reserved P.I.A.s, such as 'DATA' used for generating copy books, and 'VALORI' used in the PACMODEL activity calculation.

Both documentary lines and lines to generate can be used together in the same P.I.A., but not in reserved P.I.A.s.

GENERAL CHARACTERISTICS

The Parameterized Input Aid (P.I.A.) entity includes the following:

. A Definition screen (required), for entry of the general characteristics (clear name, type, keywords),

. A Description screen, to describe the fixed and variable parts of a P.I.A.,

. A Documentation screen, where notes (for example author, purpose of the P.I.A., etc..) may be entered.

RESULTS

. A guideline for the documentation of entities, as P.I.As may be called in the Generalized Documentation screen of an entity (-G),

. A DBD generation tool, for physical complements are specified on description lines (-CEnnnG, -DCnnnG, -DHnnnG or -DRnnnG),

. The ability to list the entities calling PIAs which have a particular variable part.

7.2. P.I.A.: DEFINITION

DEFINITION SCREEN: PARAMETERIZED INPUT AID ENTITY

A P.I.A. is defined by a code, a name and a type on a screen called by the letter I.

ASSOCIATED LINES

A P.I.A. may be documented via its General Documentation (-G) screen.

PARAMETERIZED INPUT AIDS (P.I.A.) 7
P.I.A.: DEFINITION 2

```
--------------------------------------------------------------------------------
!                  PURCHASING MANAGEMENT SYSTEM         SG000008.LILI.CIV.1583 !
!                                                                              !
!                                                                              !
! INPUT AID DEFINITION....: 1 AUTHOR                                           !
!                                                                              !
! NAME................: 2 AUTHOR DOCUMENTATION                                  !
!                                                                              !
!                                                                              !
! TYPE................: 3 D DOCUMENTATION                                       !
!                                                                              !
!                                                                              !
! EXPLICIT KEYWORDS..: 4                                                       !
!                                                                              !
!                                                                              !
!                                                                              !
!                                                                              !
!                                                                              !
!                                                                              !
!                                                                              !
!                                                                              !
! SESSION NUMBER.....: 0059      LIBRARY.....: CIV    LOCK....:                !
!                                                                              !
!                                                                              !
! O: C1 CH: Iauthor                     ACTION:                                !
--------------------------------------------------------------------------------
```

NUM	LEN	CLASS VALUE	DESCRIPTION OF FIELDS AND FILLING MODE
1	6		CODE OF PARAMETERIZED INPUT AID (REQUIRED) 'DATA' and 'VALORI' are reserved codes.
		DATA	The 'DATA' P.I.A. is used to generate COPY books from Data Structure descriptions. For more information, see Chapter "GENERATION OF COPY BOOK", Subchapter "DESCRIPTION OF P.I.A. DATA".
		VALORI	It is used for the activity calculation of the PACMODEL function.
		PAC...	It is prohibited to define a P.I.A. code beginning with 'PAC'.
2	36		PARAMETERIZED INPUT AID CLEAR NAME (REQ. IN CREATION) This name should be as explicit as possible. Words used here become implicit keywords (subject to limitations specified in Chapter "KEYWORDS", Subchapter "HOW TO BUILD THE THESAURUS", in this manual.
3	1		TYPE Used for documentary purposes only.
		D	Documentation. This value is required when using the 'DATA' P.I.A.
		C	CODASYL generation (see DATABASE DESCRIPTION Reference Manual (CODASYL)).
		I	IMS generation (see DATABASE DESCRIPTION Reference Manual (DL1)).
		R	RELATIONAL DB2 generation (see DATABASE DESCRIPTION Reference Manual (DB2)).
4	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 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.

NUM	LEN	CLASS VALUE	DESCRIPTION OF FIELDS AND FILLING MODE
			NOTE: Characters bearing an accent and special characters can be declared as equivalent to an internal value in order to make easy the search of occurrences 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.

7.3. P.I.A.: DESCRIPTION

PARAMETERIZED INPUT AIDS: DESCRIPTION

The -D screen is used to describe the contents of the lines which make up a P.I.A.

GENERAL CHARACTERISTICS

Each P.I.A. description line is made up of three fields:

. The TYPE OF P.I.A. LINE, which indicates:

- A Standard P.I.A. line (Type = 'blank'),

- A Comment line (Type = 'C'),

- A Symbolic Value line used to define a parameter to be used in the variable part (Type = 'T').

. The LABEL, which is the fixed part of a P.I.A. line,

. The INITIAL VALUE, which is the variable part of a P.I.A. line.

On a P.I.A. Comment line, both the LABEL and INITIAL VALUE fields may contain documentary text.
Comment lines cannot be modified on the documentation of the entity calling the P.I.A.

The P.I.A. line may be taken into account in a generation process (LINE GENERATION OPTION = 'G').

At generation time, the fixed part and the variable part of P.I.A. lines are concatenated.

PARAMETERIZATION OF THE VARIABLE PART OF A P.I.A. LINE

Symbolic parameters are defined on 'T'-type description lines. A symbolic parameter is coded '$nn' left-justified in the LABEL field.
The corresponding value is indicated in the INITIAL VALUE field.

EXAMPLE: A symbolic parameter '$H' corresponds to the value 'HOSPITAL'. The user simply enters the symbolic parameter '$H' when the P.I.A. is called.

NOTE: The number of "T"-type lines is not limited.

Symbolic parameters may be used on any line of the called P.I.A.

PREREQUISITE

The P.I.A. must have already been defined.

NOTE ON THE VARIABLE PARTS OF A P.I.A

The total length of a P.I.A.'s variable parts must not exceed 450 characters.

The length of the variable parts cannot be modified once the P.I.A. has been called and used.

PARAMETERIZED INPUT AIDS (P.I.A.) 7
P.I.A.: DESCRIPTION 3

```
--------------------------------------------------------------------------------
!                 PURCHASING MANAGEMENT SYSTEM         SG000008.LILI.CIV.1583 !
! INPUT AID DESCRIPTION......:  1  AUTHOR AUTHOR DOCUMENTATION                  !
!                                                                              !
! 2 3     4 5                    6                            7   8 9          !
! A LIN : T LABEL                INITIAL VALUE                LEN G REFER. LIBR.!
!   010 :        AUTHOR TITLE:                                040          0059 !
!   020 : T $PM                  PROJECT MANAGER                           0059 !
!   030 : T $SA                  SYSTEMS ANALYST                           0059 !
!   040 : T $PG                  PROGRAMMER                                0059 !
!   050 : T $DB                  DATA BASE ADMINISTRATOR                   0059 !
!   070 :         AUTHOR NAME:                                040          0059 !
!   090 :                DATE:   MM/DD/19YY                   010          0059 !
!   100 :                                                     000          0059 !
!       :                                                                      !
!       :                                                                      !
!       :                                                                      !
!       :                                                                      !
!       :                                                                      !
!       :                                                                      !
!       :                                                                      !
!       :                                                                      !
! *** END ***                                                                  !
! O: C1 CH: -D                                                                 !
--------------------------------------------------------------------------------
```

NUM	LEN	CLASS VALUE	DESCRIPTION OF FIELDS AND FILLING MODE
1	6		CODE OF PARAMETERIZED INPUT AID (REQ. IN CREATION) 'DATA' and 'VALORI' are reserved codes.
		DATA	The 'DATA' P.I.A. is used to generate COPY books from Data Structure descriptions. For more information, see Chapter "GENERATION OF COPY BOOK", Subchapter "DESCRIPTION OF P.I.A. DATA".
		VALORI	It is used for the activity calculation of the PACMODEL function.
		PAC...	It is prohibited to define a P.I.A. code beginning with 'PAC'.
2	1		ACTION CODE (REQUIRED)
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		TYPE OF P.I.A. LINE
		blank	STANDARD P.I.A. LINE: A standard P.I.A. line is made up of a fixed part (LABEL) followed by a variable part (INITIAL VALUE). This line is displayed when the P.I.A. is called on a "-G" screen.
		C	COMMENT LINE: A P.I.A. comment line is used for documentary purposes and when the P.I.A. is called on a "-G" screen, this line is displayed and cannot be modified by the user.
		T	SYMBOLIC VALUE LINE This type of P.I.A. line is used to define a symbolic parameter. In the LABEL field, the user enters a symbolic parameter (its maximum length is three characters, the first character being the '$' sign). In the INITIAL VALUE field, the user enters the actual value of the parameter. NOTE: The number of "T"-type lines is not limited, In other words, as many parameters as needed can be defined. Parameters are not specifically associated with any given P.I.A. line.

NUM	LEN	CLASS VALUE	DESCRIPTION OF FIELDS AND FILLING MODE
5	20		PRINTED LABEL FOR LEVEL n This field contains the fixed part of a P.I.A. line as displayed on a "-G" screen. Its contents depend upon the TYPE OF P.I.A. LINE. On P.I.A. lines to be generated (value "G" in the LINE GENERATION OPTION field on the P.I.A. Description (-D) screen), each instruction must be left-justified, and, if it does not fit on a single line, its continuation must begin with at least one 'blank' character.
6	29	 blank	INITIAL VALUE 1. ON A STANDARD P.I.A. LINE (Type = 'blank'): The user enters the default value displayed in the variable part when the P.I.A. is called. If no default value is specified, the variable part of the P.I.A. line is underscored. 2. ON A P.I.A. COMMENT LINE (Type = 'C'): The user enters the second part of the Comment line. 3. ON A P.I.A. SYMBOLIC VALUE LINE (Type = 'T'): The user enters the actual value of the symbolic parameter previously entered in the LABEL field. NOTE: For P.I.A. Comment and Symbolic Value lines, the length of this field cannot exceed 29 characters.
7	3		LENGTH OF THE VARIABLE PART PURE NUMERIC FIELD In this field, the user enters the length of the variable part of the given P.I.A. line. When the P.I.A. is called, this field appears with this number of underscores ('_') , if no default value is defined in the INITIAL VALUE field. When the P.I.A. is called, if user input exceeds the length provided for in this field, it will be truncated. A P.I.A.'s variable part cannot exceed 40 characters. For the entire set of lines describing a P.I.A., the

NUM	LEN	CLASS VALUE	DESCRIPTION OF FIELDS AND FILLING MODE
			total length of all variable parts cannot exceed 450 characters.
		000	Default Value: There is no variable part for this line.
8	1		LINE GENERATION OPTION
		blank	Documentary line only, not taken into account when the occurrence calling the P.I.A. is generated.
		G	This line is taken into account when a Database Block, a Screen, or a C/S Screen calling the P.I.A. is generated. NOTE: For the P.I.A. 'DATA', a 'blank' may be entered instead of 'G' with the same result.
		O	Line for options (DBD Function and Client/Server Facility).
9	6		CROSS-REFERENCE (P.I.A. CALLS) This field may contain a cross-reference key code. It gives the possibility of getting a list of the entities calling the P.I.A with the contents of the variable part referenced by this key code (using choice XIcccccc, where cccccc is the key code). Example : the variable part 'author' is referenced by key code 'AUTH', choice XIAUTH gives the list of entities with their authors, such as : E ELEM1 Smith E ELEM2 Smith E ELEM3 Evans

7.4. P.I.A.: ON-LINE ACCESS

PARAMETERIZED INPUT AIDS: ON-LINE ACCESS

LISTS

CHOICE	SCREEN	UPD
LCIaaaaaa	List of P.I.A.'s by code (starting with P.I.A. 'aaaaaa').	NO
LXIaaaaaa	List of P.I.A.'s by external ref's. (starting with external ref. 'aaaaaa').	NO
Cross-references:		
XIaaaaaa	X-references of P.I.A. external ref's. (starting with external ref. 'aaaaaa').	NO
XIaaaaaaIbbbbbb	X-references of P.I.A. external ref. 'aaaaaa' (starting with P.I.A. 'bbbbbb').	NO

DESCRIPTION OF THE P.I.A. 'aaaaaa'

CHOICE	SCREEN	UPD
Iaaaaaa	Definition of P.I.A. 'aaaaaa'.	YES
IaaaaaaGbbb	General documentation of P.I.A. 'aaaaaa' (starting with general documentation line number 'bbb').	YES
IaaaaaaATbbbbbb	Text assigned to P.I.A. 'aaaaaa' (starting with text 'bbbbbb').	NO
IaaaaaaX	X-references of P.I.A. 'aaaaaa'.	NO
IaaaaaaXObbbbbb	X-references of P.I.A. 'aaaaaa' to screens (starting with screen 'bbbbbb').	NO
IaaaaaaX*bbb	X-references of P.I.A. 'aaaaaa' to libraries (starting with library 'bbb').	NO
IaaaaaaXDbb	X-references of P.I.A. 'aaaaaa' to data structures (starting with data structure 'bb').	NO
IaaaaaaXRbbb	X-references of P.I.A. 'aaaaaa' to reports (starting with report 'bbb').	NO
IaaaaaaXMbbbbbb	X-references of P.I.A. 'aaaaaa' to Method entities (starting with method entity 'bbbbbb').	NO
IaaaaaaXBbbbbbb	X-references of P.I.A. 'aaaaaa' to database blocks (starting with block 'bbbbbb').	NO
IaaaaaaXTbbbbbb	X-references of P.I.A. 'aaaaaa' to texts (starting with text 'bbbbbb').	NO

IaaaaaaXEeeeeee	X-references of P.I.A. 'aaaaaa' to data elements (starting with element 'eeeeee').	NO
IaaaaaaXUbb	X-references of P.I.A. 'aaaaaa' to user manuals (starting with user manual 'bb').	NO
IaaaaaaXIbbbbbb	X-references of P.I.A. 'aaaaaa' to other P.I.A.'s (starting with P.I.A. 'bbbbbb').	NO
IaaaaaaXPbbbbbb	X-references of P.I.A. 'aaaaaa' to programs (starting with program 'bbbbbb').	NO
IaaaaaaXSbbbb	X-references of P.I.A. 'aaaaaa' to segments (starting with segment 'bbbb').	NO
IaaaaaaXVbbbbbb	X-references of P.I.A. 'aaaaaa' to volumes (starting with volume 'bbbbbb').	NO
IaaaaaaXQbbbbbb	List of entities linked to P.I.A. 'aaaaaa' through the 'bbbbbb' user-defined relationship.	NO
IaaaaaaXFbbbbbb	X-references of P.I.A. 'aaaaaa' to user entities (starting with user entity 'bbbbbb').	NO
IaaaaaaX$bbcccccc	X-reference of P.I.A. 'aaaaaa' to User Entity Occurrence bbcccccc (type 'bb', UEO 'cccccc').	NO
IaaaaaaDbbb	Description of P.I.A. 'aaaaaa' (starting with line number 'bbb').	YES

NOTE: After the first choice of type 'Iaaaaaa', 'Iaaaaaa' can be replaced with '-'.

All notations between parentheses are optional.

```
!                  PURCHASING MANAGEMENT SYSTEM         SG000008.LILI.CIV.1583 !
! LIST OF INPUT AIDS BY CODE                                                   !
!                                                                              !
! P.I.A. NAME                                      T TYPE                LIBR.!
! ALTPCB DL1 ALTERNATE P.C.B.                      I IMS                 *CEN !
! AUTHOR AUTHOR DOCUMENTATION                      D DOCUMENTATION       0059 !
! GSAMPC GSAM FILE DEFINE                          I IMS                 *CEN !
! HDAM   DL1 HDAM DATA BASE DEFINE                 I IMS                 *CEN !
! HDAMSE HDAM SEGMENT COMPLEMENTS                  I IMS                 *CEN !
! HIDAM  DL1 HIDAM DATA BASE DEFINE                I IMS                 *CEN !
! HIDAMS HIDAM SEGMENT COMPLEMENTS                 I IMS                 *CEN !
! HISAM  DL1 HISAM DATA BASE DEFINE                I IMS                 *CEN !
! HISAMS HISAM SEGMENT COMPLEMENTS                 I IMS                 *CEN !
! HSAM   DL1 HSAM DATA BASE DEFINE                 I IMS                 *CEN !
! HSAMSE HSAM SEGMENT COMPLEMENTS                  I IMS                 *CEN !
! INDEX  DL1 INDEX DATA BASE DEFINE                I IMS                 *CEN !
! INDEXP MACRO LCHILD PRIMARY INDEX                I IMS                 *CEN !
! INDEXS INDEX SEGMENT COMPLEMENTS                 I IMS                 *CEN !
! ISECON SECONDARY INDEX DEFINE                    I IMS                 *CEN !
! LCHILD MACRO DL1 LOGICAL CHILD                   I IMS                 *CEN !
! PCB    DL1 PCB COMPLEMENT                        I IMS                 *CEN !
! PSBGEN PSBGEN DL1 MACRO COMPLEMENT               I IMS                 *CEN !
!                                                                              !
! O: C1 CH: LCI                                                                !
--------------------------------------------------------------------------------

--------------------------------------------------------------------------------
!                  PURCHASING MANAGEMENT SYSTEM         SG000008.LILI.CIV.1583 !
! LIST OF INPUT AIDS EXTERNAL REF'S                                            !
!                                                                              !
! REFER. P.I.A.                                      LIN                 LIBR.!
! ACCESS HDAM   DL1 HDAM DATA BASE DEFINE            100                 *CEN !
!        HIDAM  DL1 HIDAM DATA BASE DEFINE           100                 *CEN !
!        HISAM  DL1 HISAM DATA BASE DEFINE           100                 *CEN !
!        HSAM   DL1 HSAM DATA BASE DEFINE            100                 *CEN !
!        INDEX  DL1 INDEX DATA BASE DEFINE           100                 *CEN !
! DDNAME HDAM   DL1 HDAM DATA BASE DEFINE            160                 *CEN !
!        HIDAM  DL1 HIDAM DATA BASE DEFINE           160                 *CEN !
!        HISAM  DL1 HISAM DATA BASE DEFINE           140                 *CEN !
!        HSAM   DL1 HSAM DATA BASE DEFINE            140                 *CEN !
!        HSAM   DL1 HSAM DATA BASE DEFINE            180                 *CEN !
!        INDEX  DL1 INDEX DATA BASE DEFINE           140                 *CEN !
! INDSEC PCB    DL1 PCB COMPLEMENT                   120                 *CEN !
! PASSWD HDAM   DL1 HDAM DATA BASE DEFINE            140                 *CEN !
!        HIDAM  DL1 HIDAM DATA BASE DEFINE           140                 *CEN !
! PROGTP ALTPCB DL1 ALTERNATE P.C.B.                 140                 *CEN !
!        ALTPCB DL1 ALTERNATE P.C.B.                 160                 *CEN !
! PTR    HDAMSE HDAM SEGMENT COMPLEMENTS             100                 *CEN !
!        HIDAMS HIDAM SEGMENT COMPLEMENTS            100                 *CEN !
!                                                                              !
! O: C1 CH: LXI                                                                !
--------------------------------------------------------------------------------
```

```
!                  PURCHASING MANAGEMENT SYSTEM         SG000008.LILI.CIV.1583 !
! X-REF'S OF INPUT AID EXTERNAL REF'S   ACCESS                                   !
!                                                                               !
! -----P.I.A.       HDAM   ------------------------------------------- LIBR.!
! LC ENTITY    LIN  TEXT                                                        !
!                                                                               !
! -----P.I.A.       HIDAM  ------------------------------------------- LIBR.!
!                                                                               !
! -----P.I.A.       HISAM  ------------------------------------------- LIBR.!
!                                                                               !
! -----P.I.A.       HSAM   ------------------------------------------- LIBR.!
!                                                                               !
! -----P.I.A.       INDEX  ------------------------------------------- LIBR.!
!                                                                               !
!                                                                               !
!                                                                               !
!                                                                               !
!                                                                               !
!                                                                               !
!                                                                               !
!                                                                               !
!                                                                               !
! *** END ***                                                                   !
! O: C1 CH: XIaccess                                                            !
```

```
!                  PURCHASING MANAGEMENT SYSTEM         SG000008.LILI.CIV.1583 !
! INPUT AID GENERAL DOCUMENTATION AUTHOR AUTHOR DOCUMENTATION                   !
!                                                                               !
! A LIN : T COMMENT                                                      LIB    !
!   010 :   AUTHOR                                                      0059   !
!   100 :   THIS P.I.A. IS TO BE USED TO DOCUMENT THE AUTHOR(S)         0059   !
!   110 :   OF THE FOLLOWING ENTITIES:                                  0059   !
!   120 :       1.  TEXT                                                0059   !
!   130 :       2.  MANUALS                                             0059   !
!   140 :       3.  DATA STRUCTURES AND SEGMENTS                        0059   !
!   150 :       4.  DATABASE BLOCKS                                     0059   !
!   160 :       5.  SCREENS                                             0059   !
!   170 :       6.  REPORTS                                             0059   !
!   180 :       7.  PROGRAMS                                            0059   !
!   190 :       8.  P.I.A.'S                                            0059   !
!       :                                                                       !
!       :                                                                       !
!       :                                                                       !
!       :                                                                       !
!       :                                                                       !
!       :                                                                       !
!       :                                                                       !
!                                                                               !
! O: C1 CH: -G                                                                  !
```

7.5. P.I.A.: BATCH ACCESS

PARAMETERIZED INPUT AIDS: BATCH ACCESS

DEFINITION

Batch Form 'V1' is used to define a P.I.A.

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
        ampersand (&).

D     = Deletion of a line.

B     = Deletion of an entire P.I.A including its uses
        in description and general documentation
        lines.
```

DESCRIPTION

Batch Form 'V2' is used to describe a P.I.A.

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
        ampersand (&).

D     = Deletion of a line.

B     = Deletion of several lines of a P.I.A.,
        beginning with this line.

R     = End of multiple line deletion up to and
        including this line.
```

CALL OF A P.I.A.

```
Batch form used for calling a P.I.A : 'V3'

Batch form used for entering the contents of the variable
parts : 'VZ'
```

NOTE: There are no delimiters. The resolution includes the maximum length of each parameter defined. These lines are only used (normally), as output of the extraction utility procedure, for input to the UPDT utility procedure.

7.6. P.I.A.: GENERATION-PRINT

PARAMETERIZED INPUT AIDS: GENERATION-PRINT

Lists and description reports on input aids may be obtained by entering certain commands, either on-line on the Generation and Print Commands (GP) screen, or in batch mode by using Batch Form 'Z'.

LISTS

```
LCI:  List of all P.I.A.'s, sequenced by code.

     .C1 OPTION: Without keywords,
     .C2 OPTION: With explicit keywords.


LKI:  List of all P.I.A.'s by keywords.

      After typing LKI, a selection field (SEL:) enables
      the user to choose implicit ('L') or explicit ('M')
      keywords, or both (' ').
      Keywords are entered on a continuation line or in columns 31
to 80 in batch mode.

     .C1 OPTION: Same as LCI.


LXI:  List of cross-references key codes, with the P.I.As
      to which they belong.

     .C1 OPTION: Only option.
```

DESCRIPTION

```
DCI:  Definition, description and general documentation of
      the P.I.A. entered in the ENTITY CODE field.
      If no code is specified, this information
      is obtained on all P.I.A.'s.

     .C1 OPTION: Only option.
```

8. GENERAL DOCUMENTATION

8.1. THE GENERAL DOCUMENTATION SCREEN (-G)

THE GENERAL DOCUMENTATION SCREEN

The General Documentation screen (-G) has the following purposes:

. To associate documentation with most entities.

. To enter complementary technical descriptions used to generate database Blocks,

Refer to the Database Description manuals.

. To describe error messages and Help texts for Screens and Data Structures,

Refer to the "O.L.S.D." and "Client/Server" Reference Manuals, Chapter "Error Messages - Help Function", and to the "Batch Systems Development" Reference Manual, Chapter "Error Messages".

. To specify User Relationships.

Refer to the "Dictionary Extensibility" Reference Manual, Chapter "The User-Defined Relationship".

. To customize SQL accesses.

Refer to the "Relational Database Description" Reference Manual, Chapter "SQL Accesses", Subchapter "Customized SQL Accesses".

The use of the Parameterized Input Aid entity (P.I.A.) may facilitate and standardize data entry on this screen.

GENERAL CHARACTERISTICS

Each documentation line is made up of a 60-character field containing text and a TYPE OF LINE field for particular purposes (call of a P.I.A, definition of an error message, technical line for generating a DBD Block...).

All entities (except the Keyword (K) entity) has a General Documentation (-G) screen.

Segment and Database Block description lines also have their documentation (-CEnnnG for segments, -DHnnnG, -DCnnnG, the documented line number).

CALLING A P.I.A. ON A GENERAL DOCUMENTATION (-G) SCREEN

The user calls the P.I.A. into the General Documentation (-G) screen by entering the value 'I' in the TYPE OF LINE field and the P.I.A. code in the COMMENT field. The system responds by displaying the P.I.A. lines on the '-G' screen.

NOTE: The 'C2' option (O: C2) allows the user to tab to the variable part of the P.I.A. line.

Additional lines cannot be inserted between called lines.

For more information see Chapter 'PARAMETERIZED INPUT AID (P.I.A.)'.

PREREQUISITES

The entity must be defined prior to being documented,
The called P.I.As must also exist.

COPYING GENERAL DOCUMENTATION LINES

The user may overkey the entity code with another entity code. This will not affect the original documentation lines, but it will replicate them for the other entity.

NOTES: Both entities must be of the same type.

If the original lines include the lines of a called P.I.A., they will also be duplicated, except for user input on the variable parts of the P.I.A. lines.

GENERAL DOCUMENTATION 8
THE GENERAL DOCUMENTATION SCREEN (-G) 1

```
!                  PURCHASING MANAGEMENT SYSTEM         SG000008.LILI.CIV.1583 !
! ELEMENT   GENERAL DOC.          CRDTAM CREDIT NOTE AMOUNT                      !
! 1 2     3 4                  5                                                !
! A LIN : T COMMENT                                                  LIB     !
!   010 :   ******************************************************   ADMENT !
!       :   INFORMATION         INTERNAL STANDARDIZATION               ADMENT !
!       :   Manager         :   MRS. DEBORAH WINGLET.................  ADMENT !
!       :   Internal type   :   Conceptual                      $TC    ADMENT !
!       :   Status          :   Transition                      $ET    ADMENT !
!       :   Addressee No. 1 :   MR. MIKE HAMMERSWORTH.............  ADMENT !
!       :   Addressee No. 2 :   MR. PATRICK KELLY.................  ADMENT !
!       :   Addressee No. 3 :   ..................................  ADMENT !
!       :   Date            :   881003                             ADMENT !
!       :   ******************************************************   ADMENT !
!   020 :   As of now, this element's description does not include the  1581   !
!   040 :   minimum and maximum values allowed by the Travel Expenses   1581   !
!   060 :   Section. This element will have to be updated before the    1581   !
!   080 :   survey of the Preliminary Study Report on the INTERNAL      1581   !
!   100 :   ACCOUNTING application.                                     1581   !
!   200 : R RELATION       REL: RELAT1 ENT.  TYPE: *   NAME: VAL        1581   !
!   220 : R REL. ENTITIES  REL: RELENT ENT.  TYPE: Q   NAME: RELAT1     1581   !
!       :                                                                      !
! *** END ***                                                                  !
! O: C1 CH: EcrdtamG                                                           !
```

NUM	LEN	CLASS VALUE	DESCRIPTION OF FIELDS AND FILLING MODE
1	1		ACTION CODE (REQUIRED)
2	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.
3	1		TYPE OF LINE
		blank	Standard documentation line.
		G	This line is taken into account when the documented entity is generated.
		I	Calls a P.I.A. (on-line mode only). The called P.I.A. lines are Type 'blank' or 'G' depending on the LINE GENERATION OPTION value entered on the P.I.A. Description (-D) screen.
		T	Calls a section of text. ON-LINE SYSTEMS DEVELOPMENT (See the ON-LINE Reference Manual, Chapter Error Messages).
		S	Segment call.
		F	Data element call.
		U	Error message.
		C	Comment. BATCH (See the BATCH Reference Manual, Chapter Error Messages).
		S	Replacement of an automatic error message
		D	Documentary messages. DICTIONARY EXTENSIBILITY
		R	User-Defined Relationship. A formatted line is provided, and it is made of the following fields:

NUM LEN	CLASS VALUE	DESCRIPTION OF FIELDS AND FILLING MODE
		-Code of the User-Defined Relationship, -Type of the entity to be linked, -Code of the entity to be linked. GENERATION OF COPYBOOKS:
	A	Alias for the Segment code. On the Segment General Documentation (-G) screen enter the COBOL segment name. See Chapter "GENERATION OF COPY BOOK", Subchapter "DESCRIPTION OF PACBASE PIA 'DATA'", value 'A*' in the DATA STRUCTURE CODE IN GENER. DESCR. field. SQL ACCESS CUSTOMIZATION ON A SEGMENT See the Manual CLIENT/SERVER FACILITY, Chapter "SQL ACCESS CUSTOMIZATION".
	V	This line is taken into account when the generation is performed. However, no delimiter is generated at the end of the line.
		COMMENT If no P.I.A. is called, the whole field is used.
	BLANK	In order to select only certain lines of the general documentation of an entity, use printing option -EG and place the $OFF command at the left end of each ligne to be ignored. To re-activate the -EG option on a line, place a $ON command, left-justified, after the last line to be ignored.
		BATCH SYSTEMS DEVELOPMENT FUNCTION --- DOCUMENTARY MESSAGE: "D"-type line. COL. VALUE DESCRIPTION 1 0 Message before Element Description, 1 Message after Element Description, 2-5 Message after an error message of type 2 to 5. 2 NOT USED 3 BLANK Message entered on the line, T Text occurrence call. 5-... Documentary message, or Text & Paragraph codes (**: ALL paragraphs). OVERRIDING A STANDARD ERROR MESSAGE: "S"-type line.

NUM	LEN	CLASS VALUE	DESCRIPTION OF FIELDS AND FILLING MODE
			COL. VALUE DESCRIPTION 1 2-5 Error type. 2 NOT USED 3 E,C,W Error gravity. 4 NOT USED 5-... Error message. ON-LINE SYSTEMS DEVELOPMENT FUNCTION --- SCREEN-RELATED DOCUMENTATION: "C"- or "T"-type line. COL. VALUE DESCRIPTION 1-5 NOT USED 6-... Message on "C"-type line OR Text & Paragraph codes on "T"-type line. OVERRIDING A DATA ELEMENT-RELATED STANDARD ERROR MESSAGE OR CREATING A DATA ELEMENT-RELATED USER-DEFINED ERROR MESSAGE: NOTE: Two lines need be coded. 1. "F"-type line: --- COL. VALUE DESCRIPTION 1-6 Data Element occurrence code. 2. "U"-type line: --- COL. VALUE DESCRIPTION 1-3 NOT USED 4 2-5 Standard error type, N Code of manual error (save "0" and "1") 5 NOT USED 6-... Error message. OVERRIDING STANDARD SEGMENT-RELATED ERROR MESSAGES: NOTE: Two lines need be coded. 1. "S"-type line: --- COL. VALUE DESCRIPTION 1-4 Segment occurrence code. 5 NOT USED 6 Category: = Heading, R Repetitive, Z Bottom.

NUM LEN	CLASS VALUE	DESCRIPTION OF FIELDS AND FILLING MODE
		7 Segment's rank in the category (if used several times in the category). 2. "U"-type line: ---------- COL. VALUE DESCRIPTION 1 F Segment used in reception, G Segment used in display. 2-3 NOT USED 4 8 Invalid segment creation, 9 Segment not found, 5 NOT USED 6-... Error message. USER-DEFINED DIALOGUE-RELATED ERROR MESSAGE: "U"-type line. COL. VALUE DESCRIPTION 1-4 Error code. 5 NOT USED 6-... Error message. DOCUMENTATION OF A DATA ELEMENT: COL. VALUE DESCRIPTION 1-3 NOT USED 4 0 (zero) 5 NOT USED 6-... Documentation lines, or Text and Paragraph codes after a "T"-type line. DOCUMENTATION OF A DIALOGUE-RELATED ERROR MESSAGE: COL. VALUE DESCRIPTION 1-4 Error code, BLANK If following a "U"-, "C"-, or "T"-type line. 5 NOT USED 6-... Documentation lines, or Text and Paragraph codes after a "T"-type line. DOCUMENTATION OF A STANDARD ERROR MESSAGE AND OF A USER-DEFINED DATA ELEMENT-RELATED ERROR MESSAGE: COL. VALUE DESCRIPTION 1-3 Error code, BLANK If following an "F"-, "U"-, "C"-, or "T"-type line. 5 NOT USED

NUM	LEN	CLASS VALUE	DESCRIPTION OF FIELDS AND FILLING MODE
			4 Type of error whose message is to be documented. 6-... Documentation lines, or Text and Paragraph codes after a "T"-type line.
4	20		PRINTED LABEL FOR LEVEL n This field contains the fixed part of a P.I.A. line as displayed on a "-G" screen. Its contents depend upon the TYPE OF P.I.A. LINE. On P.I.A. lines to be generated (value "G" in the LINE GENERATION OPTION field on the P.I.A. Description (-D) screen), each instruction must be left-justified, and, if it does not fit on a single line, its continuation must begin with at least one 'blank' character.
5	40		COMMENT / SECOND PART This field is specific to a P.I.A. call: With value "C2" in the OPERATION CODE field, the cursor automatically tabs to the first position of this field. This field is initialized with underscores (default value) or with the value specified in the INITIAL VALUE field for a Standard PIA description line (Type = 'blank'). If symbolic parameters have been defined on the P.I.A. Description (-D), they may be entered in this field. They will be replaced by their corresponding value, and will remain displayed on the right of the screen.
			ENTITY TO DOCUMENT The following fields describe batch mode data entry.
6	2		ENTITY TYPE Indicates the type of entity to be documented:
		X	Library.
		K1	Model entity definition (Object, Relationship, F.I.C.)
		K2	Model Relationship: call of objects.
		K3	Model entity: call of elements/properties:
		S	Text.
		A	Data Structure.
		2	Segment.

NUM	LEN	CLASS VALUE	DESCRIPTION OF FIELDS AND FILLING MODE
		3	Segment description.
		V1	Parameterized Input Aid.
		L1	Database Block definition.
		L2	Database Block description (Hierarchical type)
		L3	Database Block description (CODASYL/DB2)
		L4	Database Block description (Relational/SQL)
		H	Screen.
		B	Report.
		0	(zero) Program.
		C	Data Element.
		U	User Manual.
		W1	Volume.
		Y1	User Entity.
		Y3	User Entity Occurrence.
		Y5	User-Defined Relationship.
7	6		ENTITY CODE This field specifies the code of the entity to be documented, in conjunction with the selected ENTITY TYPE. Any entity code may appear here. For a data structure, the first 2 characters only are taken into account. For a segment, the first 4 characters only are taken into account. For a report, the first 3 characters only are taken into account.
8	3		DOCUMENTED LINE NUMBER PURE NUMERIC FIELD This field is to be used only if the documentation applies to the description line of the entity, (-CEnnnG for a segment, -DHnnnG, -DCnnnG or -DHnnnG for a Hierarchical, CODASYL or relational Database Block).

8.2. ACCESS COMMANDS

GENERAL DOCUMENTATION: ACCESS COMMANDS

General Documentation is one of the screens of an entity. It can be accessed by entering the entity type, entity code, and 'G' (or -G if you have already accessed another one of the entity's screens).

You can also specify a line number.

For example, to access the documentation for text ttttt, enter the following in the choice (CH:) field: T ttttt G.

Documentation is also available for Segment and Data Base Block description lines (CEnnnG, -DHnnnG, -DCnnnG, or -DRnnnG, where nnn is the number of the commented line.

The different values of the on-line action code are listed in the User's Manual.

NOTE: In display option '1' (C1, U1...) the fixed part of the Parameterized Input Aid (P.I.A.) and the value of the parameter are displayed in the same fields, fixed fields are locked, and parameter values can be modified.

BATCH ACCESS COMMANDS

Batch Form 'V3' is used to enter lines of documentation.

In batch, in order to assign documentation to an entity, the ENTITY TYPE, the ENTITY CODE and, if appropriate, the ENTITY LINE NUMBER must be filled in on the 'V3' lines.

For information about calling P.I.A.'s, refer to the chapter 'PARAMETERIZED INPUT AID (P.I.A.).'

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
        ampersand (&).

D     = Deletion of a single line.
```

NOTE: General Documentation of the various entities may be viewed in the reports produced by the description and generation commands. See Subchapters "GENERATION-PRINT" in the chapters dedicated to each entity.

9. USER MANUALS

9.1. USER MANUALS: INTRODUCTION

USER MANUALS: INTRODUCTION

Users may produce their own documentation via two different entities: the User Manual ('U') entity, and the Volume ('V') entity. For more information on the Volume entity, refer to the PERSONALIZED DOCUMENTATION MANAGER Reference Manual.

Documentation is required in each step of the life-cycle of an application, for example :

1. Developers need information from designers so that a project's goals and requirements defined during the Design Phase can be implemented during the Development Phase.

2. End-users need information from developers on how to operate the System-generated applications.

3. During maintenance, the documentation must be updated to remain consistent with the updated application.

The User Manual entity allows the users to create such documentation.

USER MANUAL STRUCTURE

A standard three-level structure is available: manual, chapter, and subchapter. It is adaptable to any documentation standards dictated by the company's methodology.

USER MANUAL CONTENTS

The contents of a User Manual correspond to a series of entity calls. The following entity types can be called into a User Manual:

- TEXT,
- DATA STRUCTURE,
- SEGMENT,
- REPORT,
- SCREEN,
- PROGRAM,
- ERROR MESSAGES.

These entities may be assembled as desired; thus the contents of the manual may vary according to the targeted audience.

GENERAL CHARACTERISTICS

The User Manual entity includes the following:

- A Definition screen (required) providing its general characteristics (clear name, frame and page numbering options, and keywords),
- One or more Description screens, used to set up the sequence in which the entities are called in the manual, as well as chapter and subchapter titles,
- General Documentation (-G) lines.

Pages are automatically numbered and a Table of Contents is automatically generated at the end of the manual, when the manual is printed.

9.2. USER MANUALS: DEFINITION

USER MANUALS: DEFINITION

A User Manual is defined on a U screen by a code and a clear name which represents the title of the manual.

The FRAME OPTION field is used to indicate where the bottom line of the frame should print: after the last written line on each page, or at the logical end of page.

The PAGE NUMBERING OPTION field is used to indicate whether or not page numbering is by chapter. With numbering by chapter, the page number is made up of the chapter number followed by the page number within the chapter.

In this case, the user may request the printing of selected chapters only; the Table of Contents then lists only those chapters.

USER MANUALS 9
USER MANUALS: DEFINITION 2

```
!                  PURCHASING MANAGEMENT SYSTEM         SG000008.LILI.CIV.1583 !
!                                                                               !
!                                                                               !
! USER MANUAL DEF....: 1 BA                                                     !
!                                                                               !
! NAME...............: 2 Purchasing Management Specs                            !
!                                                                               !
! FRAME OPTION.......: 3 B                                                      !
! PAGE NUMBERING OPT.: 4 C                                                      !
!                                                                               !
!                                                                               !
!                                                                               !
! EXPLICIT KEYWORDS..:       5                                                  !
!                                                                               !
!                                                                               !
!                                                                               !
!                                                                               !
!                                                                               !
!                                                                               !
!                                                                               !
! SESSION NUMBER.....: 0059        LIBRARY......: CIV    LOCK....:              !
!                                                                               !
!                                                                               !
! O: C1 CH: UBA                       ACTION:                                   !
```

NUM	LEN	CLASS VALUE	DESCRIPTION OF FIELDS AND FILLING MODE
1	2	ALPHA.	USER MANUAL CODE (REQUIRED)
		ZZ	Prohibited.
2	35		NAME OF USER MANUAL (REQ. IN CREATION) Each page of a user manual has a heading that includes this name, the chapter and subchapter titles. This name should be explicit as possible. Words used here become implicit keywords (subject to limitations specified in Subchapter "HOW TO BUILD THE THESAURUS", in Chapter "KEYWORDS".
3	1		FRAME OPTION
		blank	End of page at the last written line (default option).
		B	Logical end of page (bottom of page).
4	1		PAGE NUMBERING OPTION
		blank	Page numbering on the manual as a whole (default option). In this case the manual can only be printed as a whole.
		C	Page numbering by chapter. In this case, the user has the option of printing the whole manual or only selected chapters. Chapters are specified on the continuation line of the PCU Generation and Print Command.
5	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 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 make easy the search of occurrences by keywords. Refer to the Operations Manual - Part II "Administrator's Guide", Chapter "Database Management Utili-

NUM	LEN	CLASS VALUE	DESCRIPTION OF FIELDS AND FILLING MODE
			ties", 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.

9.3. USER MANUALS: DESCRIPTION

USER MANUALS: DESCRIPTION

Description lines (-D) may be used for three purposes:

. Define the chapter (2-character code and a title),

. Define (possibly) sub-chapter(s) within this chapter (chapter code, a 2-character code and a title),

. Call entities in the chapter or sub-chapter. Only one entity is called on a line; a continuation line code (2 characters) is used when there are more than one entity to call in the same chapter or sub-chapter.

It is also possible to call an entity on the definition line of a chapter or sub-chapter.

Chapters, sub-chapters and continuation lines are sequenced in the alphabetical order of their codes.

The chapters and sub-chapters numbering is automatically performed when the Manual is printed.

It is recommended that gaps be left in the selected code sequence in order to facilitate future insertions.

Up to 99 chapters per user manual and 99 subchapters per chapter can be defined.

CALLING ENTITIES INTO USER MANUALS

In order to call an entity into a user manual, its type and its code must be entered in the ENTITY TYPE and ENTITY CODE fields, respectively.

A Generic selection may be made, using the '*' character in the ENTITY CODE field.

For example, code CL***Z on a text call line selects all texts whose code begins by 'CL' and ends by 'Z'.

A page skip is automatically generated at the beginning of each segment, report, screen, etc.

DATA STRUCTURES OR SEGMENTS

A Data structure may be built of a common part (00 segment) and specific parts (non-00 segments), the two being concatenated to make up the record description. If the data structure is printed as a whole, the relative position of each data element within the record is calculated. If a specific segment is printed alone, the relative position has to be specified (else it defaults to 001).

The type of format for the data elements may be chosen: input format (default option) or internal format, using the FORMAT TYPE CHOICE field.

Each group or elementary data element of the segment, except FILLER and optional elements (ENPR, GRPR, ERUT), is printed with the following information :

. A first line indicating:

- The address relative to the beginning of the segment using the chosen format and taking into account all FILLERs, but not the optional elements,

- The length of the data element or group depending on the chosen format type,

- The data element name,

- In the input format description, the class and a reference to the required presence of the data element ('REQUIRED' if the data element is required for the 6 transaction codes; 'REQ.IN CREATION' if it is required for the creation transaction code),

- In the internal format description, the data element code (optional) and its format (binary, unpacked or packed decimal, etc.).

. A second line, indicating the replacement of blanks with zeros for the 'B' and 'Z' classes, in an input format description.

. On an additional line, the possible number of repetitions.

. A line for each line of documentation associated with the data element, giving the following:

- The first 10 characters of the value (the delimiting characters for alphanumeric literals are eliminated),

- The meaning.

. The printing of complementary description lines takes into account the associated 'skips', in the SKIP OR ACTION TYPE field on the Data Element Description screen.

. All values and significances indicated on the parent data elements are automatically transposed to the child data elements.

TEXTS

When texts called in the User Manual Description (-D) screen are printed, the line skip instructions entered

Section selection is made via the CALL OF PARAGRAPH field. To select all sections of a text, enter '**'. An asterisk (*) may be used as a wild card character within the TEXT CODE. For example, to select all texts beginning with 'TASK', enter 'TASK**' in the ENTITY CODE field.

REPORTS

The description of a report consists of the information presented on the report layout. The user can select all reports of a given data structure by entering an asterisk '*' as the LAST CHARACTER OF REPORT CODE.

SCREENS

The description of a screen consists of all the information presented on the screen layout. The user cannot select all the screens of a dialogue or all the screens of a library by a single entry.

PROGRAMS

Only the Pure COBOL Source (-9) lines appear for selected programs. (For more information, refer to the STRUCTURED CODE Reference Manual, Chapter "APPENDIX", Subchapter "PURE COBOL SOURCE (-9)".

NOTE: The maximum length of a User Manual line is 132 characters.

General Documentation (-G) lines associated with entities

are not printed in a User Manual.

USER MANUALS **9**
USER MANUALS: DESCRIPTION **3**

```
--------------------------------------------------------------------------------
!                 PURCHASING MANAGEMENT SYSTEM         SG000008.LILI.CIV.1583 !
! USER MANUAL DESCR.:   BA   Purchasing Management Specs                       !
! 2 3  4  5    6 7      8 9 10 11 12 13 14                                     !
! A CH SC CO : T ENTITY F C ADR E TX P  CHAPTER OR SUBCHAPTER NAME        LIB  !
!   BB       :                          Introduction                     0059 !
!   BB CC    : T BADBAD                 BB Company Background            0059 !
!   BB CC DD : T BADBAD                 CC                               0059 !
!   BB EE    : T BAFBAF                 BB System Objectives             0059 !
!   BB EE    : T BAHBAH                 BB System Overview               0059 !
!   DD       :                          Purchase Order Management        0059 !
!   DD CC    : O OEORDR              *P DA Purchase Order Receipt        0059 !
!   DD CC DD : T DADFA                  GG                               0059 !
!   DD CC HH : T DADHA                  **                               0059 !
!   DD EE    : T DAFDA                  Shipment Receipt                 0059 !
!   DD EE DD : T DAFFA                  HH                               0059 !
!   DD EE HH : T DAFHA                  JJ                               0059 !
!   FF       :                          Vendor Information Management    0059 !
!   FF CC    : O VPVEND              *P DA Vendor Master List Maintenance0059 !
!   FF CC DD : T FADFA                  GA                               0059 !
!   FF EE    : O VPROD               *P DA Product Catalogue Maintenance 0059 !
!   FF EE DD : T FACCD                  GG                               0059 !
!            : PGM1 :          PGM2 : DADDAD                                 !
!                    15              16                                      !
! O: C1 CH: -D                                                                 !
--------------------------------------------------------------------------------
```

NUM	LEN	CLASS VALUE	DESCRIPTION OF FIELDS AND FILLING MODE
1	2	ALPHA.	USER MANUAL CODE (REQUIRED)
		ZZ	Prohibited.
2	1		ACTION CODE (REQUIRED)
3	2	ALPHA.	CHAPTER CODE
4	2	ALPHA.	SUBCHAPTER CODE
5	2	ALPHA.	CONTINUATION LINE This field is used on continuation lines when a chapter or subchapter is made of more than one PACBASE entity.
6	1		ENTITY TYPE Used to identify the type of entity to describe:
		blank	No entity selected.
		D	Data structure.
		S	Segment.
		R	Report.
		P	Program.
		T	Text.
		O	Screen.
7	6		ENTITY CODE Used to specify the code of the PACBASE entity to be printed. Enter the appropriate PACBASE ENTITY CODE. For a data structure, only the first 2 characters are taken into account. For a segment, only the first 4 characters are taken into account. For a report, only the first 3 characters are taken into account.
8	1		FORMAT TYPE Reserved for selections of data structures & segments.
		E	Input format (default option).
		I	Internal format.
9	1		CODE OF DATA ELEMENT DISPLAY OPTION

NUM	LEN	CLASS VALUE	DESCRIPTION OF FIELDS AND FILLING MODE
			This option concerns only the lines requesting a segment or data structure description with an internal format.
		O	(Okay) - the DATA ELEMENT CODE will be displayed.
		blank	The DATA ELEMENT CODE will not be displayed (default option).
10	3		ADDRESS OF DATA ELEMENT PURE NUMERIC FIELD The relative address of the first data element of a element of a specific (non-00) segment may be indicated when only this segment (and not the whole data structure) is to be printed. (default option: 001).
11	1		ERROR TYPE Reserved for Batch Systems Development function, for compatibility with the previous versions of the System. This field is used to select which messages (from the FIRST and SECOND PROGRAM WITH ERROR MESSAGES are to be included in the user manual.
		*	All messages. Standard messages: these values restrict the list to those of the type entered:
		2	Erroneous absence.
		3	Erroneous presence.
		4	Erroneous class.
		5	Erroneous value. Non-standard messages: the user may have defined non-standard error messages (using the 'E' operator; see the STRUCTURED CODE Reference Manual). To have a list of error messages of that particular type, enter the corresponding type code. Note: This field is used in conjunction with the ENTITY CODE field for the transaction's SEGMENT CODE, and the FIRST and SECOND PROGRAM WITH ERROR MESSAGES fields.
12	3		TEXT TYPE CODE This field is no longer used in the current PACBASE

NUM	LEN	CLASS VALUE	DESCRIPTION OF FIELDS AND FILLING MODE
			release. In order to select a text in a manual, the user must use the ENTITY TYPE and ENTITY CODE fields. NOTE ---- When a site converts from release 7.0, the text code found here is transferred to the ENTITY CODE field, if there is no data already there. If there is, it is transferred to the SECOND PROGRAM WITH ERROR MESSAGES field and the TEXT TYPE CODE becomes '*P'. If the manual is printed, the associated text is printed without modification.
13	2		CALL OF PARAGRAPH A value other than '**' in this field limits selection to a given section of text.
		**	All sections are selected. If a PARAGRAPH CODE is filled in, the Text Code must be specified in the ENTITY CODE field.
14	35		MANUAL, CHAPTER OR SUBCHAPTER NAME (REQ. IN CREATION) Each page of the User Manual will have a heading showing the NAME OF USER MANUAL, CHAPTER NAME and SUBCHAPTER NAME.
15	6		FIRST PROGRAM WITH ERROR MESSAGES Reserved for Batch Systems Development function, for compatibility with the previous versions of PACBASE. Code of the first program containing error messages for this transaction data structure.
16	6		SECOND PROGRAM WITH ERROR MESSAGES Reserved for Batch Systems Development function, for compatibility with the previous versions of PACBASE. Code of the second program containing error messages for this transaction data structure.

9.4. USER MANUALS: ON-LINE ACCESS

USER MANUALS: ON-LINE ACCESS

LIST

CHOICE	SCREEN	UPD
LCUaa	List of user manuals by code (starting with user manual 'aa').	NO

DESCRIPTION OF USER MANUAL 'aa'

CHOICE	SCREEN	UPD
Uaa	Definition of user manual 'aa'.	YES
UaaGbbb	General documentation for user manual 'aa' (starting with line number 'bbb').	YES
UaaDbbcc	Description of user manual 'aa' (starting with chapter 'bb', subchapter 'cc').	YES
UaaXQbbbbbb	List of entities linked to user manual 'aa' through the 'bbbbbb' user-defined relationship 'bbbbbb'.	NO

NOTE: After the first choice of type 'Uaa', 'Uaa' can be replaced with '-'.

All notations between parentheses are optional.

```
! PURCHASING MANAGEMENT SYSTEM SG000008.LILI.CIV.1583 !
! LIST OF USER MANUALS BY CODE !
! !
! CODE NAME FRAME PAGE NUMBERING LIBR.!
! BA Purchasing Management Specs B C 0059 !
! XE Journal extraction B C *CEN !
! XO On-Line Systems Development Guide B C *CEN !
! XT Technical information B C *CEN !
! !
! !
! !
! !
! !
! !
! !
! !
! !
! !
! !
! !
! *** END *** !
! O: C1 CH: LCU !
```

9.5. USER MANUALS: BATCH ACCESS

USER MANUALS: BATCH ACCESS

DEFINITION

Batch Form 'U' is used to define a user manual.

In order to define a User Manual, the following data must be entered: action code, user manual code and name, justification and page numbering options.

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
        ampersand (&).

D     = Deletion of a line.

B     = Deletion of a user manual.
```

DESCRIPTION

```
Batch Form 'U' is used to describe a user manual.
```

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
        ampersand (&).

D     = Deletion of a line.

B     = Deletion of manual, chapter or subchapter.

R     = End of multiple deletion after this line.
```

9.6. USER MANUALS: GENERATION-PRINT

USER MANUALS: GENERATION-PRINT

Lists and description reports on user manuals may be obtained by entering certain commands, either on-line on the Generation and Print Commands (GP) screen, or in batch mode using Batch Form 'Z'. The COMMANDS FOR PRINT REQUEST are listed below.

LISTS

LCU: List of all user manuals, sequenced by code.

C1 OPTION: Without keywords,
C2 OPTION: With explicit keywords.

LKU: List of all user manuals, by keywords.

After typing LKU, a selection field (SEL:) enables the user to choose implicit ('L') or explicit ('M') keywords, or both (' '). Keywords are entered on a continuation line or in columns 31 to 80 in batch mode.

C1 OPTION: Like LCU.

DESCRIPTION

DCU: Definition, description and general documentation of the user manual entered in the ENTITY CODE field. If no code is specified, the information on ALL manuals is printed.

C1 OPTION: Only option.

PRINT OPTION

PCU: Print the user manual whose 2-character code is entered in the ENTITY CODE field. If no code is specified, all user manuals are printed.

If the page numbering is by chapter (option 'C'), only the chapters requested on a continuation line (Batch columns 31 to 80) may be printed.

C1 OPTION: Only option.

10. KEYWORDS

10.1. BUILDING THE THESAURUS

BUILDING THE THESAURUS

The Thesaurus has a double purpose.

First it automatically generates keywords from entity names. If these names are clear, you will find occurrences related to a topic very easily.

EXAMPLE:

> If you want to find all the entity occurrences related to dates, you can carry out a search on the keyword "date" and you will find the Texts named "Date Parameters", "Input of Dates", the Data Element "Current Date", the Program "Computing of Payment Date"...

It also allows you to create additional management criteria specific to your company's standards by entering explicit keywords on the definition of each occurrence.

EXPLICIT KEYWORDS may be used, for example, for a follow-up of entities by the Database Administrator:

EXAMPLES:

1. A Data element having 'VAL' as an explicit keyword is to be validated by the Database Administrator;

2. A Program having 'TRANS' as an explicit keyword is ready to be transferred into the Production Environment.

GENERAL CHARACTERISTICS

There are two kinds of keywords:

.Implicit,
.Explicit.

IMPLICIT KEYWORDS are automatically created from the CLEAR NAME indicated on the definition line of all entities.

This name is broken down into keywords as follows :

. Blanks within the NAME are considered as delimiters; all equals ('=') and asterisks ('*') are replaced with blanks,

. Words with more than 13 characters are truncated,

. Only the first 10 words are taken into account,

. Words of only one character are not taken into account,

. A certain number of non-keywords are also ignored (such as THE, AN, AND, OR, OF, IS, ARE, OUT, IN, NOT, AT, BUT, IT, ON, NO and IF). The French equivalent of those words are also eliminated (LE, LA, LES, UN, UNE, DES, ET, OU, SUR, EST, DE, DU, NE, NI and EN).

The Database Administrator may define other 'non-keywords', if necessary by declaring them synonyms of the '*' keyword. No research can be done on non-keywords.

EXPLICIT KEYWORDS are assigned by the user under the following conditions:

. Keywords must be separated by a blank,

. The '*' and '=' characters are prohibited,

. Keywords cannot be longer than 13 characters,

. A maximum of 10 keywords can be entered.

NOTE: Modifications made to explicit keywords (i.e. in the EXPLICIT KEYWORDS field on the Entity Definition screen) do not change the session number.

10.2. BUILDING THE THESAURUS IN BATCH MODE

BUILDING THE THESAURUS IN BATCH MODE

In batch mode, explicit keywords must be entered using Batch Form 'G', since no specific field for entering explicit keywords exists on any of the batch forms.

A detailed description of Batch Form 'G' follows.

NUM	LEN	CLASS VALUE	DESCRIPTION OF FIELDS AND FILLING MODE
1	1		ACTION CODE The Action Code values are listed in Subchapter "Batch Access".
2	2		LINE TYPE
		G	Keyword definition.
3	2		ENTITY TYPE (REQUIRED) This field is used to specify the type of entity to which one or more keywords are assigned.
		K1	Model Entity.
		S	Text.
		C	Data Element.
		A	Data Structure.
		2	Segment.
		V1	Parameterized Input Aid.
		L1	Database Block.
		H	Screen.
		B	Report.
		0	Program.
		U	User Manual.
		W1	Volume.
		Y1	User Entity.
		tt	tt User Entity Occurrences. Used for updating keywords of tt User Entity occurrences.
		Y5	User-Defined Relationship.
4	6		ENTITY CODE Depending on the entity type selected, this code specifies the code of the entity to which one or more keywords is assigned. The length of the code entered must correspond to the length of the code for the ENTITY TYPE entered. If the ENTITY TYPE = 'A', only the first two charac-

NUM	LEN	CLASS VALUE	DESCRIPTION OF FIELDS AND FILLING MODE
			ters are considered. If the ENTITY TYPE = '2', only the first four characters are considered. If the ENTITY TYPE = 'B', only the first three characters are considered.
5	55		EXPLICIT KEYWORDS This field allows the user to enter explicit keywords (PACBASE automatically generates implicit keywords from the entity's clear name). Keywords must be separated by at least one space. A keyword may have a maximum length of 13 characters and must be alphanumeric, however '=' and '*' are reserved for special usage, and are therefore not permitted in keywords. A maximum of 10 keywords can be assigned.
6	1	$	CALL TYPE Used to update keywords of tt User Entity occurrences.

10.3. ENRICHMENT OF THE THESAURUS

ENRICHMENT OF THE THESAURUS

On the "List of Keywords by code" screen, two pieces of information are automatically provided: keywords sorted in alphabetical order and the number of uses of each. On the K screen, titled "Keyword Enrichment of Thesaurus", you can add information, i.e. define keywords and/or assign one or more 'synonyms' to them.

You can view this screen in any library but you can update it in inter-library mode (***) only.

Keyword Definition

By defining keywords, you explain keywords which do not belong to the current language (ex: codes, abbreviations, words specific to an application...) or you precise a special use of a current word. This definition is useful if you have to enter a keyword and if you view an occurrence on which a keyword has been coded.

For example, you can define a list of keywords which indicate the development stage of each Program occurrence. So you can define keyword "VAL" as "To be validated", "OK" as "Ready for Production"...

Synonym Assignment

If synonyms are assigned to keywords, when you perform a keyword search, you will find the occurrences bearing this keyword but also all those which bear its synonyms.

For example, you can assign several synonmys to the keyword "VAL": "Validation", "Validate"... This eases the coding rules of keywords.

You can assign one or more synonyms to a keyword (maximum 9 synonyms per line).

Building a 'synonym chain' is not allowed. For example, if 'A' is a principal word, with words 'B' and 'C' as synonyms, it is not possible to use word 'B' or word 'C' as principal words, nor is it possible to attach 'B' or 'C' to another principal word.

KEYWORDS 10
ENRICHMENT OF THE THESAURUS 3

```
!                  PURCHASING MANAGEMENT SYSTEM         SG000008.LILI.CIV.1583 !
! KEYWORD ENRICHMENT OF THESAURUS                                               !
!                                                                               !
! 1 2             3   4 5                                                      !
! A KEYWORD       C : T SYNONYMS OR DEFINITION                                  !
!   *               : S REPORT SCREEN LIST PROGRAM                              !
!   PRODUCT         : S GOODS                                                   !
!   VENDOR          : S SUPPLIER PRODUCER MANUFACTURER                          !
!                   :                                                           !
!                   :                                                           !
!                   :                                                           !
!                   :                                                           !
!                   :                                                           !
!                   :                                                           !
!                   :                                                           !
!                   :                                                           !
!                   :                                                           !
!                   :                                                           !
!                   :                                                           !
!                   :                                                           !
!                   :                                                           !
! *** END ***                                                                   !
! O: C1 CH: K                                                                   !
```

NUM	LEN	CLASS VALUE	DESCRIPTION OF FIELDS AND FILLING MODE
1	1		ACTION CODE
2	13		KEYWORD
3	1		CONTINUATION LINE You must enter a continuation line if a line exists already for a keyword (even if the type of this line differs from that of the line you want to enter). To enter a continuation line, enter the keyword to which it refers and then an alphabetic or a numeric character in this field. The lines will be sorted by this code, alphabetic characters preceding numerics.
4	1		TYPE OF LINE
		D	Definition.
		S	Synonym.
5	55		SYNONYM OR DEFINITION With TYPE OF LINE = 'D': Enter a description of the meaning of the keyword. With TYPE OF LINE = 'S': Enter a synonym for the keyword (9 synonyms maximum per line).

10.4. THE WORD SEARCH SCREEN

THE WORD SEARCH SCREEN

The WS screen allows the user to search entity occurrences via a search argument which can be:

. Word(s) that make up the entity clear name (i.e., implicit keywords), and their synonyms,

. Explicit keywords, and their synonyms.

GENERAL CHARACTERISTICS

A search by keyword is normally performed on all entities of the selected library sub-network (OPERATION CODE (O:)). The scope of the search can be limited to a particular entity type, by entering the desired entity type in the ENTITY TYPE "ENT:" field (for ex.: 'E' for data element).

The appropriate keyword or combination of keywords is indicated in the SEARCH ARGUMENT field (third input field).

It is possible to restrict the search to either explicit or implicit keywords only, using the following values in the SELECTION OF KEYWORD TYPE 'SEL:' field:

. 'L' = Implicit keywords and synonyms,
. 'M' = Explicit keywords and synonyms.

Several keywords may be used as a search argument, using the operators 'AND' or 'OR' (any other operator between keywords is ignored).

. 'AND' Operator (represented by a 'blank')
Example: Entering 'BRANCH AREA' in the SEARCH ARGUMENT field will list all occurrences which have BOTH keywords.

. 'OR' Operator : (represented by the '=' sign)
Example: Entering 'BRANCH=AREA=SUBSIDIARY' will list all occurrences which have at least one of these three keywords.

. Both the 'AND' and 'OR' Operators:
Example: Entering 'BRANCH AREA=SUBSIDIARY' will list occurrences which have the BRANCH and AREA keywords, AND occurrences which have BRANCH and SUBSIDIARY.

No search is done on empty words.

A search is also done on synonyms of keywords.

If the character string used as the search argument ends with an asterisk (*), the search will look for all keywords starting with that character string.

EXAMPLE: If 'PURCHAS*' is entered in the SEARCH ARGUMENT field, the word search will look for all occurrences which begin with these letters. For example: PURCHASING (policy), PURCHASE (order), PURCHASED (item), etc.

LIMITATION

If a child Data Element has no clearname (i.e. the clearname is indicated on the parent Data Element), a search on this clearname only gives the parent Data Element.

```
--------------------------------------------------------------------------------
!                  PURCHASING MANAGEMENT SYSTEM         SG000008.LILI.CIV.1583 !
! WORD SEARCH                                                  ENT: 1  SEL: 2 !
! DATE  3                                                                     !
!                                                                             !
! TYPE   CODE      CLEAR NAME AND EXPLICIT KEYWORDS                     LIBR.!
! ELEM.  DATEV     DATE VALIDATION                X(8)                  *CEN !
! PROGR. CVRSD     CONVERSION OF ONE DATE                               *CEN !
!                                                                             !
!                                                                             !
!                                                                             !
!                                                                             !
!                                                                             !
!                                                                             !
!                                                                             !
!                                                                             !
!                                                                             !
!                                                                             !
!                                                                             !
!                                                                             !
! *** END ***                                                                 !
! O: C1 CH: WS                                                                !
--------------------------------------------------------------------------------
```

NUM	LEN	CLASS VALUE	DESCRIPTION OF FIELDS AND FILLING MODE
1	3		ENTITY TYPE A keyword search can be done by entity type.
		blank	Search all entities.
		B	Database block.
		D	Data structure.
		E	Data element.
		F	User Entity.
		I	Parameterized input aid.
		M	PACMODEL.
		O	Screen.
		P	Program.
		Q	User-Defined Relationship.
		R	Report.
		S	Segment.
		T	Text.
		U	User Manual.
		V	Volume.
		$	User Entity Occurrence.
		$tt	'tt'-type User Entity Occurrence.
2	1		SELECTION OF KEYWORD TYPE
		blank	This generates a search through clear names (implicit keywords), explicit keywords, and synonyms.
		L	This search is limited to implicit keywords and their synonyms,
		M	This search is limited to explicit keywords and their synonyms.
3	79		SEARCH ARGUMENT This field is used to indicate the word or words to be used as the search argument (or criterion). A blank between two words indicates that the search

NUM	LEN	CLASS VALUE	DESCRIPTION OF FIELDS AND FILLING MODE
			will be done on the first word AND on the second, i.e., both words must appear for a match. The equal sign ('=') between two words indicates that the search will be done on the first word OR on the second, i.e., either word must appear for a match. The asterisk ('*') at the end of a character string allows a search of all words beginning with the same string of characters. For example, to search for all words beginning with 'AT', enter 'AT*'. NOTE: It is possible to combine logical operators AND (blank) and OR ('='). EXAMPLE: 'DATA BASE=ELEMENT'.

10.5. KEYWORDS: ON-LINE ACCESS

KEYWORDS: ON-LINE ACCESS

KEYWORD-RELATED SCREENS

CHOICE	SCREEN	UPD
LCKaaaaaaaaaaaaa	List of keywords (starting with keyword 'aaaaaaaaaaaaa').	NO
Kaaaaaaaaaaaaa	Enhancement of the Thesaurus	YES
WS	Word Search (using a search argument entered on the 'WS' screen).	NO

KEYWORDS **10**
KEYWORDS: ON-LINE ACCESS **5**

```
!                  PURCHASING MANAGEMENT SYSTEM         SG000008.LILI.CIV.1583 !
! LIST OF KEYWORDS BY CODE                                                     !
!                                                                              !
! USES KEYWORD          KEYWORD INFORMATION                                    !
!      *                *** INSIGNIFICANT KEYWORDS ***                         !
!    4 ----                                                                    !
!    2 -NUMBER                                                                 !
!    1 AADA10                                                                  !
!    1 AAER                                                                    !
!    1 AAOPF1                                                                  !
!    1 ABEND                                                                   !
!    1 ACCESS                                                                  !
!    1 ACCOUNT                                                                 !
!    3 ACTION                                                                  !
!    1 ACTIVITY                                                                !
!    4 ACTUAL                                                                  !
!   24 ADABAS                                                                  !
!    4 ADD                                                                     !
!    7 ADDRESS                                                                 !
!   11 AGENCY                                                                  !
!    1 AID                                                                     !
!    2 ALTERNATE                                                               !
!                                                                              !
! O: C1 CH: LCK                                                                !
```

10.6. KEYWORDS: BATCH ACCESS

KEYWORDS: BATCH ACCESS

DEFINITION

Batch Form 'G' is used to define explicit keywords.

Batch Form 'G1' is used for enrichment of the thesaurus.

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
        ampersand (&).

D     = Deletion of a line.
```

10.7. KEYWORDS: GENERATION-PRINT

KEYWORDS: GENERATION-PRINT

Lists and description reports on keywords may be obtained by entering certain commands, either on-line on the Generation and Print Commands (GP) screen, or in batch mode by using Batch Form 'Z'. The COMMANDS FOR PRINT REQUEST are listed below.

LIST

LCK: List of keywords. The user may limit the keywords to explicit or implicit only. Keywords are specified in a continuation line, in columns 31 to 80 in batch mode.

This displays the number of times each keyword is used in various entities. Synonyms are also listed.

NOTE: The maximum number of Keywords and Synonyms per list is 500.

.C1 OPTION: Only option.

DESCRIPTION

DCK: This command provides a list of keywords defined in the thesaurus, with their synonyms and definitions.

.C1 OPTION: Only option.

11. GENERATION OF COPY BOOKS

11.1. PRINCIPLES

COPY BOOK GENERATION: PRINCIPLES

The Specifications Dictionary includes a generator component. This component is used to obtain descriptions of data structures in COBOL source language, using the data structure descriptions implemented in the System.

Each description thus obtained is stored in a COBOL source library and can be incorporated into programs using the COPY clause.

A single data structure can be used to generate several different descriptions, each one adapted to a particular need in the programs. (i.e. in FILE SECTION or WORKING-STORAGE SECTION, taking the internal and input formats into account).

USAGE OF THE 'DATA' P.I.A.

The preliminary definition and description of the reserved P.I.A. called 'DATA' is necessary for the generation of a data structure description.

At the data structure level, the user can call the 'DATA' P.I.A. as often as necessary. Each time 'DATA' is called, the user must specify the values in the parameters and the variants required for each description.

The 'DATA' P.I.A. is of Documentary type ('D').

The description of the 'DATA' P.I.A. is presented on the following pages.

There is one field per description line. The description must be scrupulously respected, be it the number, order or length of the parameters. No comment line is allowed.

11.2. DESCRIPTION OF PACBASE PIA 'DATA'

NUM	LEN	CLASS VALUE	DESCRIPTION OF FIELDS AND FILLING MODE
1	2		DATA STRUCTURE CODE IN GENER. (REQUIRED) DESCR.
		A*	Used to associate the 'DATA' P.I.A. to a COPY clause in order to regenerate the COPY clause in its initial format. See the TYPE field with value 'A' on the Data Element Definition screen, Data Element Description screen, and the General Documentation screen of the segment.
2	8		EXTERNAL NAME (REQUIRED) It is the file name in the program and in the COPY instruction.
3	1		DESCRIPTION LOCATION
		F	FILE SECTION (default value). The different structures of a record will not contain a REDEFINES clause, since PACBASE automatically generates all REDEFINES.
		W	WORKING-STORAGE SECTION or LINKAGE SECTION. The different record structures are redefined explicitly.
		V	Generation of a variable file.
4	1		TYPE OF COBOL TO GENERATE (REQUIRED) Specify the language variant to which the generated description must be adapted. This adaptation does not concern the USAGE clauses.
		0	Adaptation to ANSI COBOL: IBM MVS
		1	Adaptation to ANSI COBOL: IBM DOS
		2	Adaptation to ANSI COBOL: IBM 36
		3	Adaptation to COBOL : PC/MICROFOCUS
		4	Adaptation to COBOL : BULL DPS7
		5	Adaptation to ANSI COBOL: (74) BULL DPS8
		6	Adaptation to COBOL: (BCD) BULL DPS8
		7	Adaptation to COBOL: HP-3000
		8	This variant is required at the Library level to work in half-byte packed mode with UNISYS Series A or DPS8

NUM	LEN	CLASS VALUE	DESCRIPTION OF FIELDS AND FILLING MODE
			hardware (values 5 and 8 for TYPE OF COBOL TO GENERATE on the Dialogue or Program definition). IMPORTANT NOTE: If this value is entered on the Library Definition after data element formats have been defined, the element formats on the Element Definition and Segment/Screen Call of Elements, including FILLERS and undefined elements, will have to be re-entered so that the lengths are taken into account.
		9	Adaptation to ANSI COBOL: UNISYS 90/30
		A	Adaptation to COBOL: (74) PRIME
		B	Adaptation to COBOL: BURROUGHS (Medium systems),
		D	Adaptation to ANSI COBOL: (74) CONTROL DATA CORP.
		E	Adaptation to ANSI COBOL: (68) CONTROL DATA CORP.
		F	Adaptation to COBOL: TANDEM
		I	Adaptation to COBOL: DEC/VAX
		J	Adaptation to ANSI COBOL: PERKIN-ELMER-7-32
		K	Adaptation to ANSI COBOL: ICL 2900
		M	Adaptation to COBOL: DPS6
		O	Adaptation to COBOL: AS 400
		R	Adaptation to COBOL: IBM 34
		S	Adaptation to COBOL: SFENA
		T	Adaptation to ANSI COBOL: SIEMENS
		U	Adaptation to ANSI COBOL: (74) UNISYS 1100 Series
		V	Adaptation to ANSI COBOL: UNISYS 90/60
		W	Adaptation to COBOL: DPPX IBM 8100
		X	Adaptation to ANSI COBOL: IBM MVS VS COBOL II
		Y	Adaptation to COBOL: IBM 38
5	1		FORMAT TYPE (REQUIRED)
		E	Description using input formats.
		I	Description using internal formats with their associated 'usages'.

NUM	LEN	CLASS VALUE S	DESCRIPTION OF FIELDS AND FILLING MODE Description using output formats.
6	1		RECORD TYPE / USE WITHIN D.S. This option allows records of a data structure coming from the same description in a library to be arranged in several different ways:
		blank	Implicit or explicit redefinition of records. (Default option).
		1	Continuous sequence of records ('common part' segment followed by the different 'specific part' segments) without initial values or repetitions of records. If the data structure description appears in the COBOL FILE SECTION, the level number must be '2'.
		2	Continuous sequence of records that include initial values filled in on the description lines of the segments, or, by default, initial values of blank or zero according to the format (this option is reserved for descriptions in WORKING-STORAGE SECTION).
		3	Continuous sequence of records taking into account the number of repetitions specified on the Segment Definition screen. If the data structure description appears in the COBOL FILE SECTION, the level number must be '2'. This type of description can only be used for a data structure having a number of repetitions on the common part segment.
		4	Continuous sequence of records taking into account the number of repetitions specified on the Segment Definition screen. The associated level number must be '3'. The level '2' allows access to the table created by the repetition of a given record (FFEET). The level '1' consolidates all the information in the data structure (whether or not the common part and specific parts are repeated). This type of description can only be used for a data structure having a number of repetitions on the common part segment.
7	1		LEVEL NUMBER (COBOL) OF THE RECORD This option, used in relation with the preceding one, defines the level number of the descriptions of data structures, records, or data elements. In the following descriptions, the field 'FF00' is

NUM	LEN	CLASS VALUE	DESCRIPTION OF FIELDS AND FILLING MODE
			used to define the data structure level.
		1	Level '01' for data structures and records (default option). If the data structure description appears in the COBOL FILE SECTION, the records must be redefined. If the data structure has no 'common part' with a RECORD TYPE / USE WITHIN D.S. other than 'blank', the file level does not appear.
		2	Level '01' for data structures and '02' for records, the '01' level does not appear if the RECORD TYPE is 'blank'.
		3	Level '02' for data structures and '03' for records, when associated with RECORD TYPES 1, 2 or 3. Level '01' for data structures and '03' for records, when assocated with RECORD TYPE 4. Level '03' for data structures and records when associated with RECORD TYPE 'blank'.
8	2		CONTROL CARDS FRONT/BACK COPY BOOK This field represents the two options of Job Control Cards which are used to ensure that the generated description is catalogued in the source library: .the option code to be inserted into the control cards in front of a generated description, .the option code to be inserted into the control cards in back of each generated description.
9	40		SEGMENT SELECTION If there is no selection, all the segments making up a data structure are selected. When a specific selection is made, the sequence of the chosen record codes, (which may or may not be sorted) is called for. The selection of a 'common part' segment of a multi-record file must be explicitly specified.

11.3. DATA GENERATION AND/OR PRINTING

DATA GENERATION AND/OR PRINTING

To generate data descriptions from a Data Structure,

. The 'DATA' P.I.A. must be called in the generalized documentation of the data structure (-G),

. The parameters have to be filled,

. the generation is requested on the generation and printing screen (CH: GP), or using batch form 'Z' in batch mode.

It is requested via the 'GCD' Command, followed by the data structure code.

General 'Flow' generation information (such as name of the source library..) may be coded on a 'FLD' Command.

11.4. EXAMPLE OF GENERATED 'DATA'/FILE SECTION

```
01               TR00.
   05            TR00-00.
     10          TR00-KEYCD.
     11          TR00-COCARA PICTURE  X.
     11          TR00-NUCOM  PICTURE  9(5).
     11          TR00-FOURNI PICTURE  X(3).
   05            TR00-SUITE.
     15      FILLER         PICTURE  X(00157).
01               TR05.
     10      FILLER         PICTURE  X(00009).
     10           TR05-NUCLIE PICTURE  9(8).
     10           TR05-DATE   PICTURE  X(6).
     10           TR05-RELEA  PICTURE  X(3).
     10           TR05-REFCLI PICTURE  X(30).
     10           TR05-RUE    PICTURE  X(40).
     10           TR05-COPOS  PICTURE  X(5).
     10           TR05-VILLE  PICTURE  X(20).
     10           TR05-CORRES PICTURE  X(25).
     10           TR05-REMIS  PICTURE  S9(4)V99.
     10           TR05-MATE   PICTURE  X(8).
     10           TR05-LANGU  PICTURE  X.
     10           TR05-FILLER PICTURE  X(5).
01               TR10.
     10      FILLER         PICTURE  X(00009).
     10           TR10-QTMAC  PICTURE  99.
     10           TR10-QTMAL  PICTURE  99.
     10           TR10-INFOR  PICTURE  X(35).
     10           TR10-RFI    PICTURE  X(100).
     10      FILLER         PICTURE  X(00018).
01               TR20.
     10      FILLER         PICTURE  X(00009).
     10           TR20-EDIT   PICTURE  X.
     10      FILLER         PICTURE  X(00156).
01               TR30.
     10      FILLER         PICTURE  X(00009).
     10           TR30-NUCOM  PICTURE  9(5).
     10           TR30-LV00.
     11           TR30-NOCL.
     12           TR30-NOCL11 PICTURE  X.
     12           TR30-NOCL12 PICTURE  XX.
     12           TR30-NOCL2  PICTURE  XX.
     11           TR30-NBLIV  PICTURE  9.
     11           TR30-QTLI   PICTURE  S9(5)V99
                  COMPUTATIONAL-3.
     11           TR30-GROUPE
                  OCCURS       009
                  DEPENDING  ON        TR00-NBLIV.
     12           TR30-QULI   PICTURE  S9(5)V99
                  COMPUTATIONAL-3.
     12           TR30-DALI   PICTURE  X(6).
```

11.5. EXAMPLE OF GENERATED 'DATA'/WORKING-STORAGE SECT.

```
WORKING-STORAGE SECTION.
01              G-AT20.
     04         G-AT20-PARAM.
       10       G-AT20-LOZTR  PICTURE S9(4) COMPUTATIONAL
                      VALUE  +025.
        10      G-AT20-ADRCLE PICTURE S9(4) COMPUTATIONAL
                      VALUE  +001.
        10      G-AT20-LOCLE  PICTURE S9(4) COMPUTATIONAL
                      VALUE  +005.
        10      G-AT20-NUAPP  PICTURE 99
                      VALUE  ZERO.
        10      G-AT20-NUTAB  PICTURE X(6)
                      VALUE  'POSTES'.
        10      G-AT20-TABFO  PICTURE XX   VALUE SPACE.
        10      G-AT20-TABCR  PICTURE XX   VALUE SPACE.
        10      G-AT20-DAHTA  PICTURE X(6) VALUE SPACE.
        10      G-AT20-NUSSC  PICTURE X  VALUE '1'.
        10      G-AT20-NUSSY  PICTURE X  VALUE SPACE.
        10      G-AT20-TRANID PICTURE X(4)  VALUE SPACE.
        10      G-AT20-FILSYS PICTURE X(30) VALUE SPACE.
       04         AT20.
        10        AT20-COPOS.
         15       AT20-CODEPA PICTURE XX
                      VALUE  SPACE.
         15       AT20-COCOM  PICTURE X(3)
                      VALUE  SPACE.
        10        AT20-VILLE  PICTURE X(20)
                      VALUE  SPACE.
01                CD00.
        10        CD00-KEYCD.
         15       CD00-COCARA PICTURE X.
         15       CD00-NUCOM  PICTURE 9(5).
         15       CD00-FOURNI PICTURE X(3).
        10        CD00-SUITE.
         15       FILLER      PICTURE X(00157).
01                CD05     REDEFINES  CD00.
        10        FILLER      PICTURE X(00009).
        10        CD05-NUCLIE PICTURE 9(8).
        10        CD05-DATE   PICTURE X(6).
        10        CD05-RELEA  PICTURE X(3).
        10        CD05-REFCLI PICTURE X(30).
        10        CD05-RUE    PICTURE X(40).
        10        CD05-COPOS  PICTURE X(5).
        10        CD05-VILLE  PICTURE X(20).
        10        CD05-CORRES PICTURE X(25).
        10        CD05-REMIS  PICTURE S9(4)V99.
        10        CD05-MATE   PICTURE X(8).
        10        CD05-LANGU  PICTURE X.
        10        CD05-FILLER PICTURE X(5).
01                CD10     REDEFINES  CD00.
        10        FILLER      PICTURE X(00009).
        10        CD10-QTMAC  PICTURE 99.
        10        CD10-QTMAL  PICTURE 99.
        10        CD10-INFOR  PICTURE X(35).
        10        CD10-RFI    PICTURE X(100).
        10        FILLER      PICTURE X(00018).
01                CD20     REDEFINES  CD00.
        10        FILLER      PICTURE X(00009).
        10        CD20-EDIT   PICTURE X.
        10        FILLER      PICTURE X(00156).
01                FO10.
        10        FO10-CLEFO.
         15       FO10-FOURNI PICTURE X(3).
         15       FO10-MATE   PICTURE X(8).
         15       FO10-RELEA  PICTURE X(3).
         15       FO10-LANGU  PICTURE X.
         15       FO10-FILLER PICTURE X(5).
        10        FO10-QTMAS  PICTURE 9(4).
        10        FO10-QTMAM  PICTURE 9(4).
        10        FO10-LIBFO  PICTURE X(20).
        10        FO10-FILLER PICTURE XX.
01                ME00.
        10        ME00-CLEME.
```

```
           15         ME00-COPERS PICTURE X(5).
           15         ME00-NUMORD PICTURE XX.
           10         ME00-MESSA  PICTURE X(75).
```