VisualAge Pacbase 2.5

CODASYL DBD
REFERENCE MANUAL

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1. INTRODUCTION

1.1. THE PACBASE-PACLAN-PACLAN/X 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
Client/Server Facility
Batch Systems Development
COB / Generator

Database Description

DBD
DBD-SQL

Application Revamping

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

Pacbase Web Connection

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. INTRODUCTION TO THE DATABASE DESCRIPTION FUNCTION

INTRODUCTION TO THE D.B.D. FUNCTION

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

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

. Relational databases,

. Network databases (CODASYL),

. Hierarchical databases (DL/1),

. Physical File - AS/400 databases and TANDEM DDL,

. TurboImage databases,

. DMSII databases.

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

DBD/RELATIONAL SQL

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

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

1.3. PRINCIPLES OF DESCRIPTION

DESCRIPTION PRINCIPLES

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

. An introductory comment explaining the purpose and the general characteristics of the entity or screen,

. A detailed description of each screen, including the input fields for both on-line (screens) and batch (forms) data entry into the Database.

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

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

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

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

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

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

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

2. USE OF THE FUNCTION WITH CODASYL

2.1. INTRODUCTION

INTRODUCTION

The DBD CODASYL function allows the description of the following types of CODASYL databases in PACBASE:

-DM4,
-IDS2,
-IDMS,
-DMS.

PURPOSE OF THE MANUAL

The DBD CODASYL Reference Manual is not a technical training manual for CODASYL databases.

The user should be familiar with CODASYL databases and the PACBASE Specifications Dictionary.

The purpose of this manual is to guide the user through the description of a CODASYL database in the PACBASE Specifications Dictionary.

The first part of this manual deals with the information common to the types of CODASYL databases mentioned above and how to obtain the automatic description of these databases.
Specific examples are presented for each structure and environment type.

ROLE OF THE SPECIFICATIONS DICTIONARY

The role of the Specifications Dictionary is to manage the logical descriptions of the various external views which are used in programs. These descriptions involve the following entities:

-the Data Elements (elementary data),
-the Segments (a segment = a record),
-the Database Blocks (a block = an external view),
-the General Documentation,
-the Parameterized Input Aids (P.I.A.'s).

CODASYL REMINDERS

A CODASYL schema is a group of records composed of elementary data. The records are linked to each other through sets.

A structure is broken down into areas.

A record, as well as a set, belong to one or more areas.

TERMINOLOGY EQUIVALENTS

A CODASYL schema is described by a database block.

A CODASYL record is defined by a segment.

Each elementary data of a record is defined by a data element.

CODASYL ENTITY	EQUIVALENT
Schema or sub-schema	Database block
Record	Segment
Elementary data	Data Element

Sets and areas do not exist as entities. Since there are no entities to define them, they will be defined in the Specifications Dictionary as part of the schema or sub-schema.

2.2. USE OF ENTITIES

USE OF PACBASE ENTITIES

Basic principle: A CODASYL block is generated from a database block.

GENERATION OF A CODASYL BLOCK

The generator uses all the information available in the Specifications Dictionary (logical level) and, depending upon the type of block, ensures the following:

. at the Block level: generation of data description language lines (DDL) corresponding to the database block type,

. at the Segment Definition level: generation of the DDL lines adapted to CODASYL,

. at the Segment Description level: adaptation of the description to CODASYL. The description of the elementary data of a record is generated from the information specified on the Data Element Definition.

EXAMPLE

Segments used: FF10, FF20 and FF30.

Description of the 'CODAAA' Database Block.
Type M1 (DDL: logical description of the schema):

```
  T AREA   OWNER MEM
    SET     SEG  SEG
  A ARE1A
  A ARE1B
  R ARE1A FF10
  R ARE1A FF20
  R ARE1B FF30
  S SET1A FF10 FF20
  S SET1B FF30 FF10
  S SET1C FF30 FF20
```

The system will generate:

```
SCHEMA NAME IS EXAMPLE.
AREA NAME IS ARE1A.
AREA NAME IS ARE1B.
RECORD NAME IS FF10
WITHIN ARE1A.
    02                FF10-DATEL1
                      TYPE IS CHARACTER    8.
    02                FF10-DATEL2
                      TYPE IS CHARACTER   16.
RECORD NAME IS FF20
WITHIN ARE1A.
    02                FF20-DAEL1
                      TYPE IS CHARACTER    3.
    02                FF20-DAEL2
                      TYPE IS CHARACTER   10.
    02                FF20-DATAE3
                      TYPE IS CHARACTER    8.
RECORD NAME IS FF30
WITHIN ARE1B.
    02                FF30-DATA1
                      TYPE IS CHARACTER   32.
SET NAME IS SET1A
OWNER  IS FF10.
MEMBER IS FF20.
SET NAME IS SET1B
OWNER  IS FF30.
MEMBER IS FF10.
SET NAME IS SET1C
OWNER  IS FF30.
MEMBER IS FF20.
```

The system generates data element descriptions for Block Types 'M1', 'I1', 'D0' or 'D1' (DDL), according to the information entered on the Segment Call of Elements (CE) and Data Element Definition screens.

The user may replace or complete the generated lines using General Documentation (-G) lines.

For additional information, refer to Chapter "GENERAL DOCUMENTATION & PARAMETERIZED INPUT AIDS".

GUIDELINES FOR CREATING A CODASYL BLOCK

In order to generate a CODASYL block, the user should first specify the logical characteristics of the schema or sub-schema by:

. defining the elementary data (ie. the PACBASE data elements),

. defining and then describing the records (i.e., the PACBASE segments),

. defining the PACBASE Database Blocks from which the schema or sub-schema is generated,

. describing the schema or sub-schema, by calling the areas, records and sets which comprise it.

It is also necessary to specify the physical characteristics of the database by:

. completing the logical description using General Documentation (-G) lines and P.I.A.'s.

3. ELEMENTARY DATA

3.1. DATA ELEMENT DEFINITION (E)

DATA ELEMENT DEFINITION

A CODASYL elementary data is comparable to a PACBASE data element and is defined on the Data Element Definition screen.

GENERAL CHARACTERISTICS

A data element is defined by a code, a clear name and an internal format.

From the internal format, PACBASE generates the CODASYL format type and length.

The following table shows the CODASYL formats generated by the system from the formats entered on the PACBASE Data Element Definition screen. This is for an IDS2 database.

PACBASE		CODASYL IDS2	
FORMAT	COBOL	FORMAT	
X(n)	D DISPLAY	CHARACTER n	
X(n)	5 COMP-1	SIGNED BINARY 15	
X(n)	6 COMP-2	SIGNED BINARY 31	
S9(n)V9(p)	3 COMP-3	SIGNED PACKED DECIMAL n+p,p	
(S)9(n)V9(p)	D DISPLAY	(UN)SIGNED UNPACKED DECIMAL n+p,p	

The following table is for a DM4 database:

PACBASE		CODASYL	DM4
FORMAT	COBOL		FORMAT
X(n)	D	DISPLAY	CHARACTER n
X(n)	5	COMP-1	BINARY 17
X(n)	6	COMP-2	BINARY 35
X(n)	J	COMP-6	BINARY 35
X(n)	Y	DB-KEY	DATA-BASE-KEY
9(n)V9(p)	8	COMP	DECIMAL n+p,p
9(n)V9(p)	9	COMP-3	DECIMAL n+p,p
S9(n)V9(p)	8	COMP	DECIMAL n+p,p SIGNED
S9(n)V9(p)	9	COMP-3	DECIMAL n+p,p SIGNED

For IDMS and DMS databases, the CODASYL format is identical to the PACBASE format.

ELEMENTARY DATA **3**
DATA ELEMENT DEFINITION (E) **1**

```
!                                                                              !
!                        ORDER MANAGEMENT SYSTEM            *DOC.DIVA.GCC.806 !
!                                                                              !
! DATA ELEMENT CODE    1 DUEDAT                                                  !
!                                                                              !
! NAME...............: 2 ORDER DUE DATE                                        !
! TYPE...............: 3 R                                                     !
!                      3                                                       !
! INPUT FORMAT.......: 5 X(8)                              LENGTH...:     8 !
! INTERNAL FORMAT....: 6 X(8)                  USAGE : 7 D LENGTH...:     8 !
! OUTPUT FORMAT......: 8 X(8)                       Z: 9   LENGTH...:     8 !
!                                                                              !
! EXPLICIT KEYWORDS..: 10                                                      !
!                                                                              !
! PARENT ELEMENT.....: 11                                                      !
!                                                                              !
!                                                                              !
!                                                                              !
!                                                                              !
!                                                                              !
!                                                                              !
! SESSION NUMBER.....: 0806        LIBRARY......: GCC    LOCK....:             !
!                                                                              !
! O: C1 CH: E duedat                    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).

NUM	LEN	CLASS VALUE	DESCRIPTION OF FIELDS AND FILLING MODE
		S	Output format. For the input and output formats, only the first ten characters are recognized.
5	10		INPUT FORMAT Not used with the DBD function.
6	10		INTERNAL FORMAT Format normally used in system files (permanent, data-base 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 pic-ture (without print characters). The 'INTERNAL USAGE' clause is associated with this format. For data elements that represent a date, it is pos-sible 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).

NUM	LEN	CLASS VALUE	DESCRIPTION OF FIELDS AND FILLING MODE
		T	TIME format (HH:MM:SS).
		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

NUM LEN	CLASS VALUE	DESCRIPTION OF FIELDS AND FILLING MODE
		AND COMPUTATIONAL-5 MICROFOCUS.
	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

NUM	LEN	CLASS VALUE	DESCRIPTION OF FIELDS AND FILLING MODE
			accordance with the "commercial collating sequence" and not in accordance with the standard BULL sequence.
		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 Not used by the DBD function.
9	1		BLANK WHEN ZERO CLAUSE This field is not used when defining a data element used to generate a CODASYL elementary data element or a relational column.
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 facilitate occurrence search by keywords. Refer to the Operations Manual - Part II "Administrator's Guide", Chapter "Database Management Utilities", Subchapter "PARM: Update of User Parameters". A maximum of ten explicit keywords can be assigned to one entity. For more details, refer to Chapter "KEYWORDS" Subchapter "BUILDING THE THESAURUS" in the SPECIFICATIONS DICTIONARY Reference Manual.
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.

3.2. DATA ELEMENT DESCRIPTION (-D)

DATA ELEMENT DESCRIPTION

A CODASYL elementary data is comparable to a PACBASE-PACLAN-PACLAN/X Data Element and is described via the Data Element Description (-D) screen.

GENERAL CHARACTERISTICS

This screen is used to describe a data element. It will assign an explanatory text, values or range of values to a data element. However, its use within the CODASYL DBD function is purely documentary.

PREREQUISITE

The data element must have been previously defined.

ELEMENTARY DATA **3**
DATA ELEMENT DESCRIPTION (-D) **2**

```
!                                                                              !
!                        ORDER MANAGEMENT SYSTEM            *DOC.DIVA.GCC.806 !
!                                                                              !
!  ELEMENT DESCRIPTION         1 DUEDAT   ORDER DUE DATE                       !
! 2   3   4 5     6      7                                                      !
! A LIN : T S VALUE      SIGNIFICANCE - DESCRIPTION                            !
!       :                                                                      !
!       :                                                                      !
!       :                                                                      !
!       :                                                                      !
!       :                                                                      !
!       :                                                                      !
!       :                                                                      !
!       :                                                                      !
!       :                                                                      !
!       :                                                                      !
!       :                                                                      !
!       :                                                                      !
!       :                                                                      !
!       :                                                                      !
!       :                                                                      !
!       :                                                                      !
!       :                                                                      !
!       :                                                                      !
!                                                                              !
! O: C1 CH: E duedat D                                                         !
!                                                                              !
```

NUM	LEN	CLASS VALUE	DESCRIPTION OF FIELDS AND FILLING MODE
1	6		DATA ELEMENT CODE (REQUIRED) This is a mnemonic code which references the data element independently of any data structure, report or screen to which it may belong.
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. 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 '£'.
		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 = '/').

NUM LEN	CLASS VALUE	DESCRIPTION OF FIELDS AND FILLING MODE
		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 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

NUM	LEN	CLASS VALUE	DESCRIPTION OF FIELDS AND FILLING MODE
			. MON : first three days of the month . 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 Segment in which the parent is called. LIST OF TURBOIMAGE CLASSES: ----------
		T	Values of the TurboImage class list.
5	2		LINE SKIP

NUM	LEN	CLASS VALUE	DESCRIPTION OF FIELDS AND FILLING MODE
			PURE NUMERIC FIELD (default option: 01). Enter the number of lines to skip, or an absolute line number.
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 are alphabetic.
		*L	Alphabetic Data Element: checks that all characters are lowercase alphabetic..
		*U	Alphabetic Data Element: checks that all characters are uppercase alphabetic.

NUM LEN	CLASS VALUE	DESCRIPTION OF FIELDS AND FILLING MODE
		The system displays a decoded representation, 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 Gregorian 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 operation and action codes as entered in the SKIP OR ACTION TYPE field.
	T	Time.
	TS	Timestamp.

NUM	LEN	CLASS VALUE	DESCRIPTION OF FIELDS AND FILLING MODE
			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 '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-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".

4. CODASYL RECORDS

4.1. RECORD DEFINITION (S)

RECORD DEFINITION

A CODASYL record is comparable to a PACBASE-PACLAN-PACLAN/X Segment and is defined on the Segment Definition screen.

GENERAL CHARACTERISTICS

A record is defined by a code, a clear name and, if appropriate, the number of occurrences.

CODASYL RECORDS 4
RECORD DEFINITION (S) 1

```
!                                                                              !
!                        ORDER MANAGEMENT SYSTEM            *DOC.DIVA.GCC.806 !
!                             1 2                                              !
! SEGMENT DEFINITION          EX2C                                             !
!                                                                              !
! NAME.....................: 3 ORDER HEADER                                    !
!                                                                              !
! OCCUR. OF SEGMENT IN TABLE: 4                                                !
! EST. NUMBER OF INSTANCES..: 5                                                !
!                                                                              !
!                                                                              !
!                                                                              !
! VALUE OF RECORD TYPE ELEM.: 6                                                !
! CODE OF ACTION CODE ELEM..: 7                                                !
! PRESENCE.................:   CR:       MO:       DE:                         !
!                              M4:       M5:       M6:                         !
!                                                                              !
!                                                                              !
! EXPLICIT KEYWORDS..: CODASYL   8                                             !
!                                                                              !
!                                                                              !
! SESSION NUMBER.....: 0316        LIBRARY......: GCC    LOCK....:             !
!                                                                              !
!                                                                              !
! O: C1 CH: S ex2c                      ACTION:                                !
!                                                                              !
```

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: This is the amount of space reserved for a Segment in memory (USAGE OF DATA STRUCTURE 'T' or 'X', or RECORD

NUM	LEN	CLASS VALUE	DESCRIPTION OF FIELDS AND FILLING MODE
			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. CLIENT/SERVER FACILITY: 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 TYPE ELEMENT For a Relational Table or View, this field is used to specify the external name between quotes. This field is not used to define a CODASYL record.
7	36		CODE OF ACTION CODE ELEMENT This field is not used to define a CODASYL record or a

NUM	LEN	CLASS VALUE	DESCRIPTION OF FIELDS AND FILLING MODE Relational Table or View.
8	55		EXPLICIT KEYWORDS This field allows the user to enter additional (explicit) keywords. By default, keywords are generated from an occurrence's clear name (implicit keywords). This field only exists on-line. In batch mode, keywords are entered on Batch Form 'G'. Keywords must be separated by at least one space. Keywords have a maximum length of 13 characters which must be alphanumeric. However, '=' and '*' are reserved for special usage, and are therefore not permitted in keywords. Keywords are not case-sensitive: upper-case and lower-case letters are equivalent. NOTE: Characters bearing an accent and special characters can be declared as equivalent to an internal value in order to facilitate occurrence search by keywords. Refer to the Operations Manual - Part II "Administrator's Guide", Chapter "Database Management Utilities", Subchapter "PARM: Update of User Parameters". A maximum of ten explicit keywords can be assigned to one entity. For more details, refer to Chapter "KEYWORDS" Subchapter "BUILDING THE THESAURUS" in the SPECIFICATIONS DICTIONARY Reference Manual.

4.2. RECORD DESCRIPTION (-CE)

RECORD DESCRIPTION

A CODASYL record is comparable to a PACBASE-PACLAN-PACLAN/X Segment and is described via the Segment Call of Elements (-CE) screen.

GENERAL CHARACTERISTICS

This description is made by calling all elementary data, i.e. all data elements, into the record and, if applicable, indicating to which sub-schemas they belong.

DESCRIPTION PREREQUISITES

The record, as well as the called data elements, must have been previously defined.

CODASYL RECORDS **4**
RECORD DESCRIPTION (-CE) **2**

```
--------------------------------------------------------------------------------
!                                                                              !
!                        ORDER MANAGEMENT SYSTEM            *DOC.DIVA.GCC.806 !
!                          1 2                                                 !
! SEGMENT CALL OF ELEMENTS EX2C ORDER HEADING                                  !
! 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!
!   100 : ORDHDR                                                       0367!
!   120 : ENTDAT                  3                                    0367!
!   122 : MOENTR                                                       0367!
!   124 : DYENTR                                                       0367!
!   126 : YRENTR                                                       0367!
!   140 : DUEDAT                  3                                    0367!
!   160 : MONDUE                                                       0367!
!   180 : DAYDUE                                                       0367!
!   200 : YRDUE                                                        0367!
!       :                                                                  !
!       :                                                                  !
!       :                                                                  !
!       :                                                                  !
!       :                                                                  !
!       :                                                                  !
!       :                                                                  !
!       :                                                                  !
!       : 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
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 character-

NUM	LEN	CLASS VALUE	DESCRIPTION OF FIELDS AND FILLING MODE
			istics defined at the Specifications Dictionary level. 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 characteristics of data elements not defined in the Specifications Dictionary must be defined at the segment level. The data element code 'SUITE' is prohibited, since it is used by PACBASE during program generation. The following data element codes have specific uses and therefore may not be used to define a CODASYL database: FILLER, ENPR, GRPR and ERUT. For more information concerning these reserved codes, please refer to the "DATA ELEMENTS" Chapter in the SPECIFICATIONS DICTIONARY Reference Manual.
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), 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

NUM	LEN	CLASS VALUE	DESCRIPTION OF FIELDS AND FILLING MODE
			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		NUMBER OF OCCURRENCES PURE NUMERIC FIELD The use of this field is only appropriate when working with IDMS schemas or sub-schemas. This field represents the 'OCCURS' clause at an elementary data element level, or at a group level (maximum of 3 levels). This can be changed into an OCCURS DEPENDING ON clause by entering '**' in the 'UPD/TRGET' field, followed by the record code and data element code of the counter.
10	2		NUMBER OF DATA ELEMENTS IN A GROUP

NUM	LEN	CLASS VALUE	DESCRIPTION OF FIELDS AND FILLING MODE
			PSEUDO-NUMERIC FIELD A group is defined by the number of elementary data elements it contains. Groups may have up to 9 levels but imbedded groups are not allowed. CODASYL DBD FUNCTION: At generation time, the data elements are taken into account according to their level, and depending on the type of the generated database block (i.e. the environment): SCHEMA DM4 (M1): Only the elementary data elements are taken into account. SCHEMA DM4 (M4): Only group data elements at the first level are taken into account. SUB-SCHEMA DM4 (M3): All data elements are taken into account. SCHEMA IDS2 (I1): All data elements are taken into account. SUB-SCHEMA IDS2 (I3): All data elements are taken into account. SCHEMA IDMS (D1): All data elements are taken into account. SUB-SCHEMA IDMS (D3): If the description is different than that of the schema, only the first level data elements are taken into account. SUB-SCHEMA IDMS (D4): Only the first level data elements are taken into account. SCHEMA DMS (S1):

NUM	LEN	CLASS VALUE	DESCRIPTION OF FIELDS AND FILLING MODE
			All data elements are taken into account. SUB-SCHEMA DMS (S3): If the description is different than that of the schema, only the first level data elements are taken into account.
11	1		KEY INDICATOR FOR ACCESS OR SORT For Relational Tables or Views:
		blank	Fixed length Column (default value).
		V	Variable length Column,
		W	For DB2 SQL, SQL/DS, ORACLE, DB2/2 and DB2/6000, generation of a variable length column (VARCHAR).
		L	For DB2 SQL, SQL/DS, ORACLE, DB2/2 and DB2/6000, generation of a LONG VARCHAR.
		C	For ORACLE V7, generation of a CHAR.
12	30		TYPE AND VALUE FIELDS These fields are used to indicate to which sub-schema(s) the data element belongs. - 'CONT' FIELD: ONLY USED FOR IDMS (D4), AND DMS (S3) SUB-SCHEMAS.
		S	By placing the value 'S' in column 'T' of this field, the user indicates that a data element belongs to one or more sub-schemas. EXAMPLE: CONT DATEL1 S - 'VALUE/SFC' FIELD: The sub-schemas to which the data element belongs are indicated in this field. To indicate that a data element belongs to sub-schema n, enter the letter 'O' in the nth column of the 'VALUE/SFC' field. EXAMPLE: CONT VALUE/SFC DATEL1 S O OOO In this example, the elementary data element 'DATEL1' belongs to sub-schemas 1, 3, 4 and 5.
13	1		DOCUMENTATION INDICATOR

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

5. CODASYL BLOCKS

5.1. (SUB-)SCHEMA DEFINITION (B)

(SUB-)SCHEMA DEFINITION

A CODASYL schema or sub-schema is comparable to a PACBASE-PACLAN-PACLAN/X Database Block and is defined on the Database Block Definition screen.

GENERAL CHARACTERISTICS

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

TYPE OF DATABASE BLOCK

The user must define the Database Block with a Type that corresponds to both the nature of the schema that he/she wants to generate, and to the operating environment in which he/she is working.

CODASYL-DM4 (CII-HB H66 or DPS8):

"M1": Logical schema (DDL), generation of elementary fields,

"M4": Logical schema (DDL), generation of group fields only, the format type is always 'UNSPECIFIED',

"M2": Physical schema (DMCL),

"M3": Sub-schema.

CODASYL-IDS2 (CII-HB H64 or DPS7):

"I1": Logical schema (DDL),

"I2": Physical schema (DMCL),

"I3": Logical sub-schema (SDDL).

CODASYL-IDMS:

"D0": Logical schema (DDL) (Release 10.0),

"D1": Logical schema (DDL),

"D2": Physical schema (DMCL),

"D3": Sub-schema,

"D4": Sub-schema (Release 5.7).

CODASYL-DMS (UNISYS 1100):

"S1": Logical schema (DDL),

"S3": Sub-schema.

GENERAL DOCUMENTATION

As with all PACBASE-PACLAN-PACLAN/X entities, the user may assign General Documentation (-G) lines to the database blocks.

Additionally, for certain types of database blocks, the virtual documentation lines can be automatically generated by PACBASE-PACLAN-PACLAN/X.

CODASYL BLOCKS **5**
(SUB-)SCHEMA DEFINITION (B) **1**

```
--------------------------------------------------------------------------------
!                                                                              !
!                        ORDER MANAGEMENT SYSTEM            *DOC.DIVA.GCC.806 !
!                                                                              !
! BLOCK DEFINITION.............: 1  EXSSM3                                     !
!                                                                              !
! NAME.................: 2 SUB-SCHEMA 2 DM4 EXAMPLE                           !
! TYPE.................: 3 M3 SUB-SCHEMA                                      !
! VERSION..............: 4                                                    !
!                                                                              !
! EXTERNAL NAME.........: 5 S/SCHEMA                                          !
! EXT. NAME OF SCHEMA...: 6 MANAGER                                           !
!                                                                              !
!                                                                              !
! CONTROL CARDS....... FRONT:  7      BACK:  8                                 !
!                                                                              !
!                                                                              !
! EXPLICIT KEYWORDS..:    9                                                   !
!                                                                              !
!                                                                              !
! SESSION NUMBER.....: 0331        LIBRARY......: GCC    LOCK....:             !
!                                                                              !
!                                                                              !
!                                                                              !
! O: C1 CH: B exssm3                   ACTION:                                 !
!                                                                              !
--------------------------------------------------------------------------------
```

NUM	LEN	CLASS VALUE	DESCRIPTION OF FIELDS AND FILLING MODE
1	6		BLOCK CODE (REQUIRED) One to six alphanumeric characters.
2	36		NAME OF THE BLOCK (REQ. IN CREATION) This clear name should be as explicit as possible. Words used here become implicit keywords (subject to limitations specified in Subchapter "HOW TO BUILD THE THESAURUS", Chapter "KEYWORDS" in the SPECIFICATIONS DICTIONARY Reference Manual).
3	2		TYPE OF BLOCK (REQ. IN CREATION) For hierarchical or network databases, it is not necessary, when creating a database block, to enter the definitive block type. The selection of a network or hierarchical structure is sufficient at this point. A specific "physical" type must be entered when generating the Data Description Language (DDL).
		TR	Tree-like structure (hierarchical block).
		SE	Group of sets (network block).
			HIERARCHICAL DATABASES - IMS/DL1 ----------
		DP	Physical Database Description.
		DR	Physical Database Description (same as 'DP', but only the data elements referenced as access keys in the segment description are generated in the 'FIELD.....' statements).
		DL	Logical Database Description.
		PC	PCB.
		IP	Primary Index.
		IS	Secondary Index.
		PS	PSB (Assigned at creation. Cannot be modified at a later stage).
			RELATIONAL DATABASES ----------
		Q2	DB2 SQL
		Q3	SQL SERVER
		Q4	DB2/400
		QA	ALLBASE/SQL
		QB	DB2/2 and DB2/6000
		QC	DATACOM/DB
		QG	INGRES/SQL
		QI	INFORMIX-ESQL
		QN	NONSTOP SQL

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

			.CODASYL-DM4 (BULL 66 or DPS8):

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

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

		D0	DDL schema (Release 10.0),
		D1	DDL schema,
		D2	DMCL schema,
		D3	Sub-schema,
		D4	Sub-schema (Release 5.7).
			.CODASYL-DMS (UNISYS 1100):

		S1	DDL Schema,
		S3	Sub-schema.
			DDL TANDEM

		TD	TANDEM
			AS/400 PHYSICAL FILE

NUM	LEN	CLASS VALUE	DESCRIPTION OF FIELDS AND FILLING MODE
		PF	AS/400 Physical file (IBM SYS. 38)
		LF	AS/400 Logical file (IBM SYS. 38).
			DDL TURBOIMAGE ----------
		TI	TurboImage Database.
			DMSII DATABASE ----------
		20	DMSII Database (DASDL)
4	4		VERSION This field is not used.
5	8		DATABASE BLOCK EXTERNAL NAME Necessary at generation time. This is the physical name of the System-generated DDL (Data Description Language) module. To obtain a list of blocks sorted by this external name, enter 'LEB' in the CHOICE field. For TurboImage, only the first six characters are processed.
6	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. 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.

NUM	LEN	CLASS VALUE	DESCRIPTION OF FIELDS AND FILLING MODE
			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 facilitate occurrence search by keywords. Refer to the Operations Manual - Part II "Administrator's Guide", Chapter "Database Management Utilities", Subchapter "PARM: Update of User Parameters". A maximum of ten explicit keywords can be assigned to one entity. For more details, refer to Chapter "KEYWORDS" Subchapter "BUILDING THE THESAURUS" in the SPECIFICATIONS DICTIONARY Reference Manual.

5.2. (SUB-)SCHEMA DESCRIPTION (-DC)

(SUB-)SCHEMA DESCRIPTION

A schema or sub-schema is comparable to a database block and is described on the Database Block Description (-DC) screen.

GENERAL CHARACTERISTICS

The description of a schema or sub-schema involves describing the different database blocks.

On the '-DC' screen, the user declares the areas, calls the records and distributes them within the areas, calls the sets and describes them (code, clear name, parent and child segments).

When generating the CODASYL source, the description of the schema must be complete.

PREREQUISITES

The database blocks, as well as all called entities, must have been previously defined.

NOTE

By default, a record is mono-area. If it is multi-area, it is sufficient to replace its description by a 'G'-type General Documentation line.

GENERAL DOCUMENTATION

As with all the PACBASE-PACLAN-PACLAN/X entities, the user may assign General Documentation (-G) lines to the description of the schema or sub-schema.

In addition, Virtual General Documentation lines are automatically generated.

If a General Documentation (-G) line has been associated with a description line (-DCnnnG), on the '-DC' screen an '*' will appear in front of the NUMBER OF OCCURRENCES OF SETS field ('OCC') of the given description line.

```
!                                                                              !
!                        ORDER MANAGEMENT SYSTEM            *DOC.DIVA.GCC.806 !
!                              1                                               !
! BLOCK DE. CODASYL SUBSCHEMA EXSSM3 SUB-SCHEMA 2 DM4 EXAMPLE                  !
! 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 : A AREA1                                                              !
!   120 : A AREA2                                                              !
!   130 : A AREA3                                                              !
!   140 : A AREA4                                                              !
!   150 : A AREA5                                                              !
!   320 : R AREA1  CL10             *                                          !
!   340 : R AREA1  CD05                                                        !
!   360 : R AREA1  CD10                                                        !
!   380 : R AREA1  CD20                                                        !
!   400 : R AREA2  FO10                                                        !
!   420 : R AREA3  ME00                                                        !
!   440 : R AREA4  HE00                                                        !
!   460 : R AREA5  EL00                                                        !
!   620 : S SET01  CD05 CD10                                                   !
!   640 : S SET02  CD05 CD20                                                   !
!   650 : * SET02  CD05 CD10                                                   !
!       :                                                                      !
!                                                                              !
! 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 ------

NUM	LEN	CLASS VALUE	DESCRIPTION OF FIELDS AND FILLING MODE
			Used only with TYPE = 'S'. 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.

NUM LEN	CLASS VALUE	DESCRIPTION OF FIELDS AND FILLING MODE
		SUB-SCHEMA IDMS (D4) OR DMS (S3): 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.

6. GENERAL DOCUMENTATION & PARAMETERIZED INPUT AIDS

6.1. GENERAL DOCUMENTATION (-G)

GENERAL DOCUMENTATION

In on-line mode, the user may dynamically access the lines automatically generated by the system. These are the 'Virtual' General Documentation lines.

They are identified by an '*' in the ACTION CODE and '*VIRT' in the LIB field.

Using the General Documentation lines and PIA's, the user can specify the physical characteristics of the areas and sets (DMCL), including the information related to sort keys and insertion modes.

It is possible to create new lines, or modify or delete the lines generated automatically by the function.

Virtual lines are identified by a LINE NUMBER:

. To create new lines: insert a new line with LINE NUMBER at the desired placement,

. To modify or delete lines: repeat the appropriate LINE NUMBER and enter either a modification or an empty line.

INSERTIONS:

The user must choose line numbers that fall between the numbers assigned for the beginning and ending insertion points.

. Modification of a data element description:

- The code of the data element to be modified will be indicated on the first line, left-justified on 6 positions and delimited by the '<' and '>' characters,

- The new description of the data element, up to the next data element, will start on the second line.

```
EXAMPLE:

720 G <DEL1>
730 G     02          FF20_DEL1    TYPE IS CHAR 12.
740 G  ...........
750 G  ...........
755 G <DEL2>
760 G     02          FF20_DEL2    TYPE IS UNSIGNED
770 G  UNPACKED DECIMAL 8.
780 G  ...........
790 G  ...........
```

The General Documentation lines to be taken into account by the system during generation must be indicated with TYPE OF LINE = 'G'.

IMPORTANT NOTE

The user should use the first column of the COMMENT field only if it is the beginning of a sentence.

The system identifies the end of a sentence when it comes to the beginning of the next one, i.e., when it locates a character in the first column of the COMMENT field.

It is recommended that comment lines be inserted after the automatically generated declaration line of the area, record, or set with which they are associated.

Comment lines must begin in the second position of the COMMENT field.

GENERAL DOCUMENTATION & PARAMETERIZED INPUT AIDS 6
GENERAL DOCUMENTATION (-G) 1

```
!                                                                              !
!                       ORDER MANAGEMENT SYSTEM            *DOC.DIVA.GCC.806 !
! BLOCK     GENERAL DOC.          EXSSM3 SUB-SCHEMA 2 DM4 EXAMPLE               !
!                                                                              !
! A LIN : T COMMENT                                                    LIB     !
! * 080 : G TITLE DIVISION                                             *VIRT   !
! * 100 : G SS (EXTERNAL NAME)  WITHIN (EXTERNAL SCHEMA NAME)          *VIRT   !
! * 200 : G MAPPING DIVISION                                           *VIRT   !
! * 300 : G STRUCTURE DIVISION                                         *VIRT   !
! * 500 : G REALM SECTION                                              *VIRT   !
! * 550 :                  ---> AREA INSERTION SPOT   <---             *VIRT   !
! * 600 : G SET SECTION                                                *VIRT   !
! * 650 :                  ---> SET INSERTION SPOT    <---             *VIRT   !
!   660 : G KEY SECTION.                                               0358    !
!   670 : G KD  XME00.                                                 0358    !
!   680 : G KD  XHE00.                                                 0358    !
!   690 : G KD  XLE00.                                                 0358    !
! * 700 : G RECORD SECTION                                             *VIRT   !
! * 750 :                  ---> RECORD INSERTION SPOT <---             *VIRT   !
! * 900 : G END                                                        *VIRT   !
!       :                                                                      !
!       :                                                                      !
!       :                                                                      !
!                                                                              !
! O: C1 CH: -G                                                                 !
!                                                                              !
```

```
!                                                                              !
!                        ORDER MANAGEMENT SYSTEM            *DOC.DIVA.GCC.806 !
! BLOCK     GENERAL DOC.          EXCODE CODASYL (DM4) SCHEMA EXAMPLE           !
!                                                                              !
! A LIN : T COMMENT                                                    LIB     !
! * 100 : G SCHEMA NAME IS      (EXTERNAL SCHEMA NAME)                 *VIRT   !
! * 550 :                   ---> AREA INSERTION SPOT   <---            *VIRT   !
! * 650 :                   ---> RECORD INSERTION SPOT <---            *VIRT   !
! * 750 :                   ---> SET INSERTION SPOT    <---            *VIRT   !
!   800 : G KEY NAME IS         XME00_________________                 DMCLKE  !
!       : G  KEY_ID IS          0                                      DMCLKE  !
!   810 : G KEY NAME IS         XHE00_________________                 DMCLKE  !
!       : G  KEY_ID IS          0                                      DMCLKE  !
!   820 : G KEY NAME IS         XLE00_________________                 DMCLKE  !
!       : G  KEY_ID IS          0                                      DMCLKE  !
! * 900 : G END_DMCL                                                   *VIRT   !
!       :                                                                      !
!       :                                                                      !
!       :                                                                      !
!       :                                                                      !
!       :                                                                      !
!       :                                                                      !
!       :                                                                      !
!                                                                              !
! O: C1 CH: -G                                                                 !
!                                                                              !
```

```
--------------------------------------------------------------------------------
!                                                                              !
!                       ORDER MANAGEMENT SYSTEM            *DOC.DIVA.GCC.806 !
! BLOCK DESC GENERAL DOC.         EXCODE CODASYL (DM4) SCHEMA EXAMPLE      100 !
!                                                                              !
! A LIN : T COMMENT                                                  LIB   !
!   050 : G  COMMENT"************************"                       0349  !
!   060 : G  COMMENT"      CLIENT ORDER       "                       0349  !
!   070 : G  COMMENT"************************"                       0349  !
! * 100 : G AREA NAME IS        (AREA CODE)                          *VIRT !
!   200 : G  FILE_CODE IS       "F1"                                 DMCLCA!
!       : G  ALLOCATE           500___                               DMCLCA!
!       : G  PAGE_INTERVAL IS   32______                             DMCLCA!
!       : G  CALC_INTERVAL IS   32______                             DMCLCA!
!       : G  PAGE_SIZE          4096____                             DMCLCA!
!       : G  ORGANIZATION IS    INTEGRATED_____                      DMCLCA!
!       :                                                                    !
!       :                                                                    !
!       :                                                                    !
!       :                                                                    !
!       :                                                                    !
!       :                                                                    !
!       :                                                                    !
!       :                                                                    !
!                                                                            !
! O: C1 CH: -DC100G                                                          !
!                                                                            !
--------------------------------------------------------------------------------
```

```
--------------------------------------------------------------------------------
!                                                                              !
!                       ORDER MANAGEMENT SYSTEM            *DOC.DIVA.GCC.806 !
! BLOCK DESC GENERAL DOC.         EXCODC CODASYL (IDS2) SCHEMA EXAMPLE     320 !
!                                                                              !
! A LIN : T COMMENT                                                  LIB   !
!   050 : G  COMMENT"*****************************"                  0317  !
!   060 : G  COMMENT"         CLIENTS              "                  0317  !
!   070 : G  COMMENT"*****************************"                  0317  !
! * 100 : G RECORD NAME IS      (SEGMENT CODE)                       *VIRT !
!   120 : G  LOCATION MODE IS                                        DDLRCA!
!       : G  CALC USING         CL10_NUCLIE_____________________________ DDLRCA!
!       : G                     ________________________________________ DDLRCA!
!       : G  DUPLICATES         NOT ALLOWED                       $N  DDLRCA!
! * 300 : G     WITHIN          (AREA CODE)                          *VIRT !
! * 700 :                  ---> DATA-NAME INSERTION STARTING POINT <--- *VIRT !
!   710 : G <REMIS >                                                 0317  !
!   720 : G     02              CL10-REMIS                           0317  !
!   730 : G                       TYPE IS DECIMAL 6,2 SIGNED.        0317  !
! * 800 :                  ---> DATA-NAME INSERTION ENDING POINT   <--- *VIRT !
!       :                                                                  !
!       :                                                                  !
!       :                                                                  !
!       :                                                                  !
!                                                                          !
! O: C1 CH: -DC320G                                                        !
!                                                                          !
--------------------------------------------------------------------------------
```

```
!                                                                              !
!                       ORDER MANAGEMENT SYSTEM            *DOC.DIVA.GCC.806 !
! BLOCK DESC GENERAL DOC.         EXCODA CODASYL (IDMS) SCHEMA EXAMPLE     620 !
!                                                                              !
! A LIN : T COMMENT                                                      LIB   !
!   010 : G                                                              0317  !
!   020 : G         ****************************************             0317  !
!   040 : G         *          SET DESCRIPTIONS              *           0317  !
!   050 : G         ****************************************             0317  !
!   070 : G                                                              0317  !
! * 100 : G         SET NAME IS (SET CODE)                               *VIRT!
!   110 : G            ***  BAD DEBT CUSTOMERS SET  ***                  0317  !
!   120 : G ORDER NEXT.                                                  0317  !
!   140 : G MODE CHAIN LINKED PRIOR.                                     0317  !
! * 400 : G            OWNER IS (OWNER SEGMENT)                          *VIRT!
!   420 : G               NEXT DBDKEY POSITION IS 240                    0349  !
!   440 : G                PRIOR DBDKEY POSITION IS 320                  0349  !
! * 700 : G           MEMBER IS (MEMBER SEGMENT)                         *VIRT!
!   720 : G             MANDATORY AUTOMATIC                              0349  !
!   740 : G           NEXT DBDKEY POSITION IS 410                        0349  !
!   760 : G            PRIOR DBDKEY POSITION IS 630                      0349  !
!   780 : G            LINKED TO OWNER OWNER DBDKEY POSITION IS 240      0349  !
!   800 : G               ASCENDING KEY IS ID                            0349  !
!                                                                              !
! O: C1 CH: -DC620G                                                            !
!                                                                              !
```

6.2. PARAMETERIZED INPUT AIDS

PARAMETERIZED INPUT AIDS

The Parameterized Input Aid (PIA) entity may be used to facilitate entry of General documentation (-G) lines.

The systematic use of PIA's at a site ensures the uniformity of the descriptions, the standardization of documentation and follow-up via the cross-references.

For additional information about PIA's, please refer to the "PARAMETERIZED INPUT AID" Chapter in the PACBASE SPECIFICATIONS DICTIONARY Reference Manual.

Examples of PIA's follow. They concern an IDS2 database and illustrate the use of a PIA to describe areas, records and sets.

NOTE: The following screens have been reformatted for layout purposes, and therefore do not necessarily exactly correspond to the on-line screens.

```
!                                                                              !
!                         ORDER MANAGEMENT                 *DOC.DIVA.GCC.806  !
! INPUT AID DESCRIPTION......:     AREA       AREA DECLARATION                 !
!                                                                              !
! A LIN : T LABEL                INITIAL VALUE             LEN G REFER. LIBR. !
! . 100 :                                                  000 G        *CEN  !
! . 120 : C  COMMENT "    ******* **************               G        *CEN  !
! . 140 : C               * AREA  DESCRIPTIONS *               G        *CEN  !
! . 160 : C               ******* **************   "           G        *CEN  !
! . 180 : C                                                    G        *CEN  !
! . 200 :   AREA NAME IS                                   030 G        *CEN  !
! . 220 :                                                  030 G        *CEN  !
! . 240 :    NUMBER-OF-PAGES IS                            030 G        *CEN  !
! . 260 :                                                  030 G        *CEN  !
! . 280 :    LINES-PER-PAGE IS                             030 G        *CEN  !
! . 300 :    PAGE-SIZE IS                                  030 G        *CEN  !
! . 320 :    CALC-INTERVAL IS                              030 G        *CEN  !
! . 340 :                                                  030 G        *CEN  !
!       :                                                                      !
!       :                                                                      !
!       :                                                                      !
!       :                                                                      !
!       :                                                                      !
! *** END ***                                                                  !
! O: C1 CH: I area D                                                           !
!                                                                              !
```

```
--------------------------------------------------------------------------------
!                                                                              !
!                         ORDER MANAGEMENT                 *DOC.DIVA.GCC.806  !
! INPUT AID DESCRIPTION......:     MEM      MEMBER DECLARATION                  !
!                                                                              !
! A LIN : T LABEL                INITIAL VALUE             LEN G REFER. LIBR. !
! . 100 :                                                  000 G        *CEN  !
! . 120 : C  COMMENT "   ******* ***************  "           G        *CEN  !
! . 140 : C   COMMENT "  * MEMBE R DESCRIPTIONS *  "           G        *CEN  !
! . 160 : C   COMMENT "  ******* ***************  "           G        *CEN  !
! . 180 : C                                                    G        *CEN  !
! . 200 :     MEMBER IS                                    030 G        *CEN  !
! . 220 :     INSERTION IS                                 030 G        *CEN  !
! . 240 :     RETENTION IS                                 030 G        *CEN  !
! . 260 :     SET SELECTION                                030 G        *CEN  !
! . 280 :     THRU                                         030 G        *CEN  !
! . 300 :     OWNER IDENTIFIED                             030 G        *CEN  !
! . 500 : T $A                   AUTOMATIC                              *CEN  !
! . 510 : T $M                   MANUAL                                 *CEN  !
! . 520 : T $MY                  MANDATORY                              *CEN  !
! . 530 : T $O                   OPTIONAL                               *CEN  !
! . 540 : T $DB                  DATA-BASE-KEY                          *CEN  !
! . 550 : T $AP                  APPLICATION                            *CEN  !
! . 560 : T $CK                  CALC-KEY                               *CEN  !
! *** END ***                                                                  !
! O: C1 CH: I mem D                                                            !
!                                                                              !
--------------------------------------------------------------------------------
```

```
!                                                                              !
!                         ORDER MANAGEMENT                 *DOC.DIVA.GCC.806  !
! INPUT AID DESCRIPTION......:     MEMD     MEMBER DECLARATION (DUPL.)         !
!                                                                              !
! A LIN : T LABEL                INITIAL VALUE             LEN G REFER. LIBR. !
! . 100 :                                                  000 G        *CEN  !
! . 120 : C COMMENT "    ******* ***************              G        *CEN  !
! . 140 : C              * MEMBE R DESCRIPTIONS *             G        *CEN  !
! . 160 : C              ******* ***************  "           G        *CEN  !
! . 180 : C                                                   G        *CEN  !
! . 200 :   DUPLICATES ARE                                 030 G        *CEN  !
! . 220 :   FOR                                            030 G        *CEN  !
! . 240 :   KEY IS                                         030 G        *CEN  !
! . 260 :                                                  030 G        *CEN  !
! . 280 :   DUPLICATES ARE                                 030 G        *CEN  !
! . 490 : T $DY                  ALLOWED                                 *CEN  !
! . 500 : T $DN                  NOT ALLOWED                             *CEN  !
! . 510 : T $AS                  ASCENDING                               *CEN  !
! . 520 : T $DE                  DESCENDING                              *CEN  !
! . 530 : T $RT                  RECORD-TYPE                             *CEN  !
! . 540 : T $DB                  DATA-BASE-KEY                           *CEN  !
! . 550 : T $F                   FIRST                                   *CEN  !
! . 560 : T $L                   LAST                                    *CEN  !
! . 570 : T $AP                  APPLICATION                             *CEN  !
! . 580 : T $CK                  CALC-KEY                                *CEN  !
! *** END ***                                                                  !
! O: C1 CH: I memd D                                                           !
!                                                                              !
```

```
!                                                                              !
!                         ORDER MANAGEMENT                 *DOC.DIVA.GCC.806  !
! INPUT AID DESCRIPTION......:     REC      RECORD DECLARATION                  !
!                                                                              !
! A LIN : T LABEL               INITIAL VALUE             LEN G REFER. LIBR. !
! . 100 :                                                 000 G        *CEN  !
! . 120 : C  COMMENT " ********* ************** "            G        *CEN  !
! . 140 : C  COMMENT " * RECORD  DESCRIPTIONS * "            G        *CEN  !
! . 160 : C  COMMENT " ********* ************** "            G        *CEN  !
! . 180 : C                                                  G        *CEN  !
! . 200 :   RECORD NAME IS                                030 G        *CEN  !
! . 220 :    LOCATION MODE IS                             030 G        *CEN  !
! . 240 :                                                 030 G        *CEN  !
! . 260 :                                                 030 G        *CEN  !
! . 280 :                                                 030 G        *CEN  !
! . 300 :                                                 000 G        *CEN  !
! . 500 : T $D                  DIRECT                                 *CEN  !
! . 510 : T $CU                 CALC USING                             *CEN  !
! . 520 : T $V                  VIA                                    *CEN  !
! . 530 : T $WA                 ANY AREA AREA-ID IS                    *CEN  !
! . 540 : T $WO                 AREA OF OWNER                          *CEN  !
! . 550 : T $DU                 DUPLICATES NOT ALLOWED                 *CEN  !
!       :                                                                      !
! *** END ***                                                                  !
! O: C1 CH: I rec D                                                            !
!                                                                              !
```

```
--------------------------------------------------------------------------------
!                                                                              !
!                         ORDER MANAGEMENT                 *DOC.DIVA.GCC.806  !
! INPUT AID DESCRIPTION......:     RECD     RECORD DECLARATION (DMCL)          !
!                                                                              !
! A LIN : T LABEL                INITIAL VALUE             LEN G REFER. LIBR. !
! . 100 :                                                  000 G        *CEN  !
! . 120 : C  COMMENT " ********* ********************          G        *CEN  !
! . 140 : C            * RECORD  DESCRIPTIONS (DMCL) *         G        *CEN  !
! . 160 : C            ********* ******************** "       G        *CEN  !
! . 180 : C                                                    G        *CEN  !
! . 200 :   RECORD NAME IS                                 030 G        *CEN  !
! . 220 :                                                  030 G        *CEN  !
! . 240 :                                                  030 G        *CEN  !
! . 260 :                                                  030 G        *CEN  !
! . 280 :                                                  030 G        *CEN  !
! . 300 :                                                  030 G        *CEN  !
! . 320 :                                                  030 G        *CEN  !
! . 500 : T $P                   PAGE                                  *CEN  !
! . 510 : T $TH                  THRU                                  *CEN  !
! . 520 : T $PF                  PAGES FROM PAGE                       *CEN  !
! . 530 : T $O                   OPTIMIZE                              *CEN  !
! . 540 : T $H                   HIGH                                  *CEN  !
! . 550 : T $L                   LOW                                   *CEN  !
!       :                                                                      !
! *** END ***                                                                  !
! O: C1 CH: I recd D                                                           !
!                                                                              !
--------------------------------------------------------------------------------
```

```
!                                                                              !
!                         ORDER MANAGEMENT                 *DOC.DIVA.GCC.806  !
! INPUT AID DESCRIPTION......:     SET      SET DECLARATION                    !
!                                                                              !
! A LIN : T LABEL                INITIAL VALUE             LEN G REFER. LIBR. !
! . 100 :                                                  000 G        *CEN  !
! . 120 : C COMMENT "    ******* ***************  "            G        *CEN  !
! . 140 : C  COMMENT "   *  SET  DESCRIPTIONS  *  "            G        *CEN  !
! . 160 : C  COMMENT "   ******* ***************  "            G        *CEN  !
! . 180 : C                                                    G        *CEN  !
! . 200 :    SET NAME IS                                   030 G        *CEN  !
! . 220 :    OWNER IS                                      030 G        *CEN  !
! . 240 : C  ORDER IS PERMANENT                                G        *CEN  !
! . 260 :    INSERTION IS                                  030 G        *CEN  !
! . 280 :                                                  030 G        *CEN  !
! . 290 :                                                  030 G        *CEN  !
! . 300 :                                                  000          *CEN  !
! . 500 : T $F                   FIRST                                 *CEN  !
! . 510 : T $L                   LAST                                  *CEN  !
! . 520 : T $N                   NEXT                                  *CEN  !
! . 530 : T $P                   PRIOR                                 *CEN  !
! . 540 : T $SW                  SORTED WITHIN RECORD-TYPE             *CEN  !
! . 550 : T $SD                  SORTED DEFINED                        *CEN  !
! . 560 : T $SB                  SORTED BY RECORD-TYPE                 *CEN  !
! . 570 : T $SF                  DUPLICATES FIRST                      *CEN  !
! . 580 : T $SL                  DUPLICATES LAST                       *CEN  !
! . 590 : T $SN                  DUPLICATES NOT ALLOWED                *CEN  !
!       :                                                                      !
! *** END ***                                                                  !
! O: C1 CH: I set D                                                            !
!                                                                              !
```

7. ACCESS COMMANDS

7.1. ON-LINE ACCESS COMMANDS

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 'aaaaaaaaaaaaaaaaaa') 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.

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 relationship '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-refernces of segement '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 PACTABLE 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.

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

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

All notations between parentheses are optional.

7.2. BATCH ACCESS COMMANDS

DATABASE BLOCKS: BATCH ACCESS

DEFINITION

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

ACTION CODES

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

M     = Modification of a line.

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

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

D     = Deletion of a line.

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

DATABASE BLOCK DESCRIPTION

BATCH FORM

Batch Form 'L3' is used for the description of a CODASYL, DB2, or TANDEM 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
          ampersand (&).

.D      = Deletion of a line.

.B      = Deletion of the data base block lines starting
          from an including the indicated line number as
          well as the associated V3 lines.

.R      = End of multiple deletion following this line.
          If no R-type line appears after a B-type
          line, the deletion ends with the last line
          number of the Block.
```

DATA ELEMENT DEFINITION

Batch Form 'C' is used for the definition of a Data Element.

DATA ELEMENT DESCRIPTION

Batch Form 'E' is used for the description of a Data Element.

SEGMENT DEFINITION

Batch Form '2' is used for the definition of a Segment.

SEGMENT DESCRIPTION

Batch Form '3' is used for the description of a Segment.

ACTION CODES

The batch action codes for these entities are identical to the ones used for the Database Block entity.

NOTE CONCERNING DELETION OF A DATA ELEMENT

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.

7.3. GENERATION AND/OR PRINTING

GENERATION AND/OR PRINTING

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

LISTS

```
LTB      Lists all database blocks of the libraries from the
         selected sub-network, sorted by type.

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

LCB      Identical to 'LTB' but sorted by code.

LEB      Identical to 'LTB' but sorted by external name.
```

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

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

DESCRIPTION

```
DTB      Description of the database block whose code is in-
         dicated in the entity field, description of all da-
         tabase blocks if the field is not entered.
         In the latter case,  it is possible to request the
         descriptions of all blocks of a given type, by spe-
         cifying it in the printing request.
```

GENERATION OPTION

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

8. DM4 & IDS2 EXAMPLES

8.1. INTRODUCTION

INTRODUCTION

The purpose of this chapter is to offer the user a global view of the different steps to be followed in order to obtain a database generated in CODASYL language. Information on how PACBASE manages the data is also included.

The example used is not exhaustive, as it does not cover all of the possibilities offered by the function.

The same database is generated in the DM4 and IDS2 environments.

1. DM4:

```
   DDL SCHEMA      (BLOCK TYPE 'M1'):
                   . Screens,
                   . Generated description.

   DDL SCHEMA      (BLOCK TYPE 'M4'):
                   . Generated description.

   DMCL SCHEMA     (BLOCK TYPE 'M2'):
                   . Screens,
                   . Generated description.

   SUB-SCHEMA      (BLOCK TYPE 'M3'):
                   . Screens,
                   . Generated description.
```

2. IDS2:

```
   DDL SCHEMA      (BLOCK TYPE 'I1'):
                   . Generated description.

   DMCL SCHEMA     (BLOCK TYPE 'I2'):
                   . Generated description.

   SDDL SUB-SCHEMA (BLOCK TYPE 'I3'):
                   . Screens,
                   . Generated description.
```

The purpose of both examples is to illustrate the use of PACBASE and not the use of DM4 or IDS2.

8.2. DM4 SCHEMA (DDL) / M1 TYPE: SCREENS

DM4 SCHEMA (DDL)

This DM4 schema is generated from an 'M1'-type Database Block.

When the description of this type of schema is generated, only the elementary data elements are taken into account.

PACBASE		CODASYL	DM4
FORMAT	COBOL	FORMAT	
X(n)	D DISPLAY	CHARACTER n	
X(n)	5 COMP-1	BINARY 17	
X(n)	6 COMP-2	BINARY 35	
X(n)	J COMP-6	BINARY 35	
X(n)	Y DB-KEY	DATA-BASE-KEY	
9(n)V9(p)	8 COMP	DECIMAL n+p,p	
9(n)V9(p)	9 COMP-3	DECIMAL n+p,p	
S9(n)V9(p)	8 COMP	DECIMAL n+p,p SIGNED	
S9(n)V9(p)	9 COMP-3	DECIMAL n+p,p SIGNED	

```
!                                                                              !
!                        ORDER MANAGEMENT SYSTEM            *DOC.DIVA.GCC.806 !
!                                                                              !
! BLOCK DEFINITION.............:    EXCODB                                     !
!                                                                              !
! NAME.................: CODASYL (DM4) SCHEMA EXAMPLE                         !
! TYPE.................: M1 SCHEMA (DDL)                                      !
!                                                                              !
!                                                                              !
! EXTERNAL NAME.........: MANAGER                                              !
! EXT. NAME OF SCHEMA...:                                                      !
!                                                                              !
!                                                                              !
! CONTROL CARDS....... FRONT:         BACK:                                    !
!                                                                              !
!                                                                              !
! EXPLICIT KEYWORDS..:    CODASYL                                              !
!                                                                              !
!                                                                              !
! SESSION NUMBER.....: 0320        LIBRARY......: GCC    LOCK....:             !
!                                                                              !
!                                                                              !
!                                                                              !
!                                                                              !
! O: C1 CH: B excodb                    ACTION:                                !
!                                                                              !
```

```
--------------------------------------------------------------------------------
!                                                                              !
!                        ORDER MANAGEMENT SYSTEM            *DOC.DIVA.GCC.806 !
! BLOCK     GENERAL DOC.          EXCODB CODASYL (DM4) SCHEMA EXAMPLE           !
!                                                                              !
! A LIN : T COMMENT                                                      LIB   !
! * 100 : G SCHEMA NAME IS      (EXTERNAL SCHEMA NAME)                   *VIRT!
! * 550 :                   ---> AREA INSERTION SPOT   <---              *VIRT!
! * 650 :                   ---> RECORD INSERTION SPOT <---              *VIRT!
! * 750 :                   ---> SET INSERTION SPOT    <---              *VIRT!
! * 900 : G END_SCHEMA                                                   *VIRT!
!       :                                                                      !
!       :                                                                      !
!       :                                                                      !
!       :                                                                      !
!       :                                                                      !
!       :                                                                      !
!       :                                                                      !
!       :                                                                      !
!       :                                                                      !
!       :                                                                      !
!       :                                                                      !
!                                                                              !
! O: C1 CH: -G                                                                 !
!                                                                              !
--------------------------------------------------------------------------------
```

```
!                                                                              !
!                        ORDER MANAGEMENT SYSTEM            *DOC.DIVA.GCC.806 !
! BLOCK DESC. CODASYL SCHEMA       EXCODB CODASYL (DM4) SCHEMA EXAMPLE         !
!                                                                              !
! A LIN : T AREA  OWNER MEM  MODEL     OCC NAME OF AREA,                       !
!       :   SET    SEG  SEG  CODE          SET OR COMMENT                      !
!   100 : A AREA1                    *                                        !
!   120 : A AREA2                    *                                        !
!   130 : A AREA3                                                             !
!   140 : A AREA4                                                             !
!   150 : A AREA5                                                             !
!   320 : R AREA1  CL10              *                                        !
!   340 : R AREA1  CD05              *                                        !
!   360 : R AREA1  CD10              *                                        !
!   380 : R AREA1  CD20              *                                        !
!   400 : R AREA2  FO10              *                                        !
!   420 : R AREA3  ME00              *                                        !
!   440 : R AREA4  HE00              *                                        !
!   460 : R AREA5  EL00              *                                        !
!   640 : S SET01  CD05 CD10         *       ORDER LINE HEADER                !
!   660 : S SET02  CD05 CD20         *       ORDER PRINT                      !
!       :                                                                     !
!       :                                                                     !
!                                                                             !
! O: C1 CH: -DC                                                               !
!                                                                             !
```

```
--------------------------------------------------------------------------------
!                                                                              !
!                        ORDER MANAGEMENT SYSTEM            *DOC.DIVA.GCC.806 !
! BLOCK DESC GENERAL DOC.         EXCODB CODASYL (DM4) SCHEMA EXAMPLE      100 !
!                                                                              !
! A LIN : T COMMENT                                                      LIB   !
!   050 : G  COMMENT"*********************************"                  0317 !
!   060 : G  COMMENT"        CLIENT ORDER             "                  0317 !
!   070 : G  COMMENT"*********************************"                  0317 !
! * 100 : G AREA NAME IS        (AREA CODE)                              *VIRT!
!       :                                                                      !
!       :                                                                      !
!       :                                                                      !
!       :                                                                      !
!       :                                                                      !
!       :                                                                      !
!       :                                                                      !
!       :                                                                      !
!       :                                                                      !
!       :                                                                      !
!       :                                                                      !
!       :                                                                      !
!       :                                                                      !
!                                                                              !
! O: C1 CH: -DC100G                                                            !
!                                                                              !
--------------------------------------------------------------------------------
```

```
--------------------------------------------------------------------------------
!                                                                              !
!                       ORDER MANAGEMENT SYSTEM            *DOC.DIVA.GCC.806 !
! BLOCK DESC GENERAL DOC.         EXCODB CODASYL (DM4) SCHEMA EXAMPLE      320 !
!                                                                              !
! A LIN : T COMMENT                                                    LIB   !
!   050 : G  COMMENT"*****************************"                    0317  !
!   060 : G  COMMENT"         CLIENTS              "                    0317  !
!   070 : G  COMMENT"*****************************"                    0317  !
! * 100 : G RECORD NAME IS      (SEGMENT CODE)                         *VIRT !
!   120 : G  LOCATION MODE IS                                          DDLRCA!
!       : G  CALC USING         CL10_NUCLIE_____________________________ DDLRCA!
!       : G                     ________________________________________ DDLRCA!
!       : G  DUPLICATES         NOT ALLOWED                       $N  DDLRCA!
! * 300 : G     WITHIN          (AREA CODE)                            *VIRT !
! * 700 :                  ---> DATA-NAME INSERTION STARTING POINT <--- *VIRT !
!   710 : G <REMIS >                                                   0317  !
!   720 : G     02              CL10-REMIS                             0317  !
!   730 : G                       TYPE IS DECIMAL 6,2 SIGNED.          0317  !
! * 800 :                  ---> DATA-NAME INSERTION ENDING POINT   <--- *VIRT !
!       :                                                                      !
!       :                                                                      !
!       :                                                                      !
!       :                                                                      !
!                                                                              !
! O: C1 CH: -DC320G                                                            !
!                                                                              !
--------------------------------------------------------------------------------
```

```
--------------------------------------------------------------------------------
!                                                                              !
!                       ORDER MANAGEMENT SYSTEM            *DOC.DIVA.GCC.806 !
! BLOCK DESC GENERAL DOC.         EXCODB CODASYL (DM4) SCHEMA EXAMPLE      640 !
!                                                                              !
! A LIN : T COMMENT                                                  LIB       !
!   050 : G  COMMENT"**********************************"             0317      !
!   060 : G  COMMENT"       ORDER LINE HEADER          "             0317      !
!   070 : G  COMMENT"**********************************"             0317      !
! * 100 : G SET NAME IS         (SET CODE)                           *VIRT     !
! * 400 : G     OWNER IS        (OWNER SEGMENT)                     *VIRT     !
!   420 : G  SET IS             PRIOR PROCESSABLE_____________      DDLOWN    !
!       : G  ORDER IS           PERMANENT_____________________      DDLOWN    !
!       : G  INSERTION IS       FIRST                          $F   DDLOWN    !
! * 700 : G MEMBER IS           (MEMBER SEGMENT)                    *VIRT     !
!   720 : G  AUTOMATIC MANDATORY                                     DDLSET    !
!       : G  LINKED TO          OWNER_____________________          DDLSET    !
!       : G  SET SELECTION IS                                       DDLSET    !
!       : G                THRU SET01_____________________          DDLSET    !
!       : G  OWNER IDENTIFIED BY APPLICATION_____________           DDLSET    !
!       :                                                                      !
!       :                                                                      !
!       :                                                                      !
!       :                                                                      !
!                                                                              !
! O: C1 CH: -DC640G                                                            !
!                                                                              !
--------------------------------------------------------------------------------
```

8.3. DM4 SCHEMA (DDL) / M1 TYPE: GENERATED DESCRIPTION

```
SCHEMA NAME IS MANAGER
COMMENT"*****************************"
COMMENT"   CLIENT ORDER               "
COMMENT"*****************************".
AREA NAME IS AREA1
COMMENT"*****************************"
COMMENT"     SUPPLIES                 "
COMMENT"*****************************".
AREA NAME IS AREA2.
AREA NAME IS AREA3.
AREA NAME IS AREA4.
AREA NAME IS AREA5
COMMENT"*****************************"
COMMENT"        CLIENTS               "
COMMENT"*****************************".
RECORD NAME IS CL10
LOCATION MODE IS
CALC USING        CL10_NUCLIE
DUPLICATES        NOT ALLOWED
WITHIN AREA1.
  02              CL10_NUCLIE
                  TYPE IS CHARACTER     8.
  02              CL10_RAISO1
                  TYPE IS CHARACTER    25.
  02              CL10_RAISO2
                  TYPE IS CHARACTER    25.
  02              CL10_RUE
                  TYPE IS CHARACTER    40.
  02              CL10_COPOS
                  TYPE IS CHARACTER     5.
  02              CL10_VILLE
                  TYPE IS CHARACTER    20.
  02              CL10_MATE
                  TYPE IS CHARACTER     8.
  02              CL10_RELEA
                  TYPE IS CHARACTER     3.
  02              CL10_LANGU
                  TYPE IS CHARACTER     1.
  02              CL10-REMIS
                    TYPE IS DECIMAL 6,2 SIGNED.
  02              CL10_CORRES
                  TYPE IS CHARACTER    25.
  02              CL10_RAIS1L
                  TYPE IS CHARACTER    25.
  02              CL10_RAIS2L
                  TYPE IS CHARACTER    25.
  02              CL10_RUEL
                  TYPE IS CHARACTER    40.
  02              CL10_COPOSL
                  TYPE IS CHARACTER     5.
  02              CL10_VILLEL
                  TYPE IS CHARACTER    20.
  02              CL10_FILLER
                  TYPE IS CHARACTER     5
COMMENT"*****************************"
COMMENT"      ORDER HEADER            "
COMMENT"*****************************".
RECORD NAME IS CD05
LOCATION MODE IS
CALC USING        CD05_NUCOM
DUPLICATES        NOT ALLOWED
WITHIN AREA1.
  02              CD05_NUCOM
                  TYPE IS CHARACTER     5.
  02              CD05_NUCLIE
                  TYPE IS CHARACTER     8.
  02              CD05_DATE
                  TYPE IS CHARACTER     6.
  02              CD05_RELEA
                  TYPE IS CHARACTER     3.
  02              CD05_MATE
                  TYPE IS CHARACTER     8.
```

```
  02              CD05_LANGU
                  TYPE IS CHARACTER     1.
  02              CD05-REMIS
                    TYPE IS DECIMAL 6,2 SIGNED.
  02              CD05_REFCLI
                  TYPE IS CHARACTER    30.
  02              CD05_RUE
                  TYPE IS CHARACTER    40.
  02              CD05_COPOS
                  TYPE IS CHARACTER     5.
  02              CD05_VILLE
                  TYPE IS CHARACTER    20.
  02              CD05_CORRES
                  TYPE IS CHARACTER    25.
  02              CD05_FILLER
                  TYPE IS CHARACTER     5
COMMENT"*****************************"
COMMENT"     ORDER LINE              "
COMMENT"*****************************".
RECORD NAME IS CD10
LOCATION MODE IS
VIA               SET01
WITHIN AREA1.
  02              CD10_FOURNI
                  TYPE IS CHARACTER     3.
  02              CD10_QTMAC
                  TYPE IS CHARACTER     2.
  02              CD10_QTMAL
                  TYPE IS CHARACTER     2.
  02              CD10_INFOR
                  TYPE IS CHARACTER    35.
  02              CD10_FILLER
                  TYPE IS CHARACTER     5
COMMENT"*****************************"
COMMENT"     PRINT ORDER             "
COMMENT"*****************************".
RECORD NAME IS CD20
LOCATION MODE IS
VIA               SET02
WITHIN AREA1.
  02              CD20_EDIT
                  TYPE IS CHARACTER     1.
  02              CD20_FILLER
                  TYPE IS CHARACTER     5
COMMENT"*****************************"
COMMENT"       SUPPLIES              "
COMMENT"*****************************".
RECORD NAME IS FO10
LOCATION MODE IS
CALC USING        FO10_FOURNI FO10_MATE FO10_RELEA
                  FO10_LANGU FO10_FILLER
DUPLICATES        NOT ALLOWED
WITHIN AREA2.
  02              FO10_FOURNI
                  TYPE IS CHARACTER     3.
  02              FO10_MATE
                  TYPE IS CHARACTER     8.
  02              FO10_RELEA
                  TYPE IS CHARACTER     3.
  02              FO10_LANGU
                  TYPE IS CHARACTER     1.
  02              FO10_FILLER
                  TYPE IS CHARACTER     5.
  02              FO10_QTMAS
                  TYPE IS CHARACTER     4.
  02              FO10_QTMAM
                  TYPE IS CHARACTER     4.
  02              FO10_LIBFO
                  TYPE IS CHARACTER    20.
  02              FO10_FILL02
                  TYPE IS CHARACTER     2
COMMENT"******************"
COMMENT"***  MESSAGES    ***"
COMMENT"******************".
RECORD NAME IS ME00
LOCATION MODE IS
INDEXED           XME00
```

```
    WITHIN AREA3
    KEY               XME00
                      ASCENDING
                      ME00_COPERS ME00_NUMORD
    DUPLICATES        NOT ALLOWED.
      02              ME00_COPERS
                      TYPE IS CHARACTER     5.
      02              ME00_NUMORD
                      TYPE IS CHARACTER     5.
      02              ME00_MESSA
                      TYPE IS CHARACTER    75
    COMMENT"*****************************"
    COMMENT"***  SCREEN SAVE          ***"
    COMMENT"*****************************".
    RECORD NAME IS HE00
    LOCATION MODE IS
    INDEXED           XHE00
    WITHIN AREA4
    KEY               XHE00
                      ASCENDING
                      HE00_XTERM
    DUPLICATES        NOT ALLOWED.
      02              HE00_XTERM
                      TYPE IS CHARACTER    12.
      02              HE00_SCREEN
                      TYPE IS CHARACTER  1920
    COMMENT"*****************************"
    COMMENT"***  ERROR MESSAGE       ***"
    COMMENT"*****************************".
    RECORD NAME IS EL00
    LOCATION MODE IS
    INDEXED           XLE00
    WITHIN AREA5
    KEY               XLE00
                      ASCENDING
                      EL00_CLELE
    DUPLICATES        NOT ALLOWED.
      02              EL00_CLELE
                      TYPE IS CHARACTER    17.
      02              EL00_FILLER
                      TYPE IS CHARACTER    73
    COMMENT"*****************************"
    COMMENT"   ORDER LINE HEADER          "
    COMMENT"*****************************".
    SET NAME IS SET01
    OWNER IS CD05
    SET IS            PRIOR PROCESSABLE
    ORDER IS          PERMANENT
    INSERTION IS      FIRST.
    MEMBER IS CD10
    AUTOMATIC MANDATORY
    LINKED TO         OWNER
    SET SELECTION IS
                  THRU SET01
    OWNER IDENTIFIED BY APPLICATION
    COMMENT"*****************************"
    COMMENT"*************************"
    COMMENT"      PRINT ORDER         "
    COMMENT"*************************".
    OWNER IS CD05
    SET IS            PRIOR PROCESSABLE
    ORDER IS          PERMANENT
    INSERTION IS      LAST.
    MEMBER IS CD20
    AUTOMATIC MANDATORY
    LINKED TO         OWNER
    SET SELECTION IS
                  THRU SET02
    OWNER IDENTIFIED BY APPLICATION.
    END_SCHEMA.
```

8.4. DM4 SCHEMA (DDL) / M4 TYPE: GENERATED DESCRIPTION

```
SCHEMA NAME IS MANAGER.
AREA NAME IS AREA1.
AREA NAME IS AREA2.
AREA NAME IS AREA3.
AREA NAME IS AREA4.
AREA NAME IS AREA5.
RECORD NAME IS CL10
WITHIN AREA1.
  02              CL10_CLECL1
                TYPE IS UNSPECIFIED      8.
  02              CL10_RAISOC
                TYPE IS UNSPECIFIED     50.
  02              CL10_RUE
                TYPE IS UNSPECIFIED     40.
  02              CL10_COPOS
                TYPE IS UNSPECIFIED      5.
  02              CL10_VILLE
                TYPE IS UNSPECIFIED     20.
  02              CL10_MATE
                TYPE IS UNSPECIFIED      8.
  02              CL10_RELEA
                TYPE IS UNSPECIFIED      3.
  02              CL10_LANGU
                TYPE IS UNSPECIFIED      1.
  02              CL10_REMIS
                TYPE IS UNSPECIFIED      6.
  02              CL10_CORRES
                TYPE IS UNSPECIFIED     25.
  02              CL10_RAISOL
                TYPE IS UNSPECIFIED     50.
  02              CL10_RUEL
                TYPE IS UNSPECIFIED     40.
  02              CL10_COPOSL
                TYPE IS UNSPECIFIED      5.
  02              CL10_VILLEL
                TYPE IS UNSPECIFIED     20.
  02              CL10_FILLER
                TYPE IS UNSPECIFIED      5.
RECORD NAME IS CD05
WITHIN AREA1.
  02              CD05_CLECD
                TYPE IS UNSPECIFIED      9.
  02              CD05_NUCLIE
                TYPE IS UNSPECIFIED      8.
  02              CD05_DATE
                TYPE IS UNSPECIFIED      6.
  02              CD05_RELEA
                TYPE IS UNSPECIFIED      3.
  02              CD05_MATE
                TYPE IS UNSPECIFIED      8.
  02              CD05_LANGU
                TYPE IS UNSPECIFIED      1.
  02              CD05_REMIS
                TYPE IS UNSPECIFIED      6.
  02              CD05_REFCLI
                TYPE IS UNSPECIFIED     30.
  02              CD05_RUE
                TYPE IS UNSPECIFIED     40.
  02              CD05_COPOS
                TYPE IS UNSPECIFIED      5.
  02              CD05_VILLE
                TYPE IS UNSPECIFIED     20.
  02              CD05_CORRES
                TYPE IS UNSPECIFIED     25.
  02              CD05_FILLER
                TYPE IS UNSPECIFIED      5.
RECORD NAME IS CD10
WITHIN AREA1.
  02              CD10_FOURNI
                TYPE IS UNSPECIFIED      3.
  02              CD10_QTMAC
                TYPE IS UNSPECIFIED      2.
```

```
  02             CD10_QTMAL
                 TYPE IS UNSPECIFIED      2.
  02             CD10_INFOR
                 TYPE IS UNSPECIFIED     35.
  02             CD10_FILLER
                 TYPE IS UNSPECIFIED      5.
RECORD NAME IS CD20
WITHIN AREA1.
  02             CD20_EDIT
                 TYPE IS UNSPECIFIED      1.
  02             CD20_FILLER
                 TYPE IS UNSPECIFIED      5.
RECORD NAME IS FO10
WITHIN AREA2.
  02             FO10_CLEFO
                 TYPE IS UNSPECIFIED     20.
  02             FO10_QTMAS
                 TYPE IS UNSPECIFIED      4.
  02             FO10_QTMAM
                 TYPE IS UNSPECIFIED      4.
  02             FO10_LIBFO
                 TYPE IS UNSPECIFIED     20.
  02             FO10_FILL02
                 TYPE IS UNSPECIFIED      2.
RECORD NAME IS ME00
WITHIN AREA3.
  02             ME00_CLEME
                 TYPE IS UNSPECIFIED      7.
  02             ME00_MESSA
                 TYPE IS UNSPECIFIED     75.
RECORD NAME IS HE00
WITHIN AREA4.
  02             HE00_XTERM
                 TYPE IS UNSPECIFIED     12.
  02             HE00_SCREEN
                 TYPE IS UNSPECIFIED   1920.
RECORD NAME IS EL00
WITHIN AREA5.
  02             EL00_CLELE
                 TYPE IS UNSPECIFIED     17.
  02             EL00_FILLER
                 TYPE IS UNSPECIFIED     73.
SET NAME IS SET01
OWNER IS CD05.
MEMBER IS CD10.
SET NAME IS SET02
OWNER IS CD05.
MEMBER IS CD20.
END_SCHEMA.
```

8.5. DM4 SCHEMA (DMCL) / M2 TYPE: SCREENS

DM4 SCHEMA (DMCL)

The physical description of a DM4 schema is generated from an 'M2'-type Database Block.

```
!                                                                              !
!                        ORDER MANAGEMENT SYSTEM            *DOC.DIVA.GCC.806 !
!                                                                              !
! BLOCK DEFINITION.............:    EXCODE                                     !
!                                                                              !
! NAME.................: CODASYL (DM4) SCHEMA EXAMPLE                         !
! TYPE.................: M2 SCHEMA (DMCL)                                     !
!                                                                              !
!                                                                              !
! EXTERNAL NAME.........: PRODUCTS                                            !
! EXT. NAME OF SCHEMA...: MANAGER                                             !
!                                                                              !
!                                                                              !
! CONTROL CARDS....... FRONT:         BACK:                                    !
!                                                                              !
!                                                                              !
! EXPLICIT KEYWORDS..:    CODASYL                                             !
!                                                                              !
!                                                                              !
! SESSION NUMBER.....: 0331        LIBRARY......: GCC    LOCK....:             !
!                                                                              !
!                                                                              !
!                                                                              !
!                                                                              !
! O: C1 CH: B excode                    ACTION:                                !
!                                                                              !
```

```
--------------------------------------------------------------------------------
!                                                                              !
!                        ORDER MANAGEMENT SYSTEM            *DOC.DIVA.GCC.806 !
! BLOCK     GENERAL DOC.          EXCODE CODASYL (DM4) SCHEMA EXAMPLE           !
!                                                                              !
! A LIN : T COMMENT                                                    LIB     !
! * 100 : G SCHEMA NAME IS      (EXTERNAL SCHEMA NAME)                 *VIRT   !
! * 550 :                   ---> AREA INSERTION SPOT   <---            *VIRT   !
! * 650 :                   ---> RECORD INSERTION SPOT <---            *VIRT   !
! * 750 :                   ---> SET INSERTION SPOT    <---            *VIRT   !
!   800 : G KEY NAME IS         XME00_________________                 DMCLKE  !
!       : G  KEY_ID IS          0                                      DMCLKE  !
!   810 : G KEY NAME IS         XHE00_________________                 DMCLKE  !
!       : G  KEY_ID IS          0                                      DMCLKE  !
!   820 : G KEY NAME IS         XLE00_________________                 DMCLKE  !
!       : G  KEY_ID IS          0                                      DMCLKE  !
! * 900 : G END_DMCL                                                   *VIRT   !
!       :                                                                      !
!       :                                                                      !
!       :                                                                      !
!       :                                                                      !
!       :                                                                      !
!       :                                                                      !
!       :                                                                      !
!                                                                              !
! O: C1 CH: -G                                                                 !
!                                                                              !
--------------------------------------------------------------------------------
```

```
!                                                                              !
!                        ORDER MANAGEMENT SYSTEM            *DOC.DIVA.GCC.806 !
! BLOCK DESC. CODASYL DMCL    EXCODE CODASYL (DM4) SCHEMA EXAMPLE               !
!                                                                              !
! A LIN : T AREA  OWNER MEM  MODEL      OCC NAME OF AREA,                      !
!       :   SET    SEG  SEG  CODE           SET OR COMMENT                     !
!   100 : A AREA1                    *                                       !
!   120 : A AREA2                    *                                       !
!   130 : A AREA3                    *                                       !
!   140 : A AREA4                    *                                       !
!   150 : A AREA5                    *                                       !
!   320 : R AREA1  CL10              *                                       !
!   340 : R AREA1  CD05                                                      !
!   360 : R AREA1  CD10                                                      !
!   380 : R AREA1  CD20                                                      !
!   400 : R AREA2  FO10                                                      !
!   420 : R AREA3  ME00                                                      !
!   440 : R AREA4  HE00                                                      !
!   460 : R AREA5  EL00                                                      !
!   640 : S SET01  CD05 CD10               ORDER LINE HEADER                 !
!   660 : S SET02  CD05 CD20               ORDER PRINT                       !
!       :                                                                    !
!       :                                                                    !
!                                                                            !
! O: C1 CH: -DC                                                              !
!                                                                            !
```

```
--------------------------------------------------------------------------------
!                                                                              !
!                       ORDER MANAGEMENT SYSTEM            *DOC.DIVA.GCC.806 !
! BLOCK DESC GENERAL DOC.         EXCODE CODASYL (DM4) SCHEMA EXAMPLE      100 !
!                                                                              !
! A LIN : T COMMENT                                                  LIB       !
!   050 : G  COMMENT"************************"                       0349      !
!   060 : G  COMMENT"      CLIENT ORDER       "                       0349      !
!   070 : G  COMMENT"************************"                       0349      !
! * 100 : G AREA NAME IS        (AREA CODE)                          *VIRT     !
!   200 : G  FILE_CODE IS       "F1"                                 DMCLCA    !
!       : G  ALLOCATE           500___                               DMCLCA    !
!       : G  PAGE_INTERVAL IS   32______                             DMCLCA    !
!       : G  CALC_INTERVAL IS   32______                             DMCLCA    !
!       : G  PAGE_SIZE          4096____                             DMCLCA    !
!       : G  ORGANIZATION IS    INTEGRATED_____                      DMCLCA    !
!       :                                                                      !
!       :                                                                      !
!       :                                                                      !
!       :                                                                      !
!       :                                                                      !
!       :                                                                      !
!       :                                                                      !
!       :                                                                      !
!                                                                              !
! O: C1 CH: -DC100G                                                            !
!                                                                              !
--------------------------------------------------------------------------------
```

```
--------------------------------------------------------------------------------
!                                                                              !
!                       ORDER MANAGEMENT SYSTEM            *DOC.DIVA.GCC.806 !
! BLOCK DESC GENERAL DOC.         EXCODE CODASYL (DM4) SCHEMA EXAMPLE       320!
!                                                                              !
! A LIN : T COMMENT                                                  LIB       !
!   050 : G  COMMENT"************************"                       0349      !
!   060 : G  COMMENT"      CLIENTS            "                       0349      !
!   070 : G  COMMENT"************************"                       0349      !
! * 100 : G RECORD NAME IS      (SEGMENT CODE)                       *VIRT     !
!       :                                                                      !
!       :                                                                      !
!       :                                                                      !
!       :                                                                      !
!       :                                                                      !
!       :                                                                      !
!       :                                                                      !
!       :                                                                      !
!       :                                                                      !
!       :                                                                      !
!       :                                                                      !
!       :                                                                      !
!       :                                                                      !
!                                                                              !
! O: C1 CH: -DC320G                                                            !
!                                                                              !
--------------------------------------------------------------------------------
```

```
--------------------------------------------------------------------------------
!                                                                              !
!                        ORDER MANAGEMENT SYSTEM            *DOC.DIVA.GCC.806 !
! BLOCK DESC GENERAL DOC.         EXCODE CODASYL (DM4) SCHEMA EXAMPLE      640 !
!                                                                              !
! A LIN : T COMMENT                                                      LIB   !
! * 100 : G SET NAME IS         (SET CODE)                               *VIRT!
!       :                                                                      !
!       :                                                                      !
!       :                                                                      !
!       :                                                                      !
!       :                                                                      !
!       :                                                                      !
!       :                                                                      !
!       :                                                                      !
!       :                                                                      !
!       :                                                                      !
!       :                                                                      !
!       :                                                                      !
!       :                                                                      !
!       :                                                                      !
!       :                                                                      !
!       :                                                                      !
!       :                                                                      !
!                                                                              !
! O: C1 CH: -DC640G                                                            !
!                                                                              !
--------------------------------------------------------------------------------
```

8.6. DM4 SCHEMA (DMCL) / M2 TYPE: GENERATED DESCRIPTION

```
SCHEMA NAME IS MANAGER
COMMENT"*************************"
COMMENT"    CLIENT ORDER          "
COMMENT"*************************".
AREA NAME IS AREA1
FILE_CODE IS      "F1"
ALLOCATE          500
PAGE_INTERVAL IS  32
CALC_INTERVAL IS  32
PAGE_SIZE         4096
ORGANIZATION IS   INTEGRATED
COMMENT"*************************"
COMMENT"      SUPPLIES           "
COMMENT"*************************".
AREA NAME IS AREA2
FILE_CODE IS      "F2"
ALLOCATE          500
PAGE_INTERVAL IS  64
CALC_INTERVAL IS  64
PAGE_SIZE         4096
ORGANIZATION IS   INTEGRATED.
AREA NAME IS AREA3
FILE_CODE IS      "F3"
KEY FILE_CODE IS  "K3"
ALLOCATE          5120
PAGE_INTERVAL IS  512
PAGE_SIZE IS      4096
ORGANIZATION IS   INDEXED.
AREA NAME IS AREA4
FILE_CODE IS      "F4"
KEY FILE_CODE IS  "K4"
ALLOCATE          5120
PAGE_INTERVAL IS  512
PAGE_SIZE IS      4096
ORGANIZATION IS   INDEXED.
AREA NAME IS AREA5
FILE_CODE IS      "F5"
KEY FILE_CODE IS  "K5"
ALLOCATE          14336
PAGE_INTERVAL IS  512
PAGE_SIZE IS      4096
ORGANIZATION IS   INDEXED
COMMENT"************************"
COMMENT"       CLIENTS           "
COMMENT"************************".
RECORD NAME IS CL10.
RECORD NAME IS CD05.
RECORD NAME IS CD10.
RECORD NAME IS CD20.
RECORD NAME IS FO10.
RECORD NAME IS ME00.
RECORD NAME IS HE00.
RECORD NAME IS EL00.
SET NAME IS SET01.
SET NAME IS SET02.
KEY NAME IS       XME00
KEY_ID IS         0.
KEY NAME IS       XHE00
KEY_ID IS         0.
KEY NAME IS       XLE00
KEY_ID IS         0.
END_DMCL.
```

8.7. DM4 SUB-SCHEMA / M3 TYPE: SCREENS

DM4 SUB-SCHEMA

A DM4 sub-schema is generated from an 'M3'-type Database Block.

The user may request a reduced segment description of the global schema description. Such a description request is made on the Database Block Description lines from which the sub-schema is generated.

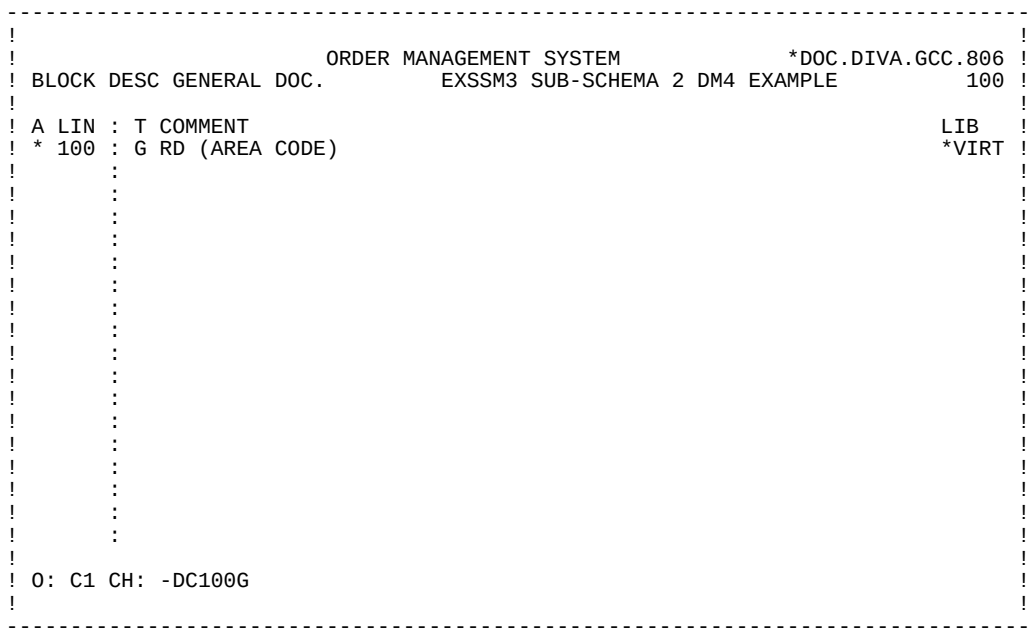
For additional information, please refer to Chapter "CODASYL BLOCKS".

All data elements are taken into account when the description is generated.

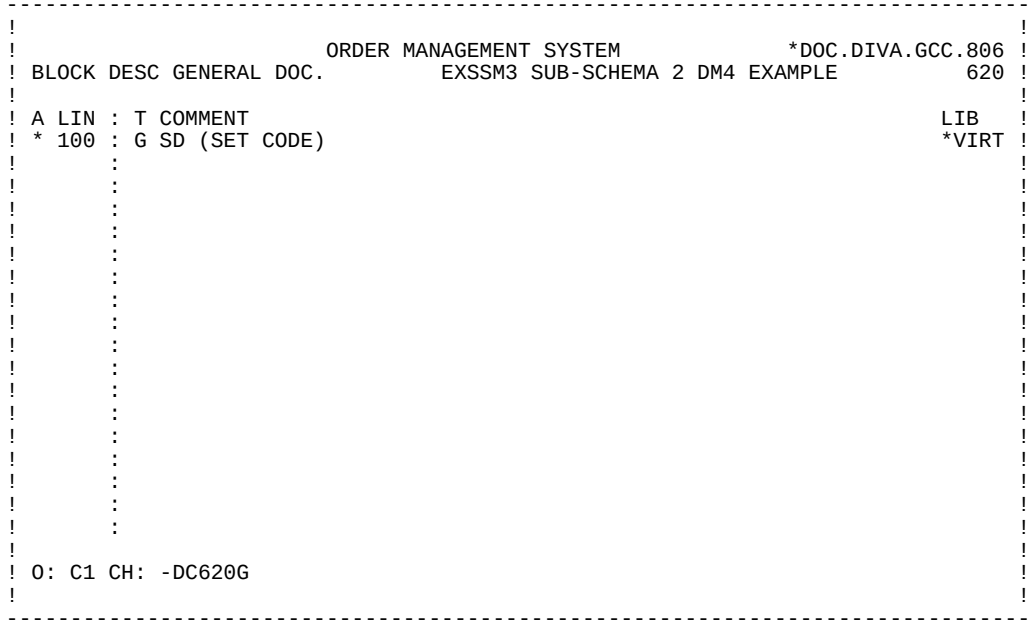
```
--------------------------------------------------------------------------------
!                                                                              !
!                        ORDER MANAGEMENT SYSTEM            *DOC.DIVA.GCC.806 !
!                                                                              !
! BLOCK DEFINITION.............:    EXSSM3                                     !
!                                                                              !
! NAME.................: SUB-SCHEMA 2 DM4 EXAMPLE                             !
! TYPE.................: M3 SUB-SCHEMA                                        !
!                                                                              !
!                                                                              !
! EXTERNAL NAME.........: S/SCHEMA                                            !
! EXT. NAME OF SCHEMA...: MANAGER                                             !
!                                                                              !
!                                                                              !
! CONTROL CARDS....... FRONT:         BACK:                                    !
!                                                                              !
!                                                                              !
! EXPLICIT KEYWORDS..:                                                        !
!                                                                              !
!                                                                              !
! SESSION NUMBER.....: 0331        LIBRARY......: GCC    LOCK....:             !
!                                                                              !
!                                                                              !
!                                                                              !
!                                                                              !
! O: C1 CH: B exssm3                    ACTION:                                !
!                                                                              !
--------------------------------------------------------------------------------
```

```
--------------------------------------------------------------------------------
!                                                                              !
!                       ORDER MANAGEMENT SYSTEM            *DOC.DIVA.GCC.806 !
! BLOCK     GENERAL DOC.          EXSSM3 SUB-SCHEMA 2 DM4 EXAMPLE               !
!                                                                              !
! A LIN : T COMMENT                                                    LIB     !
! * 080 : G TITLE DIVISION                                             *VIRT   !
! * 100 : G SS (EXTERNAL NAME)  WITHIN (EXTERNAL SCHEMA NAME)          *VIRT   !
! * 200 : G MAPPING DIVISION                                           *VIRT   !
! * 300 : G STRUCTURE DIVISION                                         *VIRT   !
! * 500 : G REALM SECTION                                              *VIRT   !
! * 550 :                   ---> AREA INSERTION SPOT   <---            *VIRT   !
! * 600 : G SET SECTION                                                *VIRT   !
! * 650 :                   ---> SET INSERTION SPOT    <---            *VIRT   !
!   660 : G KEY SECTION.                                               0358    !
!   670 : G KD  XME00.                                                 0358    !
!   680 : G KD  XHE00.                                                 0358    !
!   690 : G KD  XLE00.                                                 0358    !
! * 700 : G RECORD SECTION                                             *VIRT   !
! * 750 :                   ---> RECORD INSERTION SPOT <---            *VIRT   !
! * 900 : G END                                                        *VIRT   !
!       :                                                                      !
!       :                                                                      !
!       :                                                                      !
!                                                                              !
! O: C1 CH: -G                                                                 !
!                                                                              !
--------------------------------------------------------------------------------
```

```
!                                                                              !
!                        ORDER MANAGEMENT SYSTEM            *DOC.DIVA.GCC.806 !
! BLOCK DE. CODASYL SUBSCHEMA EXSSM3 SUB-SCHEMA 2 DM4 EXAMPLE                  !
!                                                                              !
! A LIN : T AREA  OWNER MEM  MODEL      OCC NAME OF AREA,                      !
!       :   SET    SEG  SEG  CODE           SET OR COMMENT                     !
!   100 : A AREA1                                                              !
!   120 : A AREA2                                                              !
!   130 : A AREA3                                                              !
!   140 : A AREA4                                                              !
!   150 : A AREA5                                                              !
!   320 : R AREA1  CL10             *                                          !
!   340 : R AREA1  CD05                                                        !
!   360 : R AREA1  CD10                                                        !
!   380 : R AREA1  CD20                                                        !
!   400 : R AREA2  FO10                                                        !
!   420 : R AREA3  ME00                                                        !
!   440 : R AREA4  HE00                                                        !
!   460 : R AREA5  EL00                                                        !
!   620 : S SET01  CD05 CD10                                                   !
!   640 : S SET02  CD05 CD20                                                   !
!   650 : * SET02  CD05 CD10                                                   !
!       :                                                                      !
!                                                                              !
! O: C1 CH: -DC                                                                !
!                                                                              !
```


ORDER MANAGEMENT SYSTEM *DOC.DIVA.GCC.806
BLOCK DESC GENERAL DOC. EXSSM3 SUB-SCHEMA 2 DM4 EXAMPLE 100
A LIN : T COMMENT LIB
* 100 : G RD (AREA CODE) *VIRT
O: C1 CH: -DC100G

```
--------------------------------------------------------------------------------
!                                                                              !
!                       ORDER MANAGEMENT SYSTEM            *DOC.DIVA.GCC.806 !
! BLOCK DESC GENERAL DOC.         EXSSM3 SUB-SCHEMA 2 DM4 EXAMPLE          320 !
!                                                                              !
! A LIN : T COMMENT                                                    LIB   !
! * 100 : G 01 (SEGMENT CODE)                                          *VIRT !
! * 700 :                  ---> DATA-NAMES INSERTION STARTING POINT <---  *VIRT !
!   710 : G <MATE  >                                                   0358  !
!   711 : G     02             CL10-MATE.                              0358  !
!   712 : G       03           CL10-MATIN    PICTURE X.                0358  !
!   713 : G       03           CL-MATON      PICTURE X(7).             0358  !
! * 800 :                  ---> DATA-NAMES INSERTION ENDING POINT <---    *VIRT !
!       :                                                                      !
!       :                                                                      !
!       :                                                                      !
!       :                                                                      !
!       :                                                                      !
!       :                                                                      !
!       :                                                                      !
!       :                                                                      !
!       :                                                                      !
!       :                                                                      !
!       :                                                                      !
!       :                                                                      !
!                                                                              !
! O: C1 CH: -DC320G                                                            !
!                                                                              !
--------------------------------------------------------------------------------
```


ORDER MANAGEMENT SYSTEM *DOC.DIVA.GCC.806
BLOCK DESC GENERAL DOC. EXSSM3 SUB-SCHEMA 2 DM4 EXAMPLE 620
A LIN : T COMMENT LIB
* 100 : G SD (SET CODE) *VIRT
O: C1 CH: -DC620G

8.8. DM4 SUB-SCHEMA / M3 TYPE: GENERATED DESCRIPTION

```
TITLE DIVISION.
SS S/SCHEMA WITHIN MANAGER.
MAPPING DIVISION.
STRUCTURE DIVISION.
REALM SECTION.
RD AREA1.
RD AREA2.
RD AREA3.
RD AREA4.
RD AREA5.
SET SECTION.
SD SET01.
SD SET02.
KEY SECTION.
KD XME00.
KD XHE00.
KD XLE00.
RECORD SECTION.
01 CL10.
  02             CL10-CLECL1.
    03           CL10-NUCLIE PICTURE 9(8).
  02             CL10-RAISOC.
    03           CL10-RAISO1 PICTURE X(25).
    03           CL10-RAISO2 PICTURE X(25).
  02             CL10-RUE    PICTURE X(40).
  02             CL10-COPOS  PICTURE X(5).
  02             CL10-VILLE  PICTURE X(20).
  02             CL10-MATE.
    03           CL10-MATIN    PICTURE X.
    03           CL10-MATON    PICTURE X(7).
  02             CL10-RELEA  PICTURE X(3).
  02             CL10-LANGU  PICTURE X.
  02             CL10-REMIS  PICTURE S9(4)V99.
  02             CL10-CORRES PICTURE X(25).
  02             CL10-RAISOL.
    03           CL10-RAIS1L PICTURE X(25).
    03           CL10-RAIS2L PICTURE X(25).
  02             CL10-RUEL   PICTURE X(40).
  02             CL10-COPOSL PICTURE X(5).
  02             CL10-VILLEL PICTURE X(20).
  02             CL10-FILLER PICTURE X(5).
01 CD05.
  02             CD05-CLECD.
    03           CD05-NUCOM  PICTURE 9(5).
  02             CD05-NUCLIE PICTURE 9(8).
  02             CD05-DATE   PICTURE X(6).
  02             CD05-RELEA  PICTURE X(3).
  02             CD05-MATE   PICTURE X(8).
  02             CD05-LANGU  PICTURE X.
  02             CD05-REMIS  PICTURE S9(4)V99.
  02             CD05-REFCLI PICTURE X(30).
  02             CD05-RUE    PICTURE X(40).
  02             CD05-COPOS  PICTURE X(5).
  02             CD05-VILLE  PICTURE X(20).
  02             CD05-CORRES PICTURE X(25).
  02             CD05-FILLER PICTURE X(5).
01 CD10.
  02             CD10-FOURNI PICTURE X(3).
  02             CD10-QTMAC  PICTURE 99.
  02             CD10-QTMAL  PICTURE 99.
  02             CD10-INFOR  PICTURE X(35).
  02             CD10-FILLER PICTURE X(5).
01 CD20.
  02             CD20-EDIT   PICTURE X.
  02             CD20-FILLER PICTURE X(5).
01 FO10.
  02             FO10-CLEFO.
    03           FO10-FOURNI PICTURE X(3).
    03           FO10-MATE   PICTURE X(8).
    03           FO10-RELEA  PICTURE X(3).
    03           FO10-LANGU  PICTURE X.
    03           FO10-FILLER PICTURE X(5).
```

```
     02             FO10-QTMAS  PICTURE 9(4).
     02             FO10-QTMAM  PICTURE 9(4).
     02             FO10-LIBFO  PICTURE X(20).
     02             FO10-FILL02 PICTURE XX.
   01 ME00.
     02             ME00-CLEME.
       03           ME00-COPERS PICTURE X(5).
       03           ME00-NUMORD PICTURE 9(5).
     02             ME00-MESSA  PICTURE X(75).
   01 HE00.
     02             HE00-XTERM  PICTURE X(12).
     02             HE00-SCREEN PICTURE X(1920).
   01 EL00.
     02             EL00-CLELE  PICTURE X(17).
     02             EL00-FILLER PICTURE X(73).
   END.
```

8.9. IDS2 SCHEMA (DDL) / I1 TYPE: GENERATED DESCRIPTION

IDS2 SCHEMA (DDL)

An IDS2 schema is generated from an 'I1'-type Database Block.

All the data elements are taken into account by the system when the description is generated.

PACBASE		CODASYL IDS2	
FORMAT	COBOL	FORMAT	
X(n)	D DISPLAY	CHARACTER n	
X(n)	5 COMP-1	SIGNED BINARY 15	
X(n)	6 COMP-2	SIGNED BINARY 31	
S9(n)V9(p)	3 COMP-3	SIGNED PACKED DECIMAL n+p,p	
(S)9(n)V9(p)	D DISPLAY	(UN)SIGNED UNPACKED DECIMAL n+p,p	

```
SCHEMA NAME IS MANAGER
COMMENT"*****************************"
COMMENT"   CLIENT ORDER               "
COMMENT"*****************************".
AREA NAME IS AREA1
COMMENT"*****************************"
COMMENT"     SUPPLIES                 "
COMMENT"*****************************".
AREA NAME IS AREA2.
AREA NAME IS AREA3.
AREA NAME IS AREA4.
AREA NAME IS AREA5
COMMENT"*****************************"
COMMENT"        CLIENTS               "
COMMENT"*****************************".
RECORD NAME IS CL10
LOCATION MODE IS
CALC USING        CL10_NUCLIE
DUPLICATES        NOT ALLOWED
WITHIN AREA1.
  02              CL10-CLECL1.
    03            CL10-NUCLIE
                  TYPE IS UNSIGNED UNPACKED
                  DECIMAL     8.
  02              CL10-RAISOC.
    03            CL10-RAISO1
                  TYPE IS CHARACTER    25.
    03            CL10-RAISO2
                  TYPE IS CHARACTER    25.
  02              CL10-RUE
                  TYPE IS CHARACTER    40.
  02              CL10-COPOS
                  TYPE IS CHARACTER     5.
  02              CL10-VILLE
                  TYPE IS CHARACTER    20.
  02              CL10-MATE
                  TYPE IS CHARACTER     8.
  02              CL10-RELEA
                  TYPE IS CHARACTER     3.
  02              CL10-LANGU
                  TYPE IS CHARACTER     1.
  02              CL10-REMIS
                    TYPE IS DECIMAL 6,2 SIGNED.
  02              CL10-CORRES
                  TYPE IS CHARACTER    25.
  02              CL10-RAISOL.
    03            CL10-RAIS1L
                  TYPE IS CHARACTER    25.
    03            CL10-RAIS2L
                  TYPE IS CHARACTER    25.
  02              CL10-RUEL
                  TYPE IS CHARACTER    40.
  02              CL10-COPOSL
                  TYPE IS CHARACTER     5.
  02              CL10-VILLEL
                  TYPE IS CHARACTER    20.
  02              CL10-FILLER
                  TYPE IS CHARACTER     5
COMMENT"*****************************"
COMMENT"      ORDER HEADER            "
COMMENT"*****************************".
RECORD NAME IS CD05
LOCATION MODE IS
CALC USING        CD05_NUCOM
DUPLICATES        NOT ALLOWED
WITHIN AREA1.
  02              CD05-CLECD.
    03            CD05-NUCOM
                  TYPE IS UNSIGNED UNPACKED
                  DECIMAL     5.
  02              CD05-NUCLIE
                  TYPE IS UNSIGNED UNPACKED
                  DECIMAL     8.
  02              CD05-DATE
                  TYPE IS CHARACTER     6.
  02              CD05-RELEA
                  TYPE IS CHARACTER     3.
```

```
    02              CD05-MATE
                    TYPE IS CHARACTER     8.
    02              CD05-LANGU
                    TYPE IS CHARACTER     1.
    02              CD05-REMIS
                      TYPE IS DECIMAL 6,2 SIGNED.
    02              CD05-REFCLI
                    TYPE IS CHARACTER    30.
    02              CD05-RUE
                    TYPE IS CHARACTER    40.
    02              CD05-COPOS
                    TYPE IS CHARACTER     5.
    02              CD05-VILLE
                    TYPE IS CHARACTER    20.
    02              CD05-CORRES
                    TYPE IS CHARACTER    25.
    02              CD05-FILLER
                    TYPE IS CHARACTER     5
  COMMENT"*****************************"
  COMMENT"     ORDER LINE              "
  COMMENT"*****************************".
  RECORD NAME IS CD10
  LOCATION MODE IS
  VIA               SET01
  WITHIN AREA1.
    02              CD10-FOURNI
                    TYPE IS CHARACTER     3.
    02              CD10-QTMAC
                    TYPE IS UNSIGNED UNPACKED
                    DECIMAL     2.
    02              CD10-QTMAL
                    TYPE IS UNSIGNED UNPACKED
                    DECIMAL     2.
    02              CD10-INFOR
                    TYPE IS CHARACTER    35.
    02              CD10-FILLER
                    TYPE IS CHARACTER     5
  COMMENT"*****************************"
  COMMENT"      ORDER  PRINT           "
  COMMENT"*****************************".
  RECORD NAME IS CD20
  LOCATION MODE IS
  VIA               SET02
  WITHIN AREA1.
    02              CD20-EDIT
                    TYPE IS CHARACTER     1.
    02              CD20-FILLER
                    TYPE IS CHARACTER     5
  COMMENT"*****************************"
  COMMENT"         SUPPLIES            "
  COMMENT"*****************************".
  RECORD NAME IS FO10
  LOCATION MODE IS
  CALC USING        FO10_FOURNI FO10_MATE FO10_RELEA
                    FO10_LANGU FO10_FILLER
  DUPLICATES        NOT ALLOWED
  WITHIN AREA2.
    02              FO10-CLEFO.
      03            FO10-FOURNI
                    TYPE IS CHARACTER     3.
      03            FO10-MATE
                    TYPE IS CHARACTER     8.
      03            FO10-RELEA
                    TYPE IS CHARACTER     3.
      03            FO10-LANGU
                    TYPE IS CHARACTER     1.
      03            FO10-FILLER
                    TYPE IS CHARACTER     5.
    02              FO10-QTMAS
                    TYPE IS UNSIGNED UNPACKED
                    DECIMAL     4.
    02              FO10-QTMAM
                    TYPE IS UNSIGNED UNPACKED
                    DECIMAL     4.
    02              FO10-LIBFO
                    TYPE IS CHARACTER    20.
    02              FO10-FILL02
```

```
                  TYPE IS CHARACTER     2
    COMMENT"********************"
    COMMENT"***  MESSAGES   ***"
    COMMENT"********************".
    RECORD NAME IS ME00
    LOCATION MODE IS
    INDEXED           XME00
    WITHIN AREA3
    KEY               XME00
                      ASCENDING
                      ME00_COPERS ME00_NUMORD
    DUPLICATES        NOT ALLOWED.
      02              ME00-CLEME.
        03            ME00-COPERS
                      TYPE IS CHARACTER     5.
        03            ME00-NUMORD
                      TYPE IS UNSIGNED UNPACKED
                      DECIMAL     5.
      02              ME00-MESSA
                      TYPE IS CHARACTER    75
    COMMENT"*****************************"
    COMMENT"***  SCREEN SAVE          ***"
    COMMENT"*****************************".
    RECORD NAME IS HE00
    LOCATION MODE IS
    INDEXED           XHE00
    WITHIN AREA4
    KEY               XHE00
                      ASCENDING
                      HE00_XTERM
    DUPLICATES        NOT ALLOWED.
      02              HE00-XTERM
                      TYPE IS CHARACTER    12.
      02              HE00-SCREEN
                      TYPE IS CHARACTER  1920
    COMMENT"*****************************"
    COMMENT"***  ERROR MESSAGE       ***"
    COMMENT"*****************************".
    RECORD NAME IS EL00
    LOCATION MODE IS
    INDEXED           XLE00
    WITHIN AREA5
    KEY               XLE00
                      ASCENDING
                      EL00_CLELE
    DUPLICATES        NOT ALLOWED.
      02              EL00-CLELE
                      TYPE IS CHARACTER    17.
      02              EL00-FILLER
                      TYPE IS CHARACTER    73
    COMMENT"*****************************"
    COMMENT"     ORDER LINE HEADER        "
    COMMENT"*****************************".
    SET NAME IS SET01
    OWNER IS CD05
    SET IS            PRIOR PROCESSABLE
    ORDER IS          PERMANENT
    INSERTION IS      FIRST.
    MEMBER IS CD10
    AUTOMATIC MANDATORY
    LINKED TO         OWNER
    SET SELECTION IS
                 THRU SET01
    OWNER IDENTIFIED BY APPLICATION
    COMMENT"*****************************"
    COMMENT"     ORDER PRINT              "
    COMMENT"*****************************".
    SET NAME IS SET02
    OWNER IS CD05
    SET IS            PRIOR PROCESSABLE
    ORDER IS          PERMANENT
    INSERTION IS      LAST.
    MEMBER IS CD20
    AUTOMATIC MANDATORY
    LINKED TO         OWNER
    SET SELECTION IS
                 THRU SET02
```

```
    OWNER IDENTIFIED BY APPLICATION.
    END-SCHEMA.
```

8.10. IDS2 SCHEMA (DMCL)/ I2 TYPE: GENERATED DSECRIPTION

IDS2 SCHEMA (DMCL)

The physical description of an IDS2 schema is generated from an 'I2'-type Database Block.

```
SCHEMA NAME IS MANAGER
COMMENT"**************************"
COMMENT"    CLIENT  ORDER          "
COMMENT"**************************".
AREA NAME IS AREA1
FILE_CODE IS      "F1"
ALLOCATE          500
PAGE_INTERVAL IS  32
CALC_INTERVAL IS  32
PAGE_SIZE         4096
ORGANIZATION IS   INTEGRATED
COMMENT"*************************"
COMMENT"     SUPPLIES             "
COMMENT"*************************".
AREA NAME IS AREA2
FILE_CODE IS      "F2"
ALLOCATE          500
PAGE_INTERVAL IS  64
CALC_INTERVAL IS  64
PAGE_SIZE         4096
ORGANIZATION IS   INTEGRATED.
AREA NAME IS AREA3
FILE_CODE IS      "F3"
KEY FILE_CODE IS  "K3"
ALLOCATE          5120
PAGE_INTERVAL IS  512
PAGE_SIZE IS      4096
ORGANIZATION IS   INDEXED.
AREA NAME IS AREA4
FILE_CODE IS      "F4"
KEY FILE_CODE IS  "K4"
ALLOCATE          5120
PAGE_INTERVAL IS  512
PAGE_SIZE IS      4096
ORGANIZATION IS   INDEXED.
AREA NAME IS AREA5
FILE_CODE IS      "F5"
KEY FILE_CODE IS  "K5"
ALLOCATE          14336
PAGE_INTERVAL IS  512
PAGE_SIZE IS      4096
ORGANIZATION IS   INDEXED
COMMENT"************************"
COMMENT"       CLIENTS           "
COMMENT"************************".
RECORD NAME IS CL10.
RECORD NAME IS CD05.
RECORD NAME IS CD10.
RECORD NAME IS CD20.
RECORD NAME IS FO10.
RECORD NAME IS ME00.
RECORD NAME IS HE00.
RECORD NAME IS EL00.
SET NAME IS SET01.
SET NAME IS SET02.
KEY NAME IS       XME00
KEY_ID IS         0.
KEY NAME IS       XHE00
KEY_ID IS         0.
KEY NAME IS       XLE00
KEY_ID IS         0.
END-DMCL.
```

8.11. IDS2 SUB-SCHEMA (SDDL) / I3: SCREENS

IDS2 LOGICAL SUB-SCHEMA (SDDL):

The logical description of an IDS2 sub-schema (SDDL) is generated from an 'I3'-type Database Block.

All data elements are taken into account by the system when the Database Block description is generated.

```
--------------------------------------------------------------------------------
!                                                                              !
!                        ORDER MANAGEMENT SYSTEM            *DOC.DIVA.GCC.806 !
!                                                                              !
! BLOCK DEFINITION.............:    IDS2I3                                     !
!                                                                              !
! NAME.................: SUB-SCHEMA IDS2 EXAMPLE                               !
! TYPE.................: I3 SUB-SCHEMA                                         !
!                                                                              !
!                                                                              !
! EXTERNAL NAME.........: TYPEI3                                               !
! EXT. NAME OF SCHEMA...: MANAGER                                              !
!                                                                              !
!                                                                              !
! CONTROL CARDS....... FRONT:         BACK:                                    !
!                                                                              !
!                                                                              !
! EXPLICIT KEYWORDS..:                                                         !
!                                                                              !
!                                                                              !
! SESSION NUMBER.....: 0331        LIBRARY......: GCC    LOCK....:             !
!                                                                              !
!                                                                              !
!                                                                              !
!                                                                              !
! O: C1 CH: B ids2i3                    ACTION:                                !
!                                                                              !
--------------------------------------------------------------------------------
```

```
--------------------------------------------------------------------------------
!                                                                              !
!                        ORDER MANAGEMENT SYSTEM            *DOC.DIVA.GCC.806 !
! BLOCK     GENERAL DOC.          IDS2I3 SUB-SCHEMA IDS2 EXAMPLE                !
!                                                                              !
! A LIN : T COMMENT                                                    LIB     !
! * 100 : G SUBSCHEMA  NAME IS  (EXTERNAL NAME)                        *VIRT   !
! * 110 : G     OF SCHEMA       (EXTERNAL SCHEMA NAME)                 *VIRT   !
! * 450 :                   ---> ALIAS INSERTION SPOT  <---            *VIRT   !
! * 550 :                   ---> AREA INSERTION SPOT   <---            *VIRT   !
! * 650 :                   ---> RECORD INSERTION SPOT <---            *VIRT   !
! * 750 :                   ---> SET INSERTION SPOT    <---            *VIRT   !
! * 900 : G END-SUBSCHEMA                                              *VIRT   !
!       :                                                                      !
!       :                                                                      !
!       :                                                                      !
!       :                                                                      !
!       :                                                                      !
!       :                                                                      !
!       :                                                                      !
!       :                                                                      !
!       :                                                                      !
!       :                                                                      !
!       :                                                                      !
!                                                                              !
! O: C1 CH: -G                                                                 !
!                                                                              !
--------------------------------------------------------------------------------
```

```
--------------------------------------------------------------------------------
!                                                                              !
!                        ORDER MANAGEMENT SYSTEM            *DOC.DIVA.GCC.806 !
! BLOCK DE. CODASYL SUBSCHEMA IDS2I3 SUB-SCHEMA IDS2 EXAMPLE                   !
!                                                                              !
! A LIN : T AREA  OWNER MEM  MODEL      OCC NAME OF AREA,                      !
!       :   SET    SEG  SEG  CODE           SET OR COMMENT                     !
!   100 : A AREA1                                                              !
!   120 : A AREA2                                                              !
!   130 : A AREA3                                                              !
!   140 : A AREA4                                                              !
!   150 : A AREA5                                                              !
!   320 : R AREA1  CL10             *                                          !
!   340 : R AREA1  CD05                                                        !
!   360 : R AREA1  CD10                                                        !
!   380 : R AREA1  CD20                                                        !
!   400 : R AREA2  FO10                                                        !
!   420 : R AREA3  ME00                                                        !
!   440 : R AREA4  HE00                                                        !
!   460 : R AREA5  EL00                                                        !
!   620 : S SET01  CD05 CD10                                                   !
!   640 : S SET02  CD05 CD20                                                   !
!   650 : * SET02  CD05 CD10                                                   !
!       :                                                                      !
!                                                                              !
! O: C1 CH: -DC                                                                !
!                                                                              !
--------------------------------------------------------------------------------
```

```
--------------------------------------------------------------------------------
!                                                                              !
!                        ORDER MANAGEMENT SYSTEM            *DOC.DIVA.GCC.806 !
! BLOCK DESC GENERAL DOC.         IDS2I3 SUB-SCHEMA IDS2 EXAMPLE           100 !
!                                                                              !
! A LIN : T COMMENT                                                    LIB     !
! * 100 : G AREA NAME IS        (AREA CODE)                            *VIRT   !
!       :                                                                      !
!       :                                                                      !
!       :                                                                      !
!       :                                                                      !
!       :                                                                      !
!       :                                                                      !
!       :                                                                      !
!       :                                                                      !
!       :                                                                      !
!       :                                                                      !
!       :                                                                      !
!       :                                                                      !
!       :                                                                      !
!       :                                                                      !
!       :                                                                      !
!       :                                                                      !
!                                                                              !
! O: C1 CH: -DC100G                                                            !
!                                                                              !
--------------------------------------------------------------------------------
```

```
!                                                                              !
!                       ORDER MANAGEMENT SYSTEM            *DOC.DIVA.GCC.806 !
! BLOCK DESC GENERAL DOC.         IDS2I3 SUB-SCHEMA IDS2 EXAMPLE           320 !
!                                                                              !
! A LIN : T COMMENT                                                  LIB   !
! * 100 : G RECORD NAME IS    (SEGMENT CODE)                         *VIRT !
! * 300 : G     WITHIN AREA   (AREA CODE)                            *VIRT !
! * 700 :                 ---> DATA-NAME INSERTION STARTING POINT <----  *VIRT !
!   710 : G <MATE  >                                                 0358  !
!   711 : G     02             CL10-MATE.                            0358  !
!   712 : G       03           CL10-MATIN    PICTURE X.              0358  !
!   713 : G       03           CL-MATON      PICTURE X(7).           0358  !
! * 800 :                 ---> DATA-NAME INSERTION ENDING POINT   <---   *VIRT !
!       :                                                                      !
!       :                                                                      !
!       :                                                                      !
!       :                                                                      !
!       :                                                                      !
!       :                                                                      !
!       :                                                                      !
!       :                                                                      !
!       :                                                                      !
!       :                                                                      !
!       :                                                                      !
!                                                                              !
! O: C1 CH: -DC320G                                                            !
!                                                                              !
```

```
!                                                                              !
!                        ORDER MANAGEMENT SYSTEM            *DOC.DIVA.GCC.806 !
! BLOCK DESC GENERAL DOC.         IDS2I3 SUB-SCHEMA IDS2 EXAMPLE           620 !
!                                                                              !
! A LIN : T COMMENT                                                    LIB   !
! * 100 : G SET NAME IS         (SET CODE)                             *VIRT !
! * 700 : G MEMBER IS           (MEMBER SEGMENT)                       *VIRT !
!       :                                                                      !
!       :                                                                      !
!       :                                                                      !
!       :                                                                      !
!       :                                                                      !
!       :                                                                      !
!       :                                                                      !
!       :                                                                      !
!       :                                                                      !
!       :                                                                      !
!       :                                                                      !
!       :                                                                      !
!       :                                                                      !
!       :                                                                      !
!       :                                                                      !
!                                                                              !
! O: C1 CH: -DC620G                                                            !
!                                                                              !
```

8.12. IDS2 SUB-SCHEMA (SDDL) / I3: GENERATED DESCRIPTION

```
SUBSCHEMA NAME IS  TYPEI3    OF   SCHEMA   MANAGER.
AREA NAME IS AREA1.
AREA NAME IS AREA2.
AREA NAME IS AREA3.
AREA NAME IS AREA4.
AREA NAME IS AREA5.
RECORD NAME IS CL10
WITHIN AREA AREA1.
  02              CL10-CLECL1.
    03            CL10-NUCLIE
                  TYPE IS UNSIGNED UNPACKED
                  DECIMAL     8.
  02              CL10-RAISOC.
    03            CL10-RAISO1
                  TYPE IS CHARACTER    25.
    03            CL10-RAISO2
                  TYPE IS CHARACTER    25.
  02              CL10-RUE
                  TYPE IS CHARACTER    40.
  02              CL10-COPOS
                  TYPE IS CHARACTER     5.
  02              CL10-VILLE
                  TYPE IS CHARACTER    20.
  02              CL10-MATE.
    03            CL10-MATIN    PICTURE X.
    03            CL10-MATON    PICTURE X(7).
  02              CL10-RELEA
                  TYPE IS CHARACTER     3.
  02              CL10-LANGU
                  TYPE IS CHARACTER     1.
  02              CL10-REMIS
                  TYPE IS SIGNED UNPACKED
                  DECIMAL     6,   2.
  02              CL10-CORRES
                  TYPE IS CHARACTER    25.
  02              CL10-RAISOL.
    03            CL10-RAIS1L
                  TYPE IS CHARACTER    25.
    03            CL10-RAIS2L
                  TYPE IS CHARACTER    25.
  02              CL10-RUEL
                  TYPE IS CHARACTER    40.
  02              CL10-COPOSL
                  TYPE IS CHARACTER     5.
  02              CL10-VILLEL
                  TYPE IS CHARACTER    20.
  02              CL10-FILLER
                  TYPE IS CHARACTER     5.
RECORD NAME IS CD05
WITHIN AREA AREA1.
  02              CD05-CLECD.
    03            CD05-NUCOM
                  TYPE IS UNSIGNED UNPACKED
                  DECIMAL     5.
  02              CD05-NUCLIE
                  TYPE IS UNSIGNED UNPACKED
                  DECIMAL     8.
  02              CD05-DATE
                  TYPE IS CHARACTER     6.
  02              CD05-RELEA
                  TYPE IS CHARACTER     3.
  02              CD05-MATE
                  TYPE IS CHARACTER     8.
  02              CD05-LANGU
                  TYPE IS CHARACTER     1.
  02              CD05-REMIS
                  TYPE IS SIGNED UNPACKED
                  DECIMAL     6,   2.
  02              CD05-REFCLI
                  TYPE IS CHARACTER    30.
  02              CD05-RUE
                  TYPE IS CHARACTER    40.
```

```
    02              CD05-COPOS
                    TYPE IS CHARACTER     5.
    02              CD05-VILLE
                    TYPE IS CHARACTER    20.
    02              CD05-CORRES
                    TYPE IS CHARACTER    25.
    02              CD05-FILLER
                    TYPE IS CHARACTER     5.
  RECORD NAME IS CD10
  WITHIN AREA AREA1.
    02              CD10-FOURNI
                    TYPE IS CHARACTER     3.
    02              CD10-QTMAC
                    TYPE IS UNSIGNED UNPACKED
                    DECIMAL     2.
    02              CD10-QTMAL
                    TYPE IS UNSIGNED UNPACKED
                    DECIMAL     2.
    02              CD10-INFOR
                    TYPE IS CHARACTER    35.
    02              CD10-FILLER
                    TYPE IS CHARACTER     5.
  RECORD NAME IS CD20
  WITHIN AREA AREA1.
    02              CD20-EDIT
                    TYPE IS CHARACTER     1.
    02              CD20-FILLER
                    TYPE IS CHARACTER     5.
  RECORD NAME IS FO10
  WITHIN AREA AREA2.
    02              FO10-CLEFO.
      03            FO10-FOURNI
                    TYPE IS CHARACTER     3.
      03            FO10-MATE
                    TYPE IS CHARACTER     8.
      03            FO10-RELEA
                    TYPE IS CHARACTER     3.
      03            FO10-LANGU
                    TYPE IS CHARACTER     1.
      03            FO10-FILLER
                    TYPE IS CHARACTER     5.
    02              FO10-QTMAS
                    TYPE IS UNSIGNED UNPACKED
                    DECIMAL     4.
    02              FO10-QTMAM
                    TYPE IS UNSIGNED UNPACKED
                    DECIMAL     4.
    02              FO10-LIBFO
                    TYPE IS CHARACTER    20.
    02              FO10-FILL02
                    TYPE IS CHARACTER     2.
  RECORD NAME IS ME00
  WITHIN AREA AREA3.
    02              ME00-CLEME.
      03            ME00-COPERS
                    TYPE IS CHARACTER     5.
      03            ME00-NUMORD
                    TYPE IS UNSIGNED UNPACKED
                    DECIMAL     5.
    02              ME00-MESSA
                    TYPE IS CHARACTER    75.
  RECORD NAME IS HE00
  WITHIN AREA AREA4.
    02              HE00-XTERM
                    TYPE IS CHARACTER    12.
    02              HE00-SCREEN
                    TYPE IS CHARACTER  1920.
  RECORD NAME IS EL00
  WITHIN AREA AREA5.
    02              EL00-CLELE
                    TYPE IS CHARACTER    17.
    02              EL00-FILLER
                    TYPE IS CHARACTER    73.
  SET NAME IS SET01.
  MEMBER IS CD10.
  SET NAME IS SET02.
  MEMBER IS CD20.
```

```
    MEMBER IS CD10.
    END-SUBSCHEMA.
```

9. IDMS & DMS EXAMPLES

9.1. INTRODUCTION

INTRODUCTION

The purpose of this chapter is to offer the user a global view of the different steps to be followed in order to obtain a database generated in CODASYL language. Information on how PACBASE manages the data is also included. The example used is not exhaustive as it does not cover all of the possibilities offered by the function.
The same database is generated in both the IDMS and DMS environments.

1. REPRESENTATION OF THE SCHEMA EXAMPLE

This example was developed in line with the type of data managed in any commercial company. Its purpose is to illustrate the use of PACBASE and not the use of IDMS or DMS.

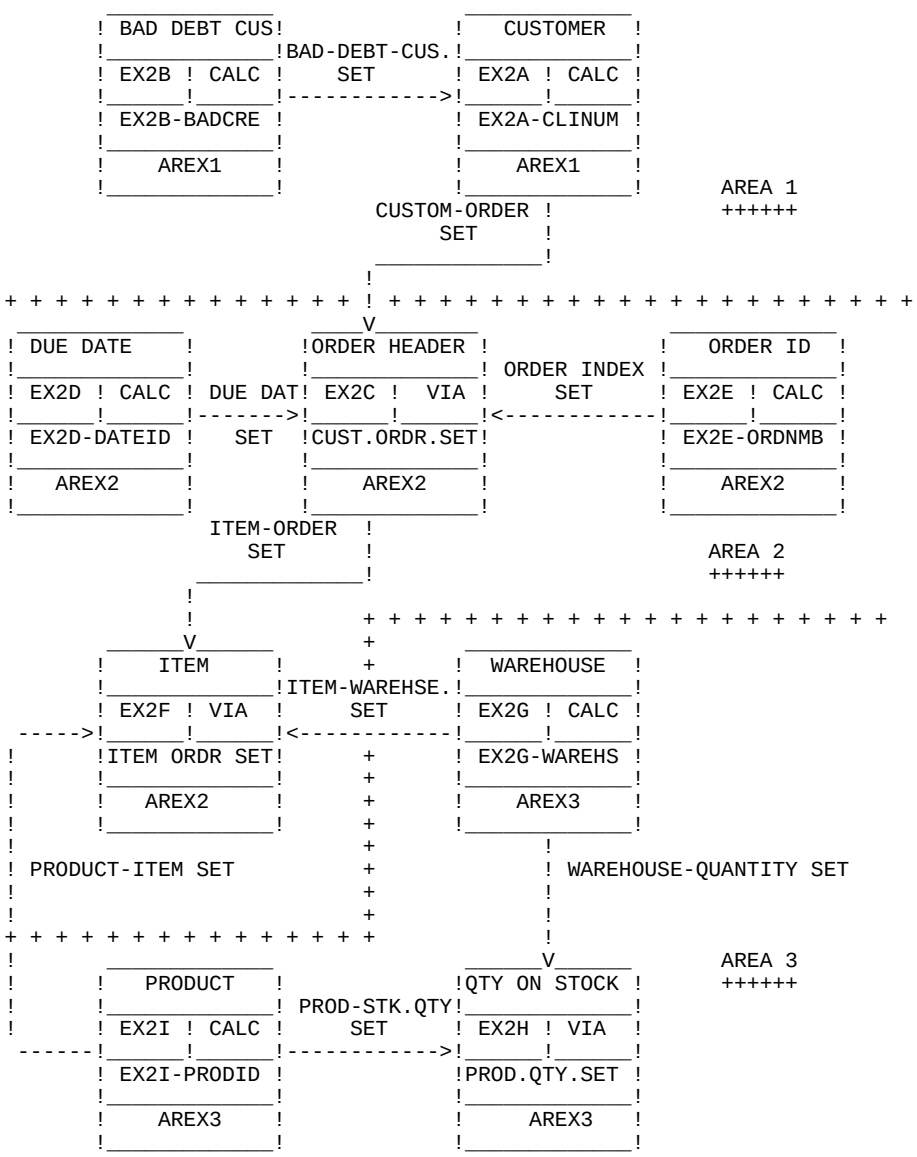
2. IDMS

```
   DDL SCHEMA      (BLOCK TYPE 'D1'):
                   . Screens,
                   . Generated description.

   DMCL SCHEMA     (BLOCK TYPE 'D2'):
                   . Screens,
                   . Generated physical description.

   SUB-SCHEMA      (BLOCK TYPE 'D3'):
                   . Screens,
                   . Generated description.

   SUB-SCHEMA      (BLOCK TYPE 'D4'):
                   . Screens,
                   . Generated description.
```

3. DMS

```
   DDL SCHEMA      (BLOCK TYPE 'S1'):
                   . Screens,
                   . Generated description.

   SUB-SCHEMA      (BLOCK TYPE 'S3'):
                   . Screens,
                   . Generated description.
```

9.2. DATABASE SCHEMA



9.3. IDMS SCHEMA (DDL) / D1 TYPE: SCREENS

IDMS SCHEMA (DDL)

An IDMS schema is generated from a 'D1'- or 'D0'-type (IDMS release 10.0) Database Block.

All data elements are taken into account by the system when the description is generated.

The IDMS CODASYL elementary data format is the same as the PACBASE format.

```
!                                                                              !
!                        ORDER MANAGEMENT SYSTEM            *DOC.DIVA.GCC.806 !
!                                                                              !
! BLOCK DEFINITION.............:    EXCODA                                     !
!                                                                              !
! NAME.................: CODASYL (IDMS) SCHEMA EXAMPLE                        !
! TYPE.................: D1 SCHEMA (DDL)                                      !
!                                                                              !
!                                                                              !
! EXTERNAL NAME.........: MANAGER                                             !
! EXT. NAME OF SCHEMA...:                                                     !
!                                                                              !
!                                                                              !
! CONTROL CARDS....... FRONT:         BACK:                                   !
!                                                                              !
!                                                                              !
! EXPLICIT KEYWORDS..: CODASYL                                                !
!                                                                              !
!                                                                              !
! SESSION NUMBER.....: 0330        LIBRARY......: GCC    LOCK....:            !
!                                                                              !
!                                                                              !
!                                                                              !
!                                                                              !
! O: C1 CH: B excoda                    ACTION:                                !
!                                                                              !
```

```
--------------------------------------------------------------------------------
!                                                                              !
!                        ORDER MANAGEMENT SYSTEM            *DOC.DIVA.GCC.806 !
! BLOCK     GENERAL DOC.          EXCODA CODASYL (IDMS) SCHEMA EXAMPLE          !
!                                                                              !
! A LIN : T COMMENT                                                    LIB     !
! * 080 : G SCHEMA DESCRIPTION                                         *VIRT   !
! * 100 : G SCHEMA  NAME  IS    (EXTERNAL SCHEMA NAME)                 *VIRT   !
!   120 : G AUTHOR.               TAYLOR.                              0332    !
!   140 : G DATE.                 19JLY85.                             0332    !
! * 400 : G FILE DESCRIPTION                                           *VIRT   !
!   420 : G FILE NAME IS CUSTOMER FILE      ASSIGN TO CUSSER.          0332    !
!   440 : G FILE NAME IS ORDERS FILE        ASSIGN TO ORDENT.          0332    !
!   460 : G FILE NAME IS INVENTORY FILE     ASSIGN TO VALIDA.          0332    !
! * 500 : G AREA DESCRIPTION                                           *VIRT   !
! * 550 :                    --->  AREA INSERTION SPOT <---            *VIRT   !
! * 600 : G RECORD DESCRIPTION                                         *VIRT   !
! * 650 :                    ---> RECORD INSERTION SPOT <---           *VIRT   !
! * 700 : G SET DESCRIPTION                                           *VIRT   !
! * 750 :                    ---> SET INSERTION SPOT <---              *VIRT   !
! * 900 : G END-SCHEMA                                                 *VIRT   !
!       :                                                                      !
!       :                                                                      !
!       :                                                                      !
!                                                                              !
! O: C1 CH: -G                                                                 !
!                                                                              !
--------------------------------------------------------------------------------
```

```
!                                                                              !
!                        ORDER MANAGEMENT SYSTEM            *DOC.DIVA.GCC.806 !
! BLOCK DESC. CODASYL SCHEMA  EXCODA CODASYL (IDMS) SCHEMA EXAMPLE              !
!                                                                              !
! A LIN : T AREA  OWNER MEM  MODEL      OCC NAME OF AREA,                      !
!       :   SET    SEG  SEG  CODE           SET OR COMMENT                     !
!   100 : A AREX1                     *                                        !
!   120 : A AREX2                     *                                        !
!   140 : A AREX3                     *                                        !
!   320 : R AREX1  EX2A               *                                        !
!   340 : R AREX1  EX2B               *                                        !
!   360 : R AREX2  EX2C               *                                        !
!   380 : R AREX2  EX2D               *                                        !
!   400 : R AREX2  EX2E               *                                        !
!   420 : R AREX2  EX2F               *                                        !
!   440 : R AREX3  EX2G               *                                        !
!   460 : R AREX3  EX2H               *                                        !
!   480 : R AREX3  EX2I               *                                        !
!   620 : S STEX1  EX2B EX2A          *       BAD DEBT CUSTOMERS SET           !
!   640 : S STEX2  EX2D EX2C          *       DUE DATE SET                     !
!   660 : S STEX3  EX2A EX2C          *       CUSTOMER ORDER SET               !
!   680 : S STEX4  EX2E EX2C          *       ORDER INDEX SET                  !
!   700 : S STEX5  EX2C EX2F          *       ITEM ORDER SET                   !
!   720 : S STEX6  EX2G EX2F          *       WARE ITEM SET                    !
!   740 : S STEX7  EX2I EX2F          *       PRODUCT ITEM SET                 !
!   760 : S STEX8  EX2G EX2H          *       WAREHOUSE STOCK QUANTITY SET     !
!   780 : S STEX9  EX2I EX2H          *       PRODUCT QUANTITY SET             !
!                                                                              !
! O: C1 CH: -DC                                                                !
!                                                                              !
```

```
!                                                                              !
!                       ORDER MANAGEMENT SYSTEM            *DOC.DIVA.GCC.806 !
! BLOCK DESC GENERAL DOC.         EXCODA CODASYL (IDMS) SCHEMA EXAMPLE     100 !
!                                                                              !
! A LIN : T COMMENT                                                    LIB   !
!   030 : G *                                                          0327  !
!   050 : G           ************************************             0327  !
!   070 : G           *        AREA DESCRIPTIONS          *             0317  !
!   080 : G           ************************************             0317  !
!   090 : G                                                            0317  !
!   095 : G                ***  CUSTOMER SERVICE  ***                  0317  !
!   097 : G                                                            0317  !
! * 100 : G        AREA NAME IS (AREA CODE)                            *VIRT !
!   120 : G            RANGE IS 10001 THRU 10100                       0332  !
!   140 : G            WITHIN CUSTOMERS FILE FROM 1 THRU 100.          0349  !
!       :                                                                      !
!       :                                                                      !
!       :                                                                      !
!       :                                                                      !
!       :                                                                      !
!       :                                                                      !
!       :                                                                      !
!       :                                                                      !
!                                                                              !
! O: C1 CH: -DC100G                                                            !
!                                                                              !
```

```
--------------------------------------------------------------------------------
!                                                                              !
!                        ORDER MANAGEMENT SYSTEM            *DOC.DIVA.GCC.806 !
! BLOCK DESC GENERAL DOC.         EXCODA CODASYL (IDMS) SCHEMA EXAMPLE     340 !
!                                                                              !
! A LIN : T COMMENT                                                      LIB   !
!   030 : G *                                                            0327  !
!   050 : G         ***  BAD DEBT CUSTOMERS  ***                        0329  !
!   070 : G                                                              0317  !
! * 100 : G      RECORD NAME IS (SEGMENT CODE)                          *VIRT!
!   110 : G      RECORD ID IS EX2B                                      0331  !
!   120 : G LOCATION MODE IS CALC USING EX2B-BADCRE                     0317  !
!   140 : G     DUPLICATES ARE NOT ALLOWED.                             0331  !
! * 300 : G              WITHIN (AREA CODE) AREA                        *VIRT!
! * 700 :                   ---> DATA-NAME INSERTION STARTING POINT <---  *VIRT!
! * 800 :                   ---> DATA-NAME INSERTION ENDING POINT <---    *VIRT!
!       :                                                                      !
!       :                                                                      !
!       :                                                                      !
!       :                                                                      !
!       :                                                                      !
!       :                                                                      !
!       :                                                                      !
!       :                                                                      !
!                                                                              !
! O: C1 CH: -DC340G                                                            !
!                                                                              !
--------------------------------------------------------------------------------
```

```
!                                                                              !
!                       ORDER MANAGEMENT SYSTEM            *DOC.DIVA.GCC.806 !
! BLOCK DESC GENERAL DOC.         EXCODA CODASYL (IDMS) SCHEMA EXAMPLE     620 !
!                                                                              !
! A LIN : T COMMENT                                                    LIB   !
!   010 : G                                                            0317  !
!   020 : G         ****************************************           0317  !
!   040 : G         *            SET DESCRIPTIONS            *         0317  !
!   050 : G         ****************************************           0317  !
!   070 : G                                                            0317  !
! * 100 : G         SET NAME IS (SET CODE)                             *VIRT !
!   110 : G          ***  BAD DEBT CUSTOMERS SET  ***                  0317  !
!   120 : G ORDER NEXT.                                                0317  !
!   140 : G MODE CHAIN LINKED PRIOR.                                   0317  !
! * 400 : G            OWNER IS (OWNER SEGMENT)                      *VIRT !
!   420 : G               NEXT DBDKEY POSITION IS 240                 0349  !
!   440 : G                PRIOR DBDKEY POSITION IS 320               0349  !
! * 700 : G           MEMBER IS (MEMBER SEGMENT)                     *VIRT !
!   720 : G             MANDATORY AUTOMATIC                          0349  !
!   740 : G           NEXT DBDKEY POSITION IS 410                    0349  !
!   760 : G            PRIOR DBDKEY POSITION IS 630                  0349  !
!   780 : G            LINKED TO OWNER OWNER DBDKEY POSITION IS 240  0349  !
!   800 : G                ASCENDING KEY IS ID                       0349  !
!   820 : G                           DUPLICATES ARE NOT ALLOWED.    0349  !
!                                                                              !
! O: C1 CH: -DC620G                                                            !
!                                                                              !
```

9.4. IDMS SCHEMA (DDL) / D1 TYPE: GENERATED DESCRIPTION

```
000010 SCHEMA DESCRIPTION.
000020 SCHEMA NAME IS MANAGER.
000030 AUTHOR.              TAYLOR.
000040 DATE.                21FEB85.
000050 FILE DESCRIPTION.
000060 FILE NAME IS CUSTOMER-FILE      ASSIGN TO CSMSER.
000070 FILE NAME IS ORDER-FILE         ASSIGN TO ORDERY.
000080 FILE NAME IS INVENTORY-FILE     ASSIGN TO INVCON.
000090 AREA DESCRIPTION.
000100 *
000110           ***********************************
000120           *        AREA DESCRIPTIONS          *
000130           ***********************************
000140
000150                ***  CUSTOMER SERVICE  ***
000160
000170 AREA NAME IS AREX1
000180            RANGE IS 10001 THRU 10100
000190            WITHIN CUSTOMER-FILE FROM 1 THRU 100.
000200
000210 *           ***  ORDER ENTRY  ***
000220
000230 AREA NAME IS AREX2
000240            RANGE IS 20001 THRU 20100
000250            WITHIN ORDER-FILE FROM 1 THRU 100.
000260
000270 *             ***  VALIDATION  ***
000280
000290 AREA NAME IS AREX3
000300            RANGE IS 30001 THRU 30100
000310            WITHIN INVENTORY-FILE FROM 1 THRU 100.
000320 RECORD DESCRIPTION.
000330
000340   ***********************************
000350   *       RECORD DESCRIPTIONS         *
000360   ***********************************
000370
000380           ***  CUSTOMERS  ***
000390
000400 RECORD NAME IS EX2A
000410      RECORD ID IS EX2A.
000420 LOCATION MODE IS CALC USING EX2A-CLINUM
000430     DUPLICATES ARE NOT ALLOWED.
000440 WITHIN  AREX1  AREA.
000450     02              EX2A-CLINUM PICTURE 9(8).
000460     02              EX2A-CLINAM PICTURE X(32).
000470     02              EX2A-CLIAD1 PICTURE X(32).
000480     02              EX2A-CLIAD2 PICTURE X(32).
000490 *
000500         ***  BAD DEBT CUSTOMERS  ***
000510
000520 RECORD NAME IS EX2B
000530      RECORD ID IS EX2B.
000540 LOCATION MODE IS CALC USING EX2B-BADCRE
000550     DUPLICATES ARE NOT ALLOWED.
000560 WITHIN  AREX1  AREA.
000570     02              EX2B-CLINUM PICTURE 9(8).
000580 *
000590          ***  ORDER HEADER  ***
000600
000610 RECORD NAME IS EX2C.
000620 LOCATION MODE IS VIA CUSTOMER-ORDER SET.
000630 WITHIN  AREX2  AREA.
000640     02              EX2C-ORDHDR PICTURE X(8).
000650     02              EX2C-ENTDAT.
000660       03            EX2C-MOENTR PICTURE XX.
000670       03            EX2C-DYENTR PICTURE XX.
000680       03            EX2C-YRENTR PICTURE XX.
000690     02              EX2C-DUEDAT.
000700       03            EX2C-MONDUE PICTURE XX.
000710       03            EX2C-DAYDUE PICTURE XX.
000720       03            EX2C-YRDUE  PICTURE XX.
```

```
000730 *
000740        ***  DUE DATE  ***
000750
000760 RECORD NAME IS EX2D.
000770 LOCATION MODE IS CALC USING EX2D-DATEID
000780     DUPLICATES ARE NOT ALLOWED.
000790 WITHIN  AREX2  AREA.
000800     02              EX2D-DATEID PICTURE X(8).
000810 *
000820           ***  ORDER IDENTIFIER  ***
000830
000840 RECORD NAME IS EX2E.
000850 LOCATION MODE IS CALC USING EX2E-ORDNMB
000860     DUPLICATES ARE NOT ALLOWED.
000870 WITHIN  AREX2  AREA.
000880     02              EX2E-ORDNMB PICTURE X(8).
000890     02              EX2E-DELDAT.
000900       03            EX2E-MONDEL PICTURE XX.
000910       03            EX2E-DAYDEL PICTURE XX.
000920       03            EX2E-YRDEL  PICTURE XX.
000930 *
000940          ***  ITEM  ***
000950
000960 RECORD NAME IS EX2F.
000970 LOCATION MODE IS VIA ORDER-ITEM SET.
000980 WITHIN  AREX2  AREA.
000990     02              EX2F-ITEMNM PICTURE X(4).
001000     02              EX2F-ITMQTY PICTURE S9(8).
001010 *
001020        ***  WAREHOUSE  ***
001030
001040 RECORD NAME IS EX2G.
001050 LOCATION MODE IS CALC USING EX2G-WAREHS
001060     DUPLICATES NOT ALLOWED.
001070 WITHIN  AREX3  AREA.
001080     02              EX2G-WAREHS PICTURE XX.
001090     02              EX2G-WARLOC PICTURE X(30).
001100 *
001110        ***  QUANTITY ON STOCK  ***
001120
001130 RECORD NAME IS EX2H.
001140 LOCATION MODE IS VIA PRODUCT-QUANTITY SET.
001150 WITHIN  AREX3  AREA.
001160     02              EX2H-STKQTY PICTURE S9(8).
001170     02              EX2H-STKLOC PICTURE 9(4).
001180 *
001190        ***  PRODUCT  ***
001200
001210 RECORD NAME IS EX2I.
001220 LOCATION MODE IS CALC USING EX2I-PRODID
001230     DUPLICATES NOT ALLOWED.
001240 WITHIN  AREX3  AREA.
001250     02              EX2I-PRODID PICTURE X(4).
001260     02              EX2I-PRDNAM PICTURE X(16).
001270     02              EX2I-PRODES PICTURE X(32).
001280     02              EX2I-PRDINF PICTURE X(24).
001290 SET DESCRIPTION.
001300
001310         ****************************************
001320         *            SET DESCRIPTIONS          *
001330         ****************************************
001340
001350 SET NAME IS  STEX1
001360             ***  BAD DEBT CUSTOMERS  ***.
001370 ORDER NEXT.
001380 MODE CHAIN LINKED PRIOR.
001390 OWNER  IS EX2B
001400               NEXT DBDKEY POSITION IS 240
001410                PRIOR DBDKEY POSITION IS 320.
001420 MEMBER IS EX2A
001430             MANDATORY AUTOMATIC
001440           NEXT DBDKEY POSITION IS 410
001450            PRIOR DBDKEY POSITION IS 630
001460            LINKED TO OWNER OWNER DBDKEY POSITION IS 240
001470                ASCENDING KEY IS ID
001480                          DUPLICATES ARE NOT ALLOWED.
001490 *
```

```
001500              ***  DUE DATE SET  ***
001510
001520 SET NAME IS  STEX2.
001530 ORDER LAST.
001540 MODE CHAIN LINKED PRIOR.
001550 OWNER  IS EX2D.
001560 MEMBER IS EX2C.
001570 *
001580          ***  CUSTOMER ORDER SET  ***
001590
001600 SET NAME IS  STEX3.
001610 ORDER SORTED.
001620 MODE CHAIN LINKED PRIOR.
001630 OWNER  IS EX2A.
001640 MEMBER IS EX2C.
001650 *
001660            ***  ORDER INDEX SET  ***
001670
001680 SET NAME IS  STEX4.
001690 ORDER NEXT.
001700 MODE CHAIN.
001710 OWNER  IS EX2E.
001720 MEMBER IS EX2C.
001730 *
001740             ***  ORDER ITEM SET  ***
001750
001760 SET NAME IS  STEX5.
001770 ORDER NEXT.
001780 MODE CHAIN LINKED PRIOR.
001790 OWNER  IS EX2C.
001800 MEMBER IS EX2F.
001810 *
001820          ***  WAREHOUSE ITEM SET  ***
001830
001840 SET NAME IS  STEX6.
001850 ORDER NEXT.
001860 MODE CHAIN LINKED PRIOR.
001870 OWNER  IS EX2G.
001880 MEMBER IS EX2F.
001890 *
001900          ***  PRODUCT ITEM SET  ***
001910
001920 SET NAME IS  STEX7.
001930 ORDER NEXT.
001940 MODE CHAIN LINKED PRIOR.
001950 OWNER  IS EX2I.
001960 MEMBER IS EX2F.
001970 *
001980          ***  WAREHOUSE QUANTITY SET  ***
001990
002000 SET NAME IS  STEX8.
002010 ORDER NEXT.
002020 MODE CHAIN.
002030 OWNER  IS EX2G.
002040 MEMBER IS EX2H.
002050 *
002060          ***  PRODUCT QUANTITY SET  ***
002070
002080 SET NAME IS  STEX9.
002090 ORDER NEXT.
002100 MODE CHAIN.
002110 OWNER  IS EX2I.
002120 MEMBER IS EX2H.
```

9.5. IDMS SCHEMA (DMCL)/ D2 TYPE: SCREENS

IDMS SCHEMA (DMCL)

The physical description of an IDMS schema is generated from a 'D2'-type Database Block.

```
!                                                                              !
!                        ORDER MANAGEMENT SYSTEM            *DOC.DIVA.GCC.806 !
!                                                                              !
! BLOCK DEFINITION.............:    EXCODD                                     !
!                                                                              !
! NAME.................: CODASYL (IDMS) SCHEMA EXAMPLE                        !
! TYPE.................: D2 SCHEMA (DMCL)                                     !
!                                                                              !
!                                                                              !
! EXTERNAL NAME.........: PRODUCTS                                            !
! EXT. NAME OF SCHEMA...: MANAGER                                             !
!                                                                              !
!                                                                              !
! CONTROL CARDS....... FRONT:         BACK:                                   !
!                                                                              !
!                                                                              !
! EXPLICIT KEYWORDS..: CODASYL                                                !
!                                                                              !
!                                                                              !
! SESSION NUMBER.....: 0331        LIBRARY......: GCC    LOCK....:            !
!                                                                              !
!                                                                              !
!                                                                              !
!                                                                              !
! O: C1 CH: B excodd                    ACTION:                                !
!                                                                              !
```

```
!                                                                              !
!                        ORDER MANAGEMENT SYSTEM            *DOC.DIVA.GCC.806 !
! BLOCK     GENERAL DOC.          EXCODD CODASYL (IDMS) SCHEMA EXAMPLE          !
!                                                                              !
! A LIN : T COMMENT                                                      LIB   !
! * 080 : G DEVICE-MEDIA        DESCRIPTION                              *VIRT!
! * 100 : G DEVICE-MEDIA NAME IS (EXT. NAME) OF SCHEMA (SCHEMA EXT.NAME) *VIRT!
!   105 : G                                                              0331 !
!   110 : G AUTHOR. TAYLOR                                               0331 !
!   120 : G DATE. 02 15 85                                               0331 !
!   130 : G                                                              0331 !
! * 200 : G BUFFER SECTION                                               *VIRT!
!   220 : G              BUFFER NAME IS ORDERS                           0331 !
!   230 : G              PAGE CONTAINS N CHARACTERS                      0331 !
!   240 : G              BUFFER CONTAINS X PAGES                         0331 !
!   300 : G                                                              0331 !
! * 500 : G AREA SECTION                                                 *VIRT!
!       :                                                                      !
!       :                                                                      !
!       :                                                                      !
!       :                                                                      !
!       :                                                                      !
!       :                                                                      !
!                                                                              !
! O: C1 CH: -G                                                                 !
!                                                                              !
```

```
!                                                                              !
!                        ORDER MANAGEMENT SYSTEM            *DOC.DIVA.GCC.806 !
! BLOCK DESC. CODASYL DMCL    EXCODD CODASYL (IDMS) SCHEMA EXAMPLE              !
!                                                                              !
! A LIN : T AREA  OWNER MEM  MODEL      OCC NAME OF AREA,                      !
!       :   SET    SEG  SEG  CODE           SET OR COMMENT                     !
!   100 : A AREX1                    *                                       !
!   120 : A AREX2                    *                                       !
!   140 : A AREX3                    *                                       !
!   320 : R AREX1  EX2A                                                      !
!   340 : R AREX1  EX2B                                                      !
!   360 : R AREX2  EX2C                                                      !
!   380 : R AREX2  EX2D                                                      !
!   400 : R AREX2  EX2E                                                      !
!   420 : R AREX2  EX2F                                                      !
!   440 : R AREX3  EX2G                                                      !
!   460 : R AREX3  EX2H                                                      !
!   480 : R AREX3  EX2I                                                      !
!   620 : S STEX1  EX2B EX2A               BAD DEBT CUSTOMERS SET            !
!   640 : S STEX2  EX2D EX2C               DUE DATE SET                      !
!   660 : S STEX3  EX2A EX2C               CUSTOMER ORDER SET                !
!   680 : S STEX4  EX2E EX2C               ORDER INDEX SET                   !
!   700 : S STEX5  EX2C EX2F               ITEM ORDER SET                    !
!   720 : S STEX6  EX2G EX2F               WAREHOUSE ITEM SET                !
!   740 : S STEX7  EX2I EX2F               PRODUCT ITEM SET                  !
!   760 : S STEX8  EX2G EX2H               WAREHOUSE STOCK QUANTITY SET      !
!   780 : S STEX9  EX2I EX2H               PRODUCT QUANTITY SET              !
!                                                                              !
! O: C1 CH: -DC                                                                !
!                                                                              !
```

```
!                                                                              !
!                        ORDER MANAGEMENT SYSTEM            *DOC.DIVA.GCC.806 !
! BLOCK DESC GENERAL DOC.         EXCODD CODASYL (IDMS) SCHEMA EXAMPLE     100 !
!                                                                              !
! A LIN : T COMMENT                                                      LIB   !
! * 100 : G COPY (AREA CODE) AREA                                        *VIRT!
!   120 : G PAGE-RESERVE CONTAINS Y CHARACTERS.                          0349 !
!   140 : G LOCK SECTION.                                                0349 !
!   160 : G           LOCK TABLE CONTAINS Z PAGES.                       0349 !
!       :                                                                      !
!       :                                                                      !
!       :                                                                      !
!       :                                                                      !
!       :                                                                      !
!       :                                                                      !
!       :                                                                      !
!       :                                                                      !
!       :                                                                      !
!       :                                                                      !
!       :                                                                      !
!       :                                                                      !
!                                                                              !
! O: C1 CH: -DC100G                                                            !
!                                                                              !
```

9.6. IDMS SCHEMA (DMCL)/ D2 TYPE: GENERATED DESCRIPTION

```
000010 DEVICE-MEDIA DESCRIPTION.
000020 DEVICE-MEDIA NAME IS PRODUCTS OF SCHEMA NAME MANAGER.
000030
000040 AUTHOR. TAYLOR.
000050 DATE. 02 22 85
000060
000070 BUFFER SECTION.
000080              BUFFER NAME IS ORDERS
000090              PAGE CONTAINS N CHARACTERS
000100              BUFFER CONTAINS X PAGES
000110
000120 AREA SECTION.
000130 COPY AREX1  AREA.
000140 PAGE-RESERVE CONTAINS Y CHARACTERS.
000150 LOCK SECTION.
000160           LOCK TABLE CONTAINS Z PAGES.
000170 COPY AREX2  AREA
000180  PAGE-RESERVE Z CHARACTERS.
000190  LOCK SECTION.
000200            LOCK TABLE CONTAINS X PAGES.
000210 COPY AREX3  AREA.
000220 PAGE-RESERVE CONTAINS U CHARACTERS.
000230 LOCK SECTION.
000240           LOCK TABLE CONTAINS X PAGES.
000250 SET NAME IS  STEX1.
000260 SET NAME IS  STEX2.
000270 SET NAME IS  STEX3.
000280 SET NAME IS  STEX4.
000290 SET NAME IS  STEX5.
000300 SET NAME IS  STEX6.
000310 SET NAME IS  STEX7.
000320 SET NAME IS  STEX8.
000330 SET NAME IS  STEX9.
```

9.7. IDMS SUB-SCHEMA / D3 TYPE: SCREENS

IDMS SUB-SCHEMA

An IDMS sub-schema is generated from a 'D3'-type Database Block.

If the record description is identical to the one generated in the schema, the system does not generate a description but a 'COPY'.

The user may request a reduced segment description of the complete schema description.

The request for this description is made on the database block description lines from which the sub-schema is generated.

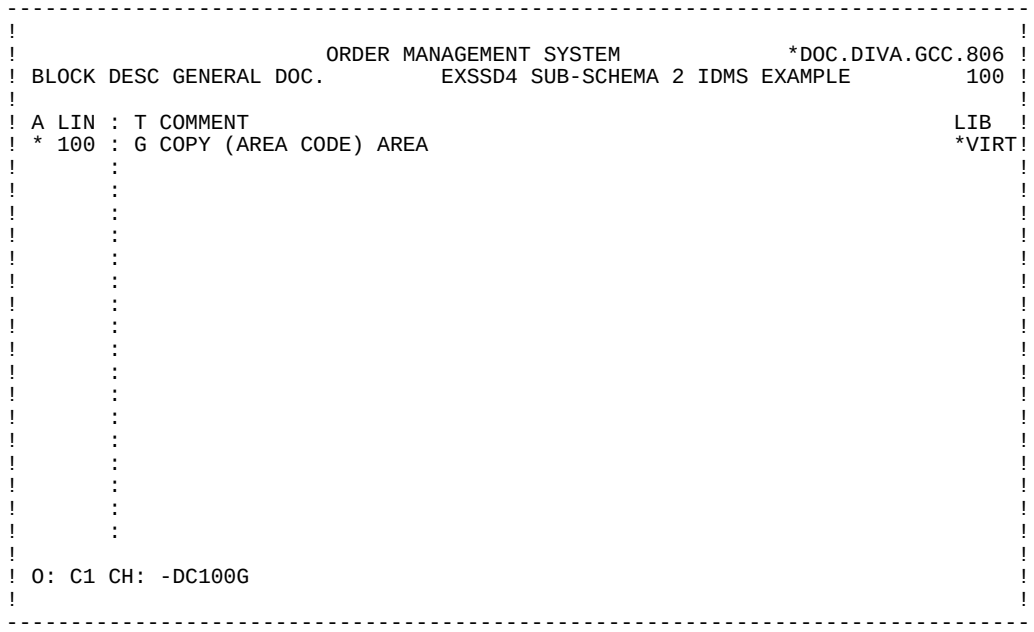
For additional information, please refer to Chapter "CODASYL BLOCKS".

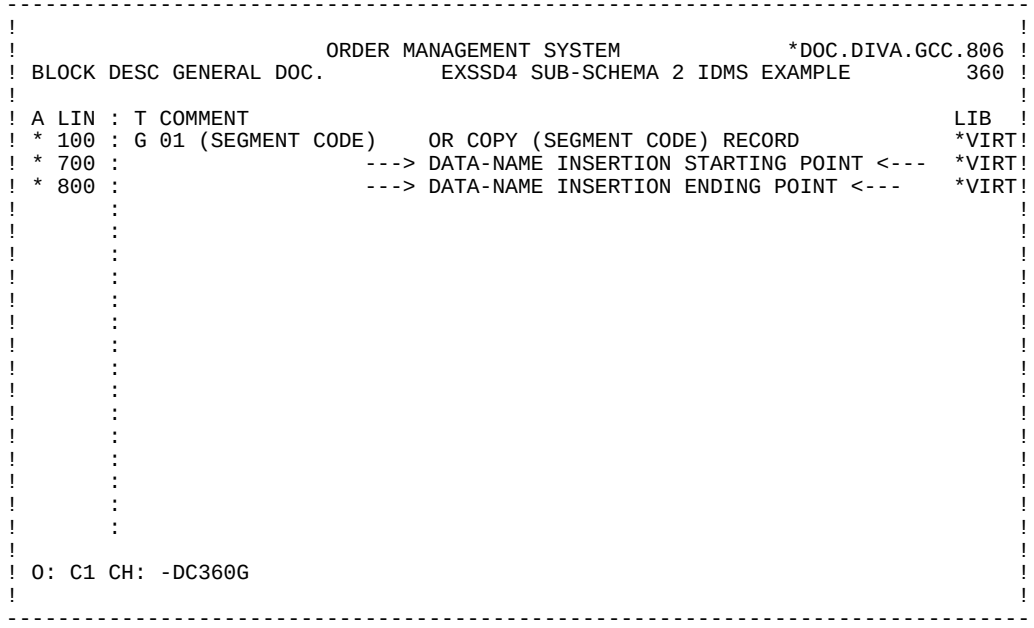
If the record description is different from the one generated in the schema, only the higher-level data elements are taken into account.

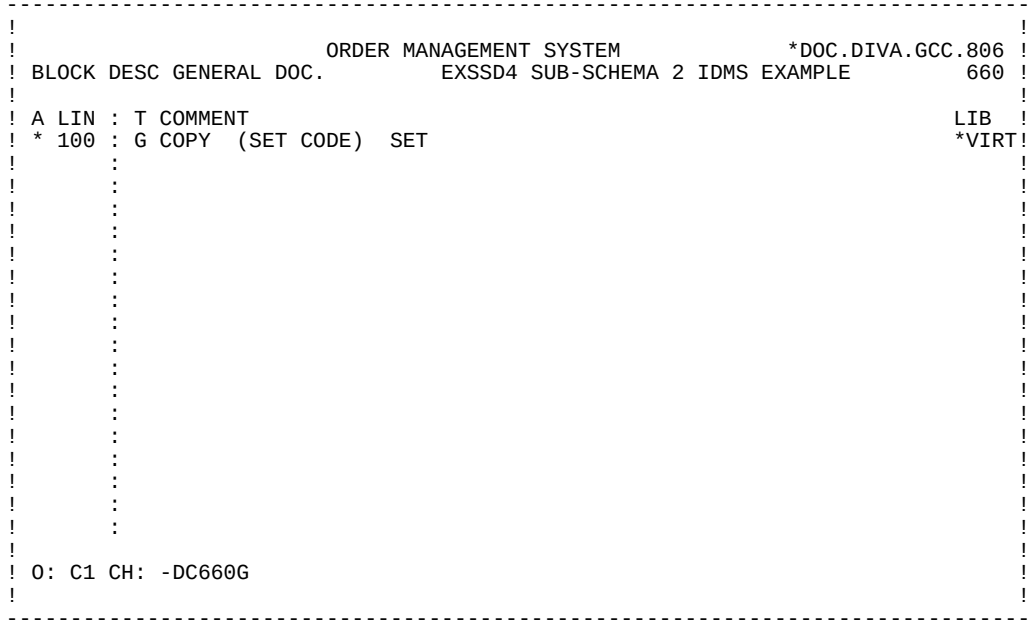
```
!                                                                              !
!                        ORDER MANAGEMENT SYSTEM            *DOC.DIVA.GCC.806 !
!                                                                              !
! BLOCK DEFINITION.............:    EXSSD4                                     !
!                                                                              !
! NAME.................: SUB-SCHEMA 2 IDMS EXAMPLE                            !
! TYPE.................: D3 SUB-SCHEMA                                        !
!                                                                              !
!                                                                              !
! EXTERNAL NAME.........: S/SCHEMA                                            !
! EXT. NAME OF SCHEMA...: MANAGER                                             !
!                                                                              !
!                                                                              !
! CONTROL CARDS....... FRONT:         BACK:                                   !
!                                                                              !
!                                                                              !
! EXPLICIT KEYWORDS..:                                                        !
!                                                                              !
!                                                                              !
! SESSION NUMBER.....: 0331        LIBRARY......: GCC    LOCK....:            !
!                                                                              !
!                                                                              !
!                                                                              !
!                                                                              !
! O: C1 CH: B exssd4                    ACTION:                                !
!                                                                              !
```

```
!                                                                              !
!                        ORDER MANAGEMENT SYSTEM            *DOC.DIVA.GCC.806 !
! BLOCK     GENERAL DOC.          EXSSD4 SUB-SCHEMA 2 IDMS EXAMPLE              !
!                                                                              !
! A LIN : T COMMENT                                                      LIB   !
! * 080 : G SUB-SCHEMA          IDENTIFICATION DIVISION                  *VIRT!
! * 100 : G SUB-SCHEMA NAME IS (EXT. NAME) OF SCHEMA (SCHEMA EXT. NAME)  *VIRT!
! * 400 : G SUB-SCHEMA   DATA   DIVISION                                 *VIRT!
! * 500 : G AREA SECTION                                                 *VIRT!
! * 600 : G RECORD SECTION                                               *VIRT!
! * 700 : G SET SECTION                                                  *VIRT!
!       :                                                                      !
!       :                                                                      !
!       :                                                                      !
!       :                                                                      !
!       :                                                                      !
!       :                                                                      !
!       :                                                                      !
!       :                                                                      !
!       :                                                                      !
!       :                                                                      !
!       :                                                                      !
!                                                                              !
! O: C1 CH: -G                                                                 !
!                                                                              !
```

```
!                                                                              !
!                        ORDER MANAGEMENT SYSTEM            *DOC.DIVA.GCC.806 !
! BLOCK DE. CODASYL SUBSCHEMA EXSSD4 SUB-SCHEMA 2 IDMS EXAMPLE                 !
!                                                                              !
! A LIN : T AREA  OWNER MEM  MODEL      OCC NAME OF AREA,                      !
!       :   SET    SEG  SEG  CODE           SET OR COMMENT                     !
!   100 : A AREX1                                                              !
!   120 : A AREX2                                                              !
!   140 : A AREX3                                                              !
!   320 : R AREX1  EX2A                                                        !
!   360 : R AREX2  EX2C      =EX3C                                             !
!   380 : R AREX2  EX2D                                                        !
!   400 : R AREX2  EX2E                                                        !
!   420 : R AREX2  EX2F                                                        !
!   440 : R AREX3  EX2G                                                        !
!   460 : R AREX3  EX2H                                                        !
!   480 : R AREX3  EX2I                                                        !
!   640 : S STEX2  EX2D EX2C               DUE DATE SET                        !
!   660 : S STEX3  EX2A EX2C               CUSTOMER ORDER SET                  !
!   680 : S STEX4  EX2E EX2C               ORDER INDEX SET                     !
!   700 : S STEX5  EX2C EX2F               ITEM ORDER SET                      !
!   720 : S STEX6  EX2G EX2F               WAREHOUSE ITEM SET                  !
!   740 : S STEX7  EX2I EX2F               PRODUCT ITEM SET                    !
!   760 : S STEX8  EX2G EX2H               WAREHOUSE STOCK QUANTITY SET        !
!   780 : S STEX9  EX2I EX2H               PRODUCT QUANTITY SET                !
!                                                                              !
! O: C1 CH: -DC                                                                !
!                                                                              !
```


ORDER MANAGEMENT SYSTEM *DOC.DIVA.GCC.806
BLOCK DESC GENERAL DOC. EXSSD4 SUB-SCHEMA 2 IDMS EXAMPLE 100
A LIN : T COMMENT LIB
* 100 : G COPY (AREA CODE) AREA *VIRT
O: C1 CH: -DC100G


ORDER MANAGEMENT SYSTEM *DOC.DIVA.GCC.806
BLOCK DESC GENERAL DOC. EXSSD4 SUB-SCHEMA 2 IDMS EXAMPLE 360
A LIN : T COMMENT LIB
* 100 : G 01 (SEGMENT CODE) OR COPY (SEGMENT CODE) RECORD *VIRT
* 700 : ---> DATA-NAME INSERTION STARTING POINT <--- *VIRT
* 800 : ---> DATA-NAME INSERTION ENDING POINT <--- *VIRT
O: C1 CH: -DC360G


ORDER MANAGEMENT SYSTEM *DOC.DIVA.GCC.806
BLOCK DESC GENERAL DOC. EXSSD4 SUB-SCHEMA 2 IDMS EXAMPLE 660
A LIN : T COMMENT LIB
* 100 : G COPY (SET CODE) SET *VIRT
O: C1 CH: -DC660G

9.8. IDMS SUB-SCHEMA / D3 TYPE: GENERATED DESCRIPTION

```
000010 SUBSCHEMA IDENTIFICATION DIVISION.
000020 SUBSCHEMA  NAME  IS  S/SCHEMA OF SCHEMA NAME MANAGER.
000030 SUBSCHEMA DATA DIVISION.
000040 AREA SECTION.
000050 COPY AREX1  AREA.
000060 COPY AREX2  AREA.
000070 COPY AREX3  AREA.
000080 RECORD SECTION.
000090 COPY EX2A   RECORD.
000100 01  EX2C.
000110     02              EX2C-ORDHDR.
000120     02              EX2C-ENTDAT.
000130     02              EX2C-DUEDAT.
000140 COPY EX2D   RECORD.
000150 COPY EX2E   RECORD.
000160 COPY EX2F   RECORD.
000170 COPY EX2G   RECORD.
000180 COPY EX2H   RECORD.
000190 COPY EX2I   RECORD.
000200 SET SECTION.
000210 COPY STEX2  SET.
000220 COPY STEX3  SET.
000230 COPY STEX4  SET.
000240 COPY STEX5  SET.
000250 COPY STEX6  SET.
000260 COPY STEX7  SET.
000270 COPY STEX8  SET.
000280 COPY STEX9  SET.
```

9.9. IDMS SUB-SCHEMA / D4 TYPE: SCREENS

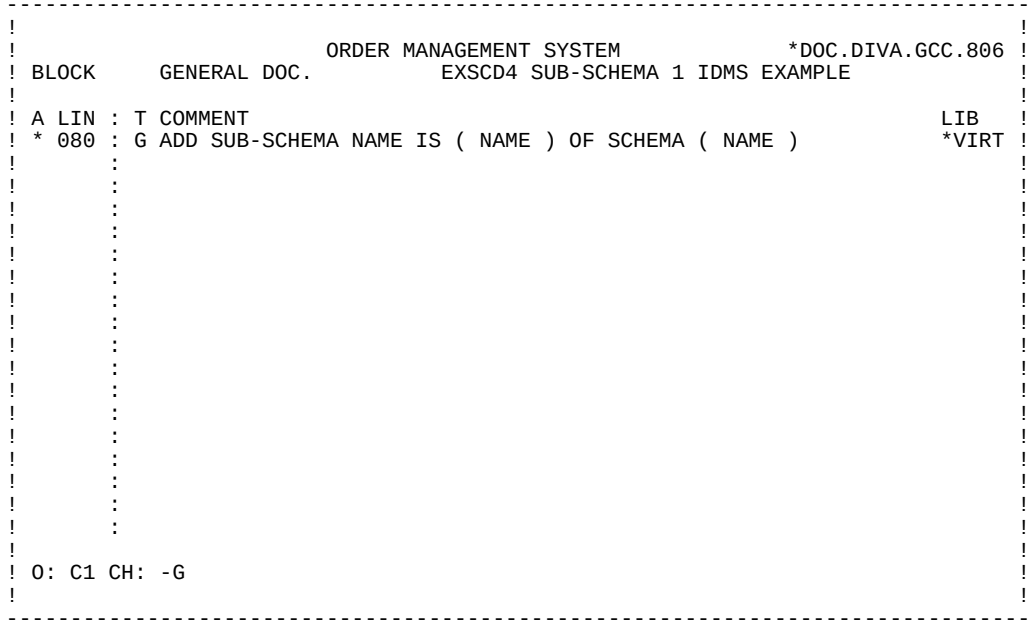
IDMS SUB-SCHEMA (RELEASE 5.7)

An IDMS sub-schema (release 5.7) is generated from a 'D4'-type Database Block.

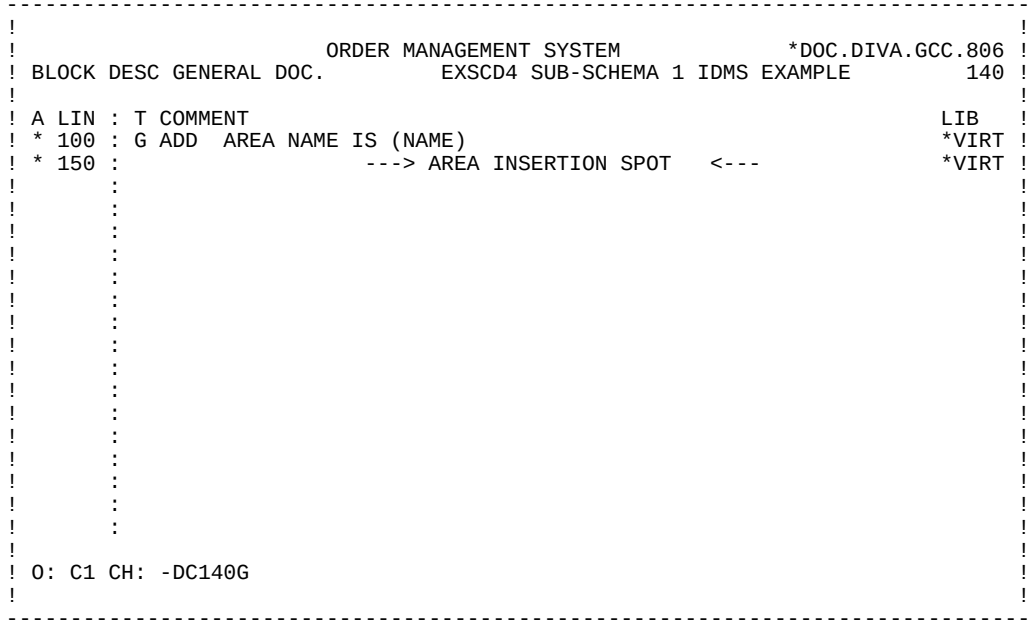
Only the data elements at the first level are taken into account when the description is generated.

On the record description line, the user indicates to which sub-schema a data element belongs.

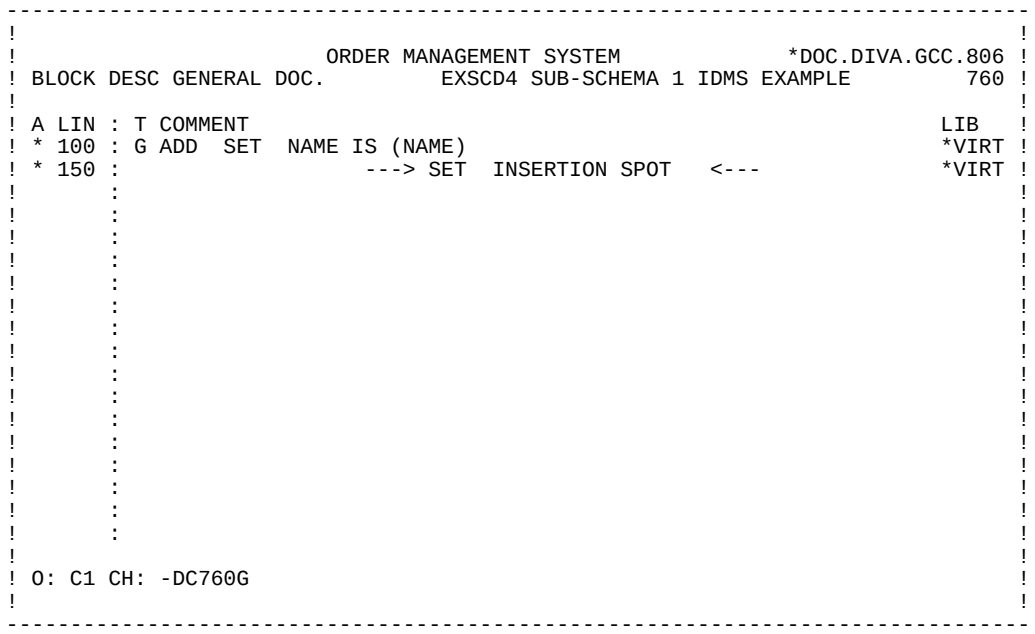
```
!                                                                              !
!                        ORDER MANAGEMENT SYSTEM            *DOC.DIVA.GCC.806 !
!                                                                              !
! BLOCK DEFINITION.............:    EXSCD4                                     !
!                                                                              !
! NAME..................: SUB-SCHEMA 1 IDMS EXAMPLE                           !
! TYPE..................: D4 IDMS SUB-SCHEMA                                  !
!                                                                              !
!                                                                              !
! EXTERNAL NAME.........: QUANTITY                                            !
! EXT. NAME OF SCHEMA...: MANAGER                                              !
!                                                                              !
!                                                                              !
! CONTROL CARDS....... FRONT:         BACK:                                    !
!                                                                              !
!                                                                              !
! EXPLICIT KEYWORDS..:                                                         !
!                                                                              !
!                                                                              !
! SESSION NUMBER.....: 0331        LIBRARY......: GCC    LOCK....:             !
!                                                                              !
!                                                                              !
!                                                                              !
!                                                                              !
! O: C1 CH: B exscd4                    ACTION:                                !
!                                                                              !
```


ORDER MANAGEMENT SYSTEM *DOC.DIVA.GCC.806
BLOCK GENERAL DOC. EXSCD4 SUB-SCHEMA 1 IDMS EXAMPLE
A LIN : T COMMENT LIB
* 080 : G ADD SUB-SCHEMA NAME IS (NAME) OF SCHEMA (NAME) *VIRT
O: C1 CH: -G

```
!                                                                              !
!                        ORDER MANAGEMENT SYSTEM            *DOC.DIVA.GCC.806 !
! BLOCK DE. CODASYL SUBSCHEMA EXSCD4 SUB-SCHEMA 1 IDMS EXAMPLE                 !
!                                                                              !
! A LIN : T AREA  OWNER MEM  MODEL      OCC NAME OF AREA,                      !
!       :   SET    SEG  SEG  CODE          SET OR COMMENT                      !
!   140 : A AREX3                                                              !
!   440 : R AREX3  EX2G                                                        !
!   460 : R AREX3  EX2H                                                        !
!   480 : R AREX3  EX2I                                                        !
!   760 : S STEX8  EX2G EX2H               WAREHOUSE STOCK QUANTITY SET        !
!   780 : S STEX9  EX2I EX2H               PRODUCT QUANTITY SET                !
!       :                                                                      !
!       :                                                                      !
!       :                                                                      !
!       :                                                                      !
!       :                                                                      !
!       :                                                                      !
!       :                                                                      !
!       :                                                                      !
!       :                                                                      !
!       :                                                                      !
! *** END ***                                                                  !
! O: C1 CH: -DC                                                                !
!                                                                              !
```


ORDER MANAGEMENT SYSTEM *DOC.DIVA.GCC.806
BLOCK DESC GENERAL DOC. EXSCD4 SUB-SCHEMA 1 IDMS EXAMPLE 140
A LIN : T COMMENT LIB
* 100 : G ADD AREA NAME IS (NAME) *VIRT
* 150 : ---> AREA INSERTION SPOT <--- *VIRT
O: C1 CH: -DC140G

```
!                                                                              !
!                        ORDER MANAGEMENT SYSTEM            *DOC.DIVA.GCC.806 !
! BLOCK DESC GENERAL DOC.         EXSCD4 SUB-SCHEMA 1 IDMS EXAMPLE         440 !
!                                                                              !
! A LIN : T COMMENT                                                      LIB   !
! * 100 : G ADD  RECORD NAME IS (NAME)                                   *VIRT!
! * 150 :                  ---> RECORD INSERTION SPOT <---               *VIRT!
! * 500 : G      ELEMENTS ARE                                            *VIRT!
! * 700 :                  ---> DATA-NAME INSERTION STARTING POINT <---  *VIRT!
! * 800 :                  ---> DATA-NAME INSERTION ENDING POINT <---    *VIRT!
!       :                                                                      !
!       :                                                                      !
!       :                                                                      !
!       :                                                                      !
!       :                                                                      !
!       :                                                                      !
!       :                                                                      !
!       :                                                                      !
!       :                                                                      !
!       :                                                                      !
!       :                                                                      !
!       :                                                                      !
!                                                                              !
! O: C1 CH: -DC440G                                                            !
!                                                                              !
```


ORDER MANAGEMENT SYSTEM *DOC.DIVA.GCC.806
BLOCK DESC GENERAL DOC. EXSCD4 SUB-SCHEMA 1 IDMS EXAMPLE 760
A LIN : T COMMENT LIB
* 100 : G ADD SET NAME IS (NAME) *VIRT
* 150 : ---> SET INSERTION SPOT <--- *VIRT
O: C1 CH: -DC760G

9.10. IDMS SUB-SCHEMA / D4 TYPE: GENERATED DESCRIPTION

```
ADD    SUBSCHEMA NAME IS QUANTITY OF SCHEMA NAME MANAGER.
ADD  AREA NAME IS AREX3.
ADD  RECORD NAME IS EX2G
     ELEMENTS ARE
                    EX2G-WAREHS
                    EX2G-WARLOC.
ADD  RECORD NAME IS EX2H
     ELEMENTS ARE
                    EX2H-STKQTY
                    EX2H-STKLOC.
ADD  RECORD NAME IS EX2I
     ELEMENTS ARE
                    EX2I-PRODID
                    EX2I-PRDNAM
                    EX2I-PRODES
                    EX2I-PRDINF.
ADD  SET  NAME IS STEX8.
ADD  SET  NAME IS STEX9.
```

9.11. DMS SCHEMA (DDL) / S1 TYPE: SCREENS

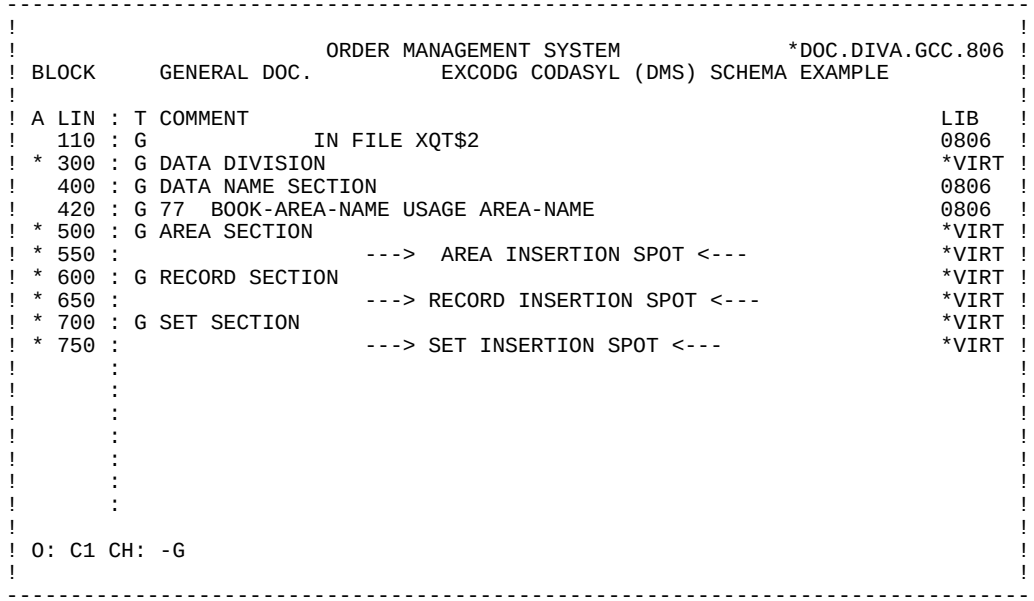
DMS SCHEMA (DDL)

A DMS schema is generated from an 'S1'-type Database Block.

All data elements are taken into account by the system when the description is generated.

The DMS CODASYL elementary data format is the same as the PACBASE format.

```
!                                                                              !
!                        ORDER MANAGEMENT SYSTEM            *DOC.DIVA.GCC.806 !
!                                                                              !
! BLOCK DEFINITION.............:    EXCODG                                     !
!                                                                              !
! NAME.................: CODASYL (DMS) SCHEMA EXAMPLE                         !
! TYPE.................: S1 SCHEMA DMS 1100                                   !
!                                                                              !
!                                                                              !
! EXTERNAL NAME.........: MANAGER                                              !
! EXT. NAME OF SCHEMA...:                                                      !
!                                                                              !
!                                                                              !
! CONTROL CARDS....... FRONT:         BACK:                                    !
!                                                                              !
!                                                                              !
! EXPLICIT KEYWORDS..: CODASYL                                                 !
!                                                                              !
!                                                                              !
! SESSION NUMBER.....: 0806        LIBRARY......: GCC    LOCK....:             !
!                                                                              !
!                                                                              !
!                                                                              !
!                                                                              !
! O: C1 CH: B excodg                    ACTION:                                !
!                                                                              !
```


ORDER MANAGEMENT SYSTEM *DOC.DIVA.GCC.806
BLOCK GENERAL DOC. EXCODG CODASYL (DMS) SCHEMA EXAMPLE
A LIN : T COMMENT LIB
110 : G IN FILE XQT$2 0806
* 300 : G DATA DIVISION *VIRT
400 : G DATA NAME SECTION 0806
420 : G 77 BOOK-AREA-NAME USAGE AREA-NAME 0806
* 500 : G AREA SECTION *VIRT
* 550 : ---> AREA INSERTION SPOT <--- *VIRT
* 600 : G RECORD SECTION *VIRT
* 650 : ---> RECORD INSERTION SPOT <--- *VIRT
* 700 : G SET SECTION *VIRT
* 750 : ---> SET INSERTION SPOT <--- *VIRT
O: C1 CH: -G

```
!                                                                              !
!                        ORDER MANAGEMENT SYSTEM            *DOC.DIVA.GCC.806 !
! BLOCK DESC. CODASYL SCHEMA  EXCODA CODASYL (DMS) SCHEMA EXAMPLE               !
!                                                                              !
! A LIN : T AREA  OWNER MEM  MODEL      OCC NAME OF AREA,                      !
!       :   SET    SEG  SEG  CODE           SET OR COMMENT                     !
!   100 : A AREX1                    *                                       !
!   120 : A AREX2                                                            !
!   140 : A AREX3                                                            !
!   320 : R AREX1  EX2A              *                                       !
!   340 : R AREX1  EX2B                                                      !
!   360 : R AREX2  EX2C                                                      !
!   380 : R AREX2  EX2D                                                      !
!   400 : R AREX2  EX2E                                                      !
!   420 : R AREX2  EX2F                                                      !
!   440 : R AREX3  EX2G                                                      !
!   460 : R AREX3  EX2H                                                      !
!   480 : R AREX3  EX2I                                                      !
!   620 : S STEX1  EX2B EX2A         *       BAD DEBT CUSTOMERS SET          !
!   640 : S STEX2  EX2D EX2C                 DUE DATE SET                    !
!   660 : S STEX3  EX2A EX2C                 CUSTOMER ORDER SET              !
!   680 : S STEX4  EX2E EX2C                 ORDER INDEX SET                 !
!   700 : S STEX5  EX2C EX2F                 ITEM ORDER SET                  !
!   720 : S STEX6  EX2G EX2F                 WAREHOUSE ITEM SET              !
!   740 : S STEX7  EX2I EX2F                 PRODUCT ITEM SET                !
!   760 : S STEX8  EX2G EX2H                 WAREHOUSE STOCK QUANTITY SET    !
!   780 : S STEX9  EX2I EX2H                 PRODUCT QUANTITY SET            !
!                                                                              !
! O: C1 CH: -DC                                                                !
!                                                                              !
```

```
!                                                                              !
!                        ORDER MANAGEMENT SYSTEM            *DOC.DIVA.GCC.806 !
! BLOCK DESC GENERAL DOC.         EXCODA CODASYL (DMS) SCHEMA EXAMPLE      100 !
!                                                                              !
! A LIN : T COMMENT                                                    LIB   ! 
! * 100 : G AREA NAME IS (AREA CODE)                                   *VIRT ! 
!   120 : G      AREA CODE IS 1                                        0806  ! 
!   140 : G      ALLOCATE 10 PAGES 2 OVERFLOW PAGES                    0806  ! 
!   160 : G      PAGES ARE 1792 WORDS                                  0806  ! 
!   180 : G      LOAD IS 75 PERCENT                                    0806  ! 
!   200 : G      CALC USES 1 CHAIN                                     0806  ! 
!       :                                                                      !
!       :                                                                      !
!       :                                                                      !
!       :                                                                      !
!       :                                                                      !
!       :                                                                      !
!       :                                                                      !
!       :                                                                      !
!       :                                                                      !
!       :                                                                      !
!       :                                                                      !
!                                                                              !
! O: C1 CH: -DC100G                                                            !
!                                                                              !
```

```
!                                                                              !
!                       ORDER MANAGEMENT SYSTEM            *DOC.DIVA.GCC.806 !
! BLOCK DESC GENERAL DOC.         EXCODA CODASYL (DMS) SCHEMA EXAMPLE      320 !
!                                                                              !
! A LIN : T COMMENT                                                  LIB   !
! * 100 : G RECORD NAME IS (SEGMENT CODE)                            *VIRT !
!   120 : G      RECORD CODE IS 9                                    0806  !
!   140 : G      LOCATION MODE IS INDEX SEQUENTIAL                   0806  !
!   160 : G               USING ASCENDING KEY EX2A-CLINUM            0806  !
!   180 : G               LINKS ARE NEXT                             0806  !
!   200 : G               DUPLICATES ARE NOT ALLOWED                 0806  !
!   220 : G      RECORD MODE IS ASCII                                0806  !
! * 300 : G      WITHIN (AREA CODE) AREA                             *VIRT !
! * 700 :        ---> DATA-NAME INSERTION STARTING POINT <---        *VIRT !
! * 800 :        ---> DATA-NAME INSERTION ENDING POINT <---          *VIRT !
!       :                                                                !
!       :                                                                !
!       :                                                                !
!       :                                                                !
!       :                                                                !
!       :                                                                !
!       :                                                                !
!       :                                                                !
!                                                                        !
! O: C1 CH: -DC320G                                                      !
!                                                                        !
```

```
--------------------------------------------------------------------------------
!                                                                              !
!                        ORDER MANAGEMENT SYSTEM            *DOC.DIVA.GCC.806 !
! BLOCK DESC GENERAL DOC.         EXCODA CODASYL (DMS) SCHEMA EXAMPLE      620 !
!                                                                              !
! A LIN : T COMMENT                                                    LIB   !
! * 100 : G SET NAME IS (SET CODE)                                     *VIRT !
!   120 : G          SET CODE IS 20                                    0806  !
!   140 : G          MODE IS CHAIN                                     0806  !
!   160 : G          ORDER IS SORTED                                   0806  !
! * 400 : G          OWNER IS (OWNER SEGMENT)                          *VIRT !
! * 700 : G          MEMBER IS (MEMBER SEGMENT)                        *VIRT !
!   720 : G          ASCENDING KEY IS EX2A-CLINUM                      0806  !
!   740 : G          DUPLICATES ARE NOT ALLOWED                        0806  !
!       :                                                                      !
!       :                                                                      !
!       :                                                                      !
!       :                                                                      !
!       :                                                                      !
!       :                                                                      !
!       :                                                                      !
!       :                                                                      !
!       :                                                                      !
!                                                                              !
! O: C1 CH: -DC620G                                                            !
!                                                                              !
--------------------------------------------------------------------------------
```

9.12. DMS SCHEMA (DDL) / S1 TYPE: GENERATED DESCRIPTION

```
IDENTIFICATION DIVISION
SCHEMA NAME IS MANAGER
        IN FILE XQT$2
DATA DIVISION
DATA NAME SECTION
77 BOOK-AREA-NAME USAGE AREA-NAME
AREA SECTION
AREA NAME IS AREX1
   AREA CODE IS 1
   ALLOCATE 10 PAGES 2 OVERFLOW PAGES
   PAGES ARE 1792 WORDS
   LOAD IS 75 PERCENT
   CALC USES 1 CHAINS
AREA NAME IS AREX2
AREA NAME IS AREX3
RECORD SECTION
RECORD NAME IS EX2A
     RECORD CODE IS 9
     LOCATION MODE IS INDEX SEQUENTIAL
              USING ASCENDING KEY EX2A-CLINUM
              LINKS ARE NEXT
              DUPLICATES ARE NOT ALLOWED
     WITHIN AREX1
  02              EX2A-CLINUM PICTURE 9(8)
                       COMPUTATIONAL
  02              EX2A-CLINAM PICTURE X(32)
  02              EX2A-CLIAD1 PICTURE X(32)
  02              EX2A-CLIAD2 PICTURE X(32)
RECORD NAME IS EX2B
     WITHIN AREX1
  02              EX2B-CLINUM PICTURE 9(8)
                       COMPUTATIONAL
RECORD NAME IS EX2C
     WITHIN AREX2
  02              EX2C-ORDHDR PICTURE X(8)
  02              EX2C-ENTDAT
    03            EX2C-MOENTR PICTURE XX
    03            EX2C-DYENTR PICTURE XX
    03            EX2C-YRENTR PICTURE XX
  02              EX2C-DUEDAT
    03            EX2C-MONDUE PICTURE XX
    03            EX2C-DAYDUE PICTURE XX
    03            EX2C-YRDUE  PICTURE XX
  02              EX2C-CHOIX  PICTURE X
RECORD NAME IS EX2D
     WITHIN AREX2
  02              EX2D-DATEID PICTURE X(8)
RECORD NAME IS EX2E
     WITHIN AREX2
  02              EX2E-ORDNMB PICTURE X(8)
  02              EX2E-DELDAT
    03            EX2E-MONDEL PICTURE XX
    03            EX2E-DAYDEL PICTURE XX
    03            EX2E-YRDEL  PICTURE XX
RECORD NAME IS EX2F
     WITHIN AREX2
  02              EX2F-ITEMNM PICTURE X(4)
  02              EX2F-ITMQTY PICTURE S9(8)
RECORD NAME IS EX2G
     WITHIN AREX3
  02              EX2G-WAREHS PICTURE XX
  02              EX2G-WARLOC PICTURE X(30)
RECORD NAME IS EX2H
     WITHIN AREX3
  02              EX2H-STKQTY PICTURE S9(10)V9(3)
                       COMPUTATIONAL
  02              EX2H-STKLOC
                       COMPUTATIONAL-1
RECORD NAME IS EX2I
     WITHIN AREX3
  02              EX2I-GROUP
    03            EX2I-PRODID PICTURE X(4)
```

```
       03            EX2I-PRDNAM PICTURE X(16)
       03            EX2I-PRODES PICTURE X(32)
       03            EX2I-PRDINF PICTURE X(24)
     02              EX2I-PRODID PICTURE X(4)
     02              EX2I-PRDNAM PICTURE X(16)
     02              EX2I-PRODES PICTURE X(32)
     02              EX2I-PRDINF PICTURE X(24)
   SET SECTION
   SET NAME IS STEX1
          SET CODE IS 20
          MODE IS CHAIN
          ORDER IS SORTED
     OWNER  IS EX2B
     MEMBER IS EX2A
          ASCENDING KEY IS EX2A-CLINUM
          DUPLICATES ARE NOT ALLOWED
   SET NAME IS STEX2
     OWNER  IS EX2D
     MEMBER IS EX2C
   SET NAME IS STEX3
     OWNER  IS EX2A
     MEMBER IS EX2C
   SET NAME IS STEX4
     OWNER  IS EX2E
     MEMBER IS EX2C
   SET NAME IS STEX5
     OWNER  IS EX2C
     MEMBER IS EX2F
   SET NAME IS STEX6
     OWNER  IS EX2G
     MEMBER IS EX2F
   SET NAME IS STEX7
     OWNER  IS EX2I
     MEMBER IS EX2F
   SET NAME IS STEX8
     OWNER  IS EX2G
     MEMBER IS EX2H
   SET NAME IS STEX9
     OWNER  IS EX2I
     MEMBER IS EX2H
```

9.13. DMS SUB-SCHEMA / S3 TYPE: SCREENS

DMS SUB-SCHEMA

A DMS sub-schema is generated from a 'S3'-type Database Block.

If the record description is identical to the one generated in the schema, the system does not generate a description, but an 'ITEMS ARE ALL'.

The user may request a reduced segment description of the complete schema description.

The request for this description is made on the database block description lines from which the sub-schema is generated.

For additional information, please refer to the "CODASYL BLOCKS" Chapter.

If the record description is different from the one generated in the schema, only the elementary data elements are taken into account.

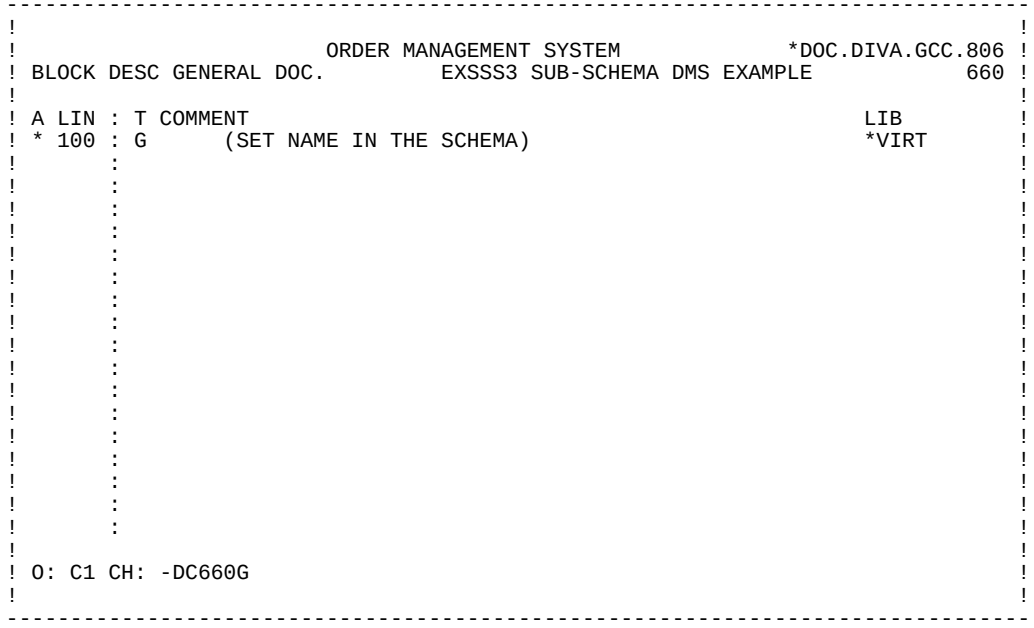
```
--------------------------------------------------------------------------------
!                                                                              !
!                        ORDER MANAGEMENT SYSTEM            *DOC.DIVA.GCC.806 !
!                                                                              !
! BLOCK DEFINITION.............:    EXSSS3                                     !
!                                                                              !
! NAME.................: SUB-SCHEMA DMS EXAMPLE                                !
! TYPE.................: S3 SUB-SCHEMA DMS                                     !
!                                                                              !
!                                                                              !
! EXTERNAL NAME.........: S/SCHEMA                                             !
! EXT. NAME OF SCHEMA...: MANAGER                                              !
!                                                                              !
!                                                                              !
! CONTROL CARDS....... FRONT:         BACK:                                    !
!                                                                              !
!                                                                              !
! EXPLICIT KEYWORDS..:                                                         !
!                                                                              !
!                                                                              !
! SESSION NUMBER.....: 0806        LIBRARY......: GCC    LOCK....:             !
!                                                                              !
!                                                                              !
!                                                                              !
!                                                                              !
! O: C1 CH: B exsss3                    ACTION:                                !
!                                                                              !
--------------------------------------------------------------------------------
```

```
--------------------------------------------------------------------------------
!                                                                              !
!                        ORDER MANAGEMENT SYSTEM            *DOC.DIVA.GCC.806 !
! BLOCK     GENERAL DOC.          EXSSS3 SUB-SCHEMA DMS EXAMPLE                !
!                                                                              !
! A LIN : T COMMENT                                                  LIB       !
! * 080 : G IDENTIFICATION DIVISION                                  *VIRT     !
! * 100 : G       SUB-SCHEMA NAME ( NAME )                           *VIRT     !
!   110 : G       IN FILE XQT$2                                      0806      !
! * 120 : G       OF SCHEMA ( NAME )                                 *VIRT     !
! * 140 : G       HOST LANGTUAGE IS ASCII COBOL                      *VIRT     !
! * 300 : G DATA DIVISION                                            0806      !
!   400 : G DATA NAME SECTION                                        0806      !
!   410 : G      DATA NAMES ARE ALL                                  0806      !
! * 500 : G AREA SECTION                                             *VIRT     !
! * 550 : G       AREAS ARE (AREA NAMES)                             *VIRT     !
! * 600 : G RECORD SECTION                                           *VIRT     !
! * 650 : G       RECORDS ARE (RECORD NAMES)                         *VIRT     !
! * 700 : G SET SECTION                                              *VIRT     !
! * 750 : G       SETS ARE (SET NAMES)                               *VIRT     !
!       :                                                                      !
!       :                                                                      !
!       :                                                                      !
!       :                                                                      !
!                                                                              !
! O: C1 CH: -G                                                                 !
!                                                                              !
--------------------------------------------------------------------------------
```

```
!                                                                              !
!                        ORDER MANAGEMENT SYSTEM            *DOC.DIVA.GCC.806 !
! BLOCK DE. CODASYL SUBSCHEMA EXSSS3 SUB-SCHEMA DMS EXAMPLE                    !
!                                                                              !
! A LIN : T AREA  OWNER MEM  MODEL      OCC NAME OF AREA,                      !
!       :   SET    SEG  SEG  CODE           SET OR COMMENT                     !
!   100 : A AREX1                                                              !
!   120 : A AREX2                                                              !
!   140 : A AREX3                                                              !
!   320 : R AREX1  EX2A                     SS=1                               !
!   360 : R AREX2  EX2C      =EX4C                                             !
!   380 : R AREX2  EX2D                                                        !
!   400 : R AREX2  EX2E                                                        !
!   420 : R AREX2  EX2F                                                        !
!   440 : R AREX3  EX2G                                                        !
!   460 : R AREX3  EX2H                                                        !
!   480 : R AREX3  EX2I                                                        !
!   640 : S STEX2  EX2D EX2C                DUE DATE SET                       !
!   660 : S STEX3  EX2A EX2C                CUSTOMER ORDER SET                 !
!   680 : S STEX4  EX2E EX2C                ORDER INDEX SET                    !
!   700 : S STEX5  EX2C EX2F                ITEM ORDER SET                     !
!   720 : S STEX6  EX2G EX2F                WAREHOUSE ITEM SET                 !
!   740 : S STEX7  EX2I EX2F                PRODUCT ITEM SET                   !
!   760 : S STEX8  EX2G EX2H                WAREHOUSE STOCK QUANTITY SET       !
!   780 : S STEX9  EX2I EX2H                PRODUCT QUANTITY SET               !
!                                                                              !
! O: C1 CH: -DC                                                                !
!                                                                              !
```

```
!                                                                              !
!                        ORDER MANAGEMENT SYSTEM            *DOC.DIVA.GCC.806 !
! BLOCK DESC GENERAL DOC.         EXSSS3 SUB-SCHEMA DMS EXAMPLE            100 !
!                                                                              !
! A LIN : T COMMENT                                                    LIB   !
! * 100 : G      (AREA NAME IN THE SCHEMA)                             *VIRT !
!       :                                                                      !
!       :                                                                      !
!       :                                                                      !
!       :                                                                      !
!       :                                                                      !
!       :                                                                      !
!       :                                                                      !
!       :                                                                      !
!       :                                                                      !
!       :                                                                      !
!       :                                                                      !
!       :                                                                      !
!       :                                                                      !
!       :                                                                      !
!       :                                                                      !
!       :                                                                      !
!                                                                              !
! O: C1 CH: -DC100G                                                            !
!                                                                              !
```

```
!                                                                              !
!                        ORDER MANAGEMENT SYSTEM            *DOC.DIVA.GCC.806 !
! BLOCK DESC GENERAL DOC.         EXSSS3 SUB-SCHEMA DMS EXAMPLE            360 !
!                                                                              !
! A LIN : T COMMENT                                                    LIB   !
! * 080 : G      (RECORD NAME IN THE SCHEMA)                           *VIRT !
! * 100 : G      RECORD NAME IS (SEGMENT CODE)                         *VIRT !
! * 500 : G        ITEMS ARE                                           *VIRT !
! * 700 :                ---> ITEMS STARTING POINT     <---            *VIRT !
! * 800 :                ---> ITEMS ENDING POINT       <---            *VIRT !
!       :                                                                      !
!       :                                                                      !
!       :                                                                      !
!       :                                                                      !
!       :                                                                      !
!       :                                                                      !
!       :                                                                      !
!       :                                                                      !
!       :                                                                      !
!       :                                                                      !
!       :                                                                      !
!       :                                                                      !
!                                                                              !
! O: C1 CH: -DC360G                                                            !
!                                                                              !
```


ORDER MANAGEMENT SYSTEM *DOC.DIVA.GCC.806
BLOCK DESC GENERAL DOC. EXSSS3 SUB-SCHEMA DMS EXAMPLE 660
A LIN : T COMMENT LIB
* 100 : G (SET NAME IN THE SCHEMA) *VIRT
O: C1 CH: -DC660G

9.14. DMS SUB-SCHEMA / S3 TYPE: GENERATED DESCRIPTION

```
IDENTIFICATION DIVISION
  SUBSCHEMA NAME IS    S/SCHEMA
    IN FILE XQT$2
  OF SCHEMA MANAGER
  HOST LANGUAGE IS ASCII COBOL
DATA DIVISION
DATA NAME SECTION
   DATA NAMES ARE ALL
AREA SECTION
  AREAS ARE
        AREX1
        AREX2
        AREX3
RECORD SECTION
  RECORDS ARE
          EX2A
          EX2C
          EX2D
          EX2E
          EX2F
          EX2G
          EX2H
          EX2I
  RECORD NAME IS EX2A
         ITEMS ARE
               EX2A-CLINUM
               EX2A-CLINAM
  RECORD NAME IS EX2C
         ITEMS ARE
               EX2C-ORDHDR
               EX2C-MOENTR
               EX2C-DYENTR
               EX2C-YRENTR
  RECORD NAME IS EX2D
         ITEMS ARE ALL
  RECORD NAME IS EX2E
         ITEMS ARE ALL
  RECORD NAME IS EX2F
         ITEMS ARE ALL
  RECORD NAME IS EX2G
         ITEMS ARE ALL
  RECORD NAME IS EX2H
         ITEMS ARE ALL
  RECORD NAME IS EX2I
         ITEMS ARE ALL
SET SECTION
  SETS ARE
       STEX2
       STEX3
       STEX4
       STEX5
       STEX6
       STEX7
       STEX8
       STEX9
```