HP 3000 Computer Systems

Dictionary/3000 Reference Manual

HP 3000 Computer Systems
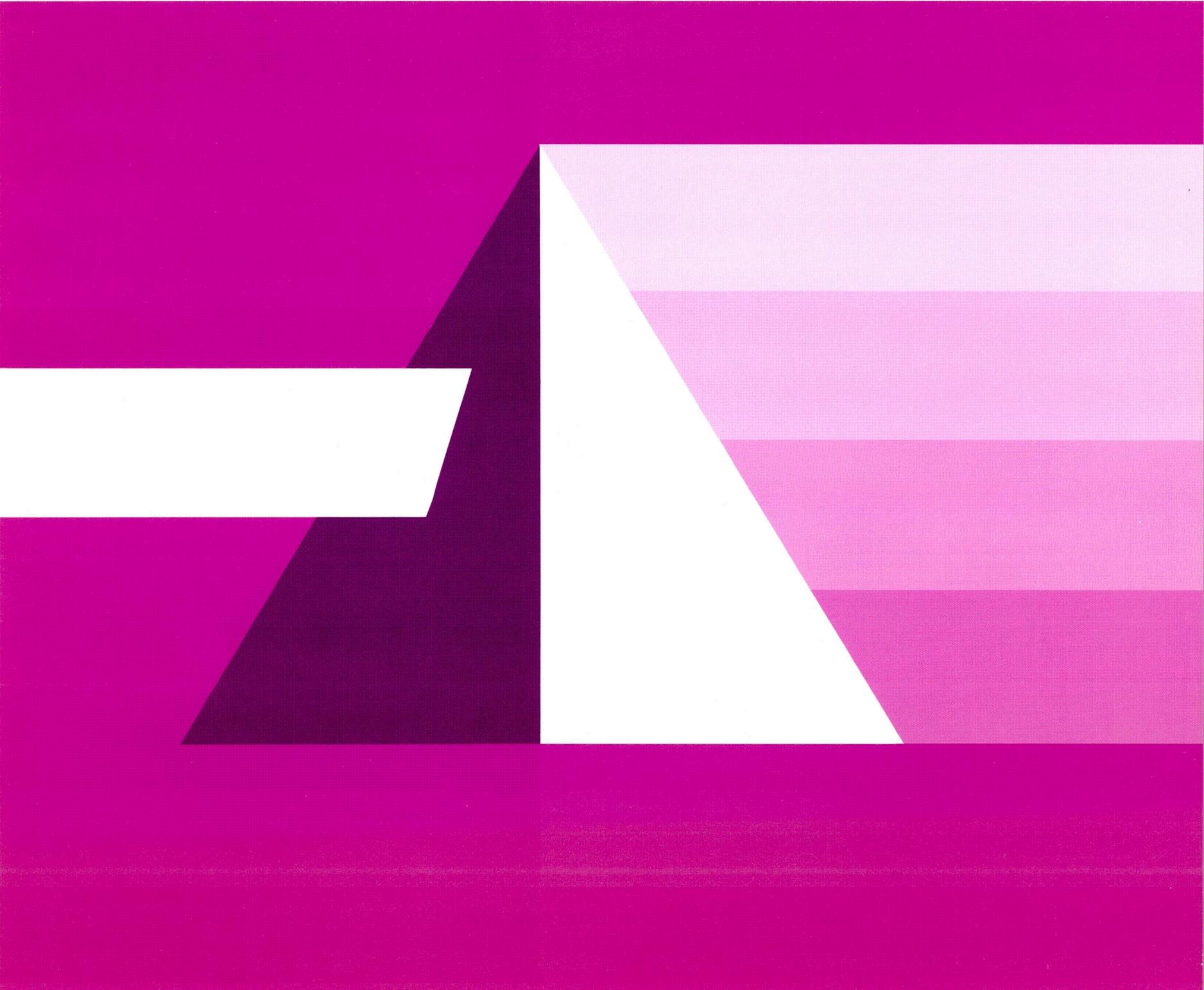
HP 3000 Computer System

DICTIONARY/3000
Reference Manual

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WARNING

The Data Dictionary integrity can be destroyed by using a utility
that is not listed below. Therefore, only the following utilities
will be supported by Hewlett-Packard when used against the Data
Dictionary:

      DICTINIT
      DICTDBM
      DICTDBM,UTIL
      DICTDBD
      DICTDBA
      DICTDBC
      DBSTORE/DBRESTOR
    *STORE/RESTORE
    *SYSDUMP

Hewlett-Packard will investigate and attempt to resolve problems
resulting from the use of utilities that do not appear on the above
list. This service is not provided under HP's standard support
agreements, but is available on a time and material basis.

HEWLETT-PACKARD IS NOT RESPONSIBLE FOR ANY LOSS OR DAMAGE RESULTING
FROM CUSTOMER'S USE OF THE DATA DICTIONARY WITH UTILITIES NOT
LISTED ABOVE.

*NOTE: STORE/RESTORE and SYSDUMP will be supported only when used
          on the Data Dictionary in its entirety (e.g., the root file
          and all data sets).

NOTICE

LIST OF EFFECTIVE PAGES

The List of Effective Pages gives the date of the current edition and the dates when pages were changed in updates to that edition. Within the manual, any page changed since the last edition has the date the changes were made on the bottom of the page. Changes are marked with a vertical bar in the margin. When an update is incorporated in a subsequent reprinting of the manual, these bars are removed.

```
      Second Edition  .......................................  July 1982
      Update No. 1  .........................................  Nov 1982
```

Changed Pages   Effective Date

```
Title page  .............................................  Nov 1982
ii to iv  ...............................................  Nov 1982
ix to xi  ...............................................  Nov 1982
1-2 to 1-4  .............................................  Nov 1982
2-1 to 2-2  .............................................  Nov 1982
2-6 to 2-7  .............................................  Nov 1982
4-1 to 4-2  .............................................  Nov 1982
4-30 to 4-30a  ..........................................  Nov 1982
4-41 to 4-44b  ..........................................  Nov 1982
5-1 to 5-2  .............................................  Nov 1982
5-5  ....................................................  Nov 1982
5-23  ...................................................  Nov 1982
5-27  ...................................................  Nov 1982
5-33 to 5-34  ...........................................  Nov 1982
A-11  ...................................................  Nov 1982
B-3 to B-4  .............................................  Nov 1982
B-7 to B-8  .............................................  Nov 1982
F-3  ....................................................  Nov 1982
```

PRINTING HISTORY

New editions are complete revisions of the manual. Update packages,
which are issued between editions, contain additional and replacement
pages to be merged into the manual by the customer. The date on the
title page and back cover of the manual changes only when a new edition
is published. When an edition is reprinted, all the prior updates to
the edition are incorporated. No information is incorporated into
a reprinting unless it appears as a prior update. The edition does not
change.

The software product part number printed alongside the date indicates
the version and update level of the software product at the time the
manual edition or update was issued. Many product updates and fixes
do not require manual changes and, conversely, manual corrections
may be done without accompanying product changes. Therefore, do not
expect a one to one correspondence between product updates and
manual updates.

This manual describes the Dictionary/3000 software system that operates on HP 3000 computers. It is the reference document for all persons involved in creating and maintaining a dictionary data base and an IMAGE/3000 data base. It assumes a working knowledge of the HP 3000 computer system, including the subsystem IMAGE/3000.

NOTE

Once Dictionary/3000 software has been installed on your system, you must execute the program DICTINIT to create and initialize your data dictionary. This program is described in Appendix C. DICINIT also allows you to re-initialize an existing data dictionary in order to change the passwords for access or the capacities of the data sets in the dictionary.

The following is a list of reference manuals and self-paced courses you may want as a supplement to this manual:

Manual	Part Number
MPE Command Reference Manual	30000-90009
MPE Error Messages and Recovery Manual	30000-90015
Using Files	30000-90102
IMAGE/3000 Reference Manual	32215-90003
VPLUS/3000 Reference Manual	32209-90001
KSAM/3000 Reference Manual	30000-90079
Transact/3000 Reference Manual	32247-90001
HP Inform/3000 User's Guide	32246-90001

Self-Paced Course	Product Number
Programming in Transact/3000	22842A
Using Dictionary/3000	22843A

CONVENTIONS

NOTATION

DESCRIPTION

[ ]

An element inside brackets is optional. Several elements stacked inside a pair of brackets means the user may select any one or none of these elements.

    Example: [A]   User may select A or
              [B]   B or neither.

{ }

When several elements are stacked within braces the user *must* select one of these elements.

              {A}
    Example: {B}   User must select A or B or C.
              {C}

italics

Lowercase italics denote a parameter which must be replaced by a user-supplied variable.

    Example: ADD *sub-command*

upper case

Words in upper case appearing in syntax or format statements must be entered exactly as shown.

    Example: ADD

CONTENTS

CONTENTS (continued)

CONTENTS (continued)

CONTENTS (continued)

CONTENTS (continued)

CONTENTS (continued)

CONTENTS (continued)

INTRODUCING DICTIONARY/3000

OVERVIEW

Dictionary/3000 is a Hewlett-Packard facility that provides a comprehensive set of software programs that allow you to:

- create any number of data dictionaries;
- create and maintain entries in the dictionary;
- create and maintain an IMAGE/3000 data base;
- create HP Inform/3000 groups.

Data Dictionary/Directory

Dictionary/3000 includes an easy-to-use, interactive program for the creation and maintenance of entries in a data dictionary. This program (called DICTDBM) provides you with a set of commands for the entry and maintenance of entries in a data dictionary.

The data dictionary is more than just a dictionary. It is also a directory telling you where data is stored, who is responsible for the data, and much more.

The entries in Dictionary/3000's data dictionary can define and describe an organization's structure, identify the data used by an organization, specify where the data is stored, identify what programs generate the data, and define and describe HP Inform/3000 groups to report the data.

Thus, Dictionary/3000's data dictionary is a central repository for information about an organization and its data processing environment.

IMAGE Data Bases

Dictionary/3000 also includes a complete set of utility programs that allows you to create and maintain an IMAGE data base and to transfer the definition of an existing IMAGE data base into the Dictionary/3000 data dictionary.

Dictionary/3000 utilities support all the functions of a data base administrator, such as loading and unloading IMAGE/3000 data bases and auditing of IMAGE/3000 data bases.

Features

Following are the main features of Dictionary/3000:

- An interactive program (DICTDBM) allows you to create and maintain entries in the data dictionary for:

  - data
  - IMAGE data bases
  - MPE and KSAM files
  - HP Inform/3000 groups
  - physical locations
  - organizational structures
  - application programs
  - security for data bases and files
  - relationships between the entries

- A comprehensive set of utilities:

  - data base creation program (DICTDBC)
  - data base definition program (DICTDBD)
  - data base audit program (DICTDBA)
  - data base unload program (DICTDBU)
  - data base load program (DICTDBL)
  - data dictionary cleanup program (DICTBDM,UTIL)

Data Dictionary Entries

The DICTDBM program includes commands that allow you to create and maintain entries in your data dictionary. After creating an entry, other commands allow you to establish and define relationships between entries.

Through a combination of commands, you have complete control of the information in your data dictionary. Thus, you can create entries, delete entries, change entries, and so forth.

DATA DEFINITIONS
Files:
   data + data relationships + security
Groups:
   HP Inform/3000 groups
Categories:
   organizational information
Locations:
   catalog of system's account structures
Procedures:
   directory of application programs

commands
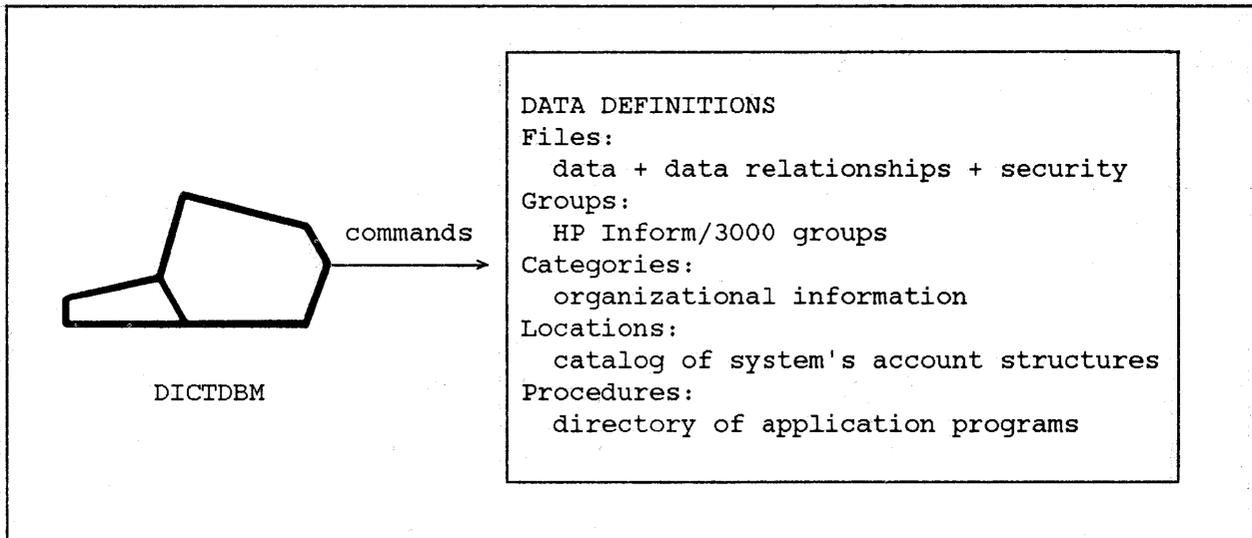
DICTDBM

Figure 1.1 Summary of Data Dictionary/Directory

Data Base Creation

Dictionary/3000 includes an interactive utility program, DICTDBC, that allows
you to create an IMAGE data base from your data dictionary. The definition,
association, and relationship entries for the data base must exist in your
data dictionary prior to using this utility.

Data Base Definition

Dictionary/3000 includes an interactive utility program, DICTDBD, that allows
you to transfer the definition of an existing IMAGE data base into your data
dictionary. This utility creates the definition, association, and
relationship entries for you.

Data Base Audit

Dictionary/3000 includes an interactive utility program, DICTDBA, that allows
you to audit an IMAGE data base for synonym, chain, and linkage usages.
Additional information, such as capacity usage, is also given.

Data Base Unload

Dictionary/3000 includes an interactive utility program, DICTDBU, that allows
you to unload the data files of an IMAGE data base. Selective unloading is
one of the main features of this utility.

Nov 1982

Data Base Load

Dictionary/3000 includes an interactive utility program, DICTDBL, that allows
you to load data into IMAGE data base files. Selective loading and editing
are two of the main features of this utility.

```
                DICTDBC          ┌──────────────┐
                DICTDBD          │              │
                                 │  Data        │
                              ┌──│  Dictionary  │
                             /   │              │
                            /    │              │
                           /     └──────────────┘
                          /
            ◣             DICTDBA          ┌──────────────┐
           ◢◤◥──────────────────────────  │  IMAGE       │
          ◣◢◤◢                             │  Data        │
           ◥◤                              │  Base        │
                          \                │  Files       │
         UTILITIES         \               └──────────────┘
                            \
                             \   DICTDBL          ┌──────────────┐
                              \  DICTDBU          │  Data        │
                               \──────────────────│  Base        │
                                                  │  Store       │
                                                  │  Files       │
                                                  └──────────────┘
```
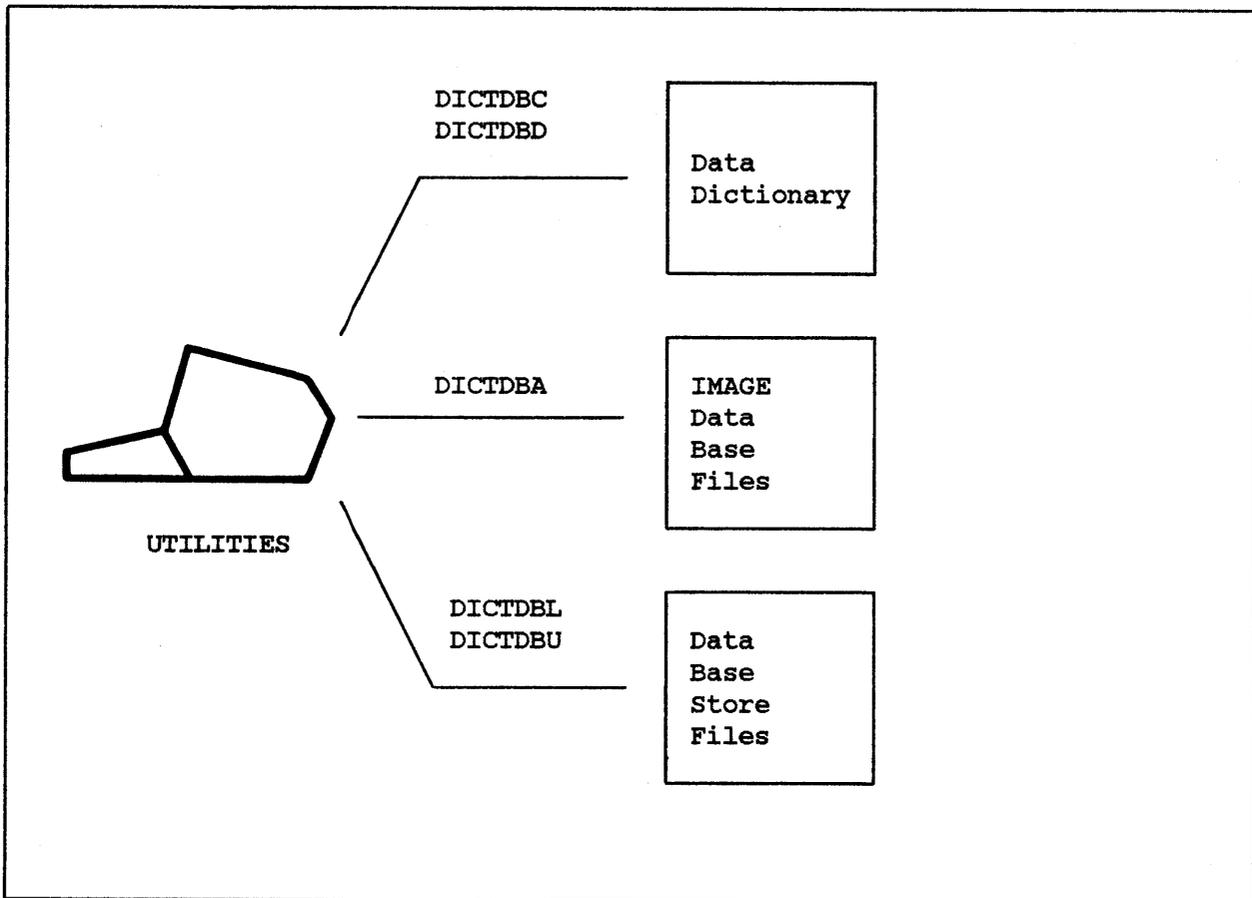
Figure 1.2   Summary of Utilities

Data Dictionary Cleanup

Dictionary/3000 includes a data dictionary utility program (DICTDBM,UTIL)
that allows you to perform periodic maintenance. This process removes
byproducts of DICTDBM processing that sometimes build up in a dictionary
after extensive use of DICTDBM.

HOW TO USE THIS MANUAL

This manual is divided into the following sections:

Section I   - Introduces you to Dictionary/3000.

Section II   - Describes the concepts behind and the use of DICTDBM - a program designed to create and maintain entries in your data dictionary/directory.

Section III - Provides an explanation of the commands used to create and maintain entries for various structures.

Section IV   - Describes the commands used to create and maintain entries in your data dictionary/directory.

Section V   - Gives an overview of each utility, and describes how each is used.

Appendix A - DICTDBM Error Messages.

Appendix B - Dictionary/3000 Utility Error Messages.

Appendix C - Initialization Procedures.

Appendix D - Describes how HP Inform/3000 links files to generate reports.

Appendix E - Glossary of Terms.

Appendix F - DICTDBM Quick Reference.

HOW TO RUN DICTIONARY/3000

OVERVIEW

Dictionary/3000 provides a Data Base Maintenance program (DICTDBM) to create and maintain entries in a data dictionary. This section describes how to run the program and use its HELP facility, describes the syntax for the commands in the program, defines the options that can be used with the commands, and lists all the commands and sub-commands available in the DICTDBM program.

Running the DICTDBM Program

To use the data dictionary, it must first be loaded and initialized onto your system by your system manager (see Appendix C).

After logging on, you are ready to run the data dictionary program. DICTDBM assumes the dictionary exists in the PUB group of your log-on account. If the dictionary you wish to use exists in a different MPE group and/or account, you must first identify these by issuing a file equation before running DICTDBM. The file equation should be as follows:

    FILE DICT.PUB=DICT group.account

Next, run the data dictionary program:

    RUN DICTDBM.PUB.SYS

Then press the RETURN key.

The data dictionary prompts you to enter a password as follows:

    PASSWORD FOR DICT.PUB>

You will not see the password displayed as you enter it. You must enter the password exactly as it appears in the system - that is, all caps, all lower case, initial cap, or some combination of the three. The individual responsible for the data dictionary can give you the password information.

The data dictionary supports two types of field entry. One, "form entry", has entry fields in enhanced video. The other, "normal terminal display", uses a less-than sign (<) to delimit entry fields. Both types of field entry indicate the maximum number of characters you can enter. In this manual, all examples are shown in "normal terminal display".

After the correct password is entered, the data dictionary lets you choose the type of field entry you wish to use with the following prompt:

FORMS ENTRY(Y/N)?>

A response of "Y" indicates that you want to use the enhanced video type of field entry.

Whenever a choice between two options is given within parentheses, the first choice listed is the DEFAULT choice, unless otherwise specified; thus, just pressing RETURN is the same as entering that choice.

After responding to the FORMS ENTRY prompt, the data dictionary issues a command prompt (>). You can use the commands available in the data dictionary to create, manipulate, or maintain entries. When you want to terminate execution of the data dictionary, enter the EXIT command in response to a command prompt.

You add entries to the data dictionary through a series of command strings in response to a command prompt (>). The action of the command string can be modified or enhanced by including one or more of the available command options.

COMMAND SYNTAX

A Dictionary/3000 command string has the following syntax:

[*option*] *command sub-command*

option	is a list of one or more command options which enhance or modify the action of the command. For example, REPEAT, SORT, etc. (See Options Used With Commands, described next, for an explanation of each option.)
command	specifies the command action. For example, ADD, RELATE, etc.
sub-command	specifies the target of the command's action. For example, ELEMENT, GROUP, etc.

For each command you must enter both the command and a sub-command, except for the EXIT command. Optionally, each command string can be preceded by one or more *options*. Only one command string is allowed for each command prompt.

You may use the appropriate abbreviations for the commands and sub-commands.

OPTIONS USED WITH COMMANDS

The following is a list of options which enhance or modify the action of the command. When used, they must come first in the command syntax and must be completely spelled out.

PRINT   directs the display to the line printer rather than to the user terminal.

TPRINT   formats the terminal display in line printer format.

SORT   sorts the display listing alphabetically before output.

REPEAT   repeats a command until the termination character (]) or the RETURN key is entered in response to a prompt.

Multiple options, separated by commas, can be used in a single command string.

When to Use the Options

When you are displaying information, the PRINT option is useful. For example, use PRINT with the LIST, DISPLAY, or SHOW command.

The TPRINT option is useful before directing output to the line printer. The listing will be displayed on your terminal in line printer format. Line printer format includes a banner line which shows the date and time of the report and where page breaks occur including page numbering.

The SORT option is useful when you want an alphabetical listing from the LIST and SHOW commands. The REPORT command automatically displays the list in alphabetical order.

When used, the REPEAT option causes the prompts for the command and/or sub-command to be repeated until terminated by the RETURN key or the termination character (]). One use for the REPEAT option is with the CREATE command when more than one data element is to be created. For instance, if you enter REPEAT CREATE ELEMENT, the prompt for ELEMENT is repeated allowing you to create many data elements without re-entering the command. The prompt for ELEMENT is repeated until you enter the terminating character.

SPECIAL CHARACTER OPTIONS

The following characters have special meaning when used in response to a prompt:

! in response to a prompt, terminates the prompting cycle within the command. It is equivalent to pressing RETURN to all subsequent prompts.

] in response to a prompt, if the REPEAT option is used with the command, prompts for one level are terminated and reissued for the next level up; if the REPEAT option is not used, terminates the command.

]] in response to a prompt, terminates the command.

COMMANDS AND SUB-COMMANDS

The following is a list of commands and sub-commands, and their abbreviations, that can be used in the data dictionary. In Section IV, which describes the commands, each description includes a list of the sub-commands that can be used with that command (see Section IV).

COMMAND	ABBREVIATION
ADD	A
CHANGE	CHG
CREATE	C
DELETE	DEL
DISPLAY	D
EXIT	E
HELP	H
LIST	L
MODIFY	M
PURGE	P
RELATE	REL
REMOVE	REM
RENAME	REN
REORDER	REO
REPORT	R
RESEQUENCE	RES
SECURE	SEC
SHOW	S
UPDATE	U

SUB-COMMAND	ABBREVIATION
CATEGORY	C
CLASS	CLS
CLASS-FILE	CLF
ELEMENT	E
FILE	F
FILE-LOC	FLC
GROUP	G
LOCATION	L
PROCEDURE	P
PROCEDURE-LOC	PLC
*	

* The sub-commands for the HELP command are the command names.

Note that each abbreviation is either a single or a three letter character string.

COMMAND USAGE CHART

The following chart indicates the order in which the data dictionary commands
can be used. The HELP command can be issued any time during a command
sequence as long as the command prompt (>) appears.

```
                            --------
                           | CREATE |
                            --------
                                |
                                |
              ------------------|------------------
             /                  |                  \
            /                   |                   \
         -----                  |                 --------
        | ADD |                 |                | RELATE |
         -----                  |                 --------
           |                    |                    |
           |                    |                    |
           |                    |                    |
           |                    |                    |
      -------------        -------------        -------------
     | REPORT      |      | REPORT      |      | SHOW        |
     | SHOW        |      | DISPLAY     |      |             |
     |             |      | LIST        |      |             |
     |             |      |             |      |             |
     | RESEQUENCE  |      | RENAME      |      | REORDER     |
     |             |      |             |      |             |
     | UPDATE      |      | MODIFY      |      | CHANGE      |
     |             |      |             |      |             |
     | DELETE      |      | PURGE       |      | REMOVE      |
     |             |      |             |      |             |
     | SECURE      |      |             |      |             |
      -------------        -------------        -------------
```
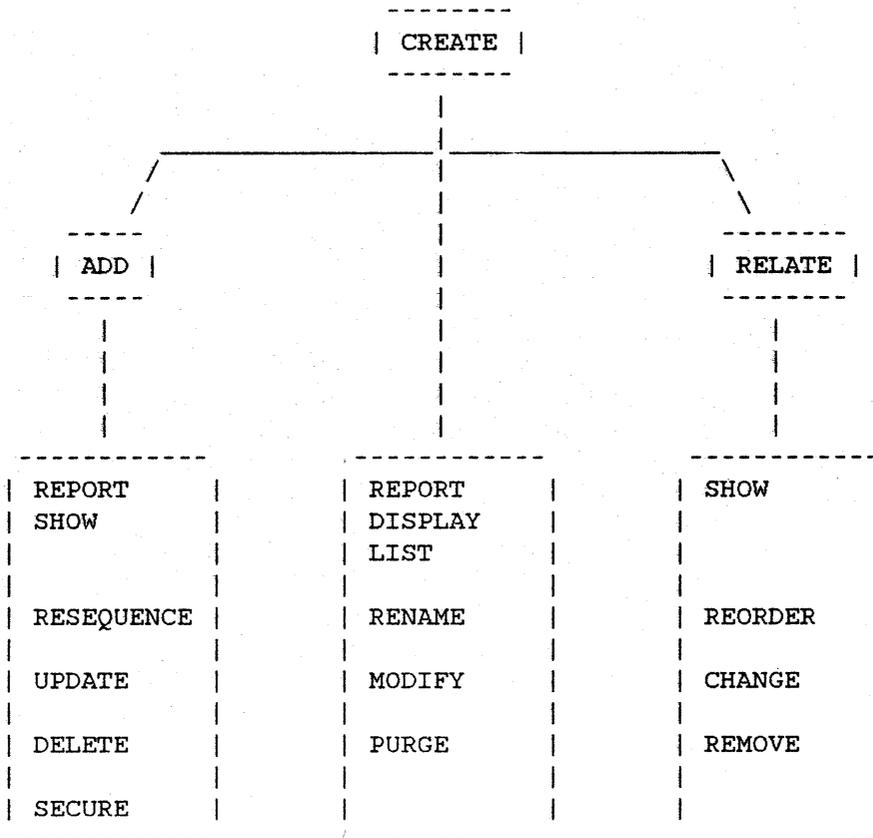
The chart shows that entities must first be created in the dictionary through
the CREATE command. Next, entities can be added to other entities through
the ADD command, related to other entities through the RELATE command, or
displayed or modified through the commands listed in the center box (REPORT,
DISPLAY, LIST, RENAME, MODIFY, or PURGE). Following the ADD command, the
REPORT, SHOW, RESEQUENCE, UPDATE, DELETE, or SECURE commands can be used.
Following the RELATE command, the SHOW, REORDER, CHANGE, or REMOVE commands
can be used. The EXIT command, not shown in the above chart, can be used at
any time to exit the data dictionary program (DICTDBM).

Looking at the three large boxes shown in the chart, note that each
horizontal row of commands are similar. For example, UPDATE, MODIFY, and
CHANGE are similar. The difference between such commands is the command it
follows: ADD, CREATE, or RELATE.

The commands which follow the ADD command (REPORT, SHOW, RESEQUENCE, UPDATE,
DELETE, and SECURE) can be used to display or modify entities which have been
ADDed to other entities. For example, these commands can be used to display
or modify an element which has been added to a file. Entities are always
added to *unlike* entities - that is, an element is added to a file, but an
element can not be added to another element. Hence, REPORT and SHOW can be
used to *display the association between unlike entities*. Similarly,
RESEQUENCE, UPDATE, DELETE, and SECURE are used to *modify the association
between unlike entities*.

Similarly, the commands which follow the RELATE command (SHOW, REORDER,
CHANGE, and REMOVE) can be used to display or modify entities which have been
RELATEd to other entities. Entities are always related to *like* entities -
for example, a file can be related to another file, but an element can not be
related to a file. Hence, SHOW can be used to *display the relationship
between like entities*; REORDER, CHANGE, and REMOVE are used to *modify the
relationship between like entities*.

The commands which follow the CREATE command (REPORT, DISPLAY, LIST, RENAME,
MODIFY, and PURGE) affect the *entities themselves*. They can be used to
display or modify any entities which have been created - whether they have
been added or related to other entities or not.

USING THE COMMANDS

OVERVIEW

The DICTDBM commands are used to create and maintain entries in your data dictionary. These entries can define and describe data elements and structures. Each entry in your data dictionary is unique.

The following structures can be defined in your data dictionary:

- IMAGE data bases and security
- Other file structures (MPE, KSAM, and VPLUS)
- Application programs
- Physical locations
- Organizational structures
- HP Inform/3000 groups

This section gives an overview of how to use the commands to create and maintain each structure.

USING COMMANDS TO DEFINE A DATA BASE

An IMAGE data base is defined in the data dictionary in two ways. If you have an existing IMAGE data base, you can use the Data Base Definition utility program (DICTDBD) to transfer the data base definitions from the data base root file to your data dictionary. A complete explanation of this utility can be found in Section V of this manual.

The second way is to use the commands provided by the DICTDBM program.

In the data dictionary, data sets used in a data base are considered files, and data items are considered data elements. Manual master sets are MAST files; automatic master sets are AUTO files; detail sets are DETL files. The data base is also considered a file within the dictionary - a BASE file.

You complete the definition for a data base by establishing a relationship between the BASE file and the data sets. This relationship is a hierarchical relationship and is defined using the RELATE command. (Refer to Section IV of this manual for a description of this command.) This hierarchy is summarized in figure 3.1.

```
        ┌──────┐
        │ BASE │        <---- PARENT file
        │ FILE │
        └──────┘
           │
    ┌──────┼────────────────┐
    │      │                │
┌──────┐  ┌──────┐      ┌──────┐
│ MAST │  │ AUTO │      │ DETL │        <---- CHILD files
│ FILE │..│ FILE │..    │ FILE │..
└──────┘  └──────┘      └──────┘
    │        │              │
    │        │              │
  data      data          data
  elements .. element      elements ...
```
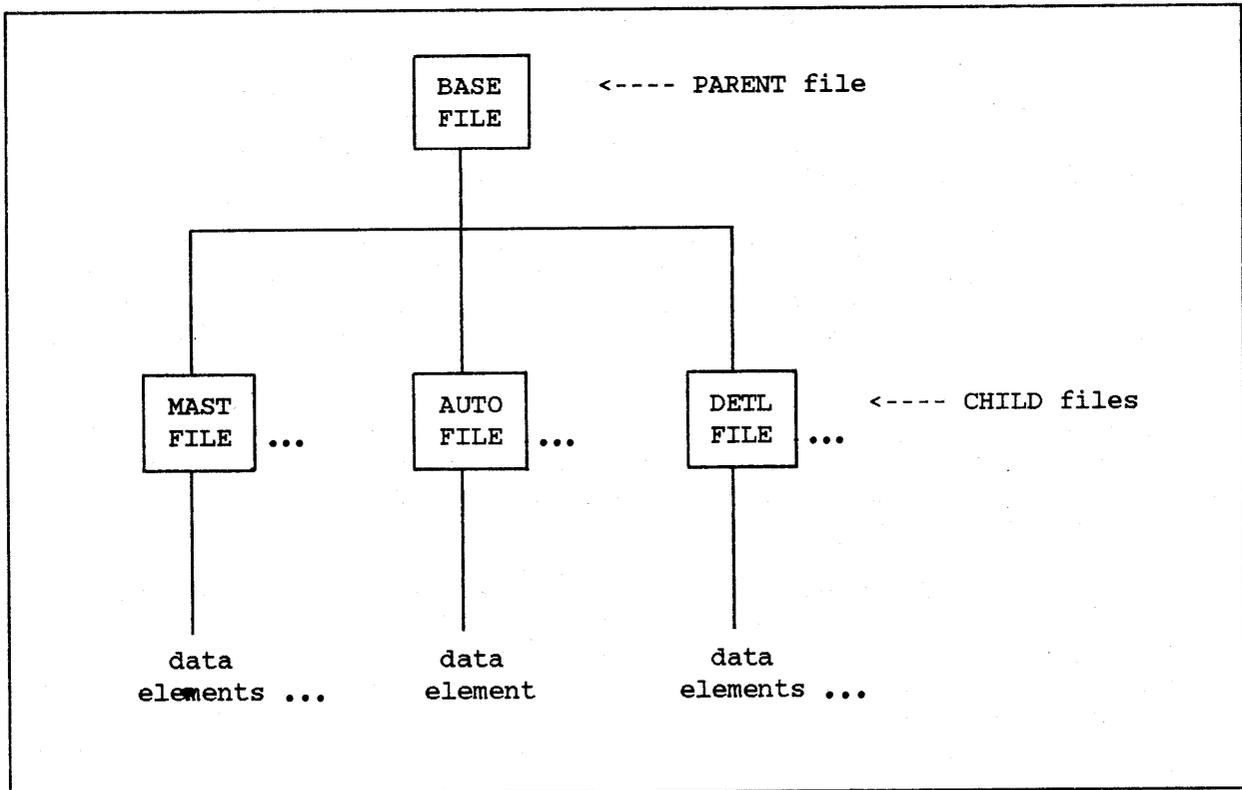
Figure 3.1   Summary of Hierarchical Structure for a Data Base

The BASE file is the top of the structure and is the PARENT file. The data sets are related to the BASE file and are CHILD files. In this structure, the PARENT file cannot have data elements directly associated with it.

The following description outlines the steps involved when you use the DICTDBM commands to define a data base. A complete description including examples for all the commands is given in Section IV of this manual.

Creating Elements and Files for a Data Base

An element or a file must be defined in the data dictionary before you can associate or relate it to another entry. The CREATE command is used to define an entry for a data element or a file.

Either the command string CREATE ELEMENT or CREATE FILE is used to create the entry in the data dictionary. The name for the element or the file must be unique. The REPEAT option can precede the command string allowing you to

create definitions for more than one element or file without repeating the command yourself. An entry for the BASE file must be created to later establish the hierarchical relationship.

In response to the RESPONSIBILITY prompt, you may include information about who is responsible for the integrity of the element or the file. Although not required, this is useful information for the individual responsible for the dictionary should a problem occur within the dictionary.

If you are defining an IMAGE data base, the rules for defining a master data set and a detail data set apply. For example, if the data set is a detail set, you must indicate which data elements are the search items, the name of the master set each search item is related to, the data set's capacity and so forth.

After creating entries, you can use either of two commands to display the entry: LIST or DISPLAY. If you want to delete the entry, use the PURGE command. If you want to change the entry, the MODIFY comand or the RENAME command can be used.

The RELATE ELEMENT command string can be used to define CHILD elements (fields) within a PARENT data element. This allows access to parts of a larger data element. For example, in the case of an IMAGE data base which contains a compound data item, CHILD elements can be used to provide access to the sub-items of the compound item; in response to the BYTE POSITION prompt, specify the starting location of the sub-item within the compound item.

Relating Data Sets to a BASE File

The hierarchical relationship between the data sets and the BASE file is established with the RELATE command. The command string RELATE FILE is used to define this relationship. This command allows for more than one data set to be related to a BASE file during the command cycle. If relationships for more than one data base are to be established, use the REPEAT option with the command string.

Relationship entries can be displayed by using the SHOW command. All the data sets and, optionally, all the data elements associated with the set, are displayed for a BASE file. For a data set, the elements directly associated with it are displayed. The elements are displayed in the physical order of their association with the file. The SHOW command indicates key elements with an asterisk, identifies the chain paths, and much more. The REPORT command displays an alphabetical list of the elements associated with a data set, or an alphabetized schema-type listing of elements for a data base file.

You can delete the relationship entry with the REMOVE command and change the entry with the CHANGE command. The REORDER command is used to change the physical order in which the files are related to the BASE file.

Adding Data Elements to Data Sets

The ADD command is used to add data elements to data sets. You use the command string ADD FILE to define this association. An entry is defined that associates an element with a data set.

The dictionary prevents you from associating elements directly with the BASE file by issuing an error message and by reissuing the prompt for FILE.

To display the association entries, either the REPORT or SHOW command is used. The SHOW command uses an asterisk to indicate which element is the key element in the file, and displays the elements in the order in which they are associated with the file.

The association entry is deleted using the DELETE command and is changed using the UPDATE command. To change the physical order in which the elements are associated to the data set, use the RESEQUENCE command.

Securing a Data Base

Since your data base definition is for an IMAGE data base, the definition of security is for an IMAGE data base. IMAGE allows the data base designer to control access to specific data sets and data items by defining up to 63 user classes. The classes are associated with data sets and data items in read or write class lists. This association determines which user classes may access which data elements and the type of access that is granted. For a complete description of how to protect an IMAGE data base, see the IMAGE/3000 Reference Manual.

In the data dictionary, user security classes are identified by an integer from 0 through 9999 and are associated with a password defined by the data base designer. Each security class number is unique and can be created only once.

When the Dictionary/3000 Data Base Creation utility program (DICTDBC) is used to create the data base, the security class numbers are reassigned by the utility to conform to the numbering scheme used in IMAGE.

The CREATE command is used to define the entry for a user security class. You use the command string CREATE CLASS for this entry. During the command cycle, a prompt is issued that allows you to restrict the use of the class to a particular data base, that is, limit the scope of the class to a data base when elements may appear in more than one data base.

After creating user security classes, either the LIST or DISPLAY command can be used to display the entry. If you want to delete an entry from the dictionary, you use the PURGE command. To change the entry, you use either the MODIFY command or the RENAME command.

The association between the security classes and the data sets or the elements is established using either the SECURE or ADD command. The SECURE FILE and ADD CLASS command strings allow you to specify protection at the element level, while ADD CLASS-FILE specifies protection at the file level.

SECURE FILE is used to specify protection that applies to all the data elements in the file. In this way, it is similar to using repeated ADD CLASS command strings. A major difference between SECURE FILE and ADD CLASS-FILE is that with the SECURE command only files which are IMAGE files can be used, while ADD CLASS-FILE can be used to specify security for a data set, for an MPE file, for a KSAM file, and for a VPLUS forms file. Security for MPE, KSAM, and VPLUS files is the "lockword" required to access the file.

Creating A Data Base

You can use the Data Base Creation utility program (DICTDBC) to create a schema file and a root file from the definition in the dictionary. See Section V of this manual for a detailed description of this utility.

USING COMMANDS TO DEFINE OTHER FILE STRUCTURES

You can use the data dictionary to define MPE files, KSAM files, and VPLUS forms files, including the forms contained in the forms file. Dictionary/3000 does not provide utilities to build these file structures as it does for IMAGE data base files. You must build them external to the dictionary in the usual manner.

For MPE and KSAM files, you define the record layout for the file. In the dictionary, each field in the record is a data element with characteristics such as type, size, and so forth. For the VPLUS forms file, you define each form as a file, and the fields within each form as data elements.

You complete the definition for a VPLUS forms file by establishing a relationship between the VPLUS forms file and each form within the VPLUS file. This relationship is a hierarchical relationship and is established using the RELATE command. (Refer to Section IV of this manual for a description of this command.) This hierarchical relationship is summarized in figure 3.2.

```
┌────────────────────────────────────────────────────────────────┐
│                                                                  │
│                    ┌─────────┐                                   │
│                    │  VPLUS  │                                   │
│                    │  FORM   │ ◄─────  PARENT file               │
│                    │  FILE   │                                   │
│                    └────┬────┘                                   │
│                         │                                        │
│            ┌────────────┴────────────┐                           │
│            │                         │                           │
│        ┌───────┐                 ┌───────┐                       │
│        │ FORM  │                 │ FORM  │ ◄─────  CHILD files    │
│        │ FILE  │ ...             │ FILE  │ ...                    │
│        └───┬───┘                 └───┬───┘                       │
│            │                         │                           │
│            │                         │                           │
│          data                      data                          │
│          elements ...              elements ...                  │
│                                                                  │
└────────────────────────────────────────────────────────────────┘
```
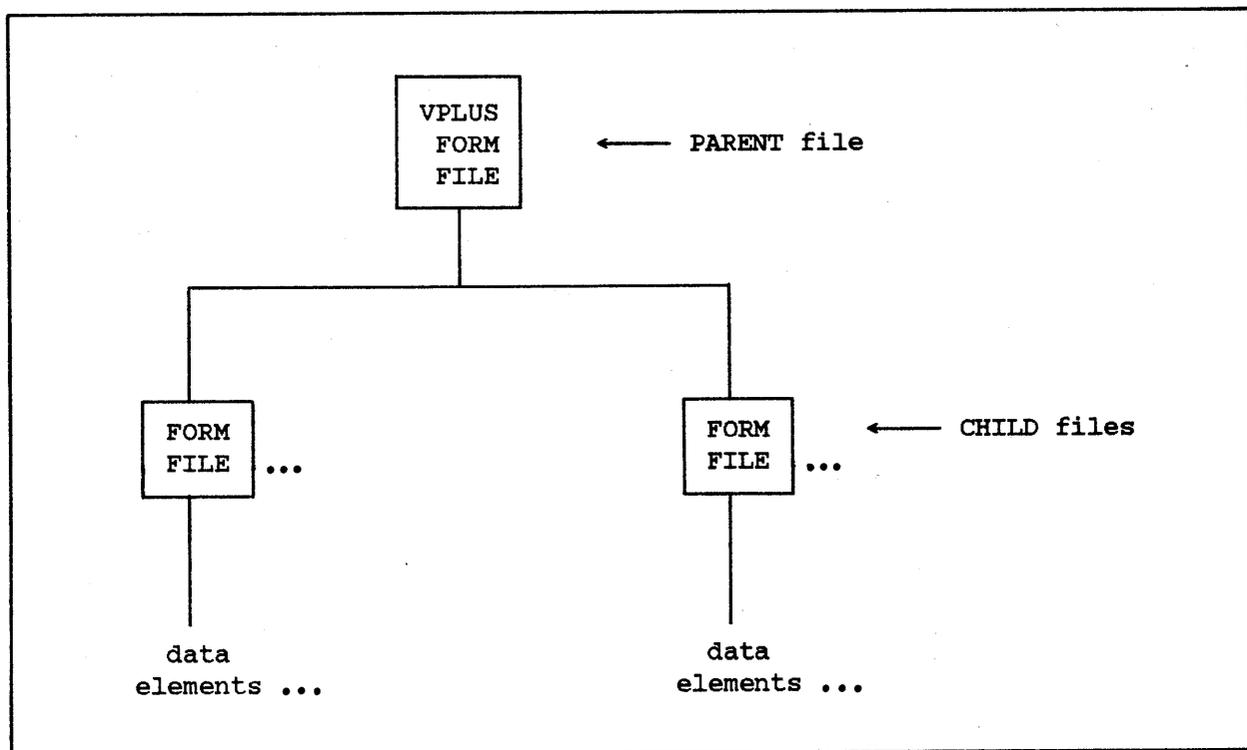
Figure 3.2 Summary of Hierarchical Structure for a VPLUS Form File

The VPLUS forms file is the top of the structure and is the PARENT file. Each FORM file is related to the VPLUS file and is considered a CHILD file. In this structure, the PARENT file cannot have data elements directly associated with it.

The following description outlines the steps involved when you use the DICTDBM commands to define other file structures. A complete description including examples for all the commands is given in Section IV of this manual.

Creating Elements and Files for MPE, KSAM, and VPLUS Files

Creating files and data elements for these structures is similar to creating them for a data base. An element or a file must be defined in your dictionary before you can associate or relate it to another entry. To define the entries, you use the command string CREATE ELEMENT or CREATE FILE. The name you use for the element or the file must be unique. The REPEAT option can precede the command string allowing you to create entries for many elements or files without re-entering the command yourself. A definition for the VPLUS forms file must be created to later establish the hierarchical relationship.

In response to the RESPONSIBILITY prompt, you may include information about who is responsible for the integrity of the data element or file. Although not required, this is useful information for the individual responsible for the dictionary should a problem occur within the dictionary.

After creating entries, you can use either of two commands to display the entry: LIST or DISPLAY. Entries can be deleted by using the PURGE command, and be changed by using the MODIFY or RENAME command. The RELATE ELEMENT command string can be used to define CHILD elements (fields) within a PARENT data element; this allows access to parts of a larger data element.

Adding Data Elements to Files

The ADD command is used to associate data elements to files. You use the command string ADD FILE to define this association. An entry is defined that associates an element with a file.

The dictionary prevents you from associating elements directly with the VPLUS file by issuing an error message and reissuing the prompt for FILE.

You must associate elements with the file according to the record layout or form design. When elements are associated with a KSAM file, a prompt is issued for you to identify which element or elements are keys for the file.

To display an alphabetized listing of association entries, you use the REPORT command. For a form, the list is of elements associated with the form, while for a VPLUS file, the list is of all elements associated with CHILD files. The SHOW command is used to display each file and the elements associated with it, or a complete listing of the forms in a VPLUS file, and optionally, the elements within each form. The forms are displayed in the physical order of their relationship to the VPLUS file, and the elements are in the physical order of their association with the form. For KSAM files, the SHOW command indicates key elements with an asterisk, "*".

You delete an association entry by using the DELETE command or change the entry by using the UPDATE command. If you want to change the physical order in which the association entries were made, use the RESEQUENCE command.

Relating Form files to a VPLUS File

The hierarchical relationship between forms and a VPLUS forms file is established using the RELATE command. The command string RELATE FILE is used to define this relationship. This command allows more than one form to be related to the VPLUS file during the command cycle.

You display the entries by using the SHOW command or the REPORT command.

The relationship entry is deleted by using the REMOVE command and is changed by using the CHANGE command. You can use the REORDER command to change the physical order in which the CHILD files are related to the PARENT file.

Security for MPE, KSAM, and VPLUS Files

Security as defined and used for IMAGE data bases is not applicable to MPE files, KSAM files, and VPLUS forms files. For these files "lockwords" are used for protection.

The CREATE command is used to define a security class for the lockword. In the dictionary, the lockword to the file is called the PASSWORD.

After you create a class for the lockword, the ADD CLASS-FILE command string is used to associate the security class with the file.

To display the security class entries, you can use either the LIST or DISPLAY command. If you want to delete an entry from the dictionary, use the PURGE command. To change the entry, the MODIFY command or the RENAME command is used.

Creating Other File Structures

Dictionary/3000 provides the Data Base Creation utility program to create an
IMAGE data base in the dictionary; however, special utilities are not
provided to build any other file structures (MPE, VPLUS, or KSAM). These
must be defined in the dictionary in the usual manner.

USING COMMANDS TO DEFINE PROCEDURES

You can use your data dictionary to capture the data processing environment for your company by defining in the dictionary all the application programs, the routines, the sub-routines, and the variables used in the environment. The dictionary uses PROCEDURE to document this information.

Each program, routine, or sub-routine is a procedure in the dictionary. The variables used by each are data elements with characteristics such as type, size, and so forth.

You can completely describe a program and its routines or sub-routines by defining a hierarchical relationship between them. The RELATE command is used to establish this hierarchical relationship. (Refer to Section IV of this manual for a description of this command.) The hierarchical relationship for procedures is summarized in figure 3.3.
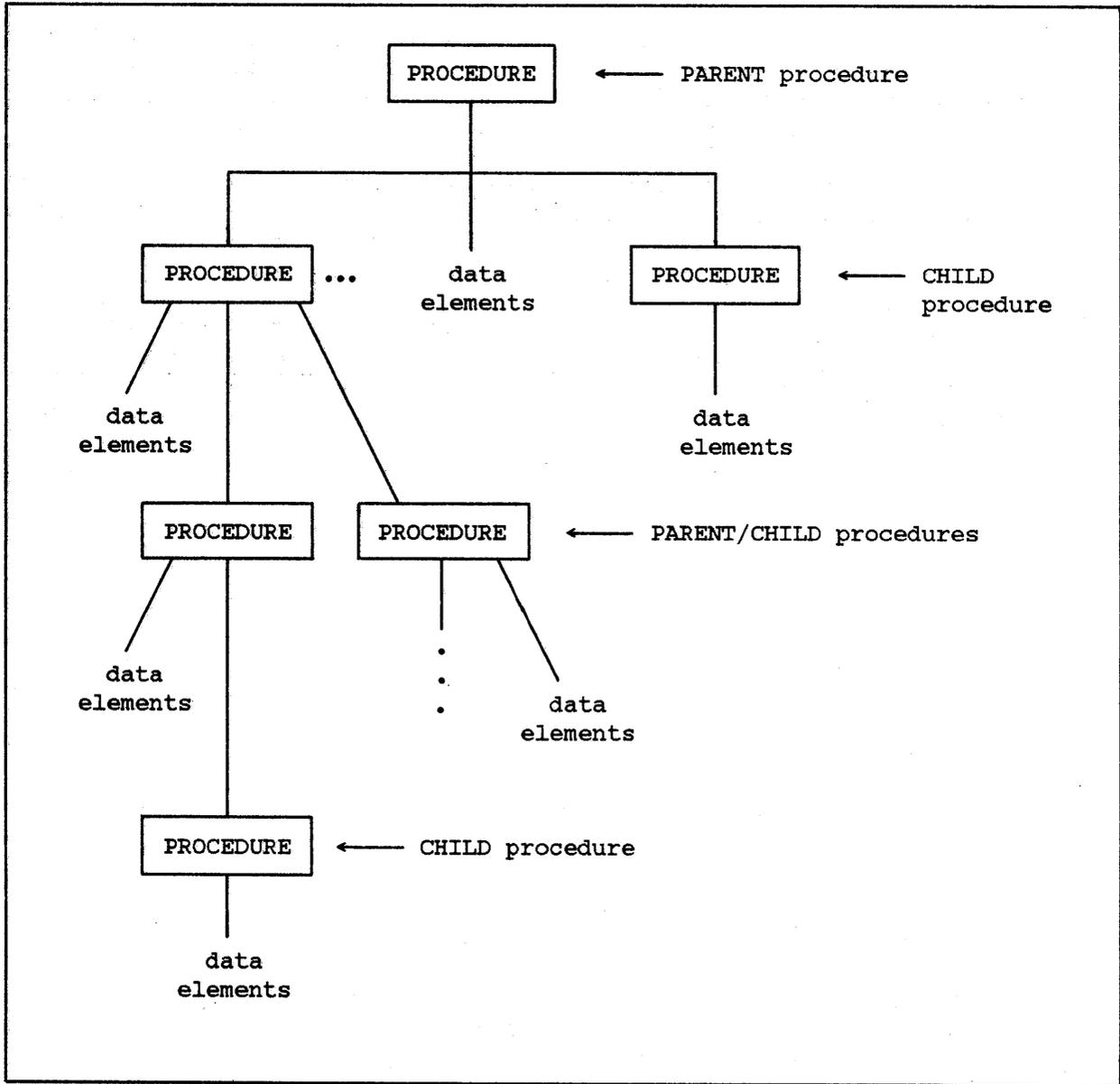
Figure 3.3   Summary of Hierarchical Structure for a Procedure

The procedure that uses or calls other procedures is the top of the structure and is a PARENT procedure. The routines and/or sub-routines used or called by the PARENT procedure are CHILD procedures. A CHILD procedure can in turn be a PARENT because it may use or call other routines or sub-routines. This hierarchical structure allows data elements to be associated with a procedure regardless of its level in the structure.

Note that Dictionary/3000 will not allow you to document recursive procedures. That is, if a procedure has been documented as a CHILD of another procedure, Dictionary/3000 will not allow you to specify that other procedure as a CHILD of the first one.

The following description outlines the steps involved when you use the DICTDBM commands to define procedures. A complete description including examples for all the commands is given in Section IV of this manual.

Creating Data Elements and Procedures

The method for creating procedures and data elements is similar to creating files and data elements for a data base. To define them, use the command string CREATE PROCEDURE or CREATE ELEMENT. An element or a procedure must be defined in your dictionary before you can associate it with or relate it to another entry. The name you use for the procedure or the element must be unique. The REPEAT option can precede the command string allowing you to create definitions for more than one procedure or element without re-entering the command yourself.

In response to the RESPONSIBILITY prompt, you may include information about who is responsible for the integrity of the procedure or element. Although not required, this is useful information for the individual responsible for the dictionary should a problem occur within the dictionary.

After creating entries, either of two commands can be used to display the entries: LIST or DISPLAY. If you want to delete an entry, you use the PURGE command. To change an entry, you can use either the MODIFY command or the RENAME command.

Relating Procedures to a Procedure

The hierarchical relationship between procedures is established using the RELATE command. You use the command string RELATE PROCEDURE to define this relationship. This command allows more than one CHILD procedure to be related to a PARENT procedure during the command cycle. If relationships are to be established for more than one PARENT procedure, you can use the REPEAT option with the command string.

Relationship entries can be displayed by using the SHOW command. For a PARENT procedure, the SHOW command displays the data elements associated with it, the CHILD procedures related with it, and optionally, the data elements associated with each CHILD. For a CHILD procedure, the data elements associated with it are displayed. The elements are displayed in the physical order of their association with the procedure, and the CHILD procedures are displayed in the physical order they were related to the PARENT procedure.

The REPORT command can be used to display an alphabetized list of the elements used by a procedure or, if a PARENT procedure, used by the CHILD procedures plus itself.

You can delete the relationship entry by using the REMOVE command and change the entry by using the CHANGE command. The REORDER command is used to change the physical order in which the CHILD procedures are related to the PARENT procedure.

Adding Data Elements to Procedures

The ADD command is used to associate data elements with a procedure. You use the command string ADD PROCEDURE to define the association. An entry is defined that associates the element with the procedure.

To display the entries either the REPORT command or the SHOW command can be used.

You can delete an association entry by using the DELETE command or change the entry by using the UPDATE command. If you want to change the physical order in which the associated entries were made, you use the RESEQUENCE command.

USING COMMANDS TO DEFINE LOCATIONS

You can also use your data dictionary to document the physical locations where procedures and files are used. In the dictionary you use LOCATION to capture this information. The specific MPE group and account, and the machine on which the procedure or data file is used can be identified. This information is helpful when a change to a procedure or file occurs because it tells you where the procedure or data file resides.

Hierarchical structures for locations cannot be defined in your dictionary.

The following description outlines the steps involved when you use the DICTDBM commands to define locations. A complete description including examples for all the commands is given in Section IV of this manual.

Creating Locations

You use the CREATE LOCATION command string to define an entry for a location. The name you use for the location must be unique. The REPEAT option can precede the command string, allowing you to create definitions for more than one location without re-entering the command yourself.

Information identifying the MPE group, account, and machine is not required for the entry. However, when changes are made to the files and procedures, you can save time and effort by knowing where updates need to occur.

After creating entries, you can use the LIST or DISPLAY commands to display the entry. If you want to delete an entry, you use the PURGE command. To make changes to the entry, you can use either the MODIFY command or the RENAME command.

Adding Files and Procedures to Locations

Before a file or procedure can be associated with a location, it must be defined in the dictionary.

The method for associating files and procedures with a location differs slightly from previous methods. You use the ADD command to define the association, but the command string is ADD FILE-LOC or ADD PROCEDURE-LOC. An entry is defined that associates the file or procedure with the location.

To display the association entries, the command strings DISPLAY LOCATION or SHOW LOCATION are used. An association entry is deleted by using the command strings DELETE FILE-LOC or DELETE PROCEDURE-LOC.

USING COMMANDS TO DEFINE CATEGORIES

Your data dictionary provides a way for you to identify functional areas in your business and to show how information flows from area to area. The dictionary uses CATEGORY to define this information.

Each functional area is a category in the dictionary. The information may consist of departments, people, functions, documents, and so forth.

The organizational flow chart for the functional area can be documented by defining a hierarchical relationship between them. This relationship is established by using the RELATE command. (Refer to Section IV of this manual for a description of this command.) This hierarchical relationship is summarized in figure 3.4.
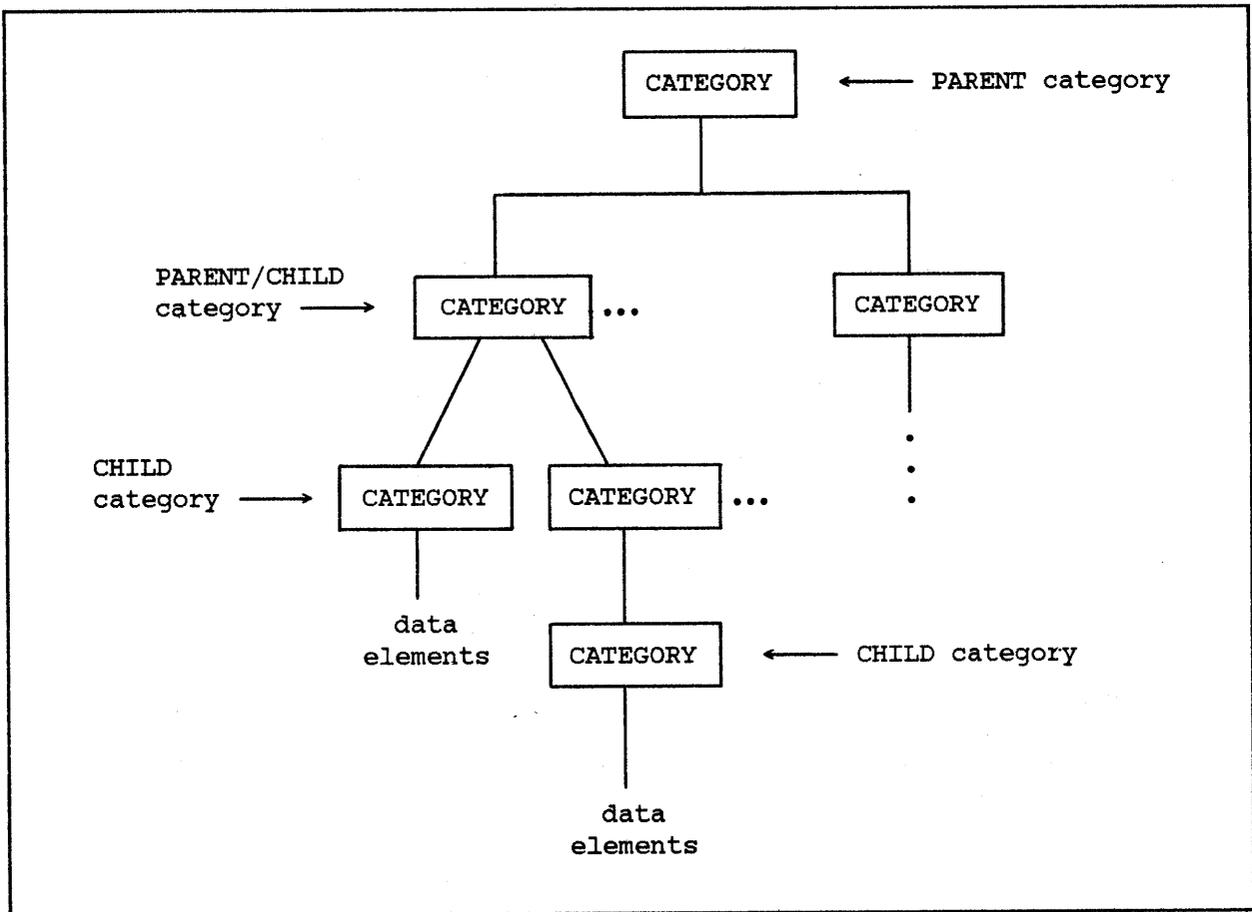
Figure 3.4 Summary of Hierarchical Structure for a Category

A category is at the top of the structure and is a PARENT category. Other categories are related to the top category and are CHILD categories. A CHILD category can in turn be a PARENT category to other CHILD categories. In this hierarchical structure, a PARENT category cannot have data elements associated with it.

The following description outlines the steps involved when you use the DICTDBM commands to define categories. A complete description including examples for all the commands is given in Section IV of this manual.

Creating Elements and Categories

To create data element and category entries, you use the CREATE command. You use the command string CREATE ELEMENT or CREATE CATEGORY to define the entry. An element or a category must be defined in your dictionary before you can associate or relate it to other entries. The name you use for the category or the element must be unique.

In response to the responsibility prompt, you may include information about who is responsible for the integrity of the category or element. Although not required, this is useful information for the individual responsible for the dictionary should a problem occur within the dictionary.

The created entries can be displayed using the LIST or DISPLAY commands. You can make changes to the entry by using the MODIFY command, and rename the entity by using the RENAME command. If you want to delete the entry, you use the PURGE command.

Relating Categories to a Category

The hierarchical relationship between categories is established with the RELATE command. You use the command string RELATE CATEGORY to define this relationship. This command allows more than one category to be related to the PARENT category during the command cycle.

To display the relationships, you can use the SHOW command. For a PARENT category, this command displays each CHILD category, and optionally, the data elements associated with the CHILD. For a CHILD category, the data elements associated with it are displayed. The elements are displayed in the physical order they were associated with the category, and the CHILD categories are displayed in the physical order they were related to the PARENT category.

The REPORT command can be used to display an alphabetical listing of the elements associated with a category or, for a PARENT category, all the elements associated with the CHILD categories.

The relationship entry is deleted by using the REMOVE command, and is changed by using the CHANGE command. You can use the REORDER command to change the physical order in which the CHILD categories are related to the PARENT category.

Adding Elements to Categories

The ADD command is used to associate data elements to categories. You use the command string ADD CATEGORY to define this association. An entry is defined that associates an element with a category.

The dictionary prevents you from associating elements to a PARENT category by issuing an error message and reissuing the prompt for CATEGORY.

To display association entries, either the REPORT command or the SHOW command can be used. If you want to delete the association entry, you use the DELETE command. To change the entry, you use the UPDATE command. The physical order of the association is changed by using the RESEQUENCE command.

USING COMMANDS TO DEFINE HP INFORM/3000 GROUPS

Your data dictionary must be properly set up in order to produce the desired reports using HP Inform/3000. Usually this is the responsibility of the Data Base Administrator (DBA). HP Inform/3000 enables the user to define and create reports from data contained in IMAGE data bases, MPE files, and KSAM files. (For specific information on how to run HP Inform/3000 and produce reports, see the HP Inform/3000 User's Guide, part number 32246-90001.)

HP Inform/3000 makes the distinction between two methods of organizing data: data bases and HP Inform/3000 groups. In order for a user to define a report, HP Inform/3000 presents a Data Organization Menu from which one of these two methods must be selected. Which method is appropriate depends on whether the data elements can all be found in one data set, or whether they have been organized into groups.

HP Inform/3000 Groups

HP Inform/3000 groups are logical groupings of data elements which have been defined in the data dictionary. Before defining HP Inform/3000 groups, the DBA needs to gather and organize all the information required by all the HP Inform/3000 users. For example, some users will want to produce marketing reports, some manufacturing reports, others personnel reports, etc. The groups can be defined according to these identified categories of information which have logically connected data elements - "data names" as they are called in HP Inform/3000.

By organizing data elements into groups, the DBA is taking advantage of HP Inform/3000's ability to access elements from multiple and different types of data files. Elements can be accessed from more than one data set. KSAM and MPE files can also be accessed. In addition, an element can be assigned an alias name which is especially meaningful to the HP Inform/3000 user. This name will then appear on HP Inform/3000's Data Names Menu.

You establish a hierarchical relationship between groups by using the RELATE command (refer to Section IV of this manual for a description of this command). This relationship is summarized in figure 3.5. It is reflected in the hierarchy of HP Inform/3000 Group Menus and Subgroup Menus - seen by the HP Inform/3000 user.
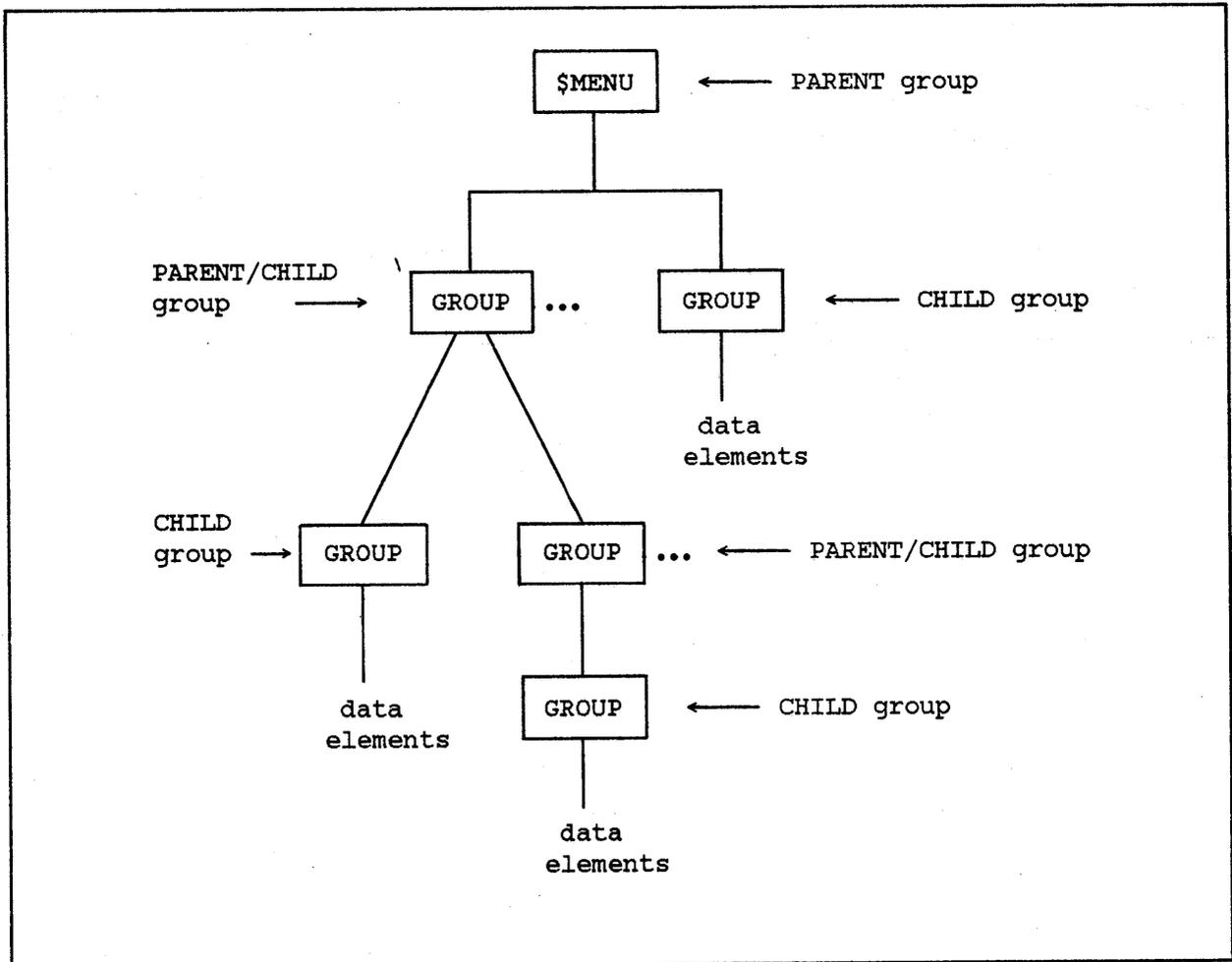
Figure 3.5 Summary of Hierarchical Structure for Groups

$MENU is the top of the structure and is the PARENT group. Other groups are related to $MENU and are CHILD groups. A CHILD group can in turn be a PARENT group of other CHILD groups (which are called "subgroups" in HP Inform/3000 and appear on HP Inform/3000's Subgroup Menu). This hierarchical relationship can exist up to 10 levels deep, starting with $MENU. A PARENT group cannot have data elements associated with it. Note that $MENU is created automatically when the data dictionary is initialized and cannot be altered or purged.

Each group in this hierarchy must be defined in the data dictionary. The data elements you wish to associate with a group and the files those data elements are associated with must first be defined in the data dictionary.

Preceding topics in this section provide the details for defining data bases and other file structures. The following description outlines the steps involved when you use the DICTDBM commands to define groups. A complete description for all the commands is given in Section IV of this manual.

Creating Elements and Groups

To create data elements and group entries, you use the CREATE command. The CREATE ELEMENT or CREATE GROUP command string is used to define the entry. An element or group must be defined in your dictionary before you can associate or relate it to other entries. The name entered for the element or group must be unique among elements and groups, respectively.

The remaining prompts allow the user to provide useful information, but are not required. You can create many elements or groups in a command cycle by using the REPEAT option.

After creating entries in the data dictionary, you can use the LIST or DISPLAY commands. If you want to delete an entry, use the PURGE command. To change an entry, use either the MODIFY or RENAME commands.

The RELATE ELEMENT command string can be used to define CHILD elements (fields) within a PARENT data element. Note, however, that to report on a CHILD data element from HP Inform/3000, that data element must have been added to the group (the PARENT element may or may not be in the group).

Relating Groups to a Group

The hierarchical relationship between groups is established with the RELATE command. You use the command string RELATE GROUP to define this relationship. When relating groups to the top of the hierarchical structure, enter $MENU in response to the prompt for PARENT GROUP; in response to CHILD GROUP, enter the name of the group to be related to $MENU. The groups related to $MENU will all appear on HP Inform/3000's Group Menu.

A relationship for other levels is defined in a similar manner - by entering the name of the higher level group for PARENT GROUP, and the lower level group for CHILD GROUP. If the PARENT group is not $MENU, the CHILD groups related to that PARENT group will appear on an HP Inform/3000 Subgroup Menu.

The DESCRIPTION prompt allows you to supply useful information but is not required to define the relationship.

The relationship between groups can be displayed by using the SHOW command. For a PARENT group, this command displays each CHILD group, if any, and the data elements associated with each CHILD. For a CHILD group, the data elements associated with it are displayed. The elements are displayed in the actual order they were associated with the group.

The REPORT command can be used to display an alphabetical listing of the elements associated with a group or with related CHILD groups.

You can delete the relationship entry by using the REMOVE command and can change the entry by using the CHANGE command. The REORDER command is used to change the actual order in which the CHILD groups are related to the PARENT groups.

EXAMPLE:

>RELATE GROUP

```
        PARENT GROUP> $menu                  <

        CHILD GROUP> marketing               <
        DESCRIPTION>

        CHILD GROUP> shipping                <
        DESCRIPTION>

        CHILD GROUP> personnel               <
        DESCRIPTION>

        CHILD GROUP>        .                <
```

Adding Elements to Groups

The ADD GROUP command string associates data elements with previously created groups. The data element must already exist in the data dictionary. The dictionary will prevent you from associating elements with a PARENT group by issuing an error message and reissuing the prompt for GROUP. (Note that an element need not be associated with a file at the time the ADD GROUP command string is executed; however, the element must have been added to a file before HP Inform/3000 is executed.)

In response to the prompt for ELEMENT, enter the name of the data element. Responding to the ELEMENT ALIAS prompt is optional. HP Inform/3000 uses the element alias name in its Data Names Menu; if no element alias is given, the data element name (primary name) is used. Note that this element alias name should be meaningful to the HP Inform/3000 user since it will appear on HP Inform/3000's Data Names Menu. It or may not be the same as the element alias name specified when the element is added to a file.

NOTE: The element alias name is only used by HP Inform/3000 on its Data
      Names Menu. The data element name (primary name) will be used as
      the report heading for that element unless a heading has been

specified in response to the HEADING TEXT prompt of the CREATE
ELEMENT command string. In addition, the data element name
(primary name) will be used in HP Inform/3000's "SELECTION
CRITERIA FOR *data name(s)*" prompt unless you have responded to
the ENTRY TEXT prompt of the CREATE ELEMENT command string. If
you wish these to match the element alias name, you must specify
the element alias name as the HEADING TEXT and the ENTRY TEXT on
the CREATE ELEMENT command string.

The prompt for FILE allows you to designate the name of the specific file
which should be used to retrieve the values of that element when a report is
being created from this group. For example, the data element "date" may be
the date a product was purchased in one file, while it may be the date the
product was shipped in another file; thus it is important to specify which
file you want the values for "date" to be taken from. This would apply even
if the data element "date" had been given different alias names when it was
added to the different files. (This particular situation could be avoided if
two separate data elements, such as "pur-date" and "ship-date", are created
in the dictionary and are each added to the appropriate file.) Note that
when a file name is specified in response to the FILE prompt, the element
must already be associated with that file.

If, on the other hand, it is not important which file is used (for example,
suppose the data element "soc-sec-no" existed in more than one file), it is
better not to respond to the FILE prompt; HP Inform/3000 will have a higher
probability of retrieving the values in an efficient manner.

If a file specified in response to FILE is an IMAGE data set with more than
one PARENT file (BASE), the prompt PARENT FILE is issued next and must be
answered.

The next prompt, VALUE AS A LINK, can be used to specify which elements
should preferably be selected to link the desired elements into a logical
record for reporting:

(1) If each of the elements being associated with a group can link all the
    files, do not respond to the VALUE AS A LINK prompt for any of them.

(2) If only one of the elements can link all the files, then give it a high
    priority link value (1) and let the link values of the others default
    (0).

(3) If more than one element is needed to link the files, give a link value
    of 1 to the one that should be tried first, 2 to the one that should be
    tried next, and so on; use -1 if you never want the element to be used
    as a link and 0 (the default) if the element could be used if needed.

NOTE: An element can link two files only if it exists in both files and
      if certain additional requirements, depending on the file being

linked *to*, are met.   See Appendix D, How HP Inform/3000 Links
Files to Generate Reports, for more information on linking.

Elements assigned a positive link value form a prioritized list to be used
when it is necessary to link files. The lower the positive integer assigned
to an element, the higher the likelihood that it will be used as a link.   In
general, you should assign a link value of 1 to the element that will link
the most files containing elements for the group, 2 to the element that will
link the next most, and so on.   This will ensure that the reports an HP
Inform/3000 user requests from a particular group will be generated
efficiently.

The following table summarizes the priorities of the possible link values:

LINK VALUE	PRIORITY
1	Highest priority.
2	Next highest priority after link value of 1.
3	Next highest priority after link values 1 and 2.
.	.
.	.
.	.
n	Next highest priority after link values 1, 2, ... n-1.
0	Lowest priority.
-1	Never used as a link.

Note that if an element has different meanings in different files (for
example, the data element "date" may have different meanings in different
files), you will not want it to be used as a link even if it links all the
files containing elements for the group; give such a data element ("date") a
link value of -1.   (Note that in this case, simply answering the FILE prompt,
without specifying a link value of -1, will cause the correct values for
"date" to be printed in the report but will not help to link the files
correctly.)

By both responding to the FILE prompt for an element and assigning a positive link value to the element, you are designating a potential "driving file". The driving file is the file that is accessed first. Since at least one line of the report will be generated for each record retrieved from the driving file, the contents of a report could be quite different if the driving file is different. By designating a potential driving file, you are specifying that that file should be accessed first whenever:

(1) any element from the group which exists in that file is requested for the report, and

(2) no other potential driving file has been designated which

(a) has a higher priority link value specified and

(b) contains an element requested for the report.

Hence, if you respond to the FILE prompt and designate a link value of 1 for a particular element, the specified file will be accessed first whenever any element which exists in that file is requested in a report; if you respond to the FILE prompt and designate a link value of 2 for another element, the file specified in response to this FILE prompt will be accessed first whenever any element which exists in that file is requested in a report and no element which exists in the first file is requested; and so on.

NOTE: The linking process determines whether it is possible to generate the requested report and, if so, what specific data will be printed in the report. For more information about linking, link values, and driving files, see Appendix D of this manual, How HP Inform/3000 Links Files to Generate Reports.

The DISPLAY ELEMENT ON MENU prompt allows the user to determine whether an element is to be displayed on HP Inform/3000's Data Names Menu and used when generating reports. By not displaying an element on the menu, you can include an element in the group for linking and not allow it to be used for reporting.

Note that a CHILD data element can not be used in linking files. CHILD elements can, however, be requested in an HP Inform/3000 report as long as they have been added to the group; the PARENT element alone in the group is not sufficient. If a data element which is a CHILD is needed for a report, HP Inform/3000 will try to find the PARENT element. Since a CHILD element could have more than one PARENT, it will first use a PARENT that has been added to the group. If no PARENT of the CHILD element exists in the group, HP Inform/3000 tries to find any PARENT of the CHILD element it can find. In order to ensure that the correct CHILD element is retrieved, you should add the PARENT element to the group (in addition to the CHILD element); if you do not wish users to report on the PARENT element, add it to the group and respond "NO" to the DISPLAY ELEMENT ON MENU prompt. (You may also wish to

specify a link value of -1, if you do not want the PARENT element to be used to link files.) HP Inform/3000 retrieves the value of the entire PARENT element, but only displays the value of the appropriate CHILD element in the report.

You can display association entries by using the REPORT or SHOW commands. To delete the association, use the DELETE command and to change it use the UPDATE command. The order in which the elements are associated with the group are the order they will appear on HP Inform/3000's Data Names Menu; this can be changed by using the RESEQUENCE command.

EXAMPLE:

>ADD GROUP

```
                   GROUP> marketing              <

                 ELEMENT> name                   <
           ELEMENT ALIAS> employee name          <
                    FILE> !                       <

                 ELEMENT> date                   <
           ELEMENT ALIAS> date of hire           <
                    FILE> empfile                <
          VALUE AS A LINK>          <
DISPLAY ELEMENT ON MENU (Y/N)?n
             DESCRIPTION>

                 ELEMENT>                        <
```

USING SELECTION CRITERIA WITH THE DISPLAY AND THE LIST COMMANDS

When using the DISPLAY or the LIST command string, you can dictate the listing you want to see by entering one of the Selection Criteria values in response to a prompt. You can choose a listing based on character values, numeric values, or an expression of these values. In all cases, the type of listing is based on the sub-command used.

You can enter a string of characters with a caret character (^) at the end, beginning, or in the middle of the string. Depending on where used, the caret has the following meaning:

- If used at the beginning of a string, it means that all values ending with the string are to be listed.

- If used at the end of a string, it means that all values beginning with the string are to be listed.

- If two carets are used at the end of a string, it means that all values containing the string are to be listed.

- If embedded between characters in a string, it means that values that match wherever characters appear in the string are to be listed.

You can also enter an expression of these values using the following format:

[relationship] value connector [relationship] value ...

> where:
>
> relationship is an optional field that can contain one of the following two letter codes:
>
> | | | |
> |---|---|---|
> | NE | which means | "not equal to" |
> | LT | which means | "less than" |
> | LE | which means | "less than or equal to" |
> | GT | which means | "greater than" |
> | GE | which means | "greater than or equal to" |
>
> If a relationship is omitted, the default "equal to" is used.

connector is the Boolean connection between the values. The following terms can be used:

TO   the selected field must contain one of a range of values where the low end of the range precedes this connector and the high end of the range follows this connector.

AND   the selected field must contain both the value preceding and the value following this connector.

OR   the selected field must contain one or both of the values.

The order of precedence is TO, then AND, then OR.

If the value to be selected contains one or more blanks, then the value must be enclosed in quotation marks as follows.

If you need more than one line for a selection expression, end the first line with a *connector*, and another selection line prompt is issued.

EXAMPLES:

Using carets and connectors:

PROD^ and ^NO   Values that begin with PROD and end with NO are selected.

ACCT^ or PROD^ and ^NO   Values that begin with ACCT or values that begin with PROD and end with NO are selected.

CUST^ and ^NAME or ACCT^ and ^NO   Values that begin with CUST and end with NAME, or values that begin with ACCT and end with NO are selected.

PROD^ or ACCT^ or CUST^   Values that begin with PROD or ACCT or CUST are selected.

"PROD NO"   Values that equal PROD NO are selected.

Using relationship operators:

LT B   Values which are less than values beginning with B are selected.

GE R and LT V   Values which are greater than or equal to values beginning with R, and values which are less than values beginning with V are selected.

GE M or I^ or LT C   Values which are greater than or equal
                                       to values beginning with M, or values
                                       which are equal to values beginning
                                       with I, or values which are less than
                                       values beginning with C are selected.

USING EDIT DESCRIPTION COMMANDS

Three commands allow text editing of a description: MODIFY, CHANGE, and
UPDATE. The MODIFY command allows you to alter a description of an entity you
entered with the CREATE command; the CHANGE command allows you to alter a
description you entered with the RELATE command; the UPDATE command allows
you to alter a description you entered with the ADD command.

You indicate that you want to edit a description by responding with a "Y" or
RETURN to the EDIT DESCRIPTION prompt. The description is edited by entering
one of the following EDIT commands:

       LIST or L   list one or more description lines

       ADD or A   add description line or lines

       DELETE or D   delete description line or lines

       REPLACE or R   replace a description line

       RENUMBER or REN   renumber description lines

       HELP or H   displays available EDIT commands

       EXIT or E   exit EDIT command

EXAMPLE:

```
>MODIFY CATEGORY
             CATEGORY> FINANCE                    <
EDIT DESCRIPTION(Y/N)?>

EDIT COMMAND>> ADD                              EDIT command ADD used.
         LINE NUMBER> 2            <            line number to be added.

         2.000 > This category identifies the finance          <
         3.000 > department for the Supplies Division.         <
         4.000 >                                               <
                                                RETURN ends the adding
                                                of lines.
EDIT COMMAND>> EXIT                             EXIT to terminate EDIT.
EDIT ATTRIBUTES(Y/N)? N

  >                                             RETURN to command prompt.
```

USING EDIT MASKS

You can define the output format for data elements in reports generated by HP Inform/3000, Report/3000, and Transact/3000. You do this by defining an edit mask for a data element to be formatted in a report.

An edit mask is a string of characters describing how the data element should look when it appears in a report. Characters such as dollar signs and decimal points can be inserted, and leading zeros suppressed before the data element is displayed in reports.

You can define edit masks with either the CREATE or MODIFY commands.

Edit masks can be defined with up to 30 characters. All characters, except the following list, are treated as insert characters:

^   means that the next character in the source field is to be inserted into the display field.

Z   means that leading zeros are to be suppressed.

$ means that leading zeros are to be suppressed and that the left-most zero is to be replaced with a dollar sign.

*   means that asterisks are to replace leading zeros.

.   means that the implied decimal point defined for the element is to be aligned in the position where this one appears.

!   means that a decimal point for a data element is to appear in the position specified by "!"; use of the "!" character overrides an implied decimal point for the data element.

If the last character of the edit string is a negative sign, a negative data element is displayed with a trailing minus sign (-). If the last characters of the edit string are CR (for CREDIT) or DR (for DEBIT), the data element is displayed with a trailing CR or DR, respectively.

EXAMPLES:

Data Element's Value	EDIT MASK	Displayed Value
1234	$$,$$$.^^	$12.34
123456	$$,$$$.^^	$1,234.56
123456	***,**$.^^	*$1,234.56
000009	ZZZZ.^^	.09
-123456	$$,$$$.^^CR	$1,234.56CR
810807	^^/^^/^^	81/08/07
-123	$$,$$$.^^-	$1.23-
1234	ZZZZ!	1234.
-012345	none	-012345

OVERVIEW

A set of commands is provided by Dictionary/3000's DICTDBM program. These
commands are used to create and maintain entries in a data dictionary. Each
command is used with a sub-command to identify the entity that receives the
action of the command. In addition, a HELP command provides a summary of
commands and their sub-commands on demand.

A full description of each command appears later in this section. Each
description includes:

- definition of the command;
- proper syntax of the command;
- explanation of how the command works;
- example of each command.

NOTE: Throughout this section, maximum sizes are given in parentheses.
For example: "Enter the name of the data element (20 characters)"
means that up to 20 characters can be entered.

Selecting Defaults

Whenever a choice between "Y/N" or "N/Y" is given, the value to the left of
the slash is always assumed (the default choice), unless otherwise specified.
If RETURN is pressed as a response to the prompt, the default is used. A
response other than a "Y", "N", "YES", "NO", or RETURN is treated as if the
default were chosen.

Table 4.1 lists the commands and summarizes the function of each command.

Table 4.1   Summary of DICTDBM Commands

COMMAND	FUNCTION
ADD	Adds an association entry.
CHANGE	Changes attributes of entity within a relationship.
CREATE	Creates an entry for a new entity.
DELETE	Deletes an association entry.
DISPLAY	Displays entry information.
EXIT	Terminates the DICTDBM program.
HELP	Briefly describes the functions of DICTDBM commands and sub-commands.
LIST	Lists entries.
MODIFY	Modifies an entry.
PURGE	Purges an entry.
RELATE	Establishes a hierarchical relationship entry.
REMOVE	Removes a hierarchical relationship entry.
RENAME	Renames an existing entity.
REORDER	Reorders entities within a relationship entry.
REPORT	Generates a sorted listing of data element entries.
RESEQUENCE	Resequences entities within an association entry.
SECURE	Assigns security for a file's data elements.
SHOW	Shows hierarchical relationship and association entries.
UPDATE	Updates an association entry.

Adds an association between unlike entities.

```
┌─────────────────────────────┐
│ [option] ADD sub-command    │
│          A                  │
└─────────────────────────────┘
```

You use the ADD command to associate an element, a file, or a procedure with an entity specified by the sub-command. The association is one of ownership. A complete list of entities for which an association can be made is given below under Sub-commands.

The sub-command identifies the type of entity for which an association is made. For example, if you use ADD CATEGORY, an association between a category and a data element is made; similarly ADD FILE-LOC associates a file to a physical location. Like entities can not be associated through the ADD command. (See the RELATE command for how to relate like entities.)

An association cannot be made between an element and another entity that has a subordinate entity related to it. One exception to this is procedures; any PROCEDURE can have elements associated with it.

Data elements added to an entity are ordered in the order in which they were added. This order can be changed through the RESEQUENCE command.

Sub-commands

Any one of the following sub-commands can be used:

```
CATEGORY       - adds a data element to a category
CLASS          - adds a data element to a user security class
CLASS-FILE     - adds a file to a user security class
FILE           - adds a data element to a file
FILE-LOC       - adds a file to a physical location
GROUP          - adds a data element to an HP Inform/3000 group
PROCEDURE      - adds a data element to a procedure
PROCEDURE-LOC  - adds a procedure to a physical location
```

ADD

Example

```
>ADD CATEGORY
      CATEGORY> Finance                <              Existing category.
       ELEMENT> Customer-account       <              Adds an element to a category.
 ELEMENT ALIAS>                                                                     <
   DESCRIPTION> Customer-account information used by Finance.    <
             >                                                   <

       ELEMENT>                         <

 >                                              New command prompt.
```

Sub-command Prompts

For the prompts shown with an asterisk (*), you must enter a response other than RETURN in order to implement the command string. Two asterisk (**) next to a prompt indicate that this prompt and those which follow are repeated until RETURN is pressed in response to this prompt.

You enter: You are prompted for:

COMMAND   SUB-COMMAND   PROMPT

ADD   CATEGORY   CATEGORY   *
                                        ELEMENT   **
                                        ELEMENT ALIAS
                                        DESCRIPTION

ADD   CLASS   CLASS   *
                                        ELEMENT   **
                                        ACCESS CAPABILITY *
                                        DESCRIPTION

ADD   CLASS-FILE   CLASS   *
                                        FILE   **
                                        ACCESS CAPABILITY (* and issued only if file
                                                            is MAST, DETL, or AUTO)
                                        DESCRIPTION

ADD   FILE   FILE   *

                                    1. if FILE is MAST, MPEF, or FORM file

                                        ELEMENT   ** (prompt is KEY ELEMENT if
                                                       first one added to MAST)
                                        ELEMENT ALIAS
                                        DESCRIPTION

                                    2. if FILE is AUTO file

                                        KEY ELEMENT **
                                        ELEMENT ALIAS
                                        DESCRIPTION

                                    3. if FILE is DETL file

                                        ELEMENT   **
                                        ELEMENT ALIAS
                                        PATH MASTER FILE (* if element is to be a

```
                                                     search item)
                              PATH SORT ELEMENT (issued if PATH MASTER FILE
                                                     responded to)
                                                 (* if element's chain is to
                                                     be sorted)
                              PRIMARY PATH(N/Y) (issued if PATH MASTER FILE
                                                     responded to)
                                                 (* if element defines the
                                                     primary path)
                              DESCRIPTION


                         4. if FILE is KSAM file

                              ELEMENT        **
                              ELEMENT ALIAS
                              KEY ELEMENT (N/Y) (* if element is a KEY
                                                          element)
                              DESCRIPTION


ADD        FILE-LOC         LOCATION        *
                              FILE           **
                              FILE ALIAS
                              FILE SIZE   (issued only if file type is
                                                     MPEF or KSAM)
                              DESCRIPTION


ADD        GROUP            GROUP          *
                              ELEMENT        **
                              ELEMENT ALIAS
                              FILE
                              PARENT FILE (issued only if file belongs to
                                                     more than one data base)
                              VALUE AS A LINK
                              DISPLAY ELEMENT ON MENU (Y/N)?
                              DESCRIPTION


ADD        PROCEDURE        PROCEDURE      *
                              ELEMENT        **
                              ELEMENT ALIAS
                              DESCRIPTION


ADD        PROCEDURE-LOC    LOCATION       *
                              PROCEDURE      **
                              PROCEDURE ALIAS
                              DESCRIPTION
```

Prompts

Depending on the sub-command you use, one or more of the following prompts is issued:

ACCESS CAPABILITY > Enter the type of capability to be given to the user security class for the file or element as follows:

If the sub-command is:

1. CLASS-FILE - enter one of the following:

     R   = read only
     W   = read, write, modify
     X   = null read/write list "(/)"

2. CLASS - enter one of the following:

     R   = read only
     U   = read and update only
     M   = read, write and modify
     X   = null read/write list "(/)"

Refer to the IMAGE/3000 Reference Manual for a detailed explanation of the meanings of the user class access capabilities.

CATEGORY > Enter the name of an existing category (20 characters).

CLASS > Enter a numeric value which is the identifying number of an existing user security class (0 to 9999).

DESCRIPTION > Enter the textual description which describes the association between the entities (50 characters per line, unlimited number of lines).

DISPLAY ELEMENT
ON MENU (Y/N)? > Enter a response to specify whether you want the element to be displayed for reporting on HP Inform/3000's Data Names Menu.

ELEMENT > Enter the name of an existing data element which is the primary element (20 characters).

ELEMENT ALIAS > Enter the name by which the data element is known within the file (15 characters if FORM, 16 if MAST, AUTO, or DETL, and 20 if MPEF or KSAM); category (60 characters); HP Inform/3000 group (20 characters); or procedure (16 characters). DEFAULT: If RETURN is pressed in response to

this prompt, the alias becomes the same as the primary
element name, except for files, when the first 16
characters of the primary name are used.

Note that HP Inform/3000 and Report/3000 will be unable
to retrieve the values of an element from an IMAGE data
set if the alias name entered in response to the ELEMENT
ALIAS prompt of the ADD FILE command string is not the
same as the actual name of the data element in the data
set.

FILE   > Enter the name of an existing file (20 characters). Four
                          sub-commands give this prompt and each one places a
                          requirement on the file as follows:

                          If the sub-command is:

                          1. FILE   - the file type must be one of the
                                               following:

                                  MAST = IMAGE manual master data set
                                  AUTO = IMAGE automatic master data set
                                  DETL = IMAGE detail data set
                                  KSAM = KSAM file
                                  MPEF = MPE sequential file
                                  FORM = VPLUS form

                          2. CLASS-FILE - the file type must be one of the
                                               following:

                                  MAST = IMAGE manual master data set
                                  AUTO = IMAGE automatic master data set
                                  DETL = IMAGE detail data set
                                  KSAM = KSAM file
                                  MPEF = MPE sequential file
                                  VPLS = VPLUS forms file

                          3. FILE-LOC   - the file type must be one of the
                                               following:

                                  BASE = IMAGE data base
                                  KSAM = KSAM file
                                  MPEF = MPE sequential file
                                  VPLS = VPLUS forms file

                          4. GROUP   - the file must have at least one parent
                                               (BASE) if it is type MAST, AUTO, or DETL
                                               and the element must have previously been
                                               associated with the file.

FILE ALIAS   > Enter the name by which the file is known within the location (8 characters). DEFAULT: If RETURN is pressed in response to this prompt, the alias name becomes the first 8 characters of the file name.

FILE SIZE   > Enter an integer value for the number of records of the file in the location (0 to 999999999). Default is 0.

GROUP   > Enter the name of an existing HP Inform/3000 group (20 characters).

KEY ELEMENT   > Enter the name of an existing data element (20 characters) that is the search item and only item for an AUTO (IMAGE automatic master set), or is the first element to be added to a MAST (IMAGE manual master set) file.

LOCATION   > Enter the name of an existing location (20 characters).

PARENT FILE   > Enter the name of an existing file (20 characters) that is the parent of the data base set specified in response to the FILE prompt. The file type must be type BASE (IMAGE data base).

PATH MASTER FILE   > Enter the name of an existing file (20 characters) of type MAST or AUTO which is the chain header for a detail set path. DEFAULT: Pressing RETURN in response to this prompt indicates that the element is not to be a search item.

PATH SORT ELEMENT   > Enter the name of an existing data element (20 characters) that is the sort item for a sorted chain. This prompt is issued if a master data set's name was given in response to the prompt for PATH MASTER FILE. DEFAULT: Pressing RETURN in response to this prompt indicates that this is not a sorted chain path.

PRIMARY PATH(N/Y)   > If the element is a search item, a "Y" indicates that it is the primary path for the detail data set.

NOTE: If a primary path has already been specified during the current prompting cycle of the ADD FILE command string, this prompt is not issued. Next time the ADD FILE command string is issued and the file is an IMAGE detail data set, this prompt is issued again; however, responding "Y" to this prompt now results in the prompt PRIMARY ALREADY EXISTS, CONTINUE(Y/N)? The default response of "Y" makes this the primary path and cancels the primary path previously identified; responding "N"

does not make this the primary path and the primary path previously identified remains active.

PROCEDURE   > Enter the name of an existing procedure (20 characters).

PROCEDURE ALIAS > Enter the name by which the procedure is known within the location (8 characters). DEFAULT: If RETURN is pressed in response to this prompt, the alias becomes the first 8 characters of the procedure name.

VALUE AS A LINK > Enter -1, 0, or a positive integer to specify which elements should preferably be used in linking files. The numbers indicate the following:

   -1   The element can not be used for linking.

   0   The element may or may not be used for linking (DEFAULT).

   1 or greater The element should be used as a link when possible; elements assigned a positive link value form a prioritized list to be used when it is necessary to link files (the lower the positive integer, the higher the priority).

Changes the attributes of a child within a relationship or the description of the relationship which was established with the RELATE command.

```
[option] CHANGE sub-command
         CHG
```

You use the CHANGE command to change the attributes of a child entity in a relationship or the description of a relationship which was established with the RELATE command. A complete list of what can be changed is given below under Sub-commands.

You use the sub-command to identify the type of parent entity that defines the relationship. For example, if you use CHANGE ELEMENT, you change the starting position of a child element within the parent element and/or edit the textual description describing the relationship.

Sub-commands

Any one of the following sub-commands can be used:

CATEGORY - changes a category to category description
ELEMENT   - changes an element to element entry and/or description
FILE   - changes a file to file entry and/or description
GROUP   - changes an HP Inform/3000 group to group description
PROCEDURE - changes a procedure to procedure description

Example

>CHANGE ELEMENT

       PARENT ELEMENT> Name   < Enter the parent's name.

        CHILD ELEMENT> First-name   < The child to be changed.
EDIT DESCRIPTION(Y/N)? N   "N" to go directly to
                           attributes.
POSITION: Existing attribute information.
  1
        START POSITION> 4 <   Identifies new position of
                           child within parent's list.

        CHILD ELEMENT>   < RETURN to terminate command.

>   New command prompt.

CHANGE

Sub-command Prompts

For the prompts shown with an asterisk (*), you must enter a response other than RETURN in order to implement the command string. Two asterisks (**) next to a prompt indicate that this prompt and those which follow are repeated until RETURN is pressed in response to this prompt.

You enter: You are prompted for:

COMMAND   SUB-COMMAND   PROMPT

CHANGE   CATEGORY   PARENT CATEGORY   *
                               CHILD CATEGORY   **
                               EDIT COMMAND>>   *

CHANGE   ELEMENT   PARENT ELEMENT   *
                               CHILD ELEMENT   **
                               EDIT DESCRIPTION(Y/N)?
                               EDIT COMMAND>> (* and issued only if Yes to
                                                      EDIT DESCRIPTION)
                               EDIT ATTRIBUTES(Y/N)? (issued only if Yes to
                                                      EDIT DESCRIPTION)
                               START POSITION

CHANGE   FILE   PARENT FILE   *
                               CHILD FILE   **
                               EDIT DESCRIPTION(Y/N)?
                               EDIT COMMAND>> (* and issued only if Yes to
                                                      EDIT DESCRIPTION)
                               EDIT ATTRIBUTES(Y/N)? (issued only if Yes to
                                                      EDIT DESCRIPTION)
                              CHILD ALIAS
                              CAPACITY   (issued if PARENT file is type BASE)
                              BLOCKMAX   (issued if PARENT file is type BASE)

CHANGE   GROUP   PARENT GROUP   *
                               CHILD GROUP   **
                               EDIT COMMAND>>   *

CHANGE PROCEDURE   PARENT PROCEDURE   *
                               CHILD PROCEDURE   **
                               EDIT COMMAND>>   *

Prompts

Depending on the sub-command you use, one or more of the following prompts is issued:

BLOCKMAX   > Enter a new maximum physical block length value (in words) for the child file within the parent file (128 - 2048). DEFAULT: Pressing RETURN in response to this prompt indicates no change.

CAPACITY   > Enter a new value for the maximum number of entries for the child file (1 to 999999999). DEFAULT: Pressing RETURN in response to this prompt indicates no change.

CHILD ALIAS   > Enter a new alias name for the child file (16 characters). DEFAULT: Pressing RETURN in response to this prompt indicates no change.

CHILD CATEGORY   > Enter the name of an existing category that is the child category in the entry (20 characters).

CHILD ELEMENT   > Enter the name of an existing data element that is the child in the entry (20 characters).

CHILD FILE   > Enter the name of an existing file that is the child in the entry (20 characters).

CHILD GROUP   > Enter the name of an existing HP Inform/3000 group that is the child in the entry (20 characters).

CHILD PROCEDURE   > Enter the name of an existing procedure that is the child in the entry (20 characters).

EDIT
ATTRIBUTES(Y/N)   > Enter an "N" to not generate prompts for attributes. (see Sub-command Prompts for which attributes can be changed).

EDIT COMMAND>>   > Enter one of the EDIT COMMANDS described in Section III.

EDIT
DESCRIPTION(Y/N)   > Enter an "N" if editing is not to be done for the textual description of the relationship.

PARENT CATEGORY   > Enter the name of an existing category that is the parent in the entry (20 characters).

PARENT ELEMENT   > Enter the name of an existing element that is the parent in the entry (20 characters).

CHANGE

PARENT FILE   > Enter the name of an existing file that is the parent in the entry (20 characters).

PARENT GROUP   > Enter the name of an existing HP Inform/3000 group that is the parent in the entry (20 characters). NOTE: $MENU can not be changed.

PARENT PROCEDURE   > Enter the name of an existing procedure that is the parent in the entry (20 characters).

START POSITION   > Enter a positive integer which is the new byte position of the start of the child element's data field within the parent element (1 to 9999). DEFAULT: Pressing RETURN in response to this prompt indicates no change.

Creates a new entity.

```
[option] CREATE sub-command
        C
```

You use the CREATE command to define a new entity in the dictionary. A complete list of entities that can be created is given below under Sub-commands.

The sub-command identifies the type of entity that you are defining. For example, if you use CREATE GROUP, you create a new HP Inform/3000 group.

You must CREATE an entity before you can use it with any other command.

Sub-commands

Any one of the following sub-commands can be used:

```
CATEGORY  - creates a new category
CLASS     - creates a new user security class
ELEMENT   - creates a new data element
FILE      - creates a new file
GROUP     - creates a new HP Inform/3000 group
LOCATION  - creates a new physical location
PROCEDURE - creates a new procedure
```

Example

```
>CREATE GROUP

            GROUP> Customer Information<          HP Inform/3000 group.
        LONG NAME> Customer Information-Marketing              <
             TYPE> MRKT<                          User defined type.
   RESPONSIBILITY> Order Processing     <
      DESCRIPTION> This group will contain detail              <
                 > information about Marketing's customers.    <
                 >                                             <
                                                 RETURN to end command.
>                                                New command prompt.
```

CREATE

Sub-command Prompts

For the prompts shown with an asterisk (*), you must enter a response other
than RETURN in order to implement the command string.

You enter: You are prompted for:

COMMAND   SUB-COMMAND   PROMPT

CREATE   CATEGORY   CATEGORY   *
                                   LONG NAME
                                   TYPE
                                   RESPONSIBILITY
                                   DESCRIPTION

CREATE   CLASS   CLASS   *
                                   NAME
                                   TYPE
                                   PASSWORD
                                   RESPONSIBILITY
                                   RESTRICT CLASS TO A FILE (N/Y)
                                   FILE   (* if Yes to RESTRICT CLASS;
                                                   file must be of type BASE)
                                   DESCRIPTION

CREATE   ELEMENT   ELEMENT   *
                                   LONG NAME
                                   TYPE
                                   SIZE (* and issued only if TYPE specified)
                                   DECIMAL   (issued only if TYPE specified and
                                                            if TYPE is numeric)
                                   STORAGE LENGTH(n) (issued only if TYPE was
                                                                    specified)
                                   COUNT(1) (issued only if TYPE was specified)
                                   HEADING TEXT
                                   ENTRY TEXT
                                   EDIT MASK
                                   MEASUREMENT UNITS
                                   RESPONSIBILITY
                                   DESCRIPTION

CREATE   FILE   FILE   *
                                   LONG NAME
                                   TYPE   *
                                   RESPONSIBILITY
                                   DESCRIPTION

```
CREATE    GROUP              GROUP            *
                            LONG NAME
                            TYPE
                            RESPONSIBILITY
                            DESCRIPTION


CREATE    LOCATION           LOCATION         *
                            LONG NAME
                            GROUP
                            ACCOUNT
                            CPU
                            DESCRIPTION


CREATE    PROCEDURE          PROCEDURE        *
                            LONG NAME
                            TYPE
                            LANGUAGE
                            RESPONSIBILITY
                            DESCRIPTION
```

CREATE

Prompts

Depending on the sub-command you use, one or more of the following prompts is issued:

ACCOUNT   > Enter the name for the MPE account associated with the location (8 characters)

CATEGORY   > Enter the name for a new category (20 characters).

CLASS   > Enter a numeric value for the identity of a new security class (0 to 9999).

COUNT(1)   > Enter the sub-element count if the data element is a compound element (1 to 9999). DEFAULT is 1.

CPU   > Enter the identity of the machine associated with the location (8 characters).

DECIMAL   > Enter the integer value for the number of digits to the right of the decimal point (0 to 9999). Do not include a position for the decimal point itself. The largest value for each element type is as follows:

                      27 decimal digits for types Z, P, and 9;
                      28 decimal digits for types I, J, and K;
                 9999 decimal digits for types E and R.

               This prompt is only issued for numeric type data elements. Note if the maximum value for SIZE is entered, a decimal value is required. DEFAULT is 0.

DESCRIPTION   > Enter a textual description which describes the entity (50 characters per line, unlimited lines).

EDIT MASK   > Enter a textual edit mask to be used by HP Inform/3000, Report/3000, and Transact/3000 to edit values when displayed for the data element (30 characters). (Refer to Using Edit Masks in Section III.)

ELEMENT   > Enter the name for a new data element (20 characters).

ENTRY TEXT   > Enter textual information to be used by HP Inform/3000, Report/3000, and Transact/3000 as a prompt for input. Otherwise, the primary name is used in the prompt (30 characters).

               Note that the primary name will be used in HP Inform/3000's and Report/3000's SELECTION CRITERIA prompt unless an ENTRY TEXT has been specified.

FILE   > If the sub-command is:

                              1. FILE - enter the name for a new file (20 characters).

                              2. CLASS - enter the name of an existing file of type BASE (20 characters).

GROUP   > If the sub-command is:

                              1. GROUP   - enter the name for a new HP Inform/3000 group (20 characters).

                              2. LOCATION - enter the name of the MPE group associated with the location (8 characters).

HEADING TEXT   > Enter a textual heading to be used by HP Inform/3000, Report/3000, and Transact/3000 for reports. Otherwise the primary name is used in the heading (30 characters).

                        Note that the primary name will be used in the report heading by HP Inform/3000 and Report/3000 unless a HEADING TEXT has been specified.

LANGUAGE   > Enter the name of the implementation language for the procedure (10 characters).

LOCATION   > Enter the name of a physical location that identifies the MPE file group and account, and the machine where files and procedures reside (20 characters).

LONG NAME   > Enter a full textual description for the entity (50 characters).

MEASUREMENT UNITS > Enter the type of measurement units (such as feet, dollars) used for the data element's value (10 characters).

NAME   > Enter a textual name for the new security class (50 characters).

PASSWORD   > Enter a password for the new security class (8 characters).

PROCEDURE   > Enter the name for a new procedure (20 characters).

RESPONSIBILITY   > Enter the name of the person, department, or area responsible for the integrity of the new entity (20 characters).

CREATE

RESTRICT CLASS
TO A FILE (N/Y)   > Enter a "Y" if the scope of the class is to be restricted
                     to one file. A security class can be restricted to files
                     of type BASE.

SIZE   > Enter an integer value required to display an element (1
                     to 9999). Include a position for a decimal point if there
                     is one, but do not include one for a sign. The largest
                     value for each element type is as follows:

                          28 digits for type Z, P, and 9;
                          29 digits for type I, J, and K;
                        9999 digits for type E, R, X, and U.

STORAGE LENGTH(n) > The system calculates the storage length in bytes and
                     displays it as "n". An over-ride value may be entered (1
                     to 9999), otherwise "n" is used.

TYPE   > If the sub-command is:

                     1. ELEMENT - enter one of the following values:

                             U = upper case ASCII
                             X = upper or lower case ASCII
                             9 = numeric ASCII
                             Z = zoned decimal
                             P = packed decimal
                             I = integer binary
                             J = integer binary (COBOL)
                             K = logical
                             R = floating point (commercial)
                             E = floating point (E format)

                        If the type is numeric, a plus character (+) may
                        immediately follow it to indicate that the data
                        element can have only positive values. If a plus
                        character is entered with a type other than numeric,
                        it is ignored. Pressing RETURN in response to this
                        prompt indicates that the data element does not have a
                        type assigned.

                     2. FILE - enter one of the following values:

                             BASE = IMAGE data base
                             MAST = IMAGE manual master data set
                             AUTO = IMAGE automatic master data set
                             DETL = IMAGE detail data set
                             KSAM = KSAM file
                             MPEF = MPE sequential file

```
VPLS = VPLUS forms file
FORM = VPLUS form
```

3. CATEGORY, CLASS, GROUP, or PROCEDURE - enter up to
                               four characters meaningful
                               to you.

DELETE

Deletes an association which was established with the ADD command.

```
[option] DELETE sub-command
         DEL
```

You use the DELETE command to delete an association between unlike entities which was established with the ADD command. Only the association is deleted, not the entities. A complete list of associations that can be deleted is given below under Sub-commands.

You use the sub-command to identify the entity from which an assocation is to be deleted. For example, if you use DELETE CLASS, you delete an association of an element to a security class.

Sub-commands

Any one of the following sub-commands can be used:

CATEGORY   - deletes an element to category association
CLASS   - deletes an element to class association
CLASS-FILE   - deletes a file to class association
FILE   - deletes an element to file association
FILE-LOC   - deletes a file to location association
GROUP   - deletes an element to HP Inform/3000 group association
PROCEDURE   - deletes an element to procedure association
PROCEDURE-LOC - deletes a procedure to location association

Example

>DELETE CLASS

            CLASS> 100 <   Security class used in
                                 the association.

          ELEMENT> Name   <   Element to be deleted
ENTRY DELETED   from the association.

          ELEMENT>   RETURN to terminate the
                                 command.
>   New command prompt.

Sub-command Prompts

For the prompts shown with an asterisk (*), you must enter a response other than RETURN in order to implement the command string. Two asterisks (**) next to a prompt indicate that this prompt and those which follow are repeated until RETURN is pressed in response to this prompt.

You enter: You are prompted for:

COMMAND	SUB-COMMAND	PROMPT	
DELETE	CATEGORY	CATEGORY	*
		ELEMENT	**
DELETE	CLASS	CLASS	*
		ELEMENT	**
DELETE	CLASS-FILE	CLASS	*
		FILE	**
DELETE	FILE	FILE	*
		ELEMENT	**
DELETE	FILE-LOC	LOCATION	*
		FILE	**
DELETE	GROUP	GROUP	*
		ELEMENT	**
DELETE	PROCEDURE	PROCEDURE	*
		ELEMENT	**
DELETE	PROCEDURE-LOC	LOCATION	*
		PROCEDURE	**

DELETE

Prompts

Depending on the sub-command you use, one or more of the following prompts is issued:

CATEGORY   > Enter the name of an existing category used in the association (20 characters).

CLASS   > Enter the identifying number of an existing security class used in the association (1 to 9999).

ELEMENT   > Enter the name of an existing data element which is to be deleted from the association (20 characters).

FILE   > If the sub-command is:

           1. FILE - enter the name of an existing file used in the the association (20 characters).

           2. FILE-LOC or CLASS-FILE - enter the name of an existing file which is to be deleted from the association (20 characters).

GROUP   > Enter the name of an existing HP Inform/3000 group used in the association (20 characters).

LOCATION   > Enter the name of an existing physical location used in the association (20 characters).

PROCEDURE   > If the sub-command is:

           1. PROCEDURE   - enter the name of an existing procedure used in the association (20 characters).

           2. PROCEDURE-LOC - enter the name of an existing procedure which is to be deleted from the association (20 characters).

Displays information about an entity established with the CREATE, ADD, and/or RELATE commands.

```
[option] DISPLAY sub-command
         D
```

You use the DISPLAY command to display the attributes of an entity and, for some, the direct relationships and the direct associations. A direct relationship is the parent of the entity and a direct association is the entity that owns the displayed entity.

The sub-command identifies the entity to be displayed. If you use element, file, or procedure as the sub-command, you see attribute, relationship, and association information. If you use category or group, you see attribute and relationship information. For class or location, you see attribute information. A complete list of entities that can be displayed is given below under Sub-commands.

You can use Selection Criteria to select the entity or entities to be displayed. Refer to Using Selection Criteria in Section III.

If you respond with an exclamation mark (!) or with RETURN to the first (and only) prompt, the command string will be implemented for *all* entities of that sub-command type. That is, attribute information and, for some sub-commands, the direct relationships and direct associations are displayed for all entities for that sub-command. (Note that this is a different use of the exclamation mark and of RETURN than for most commands.)

When you use the PRINT option with the command string, descriptive information is printed in addition to the information normally displayed on the terminal. The description information is the information that was entered when the relationship or association was made.

DISPLAY

Sub-commands

Any one of the following sub-commands can be used:

CATEGORY   - displays attribute information for a category plus all
             the directly related categories
CLASS   - displays attribute information for a user security class
ELEMENT   - displays attribute information for an element plus the
             directly associated and/or directly related entities
FILE   - displays attribute information for a file plus the
             directly associated and/or directly related entities
GROUP   - displays attribute information for an HP Inform/3000
             group plus the directly related entities
LOCATION   - displays attribute information for a physical location
PROCEDURE - displays attribute information for a procedure plus the
             directly associated and/or directly related entities

Example

> DISPLAY ELEMENT
                ELEMENT> ACCOUNT   <

```
ELEMENT:             TYPE: SIZE: DEC: LENGTH: COUNT: RESPONSIBILITY:
 ACCOUNT               X    10    0    10       1

       LONG NAME: MARKETING CUSTOMER ACCOUNT NUMBERS
    HEADING TEXT: CUSTOMER ACCOUNT NUMBERS
      ENTRY TEXT: CUSTOMER ACCOUNT NUMBER
       EDIT MASK:
MEASUREMENT UNITS:
    DATE CREATED: 81/12/31 BY MARGRITE
    DATE CHANGED: 81/12/31 BY MARGRITE

DESCRIPTION:
 THIS ACCOUNT NUMBER IDENTIFIES THE CUSTOMERS
 WHO BUY THE LARGE INTEGRATED SYSTEMS.

       FILE:              TYPE: ELEMENT(ALIAS):
        SALES              DETL  ACCOUNT
                          CHAIN MASTER SET: !CUSTOMER
                                SORTED BY: PURCH-NO
       CUSTOMER           MAST  ACCOUNT

       GROUP:              ELEMENT(ALIAS):      LINK: DISPLAY:
        CUSTOMER INFO       CUSTOMER ACCOUNT      1    YES
                    FILE: SALES(ORDINV)

       CLASS: CAPABILITY:
         10     M
         20     R
         30     R
         40     R

1 RECORD FOUND

>
```

DISPLAY

Sub-command Prompts

You can enter the name for a specific entity or use SELECTION CRITERIA for
the prompt. (Refer to Using Selection Criteria in Section III.) Responding
with an exclamation mark (!) or with RETURN will display information about
all entities for the specified sub-command.

You enter: You are prompted for:

COMMAND   SUB-COMMAND   PROMPT

DISPLAY   CATEGORY   CATEGORY

DISPLAY   CLASS   CLASS

DISPLAY   ELEMENT   ELEMENT

DISPLAY   FILE   FILE

DISPLAY   GROUP   GROUP

DISPLAY   LOCATION   LOCATION

Prompts

Depending on the sub-command you use, one of the following prompts is issued:

CATEGORY   > Enter the name of an existing category or Selection
Criteria for which information is to be displayed.

CLASS   > Enter the identifying number of an existing security
class or Selection Criteria for which information is to
be displayed.

ELEMENT   > Enter the name of an existing element or Selection
Criteria for which information is to be displayed.

FILE   > Enter the name of an existing file or Selection Criteria
for which information is to be displayed.

GROUP   > Enter the name of an existing HP Inform/3000 group or
Selection Criteria for which information is to be
displayed.

LOCATION   > Enter the name of an existing physical location or
Selection Criteria for which information is to be
displayed.

PROCEDURE   > Enter the name of an existing procedure or Selection
Criteria for which information is to be displayed.

HELP

Provides a brief description of each DICTDBM command and sub-command.

```
[option] HELP [sub-command]
         H
```

You use the HELP command to obtain information on:

- all DICTDBM commands;
- any DICTDBM command and its sub-commands.

All options except REPEAT can be used with this command.

To review descriptions of all DICTDBM commands, use the HELP command without a sub-command.

To obtain a description of a specific DICTDBM command and its sub-commands, accompany the HELP command with one of the following sub-commands.

Sub-commands

Any one of the following sub-commands can be used to obtain information about the DICTDBM command it names:

ADD	LIST	REORDER
CHANGE	MODIFY	REPORT
CREATE	PURGE	RESEQUENCE
DELETE	RELATE	SECURE
DISPLAY	REMOVE	SHOW
EXIT	RENAME	UPDATE

Examples

```
> HELP

ADD          -Add an association between unlike entities
CHANGE       -Change entry/description of relationship established with RELATE
CREATE       -Create a new entity
DELETE       -Delete association which was established with the ADD command
DISPLAY      -Display info about entity established with CREATE, ADD, RELATE
EXIT         -Terminate DICTDBM
HELP         -Display information about the commands  Enter HELP command-name
LIST         -List information for entity/entities with subset of attributes
MODIFY       -Modify attributes and/or description of an entity
PURGE        -Purge entity and all references to it
RELATE       -Establish hierarchial relationship between like entities
REMOVE       -Remove relationships between entities established with RELATE
RENAME       -Rename an existing entity
REORDER      -Re-position entity within relationship established with RELATE
REPORT       -Report a sorted listing of elements
RESEQUENCE   -Re-position element within association established with ADD
SECURE       -Assign all elements of an IMAGE type file to a security class
SHOW         -Show entity's association and relationships with child entities
UPDATE       -Update association between entities established with ADD


> HELP ADD

ADD          - Add an association between unlike entities

    CATEGORY      - Add an element to a category
    CLASS         - Add an element to a user security class
    CLASS-FILE    - Add a file to a user security class
    FILE          - Add an element to a file
    FILE-LOC      - Add a file to a physical location
    GROUP         - Add an element to an INFORM group
    PROCEDURE     - Add an element to a procedure
    PROCEDURE-LO  - Add a procedure to a physical location
```

Nov 1982

LIST

Lists information for an entity or entities with a subset of the attributes.

```
[option] LIST sub-command
        L
```

You use the LIST command to see the attributes of:

- a particular entity;
- all entities of a particular type;
- entities selected by using Selection Criteria (see Section III).

A complete list of entities for which a listing can be generated is given under Sub-commands.

The sub-command identifies the type of entity for which a listing is generated. The displayed listing is in the order in which the entities were entered. After the listing, the number of records displayed is given.

To list one entity, specify the entity's name in response to the first prompt. To list all of the entities for a specific sub-command, press the RETURN key for all the prompts or enter an exclamation character (!) in response to the first prompt. (Note that this is a different use of the RETURN key and of the exclamation mark character than for most commands.) To use the Selection Criteria for a listing, see Using Selection Criteria in Section III.

When you use the PRINT option with the command string, descriptive information is printed in addition to the information normally displayed on the terminal. The descriptive information is the description that was entered when the entity was created.

Sub-commands

Any one of the following sub-commands can be used:

```
CATEGORY   - lists the categories
CLASS      - lists the security classes
ELEMENT    - lists the data elements
FILE       - lists the files
GROUP      - lists the HP Inform/3000 groups
LOCATION   - lists the physical locations
PROCEDURE  - lists the procedures
```

Example

```
> REPEAT LIST ELEMENT

              ELEMENT> PU^                                          <
                TYPE> !                                             <

ELEMENT:            TYPE: SIZE: DEC: LENGTH: COUNT: RESPONSIBILITY:
  PUB-DATE          X     6     0    6        1     M. Sides
  PURCH-DATE        X     6     0    6        1     M. Abear
  PURCH-NO          U     6     0    6        1     R. Park
  PUBLSHER          X    40     0   40        1     M. Sides

4 RECORDS FOUND

              ELEMENT> ^T                                           <
                TYPE> !                                             <

ELEMENT:            TYPE: SIZE: DEC: LENGTH: COUNT: RESPONSIBILITY:
  CREDIT            U     2     0    2        1     J. Smith
  SUBJECT           X    40     0   40        1     M. Sides
  SQUARE-FEET       X     8     0    8        1     R. Park
  ACCOUNT           X    10     0   10        1     M. Abear
  UNIT-COST         P    11     0    6        1     M. Abear
  EXISTING-STRUCT   U     2     0    2        1     J. Smith
  LOAN-AMT          P    11     2    6        1     M. Abear

7 RECORDS FOUND

              ELEMENT> ]                                            <

>
```

Sub-command Prompts

You can enter specific information for any of the prompts or use SELECTION
CRITERIA for any of the prompts. (Refer to Using Selection Criteria in
Section III.) Responding with RETURN to all the prompts or with an
exclamation mark (!) to the first prompt lists information about all entities
for the specified sub-command.

You enter: You are prompted for:

COMMAND   SUB-COMMAND   PROMPT

LIST   CATEGORY   CATEGORY
                                    TYPE
                                    RESPONSIBILITY

LIST   CLASS   CLASS
                                    TYPE
                                    RESPONSIBILITY

LIST   ELEMENT   ELEMENT
                                    TYPE
                                    SIZE
                                    DECIMAL (issued only if TYPE is numeric)
                                    STORAGE LENGTH
                                    COUNT
                                    RESPONSIBILITY

LIST   FILE   FILE
                                    TYPE
                                    RESPONSIBILITY

LIST   GROUP   GROUP
                                    TYPE
                                    RESPONSIBILITY

LIST   LOCATION   LOCATION
                                    GROUP
                                    ACCOUNT
                                    CPU

LIST   PROCEDURE   .   PROCEDURE
                                    TYPE
                                    LANGUAGE
                                    RESPONSIBILITY

Prompts

Depending on the sub-command you use, one or more of the following prompts is issued.

ACCOUNT   > Enter the name of the existing MPE account or Selection Criteria for which information is to be listed.

CATEGORY   > Enter the name of the existing category or Selection Criteria for which information is to be listed.

CLASS   > Enter the number of the existing security class or Selection Criteria for which information is to be listed.

COUNT   > Enter the sub-element count if the data element is a compound element or Selection Criteria for which information is to be listed.

CPU   > Enter the name of the machine or Selection Criteria for which information is to be listed.

DECIMAL   > Enter the integer value for the number of digits to the right of the decimal point (0 to 9999) or Selection Criteria for which information is to be displayed. Do not include a position for the decimal point itself. The largest value for each element type is as follows:

                         27 decimal digits for types Z, P, and 9;
                         28 decimal digits for types I, J, and K;
                  9999 decimal digits for types E and R.

             This prompt is only issued for numeric type data elements. Note if the maximum value for SIZE is entered, a decimal value is required.

ELEMENT   > Enter the name of the existing data element or Selection Criteria for which information is to be listed.

FILE   > Enter the name of the existing file or Selection Criteria for which information is to be listed.

GROUP   > If the sub-command is:

             1. GROUP   - enter the name of an existing HP Inform/3000 group or Selection Criteria for which information is to be listed.

             2. LOCATION - enter the name of an existing MPE group or Selection Criteria for which information is to be listed.

LANGUAGE   > Enter the name of the implementation language or
         Selection Criteria for which information is to be listed.

LOCATION   > Enter the name of the physical location or Selection
         Criteria for which information is to be listed.

PROCEDURE   > Enter the name of the existing procedure or Selection
         Criteria for which information is to be listed.

RESPONSIBILITY > Enter the name of the person, department, or area, or
         Selection Criteria for which information is to be listed.

SIZE   > Enter an integer value required to display an element (1
         to 9999) or Selection Criteria for which information is
         to be listed. Include a position for a decimal point if
         there is one, but do not include one for a sign. The
         largest value for each element type is as follows:

           28 digits for type Z, P, and 9;
           29 digits for type I, J, and K;
         9999 digits for type E, R, X, and U.

STORAGE LENGTH > Enter the storage length in bytes or Selection Criteria
         for which information is to be displayed.

TYPE   > If the sub-command is:

        1. ELEMENT - enter the attribute type or Selection Criteria
             for which information is to be listed.

        2. FILE - enter the file type or Selection Criteria for
             which information is to be listed.

        3. CATEGORY, CLASS, GROUP, PROCEDURE - enter the character
             value or Selection Criteria for which
             information is to be listed.

Modifies the information for an entity which was created with the CREATE
command.

```
[option] MODIFY sub-command
         M
```

You use the MODIFY command to change the attributes and/or the description of
an entity created with the CREATE command. If you choose to edit the
description, you will be prompted to enter an EDIT COMMAND. Refer to Using
Edit Description Commands in Section III for a complete list of EDIT
COMMANDs.

The sub-command identifies the type of entity to be modified. For example,
if you use MODIFY CATEGORY, you can enter a new type designator, change the
name of the person responsible, or enter a new textual name for the category.
You can also edit the textual description for the category. A complete list
of entities that can be modified is given below under Sub-commands.

Sub-commands

Any one of the following sub-commands can be used:

```
CATEGORY   - modifies a category
CLASS      - modifies a security class
ELEMENT    - modifies a data element
FILE       - modifies a file
GROUP      - modifies an HP Inform/3000 group
LOCATION   - modifies a physical location
PROCEDURE - modifies a procedure
```

Example

```
>MODIFY CATEGORY
            CATEGORY> Marketing              <        Category to be modified.
EDIT DESCRIPTION(Y/N)? n                              No, to edit description.

CATEGORY:            TYPE: RESPONSIBILITY:
Marketing             SPLS  John Williams
        LONG NAME:

                TYPE>                                 Attribute prompt.
        RESPONSIBILITY> James Max                     Changed name.
            LONG NAME> Marketing Supplies Sales  Added information.

>                                                     New command prompt.
```

MODIFY

Sub-command Prompts

For the prompts shown with an asterisk (*), you must enter a response other than RETURN in order to implement the command string.

You enter: You are prompted for:

COMMAND   SUB-COMMAND   PROMPT

MODIFY   CATEGORY   CATEGORY   *
                                       EDIT DESCRIPTION(Y/N)?
                                       EDIT COMMAND>> (* and issued only if Yes to
                                                            EDIT DESCRIPTION)
                                       EDIT ATTRIBUTES(Y/N)? (issued only if Yes to
                                                            EDIT DESCRIPTION)
                                       TYPE
                                       RESPONSIBILITY
                                       LONG NAME

MODIFY   CLASS   CLASS   *
                                       EDIT DESCRIPTION(Y/N)?
                                       EDIT COMMAND>> (* and issued only if Yes to
                                                            EDIT DESCRIPTION)
                                       EDIT ATTRIBUTES(Y/N)? (issued only if Yes to
                                                            EDIT DESCRIPTION)
                                       TYPE
                                       PASSWORD
                                       RESPONSIBILITY
                                       LONG NAME
                                       RESTRICTED FILE

MODIFY   ELEMENT   ELEMENT   *
                                       EDIT DESCRIPTION(Y/N)?
                                       EDIT COMMAND>> (* and issued only if Yes to
                                                            EDIT DESCRIPTION)
                                       EDIT ATTRIBUTES(Y/N)? (issued only if Yes to
                                                            EDIT DESCRIPTION)
                                       TYPE
                                       SIZE
                                       DECIMAL
                                       STORAGE LENGTH(n)
                                       COUNT
                                       RESPONSIBILITY
                                       LONG NAME
                                       HEADING TEXT
                                       ENTRY TEXT
                                       EDIT MASK
                                       MEASUREMENT UNITS

```
MODIFY    FILE              FILE        *
                            EDIT DESCRIPTION(Y/N)?
                            EDIT COMMAND>> (* and issued only if Yes to
                                                    EDIT DESCRIPTION)
                            EDIT ATTRIBUTES(Y/N)? (issued only if Yes to
                                                    EDIT DESCRIPTION)
                            TYPE    (issued only if the file has not been
                                    associated or related to any other
                                    entity)
                            RESPONSIBILITY
                            LONG NAME


MODIFY    GROUP             GROUP       *
                            EDIT DESCRIPTION(Y/N)?
                            EDIT COMMAND>> (* and issued only if Yes to
                                                      EDIT DESCRIPTION)
                            EDIT ATTRIBUTES(Y/N)? (issued only if Yes to
                                                      EDIT DESCRIPTION)
                            TYPE
                            RESPONSIBILITY
                            LONG NAME


MODIFY    LOCATION          LOCATION     *
                            EDIT DESCRIPTION(Y/N)?
                            EDIT COMMAND>> (* and issued only if Yes to
                                                      EDIT DESCRIPTION)
                            EDIT ATTRIBUTES(Y/N)? (issued only if Yes to
                                                      EDIT DESCRIPTION)
                            GROUP
                            ACCOUNT
                            CPU
                            LONG NAME


MODIFY    PROCEDURE         PROCEDURE    *
                            EDIT DESCRIPTION(Y/N)?
                            EDIT COMMAND>> (* and issued only if Yes to
                                                      EDIT DESCRIPTION)
                            EDIT ATTRIBUTES(Y/N)? (issued only if Yes to
                                                      EDIT DESCRIPTION)
                            TYPE
                            LANGUAGE
                            RESPONSIBILITY
                            LONG NAME
```

MODIFY

Prompts

Depending on the sub-command you use, one or more of the following prompts is issued:

ACCOUNT   > Enter a new name for the MPE account that is associated with the location (8 characters). DEFAULT: Pressing RETURN in response to this prompt indicates no change.

CATEGORY   > Enter the name of an existing category (20 characters).

CLASS   > Enter the identifying number of an existing security class (0 to 9999).

COUNT   > Enter a positive integer value for a new sub-element count if the data element is a compound type (1 to 9999). DEFAULT: Pressing RETURN in response to this prompt indicates no change.

CPU   > Enter the new name of the machine that is associated with the location (8 characters). DEFAULT: Pressing RETURN in response to this prompt indicates no change.

DECIMAL   > Enter a new integer value for the number of digits to the right of the decimal point (0 to 9999). Do not include a position for the decimal point itself. The largest value for each element type is as follows:

         27 decimal digits for types Z, P, and 9;
         28 decimal digits for types I, J, and K;
      9999 decimal digits for types E and R.

       Note if the maximum value for SIZE is entered, a decimal value is required. DEFAULT: Pressing RETURN in response to this prompt indicates no change.

EDIT
ATTRIBUTES(Y/N)? > Enter an "N" if attribute prompts are not to be issued.

EDIT COMMAND>>   > Enter one of the EDIT COMMANDS described under Using Edit Description Commands in Section III.

EDIT
DESCRIPTION(Y/N)? > Enter an "N" if description text editing is not required.

EDIT MASK   > Enter a new textual edit mask to be used to edit values when displayed for the data element (30 characters). This is used by HP Inform/3000, Report/3000, and Transact/3000. (Refer to Using Edit Masks in Section

III.) DEFAULT: Pressing RETURN in response to this
prompt indicates no change.

ELEMENT   > Enter the name of an existing data element (20
characters).

ENTRY TEXT   > Enter new textual information to be used by HP
Inform/3000, Report/3000, and Transact/3000 as a prompt
for input. This text replaces the primary name in the
prompt (30 characters). DEFAULT: Pressing RETURN in
response to this prompt indicates no change.

FILE   > Enter the name of an existing file (20 characters).

GROUP   > If the sub-command is:

    1. GROUP   - enter the name of an existing HP
                 Inform/3000 group (20 characters). NOTE:
                 $MENU can not be modified.

    2. LOCATION - enter the name of a new MPE group to be
                 associated with the location (8
                 characters). DEFAULT: Pressing RETURN in
                 response to this prompt indicates no
                 change.

HEADING TEXT   > Enter a new textual heading to be used by HP Inform/3000,
Report/3000, and Transact/3000 for the heading in
reports. This heading replaces the data element's
primary name in reports (30 characters). DEFAULT:
Pressing RETURN in response to this prompt indicates no
change.

LANGUAGE   > Enter the name of a new implementation language for the
procedure (10 characters). DEFAULT: Pressing RETURN in
response to this prompt indicates no change.

LOCATION   > Enter the name of an existing physical location (20
characters).

LONG NAME   > Enter a new full textual name for the entity (50
characters). DEFAULT: Pressing RETURN in response to this
prompt indicates no change.

MEASUREMENT UNITS > Enter a new type of measurement units (such as feet,
dollars) for the data element's value (10 characters).
DEFAULT: Pressing RETURN in response to this prompt
indicates no change.

MODIFY

PASSWORD   > Enter a new password for the user security class (8
                         characters). A blank value (pressing the space bar
                         followed by RETURN) removes the password. DEFAULT:
                         Pressing RETURN following this prompt indicates no
                         change.

PROCEDURE   > Enter the name of an existing procedure (20 characters).

RESPONSIBILITY   > Enter a new name for the person, department, or area
                         responsible for the integrity of the entity (20
                         characters). DEFAULT: Pressing RETURN in response to
                         this prompt indicates no change.

RESTRICTED FILE   > If the scope of the security class is to be limited to a
                         file, enter the name of the file (20 characters). The
                         file type must be BASE. DEFAULT: Pressing RETURN in
                         response to this prompt indicates no change.

SIZE   > Enter a new integer value required to display an element
                         (1 to 9999). Include a position for a decimal point if
                         there is one, but do not include one for a sign. The
                         largest value for each type is as follows:

                              28 digits for type Z, P, and 9;
                              29 digits for type I, J, and K;
                            9999 digits for type E, R, X, and U.

                         DEFAULT: Pressing RETURN in response to this prompt
                         indicates no change.

STORAGE LENGTH(n)   > The calculated storage length in bytes is displayed as
                         "n". An over-ride value may be entered (1 to 9999).
                         DEFAULT: Pressing RETURN in response to this prompt
                         indicates no change.

TYPE   > If the sub-command is:

                         1. CATEGORY, CLASS, GROUP, or PROCEDURE - enter a new
                                       user defined type (4 characters). DEFAULT:
                                       Pressing RETURN in response to this prompt
                                       indicates no change.

                         2. ELEMENT - enter a new type for the data element based
                                       on the following:

                                       U = upper case ASCII
                                       X = upper or lower case ASCII
                                       9 = numeric ASCII
                                       Z = zoned decimal

```
P = packed decimal
I = integer binary
J = integer binary (COBOL)
K = logical
R = floating point (commercial)
E = floating point (E format)
```

If the type used is numeric, a plus charater (+) following it indicates that the data element may have only positive values. If a plus character is used with any other type, it is ignored.

DEFAULT: Pressing RETURN in response to this prompt indicates no change.

3. FILE   - enter a new file type based on one of the following types:

```
BASE = IMAGE data base name
MAST = IMAGE manual master data set
AUTO = IMAGE automatic master data set
DETL = IMAGE detail data set
FORM = VPLUS form
VLPS = VPLUS form file name
MPEF = MPE sequential file
KSAM = KSAM file
```

DEFAULT: Pressing RETURN in response to this prompt indicates no change.

PURGE

Purges an entity which was created with the CREATE command from the dictionary.

```
[option] PURGE sub-command
        P
```

You use the PURGE command when you want to delete an entity and all references to it from the dictionary. You will be prompted with "Delete all entries (N/Y)?" before the entity is purged. A reponse other then "Y" cancels the PURGE command. A complete list of which entities can be purged is given below under Sub-commands.

You use the sub-command to identify the kind of entity you want to purge. For example, if you use PURGE FILE, the specified file and all references to the file are purged from the dictionary. That is, if you purge a master file and an associated primary path element, then the associated sort element, primary path, and path file information are purged as well.

Sub-commands

Any one of the following sub-commands can be used:

CATEGORY - purges the category and all references to it
CLASS   - purges the security class and all references to it
ELEMENT   - purges the data element and all references to it
FILE   - purges the file and all references to it; optionally
            purges related files and associated elements
GROUP   - purges the HP Inform/3000 group and all references to it
LOCATION - purges the location and all references to it
PROCEDURE - purges the procedure and all references to it

Examples

```
> PURGE ELEMENT
              ELEMENT> Element1              <      Identifies element
                                                    to be purged
DELETE ALL ENTRIES (N/Y)?> Y                        Confirms request to
ALL ENTRIES DELETED                                 purge element

>                                                   New command prompt
```

```
> PURGE FILE
                    FILE> Basel              <      Identifies BASE file
                                                    to be purged.
DELETE ALL ENTRIES(N/Y)?> Y                         Confirms request to purge
                                                    Basel.
PURGE RELATED CHILD FILES(Y/N)?> Y                  Requests tnat all related
                                                    child files be purged.
PURGE ASSOCIATED ELEMENTS(Y/N)?> Y                  Requests that child file
                                                    elements not associated
                                                    with another file be
                                                    purged.
LIST ALL PURGED ENTITIES(Y/N)?> Y                   Requests that related
                                                    and purged files and
                                                    elements be displayed.


FILE PURGED:  BASE1


CHILD FILES:           FILES PURGED:

   ELEMENTS:              ELEMENTS PURGED:

HP-DIV-MSTR            HP-DIV-MSTR
    HP-DIV-NO
    HP-DIV-NAME
    HP-GROUP

COMMODITY-MSTR        COMMODITY-MSTR
    COMMODITY-TYPE
    COMMODITY-NAME

VENDOR-DETAIL         VENDOR-DETAIL
    COMMODITY-TYPE
    C-VEND-NUM            C-VEND-NUM
    VEND-NAME
    Q1-RATING            Q1-RATING
    Q2-RATING            Q2-RATING
    Q3-RATING            Q3-RATING
    Q4-RATING            Q4-RATING


>                                            New command prompt.
```

PURGE

Sub-command Prompts

For the prompts shown with an asterisk (*), you must enter a response other than RETURN in order to implement the command string.

You enter: You are prompted for:

COMMAND   SUB-COMMAND   PROMPT

PURGE   CATEGORY   CATEGORY   *
                                        DELETE ALL ENTRIES(N/Y)?

PURGE   CLASS   CLASS   *
                                        DELETE ALL ENTRIES(N/Y)?

PURGE   ELEMENT   ELEMENT   *
                                        DELETE ALL ENTRIES(N/Y)?

PURGE   FILE   FILE   *

                                    1. if FILE is BASE or VPLS file

                                        DELETE ALL ENTRIES(N/Y)?
                                        PURGE RELATED CHILD FILES(Y/N)? (You
                                           must respond YES, Y, NO, or N; no
                                           default response occurs.)
                                        ANSWER YES OR NO. (issued if response to
                                           PURGE RELATED CHILD FILES was neither
                                           Yes nor No)
                                        PURGE ASSOCIATED ELEMENTS(Y/N)? (issued if
                                           response to PURGE RELATED CHILD FILES
                                           was Yes; you *must* respond YES, Y,
                                           NO, or N; no default response occurs.)
                                        ANSWER YES OR NO. (issued if response to
                                           PURGE ASSOCIATED ELEMENTS was neither
                                           Yes nor No)
                                        LIST ALL PURGED ENTITIES(Y/N)? (issued
                                           if response to PURGE RELATED CHILD FILES
                                           or PURGE ASSOCIATED ELEMENTS was Yes)

```
You enter:                    You are prompted for:


                              2.  if FILE is MAST, DETL, AUTO, MPEF,
                                  KSAM, or FORM file

                                  DELETE ALL ENTRIES(N/Y)?
                                  PURGE ASSOCIATED ELEMENTS(Y/N)?
                                    (You must respond YES, Y, No,
                                    or N; no default response occurs.)
                                  ANSWER YES OR NO. (issued if response to
                                    PURGE ASSOCIATED ELEMENTS was neither
                                    Yes nor No)
                                  LIST ALL PURGED ENTITIES(Y/N)? (issued
                                    if response to PURGE ASSOCIATED ELEMENTS
                                    was Yes)

PURGE    GROUP                 GROUP     *
                                  DELETE ALL ENTRIES(N/Y)?

PURGE    LOCATION              LOCATION  *
                                  DELETE ALL ENTRIES(N/Y)?

PURGE    PROCEDURE             PROCEDURE *
                                  DELETE ALL ENTRIES(N/Y)?
```

Prompts

Depending on the sub-command you use, one of the following prompts is issued:

ANSWER YES OR NO. > Enter "Y", "YES", "N", or "NO".

CATEGORY   > Enter the name of an existing category which is to be
                    purged from the dictionary (20 characters).

CLASS   > Enter the identifying number of an existing security
                    class which is to be purged from the dictionary (0 to
                    9999).

DELETE ALL   > Enter "Y" to purge the entity and all references to it
ENTRIES(N/Y)?   from the dictionary. Note that typing "N" or pressing
                    RETURN in response to this prompt means that no action is
                    taken.

ELEMENT   > Enter the name of an existing data element which is to be
                    purged from the dictionary (20 characters).

PURGE

FILE   > Enter the name of an existing file which is to be purged from the dictionary (20 characters).

GROUP   > Enter the name of an existing HP Inform/3000 group which is to be purged from the dictionary (20 characters). NOTE: $MENU cannot be purged.

LIST ALL PURGED   > Enter "Y" or press RETURN to display all related files
ENTITIES(Y/N)?   and elements as well as files and elements that were purged. Enter "N" if you do not want this listing.

LOCATION   > Enter the name of an existing physical location which is to be purged from the dictionary (20 characters).

PROCEDURE   > Enter the name of an existing procedure which is to be purged from the dictionary (20 characters).

PURGE RELATED   > Enter "Y" to purge all related child files and all
CHILD   references to these files. Note that a child file is not
FILES(Y/N)?   purged if it is related to another parent file. Enter "N" to purge only the specified file and all references to that file. You *must* enter YES, Y, NO, or N; no default response occurs.

PURGE ASSOCIATED   > Enter "Y" to purge all associated (i.e., member) elements
ELEMENTS(Y/N)?   and all references to these elements. Note that an element is not purged if it is associated with other files or with other elements. Enter "N" if you do not want associated elements purged. You *must* enter YES, Y, NO, or N; no default response occurs.

Establishes a hierarchical relationship between like entities.

```
[option] RELATE sub-command
         REL
```

You use the RELATE command to establish a hierarchial relationship between entities. The relationship must be between entities of the same type. That is, only categories can be related to categories, files to files, and so forth. A complete list of entities that can be related is given below under Sub-commands.

The sub-command identifies the type of entity for which a relationship is established. For example, if you use RELATE FILE, a relationship between a file of type BASE and a file of type MAST, DETL, or AUTO can be established.

Child entities are ordered within the parent's entry list in the order in which they were related to the parent. This order can be changed through the REORDER command.

Sub-commands

Any one of the following sub-commands can be used:

```
CATEGORY  - relates a category to a category
ELEMENT   - relates a data element to a data element
FILE      - relates a file to a file
GROUP     - relates an HP Inform/3000 group to a group
PROCEDURE - relates a procedure to a procedure
```

Example

```
> RELATE FILE
        PARENT FILE> ORDMGT                    <       Name of data base.

        CHILD FILE> CUSTOMER                    <       Data set in data base.
        CHILD ALIAS>                        <           Alias will be first 16
          CAPACITY> 101           <                     characters of child.
          BLOCKMAX> 1024<
        DESCRIPTION> Customer file is a manual master data set in the   <
                   > data base Order Management.                        <
                   >                                                    <
                                                        RETURN ends prompting for
        CHILD FILE>                             <       description; another one
                                                        ends command string.

>                                                       New command prompt.
```

Sub-command Prompts

For the prompts shown with an asterisk (*), you must enter a response other
than RETURN in order to implement the command string. Two asterisks (**)
next to a prompt indicate that this prompt and those which follow are
repeated until RETURN is pressed in response to this prompt.

You enter: You are prompted for:

COMMAND   SUB-COMMAND   PROMPT

RELATE   CATEGORY   PARENT CATEGORY   *
                                 CHILD CATEGORY   **
                                 DESCRIPTION

RELATE   ELEMENT   PARENT ELEMENT   *
                                 CHILD ELEMENT   **
                                 BYTE POSITION
                                 DESCRIPTION

RELATE   FILE   PARENT FILE   *
                                 CHILD FILE   **
                                 CHILD ALIAS
                                 CAPACITY   (issued only if BASE parent file)
                                 BLOCKMAX   (issued only if BASE parent file)
                                 DESCRIPTION

RELATE   GROUP   PARENT GROUP   *
                                 CHILD GROUP   **
                                 DESCRIPTION

RELATE   PROCEDURE   PARENT PROCEDURE   *
                                 CHILD PROCEDURE   **
                                 DESCRIPTION

RELATE

Prompts

Depending on the sub-command you use, one or more of the following prompts is issued:

BLOCKMAX   > Enter the maximum physical block length (in words) for the file within the data base file (128 to 2048). DEFAULT is 512.

BYTE POSITION   > Enter a positive integer value for the starting position of the child data element field within the parent data element field. First byte position is 1. DEFAULT is 1.

CAPACITY   > Enter an integer value for the maximum number of entries for the file within the data base file (0 to 999999999). DEFAULT is 0.

CHILD ALIAS   > Enter the name by which the child file is known within the parent file (16 characters). DEFAULT: If RETURN is pressed in response to this prompt, the alias becomes the child's file name, up to the first 16 characters.

CHILD CATEGORY   > Enter the name of an existing category that is the child in the relationship (20 characters).

CHILD ELEMENT   > Enter the name of an existing data element that is the child in the relationship (20 characters).

CHILD FILE   > Enter the name of an existing file that is the child in the relationship according to the following restrictions:

                      If the parent file is type:

                      1. BASE - the child file must be one of the following types:

                          MAST (IMAGE manual master data set)
                          AUTO (IMAGE automatic master data set)
                          DETL (IMAGE detail data set)

                      2. VPLS - the child file must be the following type:

                          FORM (VPLUS form)

CHILD GROUP   > Enter the name of an existing HP Inform/3000 group that is the child in the relationship (20 characters).

CHILD PROCEDURE   > Enter the name of an existing procedure that is the child in the relationship (20 characters).

DESCRIPTION   > Enter a textual description of the relationship (50 characters per line, unlimited lines).

PARENT CATEGORY   > Enter the name of an existing category that is the parent in the relationship (20 characters).

PARENT ELEMENT   > Enter the name of the existing data element that is the parent in the relationship (20 characters).

PARENT FILE   > Enter the name of an existing file (20 characters) that is the parent in the relationship. The file type must be one of the following:

                BASE (IMAGE data base)
                VPLS (VPLUS forms file)

PARENT GROUP   > Enter the name of an existing HP Inform/3000 group that is the parent in the relationship (20 characters). NOTE: If the child group is to be related to the highest group in the group tree structure, enter "$MENU" as the parent group's name.

PARENT PROCEDURE   > Enter the name of an existing procedure that is the parent in the relationship (20 characters).

REMOVE

Removes a relationship between entities which was established with the RELATE command.

```
[option] REMOVE sub-command
         REM
```

You use the REMOVE command to remove the relationship between entities which was established with the RELATE command. You do not purge the entities themselves with this command. A complete list of which relationships can be removed is given below under Sub-commands.

The sub-command identifies the type of relationship that is removed. For example, if you use REMOVE FILE, you remove the relationship between a parent file and a child file.

Sub-commands

Any one of the following sub-commands can be used:

CATEGORY   - removes the relationship between a child and a parent
             category
ELEMENT   - removes the relationship between a child and a parent
             element
FILE   - removes the relationship between a child and a parent
             file
GROUP   - removes the relationship between a child and a parent
             HP Inform/3000 group
PROCEDURE - removes the relationship between a child and a parent
             procedure

Example

```
>REMOVE FILE
          PARENT FILE> Ordmgt            <   Name of a data base.

          CHILD FILE> Customer           <   Name of a MAST data set
                                             related to the data base.
ENTRY DELETED                                DICTDBM's response.

          CHILD FILE>                    <   RETURN to terminate the
                                             command.
>                                            New command prompt.
```

Sub-command Prompts

For the prompts shown with an asterisk (*), you must enter a response other than RETURN in order to implement the command string. Two asterisks (**) next to a prompt indicate that this prompt and those which follow are repeated until RETURN is pressed in response to this prompt.

You enter: You are prompted for:

COMMAND   SUB-COMMAND   PROMPT

REMOVE   CATEGORY   PARENT CATEGORY   *
                                 CHILD CATEGORY   **

REMOVE   ELEMENT   PARENT ELEMENT   *
                                 CHILD ELEMENT   **

REMOVE   FILE   PARENT FILE   *
                                 CHILD FILE   **

REMOVE   GROUP   PARENT GROUP   *
                                 CHILD GROUP   **

REMOVE   PROCEDURE   PARENT PROCEDURE   *
                                 CHILD PROCEDURE   **

REMOVE

Prompts

Depending on the sub-command you use, one or more of the following prompts is issued:

CHILD CATEGORY   > Enter the name of a child category for which the relationship is to be removed (20 characters).

CHILD ELEMENT   > Enter the name of a child element for which the relationship is to be removed (20 characters).

CHILD FILE   > Enter the name of a child file for which the relationship is to be removed (20 characters).

CHILD GROUP   > Enter the name of a child HP Inform/3000 group for which the relationship is to be removed (20 characters).

CHILD PROCEDURE   > Enter the name of a child procedure for which the relationship is to be removed (20 characters).

PARENT CATEGORY   > Enter the name of a parent category from which a relationship is to be removed (20 characters).

PARENT ELEMENT   > Enter the name of a parent element from which a relationship is to be removed (20 characters).

PARENT FILE   > Enter the name of a parent file from which a relationship is to be removed (20 characters).

PARENT GROUP   > Enter the name of a parent HP Inform/3000 group from which a relationship is to be removed (20 characters). Enter "$MENU" if the child group is related to the highest group in the group tree structure.

PARENT PROCEDURE   > Enter the name of a parent procedure from which a relationship is to be removed (20 characters).

Renames an existing entity which was created with the CREATE command.

```
[option] RENAME sub-command
         REN
```

You use the RENAME command to change the name of an entity. The old name is changed everywhere it is referenced in the dictionary to the new name. A complete list of which entities can be renamed is given under Sub-commands.

The sub-command is used to identify the type of entity for which a change is to occur. For example, if you use RENAME CLASS, you change the identifying number for the specified class.

Sub-commands

```
CATEGORY   - renames an existing category
CLASS      - renames an existing identifying number of a security class
ELEMENT    - renames an existing data element
FILE       - renames an existing file
GROUP      - renames an existing HP Inform/3000 group
LOCATION   - renames an existing physical location
PROCEDURE  - renames an existing procedure
```

Example

```
>RENAME CLASS
           CLASS> 11  <                    Changes the identifying number
      NEW NUMBER> 111 <                    from 11 to 111.

   >                                       New command prompt.
```

RENAME

Sub-command Prompts

For the prompts shown with an asterisk (*), you must enter a response other than RETURN in order to implement the command string.

You enter: You are prompted for:

COMMAND   SUB-COMMAND   PROMPT

COMMAND	SUB-COMMAND	PROMPT	
RENAME	CATEGORY	CATEGORY	*
		NEW NAME	*
RENAME	CLASS	CLASS	*
		NEW NUMBER	*
RENAME	ELEMENT	ELEMENT	*
		NEW NAME	*
RENAME	FILE	FILE	*
		NEW NAME	*
RENAME	GROUP	GROUP	*
		NEW NAME	*
RENAME	LOCATION	LOCATION	*
		NEW NAME	*
RENAME	PROCEDURE	PROCEDURE	*
		NEW NAME	*

Prompts

Depending on the sub-command you use, one or more of the following prompts is issued:

CATEGORY   > Enter the name of an existing category (20 characters).

CLASS   > Enter the numeric value which is the identifying number
                      of an existing user security class (0 to 9999).

ELEMENT   > Enter the name of an existing data element (20
                      characters.

FILE   > Enter the name of an existing file (20 characters).

GROUP   > Enter the name of an existing HP Inform/3000 group (20
                      characters). NOTE: $MENU can not be renamed.

LOCATION   > Enter the name of an existing location (20 characters).

NEW NAME   > Enter a new unique name for the entity (20 characters).

NEW NUMBER   > Enter a new unique numeric value for the user security
                      class (0 to 9999).

REORDER

Reorders an entity within a relationship which was established with the RELATE command.

```
[option] REORDER sub-command
         REO
```

You use the REORDER command to change the position of where a child appears within the parent's entry list which was established with the RELATE command. A complete list of which entities can be reordered is given below under Sub-commands.

The sub-command identifies the type of relationship for which a reordering is to occur. For example, if you use REORDER CATEGORY, you change the position of a child category within a parent category's entry list.

Before using the REORDER command, you can use the SHOW command to determine the current position of the child and the name of the child before which it is to be placed. If you respond with RETURN to the NEW POSITION prompt of the REORDER command, the child is placed at the end of the parent's entry list.

Sub-commands

Any one of the following sub-commands can be used:

CATEGORY   - reorders a child category within a parent
                category's entry list
ELEMENT   - reorders a child data element within a parent data
                element's entry list
FILE   - reorders a child file within a parent file's entry list
GROUP   - reorders a child HP Inform/3000 group within a parent
                group's entry list
PROCEDURE - reorders a child procedure within a parent procedure's
                entry list

Example

```
>REORDER CATEGORY
        PARENT CATEGORY> Director              <

        CHILD CATEGORY> Marketing              < Category to be reordered.
          NEW POSITION> Manufacturing          < New position is before
                                                 this category.
        CHILD CATEGORY>                        < Terminate the command.

   >                                             New command prompt.
```

Sub-command Prompts

For the prompts shown with an asterisk (*), you must enter a response other than RETURN in order to implement the command string.

You enter: You are prompted for:

COMMAND   SUB-COMMAND   PROMPT

REORDER   CATEGORY   PARENT CATEGORY   *
                                      CHILD CATEGORY   **
                                      NEW POSITION

REORDER   ELEMENT   PARENT ELEMENT   *
                                      CHILD ELEMENT   **
                                      NEW POSITION

REORDER   FILE   PARENT FILE   *
                                      CHILD FILE   **
                                      NEW POSITION

REORDER   GROUP   PARENT GROUP   *
                                      CHILD GROUP   **
                                      NEW POSITION

REORDER   PROCEDURE   PARENT PROCEDURE   *
                                      CHILD PROCEDURE **
                                      NEW POSITION

REORDER

Prompts

Depending on which sub-command you use, one or more of the following prompts is issued:

CHILD CATEGORY   > Enter the name of a child category that is to be reordered (20 characters).

CHILD ELEMENT   > Enter the name of a child data element that is to be reordered (20 characters).

CHILD FILE   > Enter the name of a child file that is to be reordered. (20 characters).

CHILD GROUP   > Enter the name of a child HP Inform/3000 group that is to be reordered (20 characters).

CHILD PROCEDURE   > Enter the name of a child procedure that is to be reordered (20 characters).

NEW POSITION   > Enter the name of an existing child entity before which the reordered child is to be placed. DEFAULT: Pressing RETURN in response to this prompt places the reordered child at the end of the parent's list.

PARENT CATEGORY   > Enter the name of an existing category that is the parent in the relationship (20 characters).

PARENT ELEMENT   > Enter the name of an existing data element that is the parent in the relationship (20 characters).

PARENT FILE   > Enter the name of an existing file that is the parent in the relationship (20 characters).

PARENT GROUP   > Enter the name of an existing HP Inform/3000 group that is the parent in the relationship (20 characters).

PARENT PROCEDURE   > Enter the name of an existing procedure that is the parent in the relationship (20 characters).

Reports a sorted listing of data elements.

```
[option] REPORT sub-command
         R
```

You use the REPORT command to display an alphabetized list of data elements owned by an entity or by its children. Any element that is owned by more than one entity is listed only once.

The sub-command identifies the entity to be listed. If you use class as the sub-command, only those elements owned by the named user security class are listed. If you use element, however, all the elements defined in the dictionary are listed. If you use category, file, group, or procedure as the sub-command and if the name you enter is for a child, you see the elements owned by that entity; if the name you enter is a parent, you see all the elements for the related child entities. Since parent procedures can also own elements, these too are displayed if applicable.

When you use the PRINT option with the command string, descriptive information is printed in addition to the information normally displayed on the terminal. The description information is the description that was entered when the entity was created or when an association was made.

Sub-commands

Any one of the following sub-commands can be used:

CATEGORY   - reports all the data elements associated with a category
              or with related child categories
CLASS   - reports all the data elements associated with a security class
ELEMENT   - reports all the data elements defined in the dictionary
FILE   - reports all the data elements associated with a file
              or with related child files
GROUP   - reports all the data elements associated with an HP Inform/3000
              group or with related child groups
PROCEDURE   - reports all the data elements associated with a procedure
              or with related child procedures, including any owned
              by the named procedure

REPORT

Example

```
> REPEAT REPORT FILE
                    FILE> product              <
LIST OF DATA ELEMENTS UNDER FILE: PRODUCT
```

ELEMENT(PRIMARY):	TYPE:	SIZE:	DEC:	LENGTH:	COUNT:
DESCRIPTION	X	30	0	30	1
PROD-NO	U	8	0	8	1

```
                    FILE> sales                <
LIST OF DATA ELEMENTS UNDER FILE: SALES
```

ELEMENT(PRIMARY):	TYPE:	SIZE:	DEC:	LENGTH:	COUNT:
ACCOUNT	X	10	0	10	1
DELIV-DATE	X	6	0	6	1
DESCRIPTION	X	30	0	30	1
PRICE	P	11	0	6	1
PROD-NO	U	8	0	8	1
PURCH-DATE	X	6	0	6	1
PURCH-NO	U	6	0	6	1
QUANTITY	P	7	0	4	1
TOTAL	P	11	0	6	1

```
                    FILE> customer             <
LIST OF DATA ELEMENTS UNDER FILE: CUSTOMER
```

ELEMENT(PRIMARY):	TYPE:	SIZE:	DEC:	LENGTH:	COUNT:
ACCOUNT	X	10	0	10	1
CITY-NAME	X	14	0	14	1
CREDIT	U	2	0	2	1
DELIV-DATE	X	6	0	6	1
DESCRIPTION	X	30	0	30	1
FIRST-NAME	U	18	0	18	1
LAST-NAME	X	20	0	20	1
PRICE	P	11	0	6	1
PROD-NO	U	8	0	8	1
PURCH-DATE	X	6	0	6	1
PURCH-NO	U	6	0	6	1
STATE	X	2	0	2	1
STR-ADDRESS	X	22	0	22	1
TOTAL	P	11	0	6	1
ZIP	X	10	0	10	1

```
                    FILE>                      <          RETURN key pressed.
>
```

Sub-command Prompts

For the prompts shown with an asterisk, you must enter a response other than
RETURN in order to implememt the command string.

You enter: You are prompted for:

COMMAND   SUB-COMMAND   PROMPT

REPORT   CATEGORY   CATEGORY   *

REPORT   CLASS   CLASS   *

REPORT   ELEMENT   (No prompts)

REPORT   FILE   FILE   *

REPORT   GROUP   GROUP   *

REPORT   PROCEDURE   PROCEDURE *

REPORT

Prompts

Depending on the sub-command you use, one of the following prompts is issued:

CATEGORY   > Enter the name of an existing category (20 characters).

CLASS   > Enter the numeric value which is the identifying number
of an existing security class (0 to 9999).

FILE   > Enter the name of an existing file (20 characters).

GROUP   > Enter the name of an existing HP Inform/3000 group (20
characters).

PROCEDURE   > Enter the name of an existing procedure (20 characters).

Resequences a data element within an association established with the ADD command.

```
[option] RESEQUENCE sub-command
         RES
```

You use the RESEQUENCE command to change a data element's position within the list of associations established with the ADD command for an entity. A complete list of entities for which data elements can be resequenced is given below under Sub-commands.

The sub-command identifies the type of entity for which a resequencing is to occur. For example, if you use RESEQUENCE FILE, you change the position of a data element in the list of elements associated with the file.

The name of the element before which the resequenced element is to be placed is entered in response to the NEW POSITION prompt. Pressing RETURN in response to this prompt places the resequenced element at the end of the association list.

To see the current list of associations and current positions, use the SHOW command.

Sub-commands

Any one of the following sub-commands can be used:

```
CATEGORY  - resequences a data element within a category
CLASS     - resequences a data element within a security class
FILE      - resequences a data element within a file
GROUP     - resequences a data element within an HP Inform/3000 group
PROCEDURE - resequences a data element within a procedure
```

Example

```
>RESEQUENCE FILE
                FILE> Customer           <    The file's name.

            ELEMENT> Last-name           <    Element to be resequenced.
       NEW POSITION> Street-addr         <    New position is before
                                              this element.
            ELEMENT>                           RETURN to terminate command.

    >                                          New command prompt.
```

RESEQUENCE

Sub-command Prompts

For the prompts shown with an asterisk (*), you must enter a response other than RETURN in order to implement the command string. Two asterisks (**) next to a prompt indicate that this prompt and those which follow are repeated until RETURN is pressed in response to this prompt.

You enter: You are prompted for:

COMMAND   SUB-COMMAND   PROMPT

RESEQUENCE CATEGORY   CATEGORY   *
                                   ELEMENT   **
                                NEW POSITION

RESEQUENCE CLASS   CLASS   *
                                   ELEMENT   **
                                NEW POSITION

RESEQUENCE FILE   FILE   *
                                   ELEMENT   **
                                NEW POSITION

RESEQUENCE GROUP   GROUP   *
                                   ELEMENT   **
                                NEW POSITION

RESEQUENCE PROCEDURE   PROCEDURE   *
                                   ELEMENT   **
                                NEW POSITION

Prompts

Depending on the sub-command you use, one or more of the following prompts is issued:

CATEGORY
> Enter the name of an existing category in which a data element is to be resequenced (20 characters).

CLASS
> Enter the numeric value which identifies an existing security class in which a data element is to be resequenced (0 to 9999).

ELEMENT
> Enter the name of the existing data element which is to be repositioned within the association list (20 characters).

FILE
> Enter the name of an existing file in which a data element is to be resequenced (20 characters).

GROUP
> Enter the name of an existing HP Inform/3000 group in which a data element is to be resequenced (20 characters).

NEW POSITION
> Enter the name of the data element before which the resequenced data element is to be placed. DEFAULT: Pressing RETURN in response to this prompt places the resequenced data element at the end of the association list.

PROCEDURE
> Enter the name of an existing procedure in which a data element is to be resequenced (20 characters).

SECURE

Secures data elements associated with an IMAGE type file to a security class.

```
[option] SECURE sub-command
         SEC
```

The SECURE command is used to assign all of the data elements associated with an IMAGE type file (BASE, MAST, AUTO, or DETL) to one security class and to assign one type of access capability for those data elements. By using this command, you avoid adding each individual data element, one at a time, to a security class with the ADD CLASS command string.

After you secure all the data elements to the designated class, you can selectively change the security class and capability association for an element with the UPDATE command, or selectively delete unwanted associations with the DELETE command.

If a data element has previously been associated with the security class used in the secure command, this association will be deleted and the new one, which may specify a different type of access capability, created.

Sub-command

FILE - secures all data elements in a file to one security class

Example

```
> SECURE FILE
                FILE> Customer           <      File to be secured.
               CLASS> 1    <                    Security class identifier.
   ACCESS CAPABILITY> M<                        Type of access.

>                                               New command prompt.
```

Sub-command Prompts

For the prompts shown with an asterisk (*), you must enter a response other than RETURN in order to implement the command string.

You enter: You are prompted for:

COMMAND   SUB-COMMAND   PROMPTS

SECURE   FILE   FILE   *
                                CLASS   *
                                ACCESS CAPABILITY *

SECURE

Prompts

ACCESS CAPABILITY > Enter the type of access capability given to the user
security class for all the data elements in the above
named file. Choose from one of the following:

      R = read only
      U = read and update only
      M = read, write and modify
      X = null read/write list "(/)"

Refer to the IMAGE/3000 Reference Manual for a detailed
explanation of the meanings of user class access
capabilities.

CLASS   > Enter the numeric integer for an existing user security
class (0 to 9999).

FILE   > Enter the name of an existing file (20 characters). The
type of file must be one of the following:

      BASE = IMAGE data base
      MAST = IMAGE manual master data set
      AUTO = IMAGE automatic master data set
      DETL = IMAGE detail data set

Shows all the relationships for an entity and the associations for child
entities.

```
[option] SHOW sub-command
         S
```

You use the SHOW command to display the hierarchical relationship for an
entity and the association information for child entities. Relationships are
established using the RELATE command and associations are established using
the ADD command.

The sub-command identifies the entity to be displayed. If you use location or
class as the sub-command, you see association information. If you use
category, procedure, file, or group, you see the relationship and the
association information. For elements, only relationship information is
displayed.

The relationship information is displayed as a tree structure from the point
of entry down. After the parent entity name is displayed, the order that each
child is displayed in is the order in which the child was related to the
parent.

Data elements associated with each child are optionally displayed according
to your response to the prompt to do so. If you choose to display the data
elements, an asterisk (*) appearing next to the element indicates that it is
a key or search element within that file.

When you use the PRINT option with the command string, descriptive
information is printed in addition to the information normally displayed on
the terminal. The description information is the information that was entered
when the relationship or association was made.

SHOW

Sub-commands

Any one of the following sub-commands can be used:

```
CATEGORY   - shows all the relationships for a category
             plus associated data elements where applicable
CLASS      - shows all the associations for a user security class
ELEMENT    - shows all the relationships for a data element
FILE       - shows all the relationships and links for a file
             plus associated data elements where applicable
GROUP      - shows all the relationships for an HP Inform/3000 group
             plus associated data elements where applicable and
             access information for the group
LOCATION   - shows all the associations for a location
PROCEDURE  - shows all the relationships for a procedure
             plus associated data elements where applicable
```

Example

```
> SHOW FILE
                    FILE> HOUSES                    <

SHOW ALL FILE ELEMENTS(Y/N)?> y

FILE:              TYPE:  RESPONSIBILITY:
 HOUSES             BASE

FILE(ALIAS):     TYPE:   FILE(PRIMARY):          CAPACITY:
 CITY-MASTER      MAST    CITY-MASTER              101

        ELEMENT(ALIAS):           PROPERTIES:         ELEMENT(PRIMARY):
         CITY-ABBR           *    U (4,0,4)            CITY-ABBR
         CITYNAME                 U (20,0,20)          CITYNAME


FILE(ALIAS):     TYPE:   FILE(PRIMARY):          CAPACITY:
 BATH-MASTER      AUTO    BATH-MASTER              31

        ELEMENT(ALIAS):           PROPERTIES:         ELEMENT(PRIMARY):
         NUMBER-BATHS        *    X (4,0,4)            NUMBER-BATHS


FILE(ALIAS):     TYPE:   FILE(PRIMARY):          CAPACITY:
 BEDS-MASTER      AUTO    BEDS-MASTER              11

        ELEMENT(ALIAS):           PROPERTIES:         ELEMENT(PRIMARY):
         NUMBER-BEDS         *    X (2,0,2)            NUMBER-BEDS


FILE(ALIAS):     TYPE:   FILE(PRIMARY):          CAPACITY:
 RESIDENTIAL      DETL    RESIDENTIAL              200

        ELEMENT(ALIAS):           PROPERTIES:         ELEMENT(PRIMARY):
         CITY-ABBR           *    U (4,0,4)            CITY-ABBR
                             CHAIN MASTER SET: CITY-MASTER
         NUMBER-BEDS         *    X (2,0,2)            NUMBER-BEDS
                             CHAIN MASTER SET: BEDS-MASTER
         NUMBER-BATHS        *    X (4,0,4)            NUMBER-BATHS
                             CHAIN MASTER SET: BATH-MASTER
         CURRENT-OWNER            U (20,0,20)          CURRENT-OWNER
         OWNERS-PHONENR           X (10,0,10)          OWNERS-PHONENR
             .
             .
             .
>
```

SHOW

Sub-command Prompts

For the prompts shown with an asterisk (*), you must enter a response other than RETURN in order to implement the command string.

You enter: You are prompted for:

COMMAND	SUB-COMMAND	PROMPT	
SHOW	CATEGORY	CATEGORY	*
SHOW	CLASS	CLASS	*
SHOW	ELEMENT	ELEMENT	*
SHOW	FILE	FILE	*
SHOW	GROUP	GROUP	*
SHOW	LOCATION	LOCATION	*
SHOW	PROCEDURE	PROCEDURE	*

Prompts

Depending on which sub-command you use, one of the following prompts is issued:

CATEGORY
> Enter the name of an existing category for which relationships are to be shown (20 characters).

CLASS
> Enter the name of an existing user security class for which a list of associations is to be given (4 characters).

ELEMENT
> Enter the name of an existing data element for which relationships are to be shown (20 characters).

FILE
> Enter the name of an existing file for which relationships are to be shown (20 characters).

GROUP
> Enter the name of an existing HP Inform/3000 group for which relationships and access information are to be shown (20 characters). NOTE: A pound sign (#) indicates the element will not be displayed on HP Inform/3000's Data Names Menu.

LOCATION
> Enter the name of an existing location for which a list of associations is to be given (20 characters).

PROCEDURE
> Enter the name of an existing procedure for which relationships are to be shown (20 characters).

UPDATE

Updates an association between entities which was established with the ADD command.

```
[option] UPDATE sub-command
         U
```

You use the UPDATE command to change the association for an element, a file, or a procedure established with the ADD command. A complete list of entities for which an association can be changed is given below under Sub-commands.

The sub-command identifies the type of entity association that is changed. For example, if you use UPDATE CATEGORY, you can change the description of the association or the element alias name.

Sub-commands

Any one of the following sub-commands can be used:

CATEGORY   - updates a data element to a category association
CLASS   - updates a data element to a user security class association
CLASS-FILE   - updates a file to a user security class association
FILE   - updates a data element to a file association
FILE-LOC   - updates a file to a location association
GROUP   - updates a data element to an HP Inform/3000 group association
PROCEDURE   - updates a data element to a procedure association
PROCEDURE-LOC   - updates a procedure to a location association

Example

```
> UPDATE CATEGORY
              CATEGORY> Marketing           <    Category's name.

              ELEMENT> Account              <    Element to be updated.
EDIT DESCRIPTION(Y/N)? N                         No, to edit description
                                                 of the relationship.

ELEMENT ALIAS:
 ACCOUNT                                         Current alias.
         ELEMENT ALIAS> Account-Marketing   <    New element alias.

              ELEMENT>                            RETURN to end the command.

 >                                               New command prompt.
```

Sub-command Prompts

For the prompts shown with an asterisk (*), you must enter a response other than RETURN in order to implement the command string. Two asterisks (**) next to a prompt indicate that this prompt and those which follow are repeated until RETURN is preassed in response to this prompt.

You enter: You are prompted for:

COMMAND   SUB-COMMAND   PROMPTS

UPDATE   CATEGORY   CATEGORY   *
                                 ELEMENT   **
                                 EDIT DESCRIPTION(Y/N)?
                                 EDIT COMMAND>> (* and issued only if Yes to
                                                       EDIT DESCRIPTION)
                                 EDIT ATTRIBUTES(Y/N)? (issued only if Yes to
                                                       EDIT DESCRIPTION)

                                 ELEMENT ALIAS

UPDATE   CLASS   CLASS   *
                                 ELEMENT   **
                                 EDIT DESCRIPTION(Y/N)?
                                 EDIT COMMAND>> (* and issued only if Yes to
                                                       EDIT DESCRIPTION)
                                 EDIT ATTRIBUTES(Y/N)? (issued only if Yes to
                                                       EDIT DESCRIPTION)

                                 ACCESS CAPABILITY

UPDATE   CLASS-FILE   CLASS   *
                                 FILE   **
                                 EDIT DESCRIPTION(Y/N)? (not issued if file is
                                                       MPEF, KSAM, or VPLS)
                                 EDIT COMMAND>> (* and issued only if Yes to
                                                   EDIT DESCRIPTION or if file is
                                                       MPEF, KSAM, or VPLS)
                                 EDIT ATTRIBUTES(Y/N)? (issued only if Yes to
                                                       EDIT DESCRIPTION)
                                 ACCESS CAPABILITY (not issued if file is MPEF,
                                                       KSAM, or VPLS)

UPDATE   FILE   FILE   *
                                 ELEMENT   **
                                 EDIT DESCRIPTION(Y/N)?
                                 EDIT COMMAND>> (* and issued only if Yes to
                                                       EDIT DESCRIPTION)
                                 EDIT ATTRIBUTES(Y/N)? (issued only if Yes to
                                                       EDIT DESCRIPTION)

Additional prompting occurs as follows:

1. if file type is MAST

   ELEMENT ALIAS
   NEW KEY ELEMENT(N/Y)? (issued if element is
                                    not the key)

2. if file type is AUTO, MPEF, or FORM

   ELEMENT ALIAS

3. if file type is DETL

   ELEMENT ALIAS
   PATH FILE
   SORT ELEMENT (issued if it is a search
                                    item)

   next, if element is a search item and
   is currently the primary path,

   CANCEL PRIMARY PATH(N/Y)?

   or, if element is a search item but is
   not currently the primary path,

   PRIMARY PATH(N/Y)?

4. if file type is KSAM

   ELEMENT ALIAS

   next, if element is currently a
   KSAM key,

   CANCEL KEY(N/Y)?

   or, if element is currently not a
   KSAM key,

   KEY ELEMENT(N/Y)?

UPDATE   FILE-LOC   LOCATION   *
                          FILE   **
EDIT DESCRIPTION(Y/N)?
EDIT COMMAND>> (* and issued only if Yes to
                            EDIT DESCRIPTION)
EDIT ATTRIBUTES(Y/N)? (issued only if Yes to

```
                                          EDIT DESCRIPTION)
                    FILE SIZE   (issued if file type is MPEF or KSAM)
                    FILE ALIAS


UPDATE   GROUP      GROUP          *
                    ELEMENT        **
                    EDIT DESCRIPTION(Y/N)?
                    EDIT COMMAND>> (* and issued only if Yes to
                                           EDIT DESCRIPTION)
                    EDIT ATTRIBUTES(Y/N)? (issued only if Yes to
                                           EDIT DESCRIPTION)
                    ELEMENT ALIAS
                    FILE
                    PARENT FILE (issued if file belongs to more
                                           than one data base)
                    VALUE AS A LINK
                    CHANGE ELEMENT TO DISPLAY(N/Y)?  (issued if
                            element is currently nondisplay)
                    CHANGE ELEMENT TO NONDISPLAY(N/Y)? (issued
                            if element is currently display)


UPDATE   PROCEDURE  PROCEDURE      *
                    ELEMENT        **
                    EDIT DESCRIPTION(Y/N)?
                    EDIT COMMAND>> (* and issued only if Yes to
                                           EDIT DESCRIPTION)
                    EDIT ATTRIBUTES(Y/N)? (issued only if Yes to
                                           EDIT DESCRIPTION)
                    ELEMENT ALIAS


UPDATE   PROCEDURE-LOC  LOCATION       *
                    PROCEDURE      **
                    EDIT DESCRIPTION(Y/N)?
                    EDIT COMMAND>> (* and issued only if Yes to
                                           EDIT DESCRIPTION)
                    EDIT ATTRIBUTES(Y/N)? (issued only if Yes to
                                           EDIT DESCRIPTION)
                    PROCEDURE ALIAS
```

UPDATE

Prompts

Depending on the sub-command used, one or more of the following prompts is issued:

ACCESS CAPABILITY > Enter a new type of capability to be given to the user security class for the file or element using one of the following:

If the sub-command is:

1. CLASS-FILE - enter one of the following:

   R = read only
   W = read, write, modify
   X = null read/write list "(/)"

2. CLASS   - enter one of the following:

   R = read only
   U = read and update only
   M = read, write and modify
   X = null read/write list "(/)"

Refer to the IMAGE/3000 Reference Manual for a detailed explanation of the meanings of user class access capabilities.

DEFAULT: Pressing RETURN in response to this prompt indicates no change.

CANCEL KEY(N/Y)? > Enter a "Y" if the data element is no longer to be a key in the KSAM file.

CANCEL PRIMARY
PATH(N/Y)?   > Enter a "Y" if the data element is no longer to be the primary path.

CLASS   > Enter a positive numeric value which is the identifying number of the existing user security class used in the association (0 to 9999).

CATEGORY   > Enter the name of an existing category used in the association (20 characters).

CHANGE ELEMENT TO
DISPLAY(N/Y)? > Enter "Y" to change the element to a display element. This means it will be displayed for reporting on HP Inform/3000's Data Names Menu.

CHANGE ELEMENT TO
NONDISPLAY(N/Y)?   > Enter "Y" to change the element to a nondisplay element.
This means it will not be displayed for reporting on HP
Inform/3000's Data Names Menu.

EDIT ATTRIBUTES
(Y/N)?   > Enter an "N" to not generate prompts for attributes (see
Sub-command Prompts for which attributes can be changed).

EDIT COMMAND>>   > Enter one of the EDIT COMMANDS described in Using Edit
Description Commands in Section III.

EDIT DESCRIPTION
(Y/N)?   > Enter an "N" if editing is not to be done for the textual
description of the association.

ELEMENT   > Enter the name of an existing data element used in the
association (20 characters).

ELEMENT ALIAS   > Enter the name by which the data element is known within
the file (15 characters if FORM, 16 if MAST, AUTO, or
DETL, and 20 if MPEF or KSAM); category (60 characters);
HP Inform/3000 group (20 characters); or procedure (16
characters). DEFAULT: Pressing RETURN in resonse to this
prompt indicates no change.

Note that HP Inform/3000 and Report/3000 will be unable
to retrieve the values of an element from an IMAGE data
set if the alias name entered in response to the ELEMENT
ALIAS prompt of the ADD FILE command string is not the
same as the actual name of the data element in the data
set.

FILE   > If the sub-command is:

1. CLASS-FILE or GROUP - enter the name of a file (20
characters). The file type must
be one of the following:

MAST = IMAGE manual master data set
AUTO = IMAGE automatic master data set
DETL = IMAGE detail data set
KSAM = KSAM file
MPEF = MPE sequential file
VPLS = VPLUS forms file

2. FILE - enter the name of a file (20 characters). The
file type must be one of the following:

```
MAST - IMAGE manual master data set
AUTO - IMAGE automatic master data set
DETL - IMAGE detail data set
KSAM - KSAM file
MPEF - MPE sequential file
FORM - VPLUS form
```

FILE ALIAS
> Enter a new name by which the file is to be known within the location (8 characters). DEFAULT: Pressing RETURN in response to this prompt indicates no change.

FILE SIZE
> Enter a new value for the number of records of the file in the location (0 to 999999999). DEFAULT: Pressing RETURN in response to this prompt indicates no change.

GROUP
> Enter the name of an existing HP Inform/3000 group used in the association (20 characters).

KEY ELEMENT(N/Y)>
> Enter a "Y" if the data element is to become the key element in the KSAM file.

LOCATION
> Enter the name of an existing location used in the association (20 characters).

NEW KEY ELEMENT
(N/Y)?
> Enter a "Y" if the data element is to become the new key item for the MAST file.

PARENT FILE
> Enter the name of an existing file (20 characters) that is the parent of the data base set specified in response to the FILE prompt. The file type must be type BASE (IMAGE data base).

PATH FILE
> Enter the name of an existing file of type MAST or AUTO that is the new chain header for a detail set path (20 characters). A blank value indicates that the data element is no longer to be a search item in the DETL file. DEFAULT: Pressing RETURN in response to this prompt indicates no change.

PRIMARY PATH
(N/Y)?
> Enter a "Y" if the data element is to become the primary path. If another data element already exists as the primary path, a "Y" response automatically cancels it.

PROCEDURE
> Enter the name of an existing procedure used in the association (20 characters).

PROCEDURE ALIAS   > Enter a new name by which the procedure is to be known
                    within the location (8 characters). DEFAULT: Pressing
                    RETURN in response to this prompt indicates no change.

SORT ELEMENT   > Enter the name of an existing data element that is the
                    new sort item for a sorted chain (20 characters). This
                    prompt is only issued if a path file exists. A blank
                    value (pressing the space bar followed by RETURN)
                    indicates that the chain is no longer sorted.

                    DEFAULT: Pressing RETURN following this prompt indicates
                    no change.

VALUE AS A LINK   > Enter -1, 0, or a positive integer to specify which
                    elements should preferably be used in linking files. The
                    numbers indicate the following:

                    -1   The element can not be used for linking.

                    0   The element may or may not be used for
                                 linking (DEFAULT).

                 1 or greater   The element should be used as a link when
                                 possible; elements assigned a positive link
                                 value form a prioritized list to be used
                                 when it is necessary to link files (the
                                 lower the positive integer, the higher the
                                 priority).

DICTIONARY/3000 UTILITIES

OVERVIEW

The Dictionary/3000 utilities provide a data base administrator with the ability to control and easily perform IMAGE data base creation and maintenance functions. The maintenance function is largely automated by the extensive use of the information in the dictionary.

Dictionary/3000 provides the following utilities:

- ● Data Base Audit — reports on the usage statistics and checks the internal linkages of an IMAGE data base.

- ● Data Base Creation — uses the information in the dictionary to create a schema and root file for an IMAGE data base.

- ● Data Base Definition — loads the existing definition of an IMAGE data base into the dictionary using the root file.

- ● Data Base Unload — copies the data entries of an IMAGE data base to disc or tape.

- ● Data Base Load — loads data entries from tape or disc into the IMAGE data base files.

- ● Data Dictionary Cleanup — cleans up data dictionary after several months of DICTDBM use.

Initiating the Utilities

After logging on, you are ready to run any of the Dictionary/3000 utilities. The utilities assume that the dictionary exists in the PUB group of your log-on account. If the dictionary you wish to use exists in a different MPE group and/or account, you must first identify these by issuing a file equation before running the utility. The file equation should be as follows:

Nov 1982

FILE DICT.PUB=DICT.group.account

You initiate any of the utilities by issuing an MPE RUN command, as follows:

RUN utility.PUB.SYS

Changing Output Files

All of the utilities use the formal file designators DICTOUT and DICTLIST to direct the output to your terminal ($STDOUT) and to the line printer ($STDLIST), respectively. You can redirect these output files by entering MPE file equations for DICTOUT and DICTLIST prior to running the utility.

Selecting Defaults

Whenever a choice between "Y/N" or "N/Y" is given, the value to the left of the slash is always assumed (the default choice). If a RETURN is entered as the response to the prompt, the default is used. A response other than a "Y", "N", "YES", "NO", or RETURN is treated as the default.

Using the Utilities to Restructure a Data Base

It is possible to make changes to the design of an existing data base by using the Dictionary/3000 utilities. The following steps should be performed when restructuring a data base:

1. Run the Data Base Unload utility (DICTDBU) program, copying the existing contents of a data base to a disc file or a tape file.

2. Run the Data Base Maintenance program (DICTDBM) program and make the design changes to the data base by using the appropriate commands.

3. Run the HP DBUTIL utility program, purging the old data base. (See the IMAGE/3000 Reference Manual for details on DBUTIL.)

4. Run the Data Base Creation utility (DICTDBC) program, creating a new schema file and a new root file for the redesigned data base.

5. Run the HP DBUTIL utility program, creating and initializing the new data base. (See the IMAGE/3000 Reference Manual for details on DBUTIL.)

6. Run the Data Base Load utility (DICTDBL) program, loading the new data base with the contents of the old data base. The Data Base Load utility program compares the old schema file with the new schema file and, if necessary, transforms the data field formats of the old data base to agree with the formats of the new data base.

DATA BASE AUDIT UTILITY

The Data Base Audit utility (DICTDBA) provided by Dictionary/3000 is used to report on usage statistics and to check linkages for an IMAGE data base. The report includes information on synonyms and chains for master sets and chain statistics for detail sets - including the integrity of the chains.

When this utility is executed, two reports are provided - one at your terminal and one at the line printer. The terminal report is a summary report, while the line printer report includes more detailed information.

You can choose to audit a data base for synonym information, for chain information by search items, or for specific information on chain lengths.

The following description explains how to execute the DICTDBA utility program and gives an explanation of each prompt.

You execute this utility by entering the following MPE command:

    RUN DICTDBA.PUB.SYS

After an acknowledgement message, the audit utility prompts you to select the type of audit report to be generated as follows:

    RUN MODE(SYNONYMS/CHAINS/LINKS)>

You can select only one type of report each time you execute this utility program. The following is a description of each report:

SYNONYMS - the report displayed at the terminal shows the master set's name, the type of master, the number of entries in the master, the capacity of the master, and the usage percentage of the master. The line printer report additionally includes the number of entries with synonyms, and the shortest and longest synonym chain lengths.

CHAINS - the terminal report includes the same information as the SYNONYM report, plus information on each detail set. The line printer report includes statistics by search item on the number of chains, the shortest and longest chain length, and the average chain length. If a broken chain is detected, a warning is given.

LINKS - the terminal report includes the same information as the CHAINS report, plus more specific information for broken chains. The line printer report additionally includes information on the forward and backward read counts for the

search item. In this mode the chain entries are physically
read to check the integrity of the chains. The report,
therefore, takes appreciably longer to run in this mode.

After the prompt, you indicate the type of report by spelling it as shown or
by using the abbreviated form of first letter only. If you enter RETURN, the
DICTDBA utility terminates.

Next, you are prompted to enter information that identifies the data base to
the audited. The prompts are as follows:

BASE>

BASE PASSWORD>

MODE>

You enter the name of the data base in response to the BASE prompt, and a
password that grants read acccess to the entire data base in response to the
PASSWORD prompt. If an incorrect password is entered, the prompt is
reissued. Entering RETURN in response to the prompt for BASE terminates the
utility.

Your response to the prompt for MODE indicates the access mode to be used to
open and read the named data base. If RETURN is entered, the data base will
be accessed in the default mode, which is 5. (See the IMAGE Reference Manual
for details on "Access Modes".)

Next, the utility begins to execute the selected report. Two reports are
generated - a summary at your terminal and a detail at the line printer.

The following examples show how to execute the audit utility and briefly
explain the responses given to the utility prompts.

Example of SYNONYMS Report

:RUN DICTDBA.PUB.SYS   How to execute the audit utility.

DICTIONARY/3000 DB AUDITOR HP32244A.01.00 - (C) Hewlett-Packard Co. 1981

RUN MODE(SYNONYMS/CHAINS/LINKS)> S   Select S for SYNONYM run mode.

BASE> SHPMGT   Name of data base to be audited.

BASE PASSWORD>   Password is not displayed; MANAGER
                                        was used.

MODE›   RETURN entered; opens data base in
                                         default access mode 5.

Terminal report is generated as follows:

PRODUCT-MASTER M: 22/101 [21%]   Set name; set type; current number
                                         of entries/set capacity; capacity
                                         usage percentage.

PO-MASTER A: 0/311 [0%]

ITEM-MASTER M: 44/311 [14%]

END OF PROGRAM

Line printer report is generated as follows:

RUN MODE: SYNONYMS   Identifies run mode selected.

  BASE: SHPMGT.PUB.MARTIN   Identifies the selected base.

PRODUCT-MASTER M: 22/101 [21%]   Same information as terminal
                                         report.

  NUMBER OF ENTRIES WITH SYNONYMS: 0 [0%]

PO-MASTER A: 0/311 [0%]

    SET IS EMPTY

ITEM-MASTER M: 44/311   [14%]

    NUMBER OF ENTRIES WITH SYNONYMS: 1 [2%] Detail information on
        SHORTEST SYNONYM CHAIN LENGTH: 1   synonym and chain;
        LONGEST SYNONYM CHAIN LENGTH: 1   synonym % = (synonym count x
                                              100)/entry count, in this
                                              case (1x100)/44 = 2%.
    END OF AUDIT RUN

Example of CHAINS Report

:RUN DICTDBA.PUB.SYS   How to execute the utility.

DICTIONARY/3000 DB AUDITOR HP32244A.01.00 - (C) Hewlett-Packard Co. 1981

RUN MODE(SYNONYMS/CHAINS/LINKS)› C   Select C for CHAINS run mode.

BASE› SHPMGT   Name of base to be audited.

BASE PASSWORD>   Password is not displayed;
                                        MANAGER was used.

MODE>   RETURN entered; opens data base
                                        in default access mode 5.

Terminal report is generated as follows:

PRODUCT-MASTER M: 22/101 [21%]   Set name; set type; current number
                                        of entries/set capacity; capacity
                                        usage percentage.

PO-MASTER A: 0/311 [0%]

ITEM-MASTER M: 44/311 [14%]

EXPLODE D: 397/1023 [38%]   DETAIL data set information
                                        included for CHAINS run mode.

ITEM-DETAIL D: 0/507 [0%]

COSTING D: 0/1008 [0%]

END OF PROGRAM

Line printer report is generated as follows:

RUN MODE: CHAINS   Identifies run mode selected.

  BASE: SHPMGT.PUB.MARTIN   Identifies the selected base.

PRODUCT-MASTER M: 22/101 [21%]   Same information as terminal
                                        report.

   NUMBER OF ENTRIES WITH SYNONYMS: 0 [0%]

PO-MASTER A: 0/311 [0%]

     SET IS EMPTY

ITEM-MASTER M: 44/311 [14%]

   NUMBER OF ENTRIES WITH SYNONYMS: 1 [2%] Synonym chain information
      SHORTEST SYNONYM CHAIN LENGTH: 1   for master set.
       LONGEST SYNONYM CHAIN LENGTH: 1

EXPLODE D: 397/1023 [38%]

    SEARCH ITEM: PRODUCT-NO   Information at the search item
                                        level for detail data set.

```
         NUMBER OF CHAINS:  22        Chain information begins.
  SHORTEST CHAIN LENGTH:  18
   LONGEST CHAIN LENGTH:  19
   AVERAGE CHAIN LENGTH:  18

     SEARCH ITEM:  ITEM-NO

         NUMBER OF CHAINS:  44
  SHORTEST CHAIN LENGTH:  2
   LONGEST CHAIN LENGTH:  24
   AVERAGE CHAIN LENGTH:  9

ITEM-DETAIL  D:  0/507  [0%]

    SET IS EMPTY

COSTING  D:  0/1008  [0%]

    SET IS EMPTY

  END OF AUDIT RUN
```

Example of LINKS Report

```
:RUN DICTDBA.PUB.SYS                  How to execute the audit utility.

DICTIONARY/3000 DB AUDITOR HP32244A.01.00 - (C) Hewlett-Packard Co. 1981

RUN MODE(SYNONYMS/CHAINS/LINKS)> L    Select mode L for LINKS.

BASE> SHPMGT                          Name of base to be audited.

BASE PASSWORD>                        Password is not displayed;
                                      MANAGER was used.

MODE>                                 RETURN entered; opens data base
                                      in default access mode 5.


Terminal report is generated as follows:

PRODUCT-MASTER  M:  22/101  [21%]     Set name; set type; current number
                                      of entries/set capacity; capacity
                                      usage percentage.

PO-MASTER  A:  0/311  [0%]

ITEM-MASTER  M:  44/311  [14%]
```

EXPLODE D: 397/1023 [38%]

ITEM-DETAIL D: 0/507 [0%]

COSTING D: 0/1008 [0%]

END OF PROGRAM

Line printer report is generated as follows:

RUN MODE: LINKS   Identifies run mode selected.

   BASE: SHPMGT.PUB.MARTIN   Name of base to be audited.

PRODUCT-MASTER M: 22/101 (21%)   Same information as terminal
                                          report.

   NUMBER OF ENTRIES WITH SYNONYMS: 0 (0%)

      FORWARD SERIAL READ COUNT: 22
      REVERSE SERIAL READ COUNT: 22

PO-MASTER A: 0/311 (0%)

      SET IS EMPTY

ITEM-MASTER M: 44/311 (14%)

      NUMBER OF ENTRIES WITH SYNONYMS: 1 (2%)   Synonym information for
         SHORTEST SYNONYM CHAIN LENGTH: 1   the master set.
          LONGEST SYNONYM CHAIN LENGTH: 1

      FORWARD SERIAL READ COUNT: 44
      REVERSE SERIAL READ COUNT: 44

EXPLODE D: 397/1023 (38%)

      FORWARD SERIAL READ COUNT: 397
      REVERSE SERIAL READ COUNT: 397

      SEARCH ITEM: PRODUCT-NO   Detail information by search item.

            NUMBER OF CHAINS: 22
         SHORTEST CHAIN LENGTH: 18
          LONGEST CHAIN LENGTH: 19
          AVERAGE CHAIN LENGTH: 18

         FORWARD CAHIN READ COUNT: 397
         REVERSE CHAIN READ COUNT: 397

SEARCH ITEM: ITEM-NO   **Second search item in the set.**

              NUMBER OF CHAINS: 44
     SHORTEST CHAIN LENGTH: 2
      LONGEST CHAIN LENGTH: 24
      AVERAGE CHAIN LENGTH: 9

      FORWARD CHAIN READ COUNT: 397
      REVERSE CHAIN READ COUNT: 397

ITEM-DETAIL D: 0/507 (0%)

    SET IS EMPTY

COSTING D: 0/1008 (0%)

    SET IS EMPTY

END OF AUDIT RUN

DATA BASE CREATION UTILITY

The Data Base Creation utility (DICTDBC) provided by Dictionary/3000 allows you to create a schema and a root file for an IMAGE data base. Once these are created, you execute the HP utility program DBUTIL to create the data base files. The DBUTIL utility program is not explained in this manual. Refer to the IMAGE/3000 Reference Manual for detailed information about this utility.

The DICTDBC utility prompts you for information that identifies which data base definition in the data dictionary is to be used. It also prompts you to enter information that is used by the schema processor when generating a schema and a root file. DBSCHEMA is automatically executed for you by the utility program. (For details on DBSCHEMA, see the IMAGE/3000 Reference Manual.)

When DBSCHEMA terminates, this utility terminates. If a schema and a root file are created, you can immediately execute DBUTIL to create the data base files. This utility does not execute DBUTIL for you. If errors prevent a root file from being created, you have to make the corrections in the data dictionary before re-executing the DICTDBC utility.

The following description tells how to execute the DICTDBC utility program and gives an explanation of each prompt.

You execute the DICTDBC utility by entering the following MPE command:

    RUN DICTDBC.PUB.SYS

After the utility issues an acknowledgement message, you are prompted to enter a password as follows:

    DICTIONARY PASSWORD>

The password that you enter must grant at least PROGRAMMER level access to the dictionary. (See Appendix C for an explanation of the levels of access.) If you press RETURN in response to this prompt, the utility terminates.

The password that you enter is not displayed on your terminal. If it is not entered correctly, an error message is displayed and the prompt reissued.

After accepting your password, the utility issues the following prompt:

    BASE>

You respond to this prompt by entering the name of the data base for which a schema and a root file are to be created. A definition for the named data base must exist in the data dictionary. If it does not, an error message is

displayed and the prompt is reissued. If you press RETURN in response to this prompt, the utility terminates.

Next, you are prompted to enter information to be used by the schema processor. The first prompt for processor information is:

CONTROL LINE>

The information that may be entered is the same as described in the IMAGE/3000 Reference Manual - except for BLOCKMAX. The information is repeated here for your convenience and includes an explanation of BLOCKMAX as it is defined for this prompt.

Your response to this prompt can include one or more of the following, separated by commas:

LIST   - causes each source record of the schema to be printed on the listfile.

NOLIST   - specifies that only source records with errors be printed on the listfile.

ERRORS=*nnn*   - sets the maximum number of errors to *nnn*. *nnn* may have a value between 0 and 999, inclusive. If more than three errors are detected, the Schema Processor terminates. The default value is 100.

LINES=*nnnnn*   - sets the number of lines per page on the listfile *nnnnn*. *nnnnn* may have a value between 4 and 32767, inclusive. The default is 60 if listfile is a line printer and 32767 if it is not.

ROOT   - causes the Schema Processor to create a root file if no errors are detected in the schema.

NOROOT   - prevents the Schema Processor from creating a root file.

BLOCKMAX=*nnnn*   - sets the maximum physical block length (in words) for a data set. If you do not include this parameter, the value declared in the data dictionary is used. If you entered RETURN to the prompt for BLOCKMAX in the dictionary, the default value of 512 is used. Refer to the RELATE FILE command string in Section IV for an explanation of BLOCKMAX.

TABLE   - causes the Schema Processor to write a table of summary information about the data sets to the listfile device if no errors are detected.

NOTABLE   - suppresses the TABLE option.

The defaults for the control line options are: LIST, ROOT, and TABLE.

The utility continues prompting for schema processor information as follows:

SCHEMA FILE>

The schema file can be a temporary or a permanent file. To create a process temporary file, you press RETURN as your response to this prompt. If the schema file is to be a permanent file, enter the name of the file as your response. The utility creates the file for you if it is new, or issues a warning before over-writing an existing file.

An output listing of the schema and root file is generated by DBSCHEMA. The next prompt is used to indicate where that listing is to be sent:

LIST FILE>

You can enter one of the following options as your response to this prompt:

LP   - sends the listing to the line printer.

NULL   - suppresses the listing.

filename   - sends the listing to the existing or to a new disc file. Before over-writing an existing file, you are prompted to approve purging the existing file's contents.

*filename   - sends the listing to the file identified in the back referenced file equation.

Pressing RETURN in response to this prompt sends the listing to your terminal.

If you have defined security only for the data items and now want to apply that security to the set instead, you can do so by responding "YES" to the following prompt:

APPLY SECURITY JUST TO SET LEVEL(N/Y)?>

If you respond with an "N" or RETURN, the security you specified for the data items is written into the schema file. Otherwise, the utility writes the set level security into the schema file. The set level security is derived from the class or classes assigned to the set in the data dictionary or, if none are specified, it is extrapolated from data item security specifications.

After processing your response to the set level security prompt, the utility executes the schema processor for you. Regardless of whether a schema and a root file are created, the utility terminates after the processor's execution. If errors prevent a root file from being created, you will have to correct them before re-executing DICTDBC.

The following example shows how to execute this utility and briefly explains the responses to the prompts.

Example

```
:RUN DICTDBC.PUB.SYS                   How to execute the utility.

DICTIONARY/3000 DB CREATOR HP32244A.00.00 - (C) Hewlett-Packard Co. 1981

DICTIONARY PASSWORD>                   Data dictionary's password.


BASE> SHPMGT                           Name of base to be created.

CONTROL LINE>                          RETURN pressed; default used.

SCHEMA FILE>                           RETURN pressed; session temporary
                                       file created.
LIST FILE>                             RETURN pressed; listing sent to
                                       terminal.


APPLY SECURITY JUST TO SET LEVEL(N/Y)?>  RETURN pressed; use item level
                                       security.


SCHEMA GENERATION                      DICTDBC executes for you.
```

DBSCHEMA generates the following listing at your terminal:

```
DBSCHEMA PROCESSOR
PAGE 1      HEWLETT-PACKARD 32215B.02.00 IMAGE/3000: DBSCHEMA
            TUE, AUG 11, 1981, 11:03 AM  (C) HEWLETT-PACKARD CO. 1978


BEGIN DATA BASE SHPMGT;

PASSWORDS:
            1 SALESPER;
            2 RECEIVNG;
            3 BUYER;
            4 MANAGER;
```

```
ITEMS:
      BUYER-NO,            X2          (3/4);
      DESCRIPTION,         X30             ;
      ITEM-NO,             X8              ;
      LIST-PRICE,          P12             ;
      PO-NUMBER,           U4              ;
      PRODUCT-NO,          U8              ;
      PURCHASE-COST,       P8              ;
      PURCHASE-DATE,       X6              ;
      PURCHASE-QTY,        P8              ;
      QTY-ALLOCATED,       P8              ;
      QTY-ON-HAND,         P8              ;
      QTY-ON-ORDER,        P8          (/2);
      QTY-REC,             P8              ;
      REORDER-PT,          P8              ;
      UNIT-COST,           P12         (/3,4);
      VENDOR-NO,           X8          (/3,4);

   SETS:

   NAME:   PRODUCT-MASTER,  MANUAL      (1,2/3,4);
   ENTRY:  PRODUCT-NO       (1),
           DESCRIPTION,
           QTY-ON-HAND,
           QTY-ALLOCATED,
           UNIT-COST,
           LIST-PRICE;
   CAPACITY: 101;

   NAME:   PO-MASTER,       MANUAL      ;
   ENTRY:  PO-NUMBER        (1);
   CAPACITY: 311;

   NAME:   ITEM-MASTER,     MANUAL      (1,2/3,4);
   ENTRY:  ITEM-NO          (3),
           DESCRIPTION,
           QTY-ON-HAND,
           QTY-ON-ORDER,
           QTY-ALLOCATED,
           PURCHASE-COST,
           REORDER-PT;
   CAPACITY: 311;

   NAME:   ITEM-DETAIL,     DETAIL      (/3,4);
   ENTRY:  ITEM-NO          (!ITEM-MASTER     ),
           VENDOR-NO,
           BUYER-NO;
   CAPACITY: 507;
```

```
NAME:   EXPLODE,        DETAIL   (1,2,3/4);
ENTRY:  ITEM-NO         ( ITEM-MASTER     ),
        PRODUCT-NO      (!PRODUCT-MASTER  );
CAPACITY: 1023;


NAME:   COSTING,        DETAIL   (/2,3,4);
ENTRY:  ITEM-NO         ( ITEM-MASTER      (PURCHASE-DATE   )),
        PURCHASE-DATE,
        PURCHASE-QTY,
        PO-NUMBER       (!PO-MASTER        ),
        QTY-REC;
CAPACITY: 1032;


END.
```

DATA SET NAME	TYPE	FLD CNT	PT CT	ENTR LGTH	MED REC	CAPACITY	BLK FAC	BLK LGTH	DISC SPACE
PRODUCT-MASTER	M	6	1	29	39	101	13	508	36
PO-MASTER	M	1	1	2	12	311	42	507	36
ITEM-MASTER	M	7	3	29	49	311	10	491	132
ITEM-DETAIL	D	3	1	9	13	507	39	510	56
EXPLODE	D	2	2	8	16	1023	31	498	136
COSTING	D	5	2	13	21	1032	24	506	176

TOTAL DISC SECTORS INCLUDING ROOT: 583

NUMBER OF ERROR MESSAGES: 0
ITEM NAME COUNT: 16   DATA SET COUNT: 6
ROOT LENGTH: 630   BUFFER LENGTH: 510   TRAILER LENGTH: 256

ROOT FILE SHPMGT CREATED.   Schema and root file created.

END OF PROGRAM

DATA BASE DEFINITION UTILITY

The Data Base Definition utility (DICTDBD) provided by Dictionary/3000 allows you to enter in the data dictionary the definition for an existing IMAGE data base. This utility, using the root file, creates entries for the data base, the data sets, and the data items. The associations of items to files, and the relationships between files is performed for you.

The one function the utility does not do for you is transfer the existing security. You have to execute the Dictionary/3000 Data Base Maintenance program (DICTDBM) to create and define the security for the data base. Section II of this manual discusses execution of DICTDBM, Section III discusses how to define security for a data base, and Section IV describes the commands that DICTDBM provides.

Before the definition of the data base is entered into the dictionary, the utility checks the existing entries. If the name you use for the data base already exists, the utility issues a message indicating that the name is already defined. You are given the option to change the name for your data base or to terminate the utility's processing. The utility checks the current definitions in the data dictionary to avoid redundant or duplicate entries. For data sets and data items, the utility makes the same type of checks.

Whenever you rename because of an existing entry, the new name is the "primary" name in the dictionary and the name used in your data base becomes the "alias" name in the dictionary. Therefore, you do not have to make changes to your data base because of renaming for the dictionary. You will have to remember the new names when you use the DICTDBM program.

The following description explains how to execute the DICTDBD utility program and gives an explanation of each prompt.

You execute this utility by entering the following MPE command:

    RUN DICTDBD.PUB.SYS

After an acknowledgement message, the utility prompts you to enter a password to open and read the dictionary. The prompt is:

    DICTIONARY PASSWORD>

The password that you enter must grant at least PROGRAMMER level access to the dictionary. (See Appendix C for an explanation of the levels of access.) If you press RETURN in response to this prompt, the utility terminates.

The password that you enter is not displayed on your terminal, but if it is not entered correctly, an error message is displayed and the prompt reissued.

After accepting the password you entered, the utility prompts you to enter specific data base identification information as follows:

    BASE>

    BASE PASSWORD>

    MODE>

You respond to the prompt for BASE by entering the name of the data base to be defined in the dictionary for you. The BASE PASSWORD prompt should grant read access to the utility for the named data base.

The MODE prompt indicates the access mode to be used by the utility to open and read the data base. The data base can be opened in any mode. If RETURN is entered as the response, the base is opened in the default mode which is 5. (Refer to the IMAGE/3000 Reference Manual for details on "Access Modes".)

The process of transferring the definition of the data base begins after you respond to the prompt for MODE. A message "LOADING DATA DICTIONARY" is displayed. The utility begins by checking whether the entire definition of the data base will fit in the dictionary. If it will not, the following prompt is issued:

    ENTIRE DEFINITION OF DATA BASE WILL NOT FIT IN DICTIONARY.
    PROCEED (N/Y)?

A response of "N" or RETURN terminates the utility. Responding "Y" allows the utility to continue; however, the utility will issue an error message and terminate when any one of the data sets is full. Note that if the entire definition of the data base will not fit in your dictionary, you can run DICTINIT to re-initialize dictionary with larger capacities specified (see Appendix C).

Next, the utility checks the schema of the named data base with the entries in the dictionary. If there are no entries identical to those in your data base, the transfer is completed and the DICTDBD utility program is terminated. You can immediately execute the DICTDBM program and see the transferred data base definition.

If an entry already exists for the data base name, the following message and prompt are issued:

    *ERROR: BASE ALREADY DEFINED IN DATA DICTIONARY
            DO YOU WANT TO LOAD UNDER A DIFFERENT NAME(Y/N)?>

A response of an "N" terminates the execution of the program. If a "Y" or RETURN is entered, the following prompt to rename your data base is issued:

NEW BASE NAME>

The name you enter must be unique - that is, it must not already exist in the dictionary. If it does, an error message is displayed and the prompt reissued. The utility program terminates if RETURN is entered as your response to this prompt.

Next the ITEMS as listed in the schema are checked. If there are no existing dictionary entries, the loading process continues. If an entry already exists and is compatible with the item in the data base, the following message and prompt are displayed:

COMPATIBLE DEFINITION ALREADY IN DICTIONARY FOR ELEMENT *element*

USE EXISTING DEFINITION(N/Y)?>

If you enter a "Y", the loading process continues. If you enter an "N" or RETURN, you are prompted to rename the element as follows:

NEW PRIMARY ELEMENT NAME>

A unique name for the element must be entered. The name for the item in your data base becomes the alias name for the item in the dictionary. If you enter RETURN, the program does not load the element into the dictionary and issues the following warning:

*WARNING: ELEMENT HAS NOT BEEN LOADED INTO DICTIONARY

Then the loading process continues. Each time an existing compatible entry is encountered, the above sequence occurs. If an incompatible item is encountered, the following sequence occurs:

INCOMPATIBLE DEFINITION ALREADY IN DICTIONARY FOR ELEMENT *element*

NEW PRIMARY ELEMENT NAME>

You must enter a unique element name in response to the prompt. If you enter RETURN, the program does not load the element into the dictionary and issues a warning message.

After checking the data items, the utility compares the data set definitions with existing dictionary entries. The definition of a data set includes the data items within the set. If there are no other identical entries, the transfer is completed and the program terminates.

If an identical entry for the data set exists, the following message and prompt are issued:

DEFINITION ALREADY IN DICTIONARY FOR SET *set*

USE EXISTING DEFINITION(N/Y)?>

If you respond with an "N", you are prompted to rename the set as follows:

NEW PRIMARY FILE NAME>

A new, unique name, must be entered. By entering "Y" or RETURN, the data set is not loaded and a warning message as follows is issued:

*WARNING: DATA SET HAS NOT BEEN LOADED INTO DICTIONARY

Each time the program encounters an existing identical definition, the above process is repeated. If an existing definition is incompatible, the following message and prompt are issued:

DEFINITION ALREADY IN DICTIONARY FOR SET set

NEW PRIMARY FILE NAME>

A unique name must be entered for the data set. If RETURN is used, a warning is issued.

The above process continues until the entire schema has been compared with existing dictionary entries. When the comparison is complete, the transfer, where indicated by your responses to the prompts, is completed. The DICTDBM program could be executed to view the transferred definition.

The following examples show how to execute the Data Base Definition utility with a brief explanation of the prompts and responses.

In the first example, the data base is unique, and no renaming is required. The second example shows a data base that is not totally unique and the prompts issued by the utility to resolve the definition transfer.

Example Without Renaming

```
:RUN DICTDBD.PUB.SYS              How to execute this utility.

DICTIONARY/3000 DB INFO LOADER HP32244A.01.00 - (C) Hewlett-Packard Co. 1981

DICTIONARY PASSWORD>              Password that grants modify
                                  access used.
BASE> SHPMGT                      Name of existing IMAGE data base.

BASE PASSWORD>                    MANAGER is password used.

MODE>                             RETURN pressed; default used.
```

LOADING DATA DICTIONARY   Utility loading definition of
                                       base into data dictionary.

END OF PROGRAM

Example With Renaming

:RUN DICTDBD.PUB.IMACS   How to execute this utility.

DICTIONARY/3000 DB INFO LOADER HP32244A.01.00 - (C) Hewlett-Packard Co. 1981

DICTIONARY PASSWORD>   Password that grants modify access.

BASE> SHPMGT   Base to be defined in dictionary.

BASE PASSWORD>   MANAGER was used.

MODE>   RETURN pressed; default used.

LOADING DATA DICTIONARY

*ERROR: BASE ALREADY DEFINED IN DATA DICTIONARY

DO YOU WANT TO LOAD UNDER A DIFFERENT NAME(Y/N)?>Y

NEW BASE NAME> MYSHPM   Will be name of base in dictionary.

 COMPATIBLE DEFINITION ALREADY IN DICTIONARY FOR ELEMENT DESCRIPTION

DO YOU WANT ELEMENT TO HAVE A DIFFERENT NAME(N/Y)?>   RETURN pressed.

 COMPATIBLE DEFINITION ALREADY IN DICTIONARY FOR ELEMENT ITEM-NO

DO YOU WANT ELEMENT TO HAVE A DIFFERENT NAME(N/Y)?> Y

NEW PRIMARY ELEMENT NAME> MY-ITEM-NO

 COMPATIBLE DEFINITION ALREADY IN DICTIONARY FOR ELEMENT QTY-REC

DO YOU WANT ELEMENT TO HAVE A DIFFERENT NAME(N/Y)?> Y

NEW PRIMARY ELEMENT NAME>   RETURN pressed.

*WARNING: DATA ELEMENT QTY-REC HAS NOT BEEN LOADED INTO DICTIONARY

 INCOMPATIBLE DEFINITION ALREADY IN DICTIONARY FOR ELEMENT PO-NUMBER

NEW PRIMARY ELEMENT NAME>   RETURN pressed.

*WARNING: DATA ELEMENT PO-NUMBER HAS NOT BEEN LOADED INTO DICTIONARY

 DEFINITION ALREADY IN DICTIONARY FOR SET PRODUCT-MASTER

USE EXISTING DEFINITION(N/Y)?> Y   "Y" to use existing definition.

 DEFINITION ALREADY IN DICTIONARY FOR SET ITEM-MASTER

USE EXISTING DEFINITION(N/Y)?>   RETURN pressed; existing definition
                                        not used.
NEW PRIMARY FILE NAME> PARTS-MASTER

 DEFINITION ALREADY IN DICTIONARY FOR SET EXPLODE

USE EXISTING DEFINITION(N/Y)?> N

NEW PRIMARY FILE NAME>   RETURN pressed.

*WARNING: DATA SET EXPLODE HAS NOT BEEN LOADED INTO DICTIONARY

 INCOMPATIBLE DEFINITION ALREADY IN DICTIONARY FOR SET COSTING

NEW PRIMARY FILE NAME> MY-COSTING

END OF PROGRAM

DATA BASE UNLOAD UTILITY

The Data Base Unload utility (DICTDBU) provided by Dictionary/3000 is used to unload the contents of an existing IMAGE data base. The data base can be unloaded and stored either to a disc file or to a tape file. Additionally, the data base can be edited during the unload process. Editing the unload process allows you to selectively unload - that is, choose whether or not to unload a particular data set.

When the utility program completes the unloading process, you are provided an audit report containing information about the data base unload.

The following description tells how to execute the DICTDBU utility program and gives an explanation of each prompt.

You execute this utility by entering the following MPE command:

    RUN DICTDBU.PUB.SYS

After an acknowledgement message, the unload utility issues the following prompt to establish a file for the storage of the data base content:

    STORE FILE>

If the data base is to be stored on disc, enter a file name in response to the prompt. The utility builds the file for you if it is a new file. For an existing file, the utility issues a warning message and waits for you to indicate that it can be overwritten before it continues.

If the data base is to be stored on tape, enter RETURN in response to the STORE FILE prompt. The utility issues the following message:

    TAPE FILE REQUESTED(Y/N)?>

If you enter a "Y" or RETURN, a request to mount a tape is issued on the system console; otherwise, the prompt for STORE FILE is reissued. If necessary, the utility can handle multiple tape reel stores.

When the utility completes the unloading process, it generates an audit report about the unloading process. You specify where the report is to be sent by responding to the following prompt:

    LIST FILE>

You have four options from which to choose for your response to the LIST FILE prompt. You can select only one of these options.

LP — sends the report to the line printer. If your system has no device LP, file equate DICTLIST, which defaults to LP.

NULL — suppresses the audit listing.

filename — sends the report to the existing or to a new disc file. Before over-writing an existing file, you are prompted to approve purging the existing file's contents.

*filename — sends the report to the file identified in the back-referenced file equation.

Pressing RETURN in response to this prompt sends the report to your terminal.

After accepting your response to the prompt for LIST FILE, the utility requests the name of the data base to be unloaded with the following prompt:

    BASE>

Enter the name of the base in response to this prompt. If RETURN is entered, an error message is displayed and the program is terminated. Next, you are prompted to enter a password as follows:

    BASE PASSWORD>

In response to this prompt, enter a password that grants read access to the named data base. The password is not displayed as you enter it. If the password entered is incorrect or does not grant read access to the data base, a data base operation error occurs during the unload process. The utility issues an error message which tells you why the data base error occurred and then terminates.

To complete the information required, the following prompt is issued:

    MODE>

Your response to the MODE prompt indicates the access mode to be used to open the data base. Any valid access mode is acceptable as a response to this prompt. If RETURN is entered, the program uses the default mode, which is 3. (Refer to the IMAGE/3000 Reference Manual for details on "Access Modes".)

If the data base named in response to the BASE prompt cannot be found, the following message is issued after the prompt for access mode:

    *ERROR: NO SUCH DATA BASE

Prompts are then repeated starting with the BASE prompt.

Next, prompts pertaining to the unloading process method are issued. The
first prompt is as follows:

UNLOAD AUTOMATIC MASTER SETS(N/Y)?>

If automatic master sets are to be converted into manual master sets, you
should respond with a "Y"; otherwise, it is unnecessary to unload automatic
master sets.

The next prompt identifies how the detail sets are to be unloaded. The
prompt is as follows:

UNLOAD DETAIL SETS BY CHAIN(Y/N)?>

Although it takes longer to unload detail data sets with a chained read,
improvements in access time of chained reads can be seen after the data base
is reloaded. Enter "N" as your response if you do not want to unload the sets
with a chained read.

The following prompt allows you to choose which data sets are or are not to
be unloaded:

UNLOAD EDIT(N/Y)?>

You must enter a "Y" to selectively unload the data sets. If you choose to
selectively unload the data sets, you are prompted as follows:

set name   *set type*: UNLOAD(Y/N/C/X)?>

You can choose only one of the unload types. A description of each is as
follows:

  Y - which is short for YES, specifies that the data set is to be
      unloaded. (This is the default.)

  N - which is short for NO, specifies that this data set is not to be
      unloaded.

  C - which is short for CONTINUE, specifies that this data set and all
      remaining data sets are to be unloaded.

  X - which is short for EXIT, specifies that this and all remaining data
      sets are not to be unloaded and the program terminates.

Note that entering a "C" ends the process of unloading data sets with
"editing", but it does not terminate the program. To terminate the program,
an "X" must be entered. If RETURN is pressed in response to this prompt, the
data set is unloaded.

If you chose to unload with a chained read and also chose to unload with editing, during the editing process you are prompted to enter the search item's name for the detail set as follows:

SEARCH ITEM FOR CHAINED UNLOAD>

You can enter the name or allow the program to use the default, which is the primary path for the detail data set.

As each data set is unloaded, the program identifies the data set and the number of entries unloaded on your terminal screen. When the entire unload process is completed, the message "UNLOAD COMPLETED" is displayed, and the utility program terminates. An audit report is generated and sent to the file you indicated with your response to the LIST FILE prompt.

The following examples show how to execute the Data Base Unload utility program with an explanation of the responses given to the prompts.

Example

:RUN DICTDBU.PUB.SYS   How to execute this utility.

DICTIONARY/3000 DB UNLOADER HP32244A.01.00 - (C) Hewlett-Packard Co. 1981

STORE FILE> TEMPSTOR   Name of a disc file.

LIST FILE>   RETURN sends listing to terminal.

BASE> HOUSES   Name of base to be unloaded.

BASE PASSWORD>   Password used: MANAGER.

MODE>   RETURN pressed; default used.

UNLOAD AUTOMATIC MASTER SETS(N/Y)?>   RETURN pressed.

UNLOAD DETAIL SETS BY CHAIN(Y/N)?>   RETURN pressed.

UNLOAD EDIT(N/Y)?> Y   Unload with editing.

ZONING-MASTER   M: UNLOAD(Y/N/C/X)?> Y   Yes, unload this set.

CITY-MASTER   M: UNLOAD(Y/N/C/X)?> Y

COMMERCIAL   D: UNLOAD(Y/N/C/X)?> C   Unload all remaining sets
                                            without EDIT prompts.
SEARCH ITEM FOR CHAINED UNLOAD> ZONING-CODE Identifies the search item

```
ZONING-MASTER      M:6/31                    of the detail data set.
  6 ENTRIES UNLOADED IN <1 CPU-SEC           Identifies what is unloaded.

CITY-MASTER        M:20/101
  20 ENTRIES UNLOADED IN <1 CPU-SEC

LIST-PRICE-MSTR    A:42/307
  AUTO NOT UNLOADED

BATH-MASTER        A:2/31
  AUTO NOT UNLOADED

BEDS-MASTER        A:4/11
  AUTO NOT UNLOADED

COMMERCIAL         D:10/209
  10 ENTRIES UNLOADED IN <1 CPU-SEC

RESIDENTIAL        D:40/200
  40 ENTRIES UNLOADED IN <1 CPU-SEC


UNLOAD COMPLETED

END OF PROGRAM
```

DATA BASE LOAD UTILITY

The Data Base Load utility (DICTDBL) provided by Dictionary/3000 is used to reload the stored contents of an IMAGE data base. A comparison between the old and the new schemas is made before the loading process begins. If changes have been made, you are prompted to enter the changed information. Additionally, you can selectively reload the data base, that is, you are given a choice to load or not to load a particular data set.

When the utility program completes the loading process, you are provided an audit report containing information about the data base load.

The following description tells how to execute the DICTDBL utility program and gives an explanation of each prompt.

You execute this utility by entering the following MPE command:

    RUN DICTDBL.PUB.SYS

After an acknowledgement message, the utility program issues:

    STORE FILE>

If the store file is a disc file, enter the file's name as your response to the prompt. An error message is issued if the named file cannot be found and the prompt is reissued. If the store file is a tape file, press RETURN as your response to this prompt. Before generating a tape request at the system console, the utility prompts you as follows:

    TAPE FILE REQUESTED(Y/N)?>

If you enter a "Y" or RETURN, a request to mount a tape is issued on the system console; otherwise, the prompt for STORE FILE is reissued.

When the utility completes the loading process, it generates an audit report of the loading process. You can specify where the report is to be sent with the following prompt:

    LIST FILE>

You have four options from which to choose for your response to the LIST FILE prompt:

    LP   - sends the audit listing to the line printer; if
                                  your system has no device LP, file equate
                                  DICTLIST, which defaults to LP.

NULL   - suppresses the audit listing.

filename   - sends the audit listing to the existing or to
                                a new disc file. Before over-writing an existing
                                file, you are prompted to approve purging the
                                existing file's contents.

*filename   - sends the listing to the file identified in
                                the back referenced equation.

Pressing RETURN in response to this prompt sends the audit listing to your
terminal.

After accepting your response to the prompt for LIST FILE, the utility
displays the stored data base's name, then prompts you to select a RUN MODE
for the loading process. The RUN MODE is the operating mode to be used to
load the data base. The prompt is as follows:

    RUN MODE(LOAD/EDIT/SHOW/EXIT)>

In response to the prompt, you can choose one of four options:

    LOAD   - indicates the named data base is to be loaded.

    EDIT   - indicates the named data base is to be loaded and
                                editing prompts issued for each data set.

    SHOW   - indicates the named data base is not to be loaded, but
                                the schema and set entry counts are to be displayed.

    EXIT   - indicates the utility is to be terminated.

Pressing RETURN in response to this prompt indicates that the default for RUN
MODE is used, which is LOAD.

In an operating mode of LOAD, you are prompted for information only when
schema changes are encountered. In the EDIT mode, you can select an operating
mode for the data sets. An operating mode for a data set is similar to the
operating mode for a data base.

Next, the utility prompts you to enter the new name for the data base:

    NEW BASE NAME>

If the name of the stored data base has not changed, including qualifier
information such as MPE group and account, press RETURN as your response;
otherwise, enter the new name for the data base.

If the named data base cannot be found, the following prompt is issued:

BASE NOT FOUND>

This prompt indicates that the identified data base, either from the stored file or entered in response to NEW BASE NAME, cannot be found. You should re-enter the base name in response to this prompt. If the prompt is reissued, terminate the program by entering RETURN and make sure the data base is where you think it is.

When the named data base is found, you are prompted for additional data base information as follows:

BASE PASSWORD>

MODE>

The password you enter in response to the password prompt should be one that allows modify access to the data base. This password is not displayed as you enter it. If the password grants only partial access to the data base, the utility will load only those parts of the data base to which it has access; no warning is given. If the password is entered incorrectly or does not grant modify access, a data base operation error occurs during the loading process. The utility issues the following questions if a data base operation error occurs:

DISPLAY INPUT RECORD(Y/N)?>
CONTINUE SET LOAD(Y/N)?>
CONTINUE LOAD PROCESS(Y/N)?>

You can write the contents of the record to the indicated LIST FILE by entering a "Y" or RETURN.

If you choose to continue the set load, the data entry in error is not loaded. If you choose not to continue, the utility allows you to continue loading the remaining sets in the data base with the last prompt.

Your response to MODE indicates the access mode to be used to open the data base. Valid responses include 1, 2, 3, 4, and RETURN. Pressing RETURN indicates acceptance of the default mode, which is 3. (See the IMAGE/3000 Reference Manual for "Access Modes".)

With the next prompt, you are given the choice to load in a fast I/O mode or not. The prompt is:

FAST I/O(Y/N)?>

FAST I/O means that the data base buffers are not written at each modification.

The program begins to load the data base after the FAST I/O prompt. If you chose LOAD as the operating mode for the data base, you are prompted only when a difference between the old and new schema is encountered. If you chose EDIT as the operating mode, the following prompt is issued before the program loads each data set:

    SET MODE(LOAD/EDIT/SKIP/CONT/EXIT)>

You can choose only one of the modes. A description for each is as follows:

    LOAD   - indicates that if a difference between the old and new
                          schema occurs, issue prompts for the changed
                          information.

    EDIT   - allows you to change the name of the data set and/or
                          data elements during the loading operation.

    SKIP   - allows you to indicate that a data set is not to be
                          loaded.

    CONT   - cancels the EDIT operation mode for the data base, in
                          which case the default of LOAD is used.

    EXIT   - indicates the utility program is to be terminated.

Pressing RETURN in response to this prompt indicates the default of LOAD is used.

When the message LOAD COMPLETED is displayed, the program execution is terminated and the audit report is sent to the file indicated with the LIST FILE prompt.

The following examples show how to execute the Data Base Load utility program with an explanation of the responses given to the prompts. The examples show choosing a data base operating mode of LOAD and of EDIT. The example using an operating mode of EDIT also shows choosing a data set operating mode of EDIT and of LOAD. The last example shows the audit report generated by the utility program for the data base load.

Example of LOAD Run Mode

```
:RUN DICTDBL.PUB.SYS                 How to execute this utility.

DICTIONARY/3000 DB LOADER HP32244A.01.00 - (C) Hewlett-Packard Co. 1981

STORE FILE> TEMP                     Name of file containing the
                                     contents of the stored base.
LIST FILE>                           RETURN sends report to terminal.
```

```
        BASE: SHPMGT.PUB.MARTIN          Utility identifies base to load.

RUN MODE(LOAD/EDIT/SHOW/EXIT)> LOAD      LOAD selected.

NEW BASE NAME> SHPMGT.DEMO               Changing the MPE group for base.

BASE PASSWORD>                           MANAGER was the password used.

MODE> 1                                  Opened for shared modify access.


PRODUCT-MASTER    M 22/101               First data set to be loaded.
PRODUCT-NO     : ITEM NOT FOUND, NEW ITEM NAME> PROD-NO   LOAD issues
   22 ENTRIES LOADED IN <1 CPU-SEC                        prompt when old
                                                          and new schemas
ITEM-MASTER       M 44/311                                differ.
   44 ENTRIES LOADED IN 1 CPU-SEC

EXPLODE           D 397/1054
PRODUCT-NO     : ITEM NOT FOUND, NEW ITEM NAME> PROD-NO
   397 ENTRIES LOADED IN 20 CPU-SECS

LOAD COMPLETED

END OF PROGRAM
```

Example of EDIT Run Mode

```
:RUN DICTDBL.PUB.SYS                     How to execute this utility.

DICTIONARY/3000 DB LOADER HP32244A.01.00 - (C) Hewlett-Packard Co. 1981

STORE FILE> TEMP                         Name of store file.

LIST FILE>                               RETURN sends report to terminal.

        BASE: SHPMGT.PUB.MARTIN          Program identifies base to load.

RUN MODE(LOAD/EDIT/SHOW/EXIT)> EDIT      Editing prompts at set level
                                         requested.
NEW BASE NAME> SHPMGT.DEMO               Loading to a different MPE group.

BASE PASSWORD>                           MANAGER is password used.

MODE> 1                                  Opened for shared modify access.


PRODUCT-MASTER    M 22/101                  First data set to be loaded.
SET MODE(LOAD/EDIT/SKIP/CONT/EXIT)> EDIT    Set level editing capability.
```

```
PRODUCT-MASTER   : NEW SET NAME>            If the data set and/or items
PRODUCT-NO       : NEW ITEM NAME> PROD-NO   have new names, enter new
DESCRIPTION      : NEW ITEM NAME>           name after prompt as for
QTY-ON-HAND      : NEW ITEM NAME>           PROD-NO.
QTY-ALLOCATED    : NEW ITEM NAME>
UNIT-COST        : NEW ITEM NAME>
LIST-PRICE       : NEW ITEM NAME>
   22 ENTRIES LOADED IN <1 CPU-SEC


ITEM-MASTER       M 44/311                  Next data set to be loaded.
SET MODE(LOAD/EDIT/SKIP/CONT/EXIT)> LOAD    No editing prompts generated
   44 ENTRIES LOADED IN 1 CPU-SEC           by choosing LOAD.


EXPLODE           D 397/1023                Next data set to be loaded.
SET MODE(LOAD/EDIT/SKIP/CONT/EXIT)> LOAD
PRODUCT-NO       : ITEM NOT FOUND, NEW ITEM NAME> PROD-NO   LOAD causes
   397 ENTRIES LOADED IN 20 CPU-SECS                        prompts when
                                                            old and new
LOAD COMPLETED                                              schemas differ.

END OF PROGRAM
```

Example of Audit Listing

```
DICTDBL  (A.01.00):  TUES, AUG 10, 1981,  1:48 PM DATA BASE LOAD FROM STORE
                                                  FILE TEMP.PUB.MARTIN


      BASE: SHPMGT.PUB.MARTIN
LOADED TO: SHPMGT.DEMO.MARTIN


PRODUCT-MASTER     M 22/101
 ITEM PRODUCT-NO         LOADED TO PROD-NO
 22 ENTRIES LOADED IN <1 CPU-SEC


ITEM-MASTER        M 44/311
 44 ENTRIES LOADED IN 1 CPU-SEC


EXPLODE            D 397/1023
 ITEM PRODUCT-NO         LOADED TO PROD-NO
 397 ENTRIES LOADED IN 19 CPU-SECS


LOAD COMPLETED
```

DICTIONARY CLEAN UTILITY

As a byproduct of DICTDBM use, a data dictionary slowly accumulates superfluous information. This information can be periodically purged by using the Dictionary Clean Utility (DICTDBM,UTIL).

This utility, which can only be executed by the dictionary creator, should be run when:

- DICTDBM has been used heavily for about 6 months, or

- the following message appears after signing onto DICTDBM:

  *INFO: DICTIONARY INTERNAL CLEANUP NEEDED (DICT 75)

To preserve the integrity of your dictionary, ensure that this utility is *only* used on the *entire* data dictionary, i.e., the root file and all data sets.

Before executing this utility, back up the data dictionary. Also ensure that the temporary file used by DICTDBM,UTIL (DICTTEMP) is large enough to accommodate your data. By default, DICTTEMP holds 10,000 records (divided into 30 extents). These records originate from three data sets: DESCRIPTION-TEXT, FILE-PATH, and FILE-SORT. Run DICTDBA to determine the total number of records in these data sets. If the total is >10,000, use the FILE command to allocate adequate space, e.g., :FILE DICTTEMP; DISC = *your value*.

Execute DICTDBM,UTIL by entering the following MPE command:

    :RUN DICTDBM.PUB.SYS.UTIL

The utility issues the following message and prompt:

    DICTIONARY SHOULD BE STORED OFF BEFORE RUNNING THIS UTILITY.
    CONTINUE (Y/N)?>

Enter Y (to initiate cleanup) or N (to terminate utility execution). When the utility has finished processing, the message END OF PROGRAM is displayed and the program terminates.

Example

```
:RUN DICTDBM.PUB.SYS, UTIL          How to execute this utility.

DICTIONARY/3000 CLEAN UTILITY HP32244A.00.03 - (C) Hewlett-Packard Co. 1982

DICTIONARY SHOULD BE STORED OFF BEFORE RUNNING THIS UTILITY.

CONTINUE (Y/N)?> Y                  Must respond "Y" or "N";
                                    no default response occurs.
END OF PROGRAM
```

DICTDBM
ERROR MESSAGES

DICTDBM generates two types of messages on the user terminal - Error Messages
and Information Messages. Information Messages are conditions that DICTDBM
informs the user about, but are not errors. Both kinds of messages are found
in this appendix or in the appropriate reference manual for the indicated
subsystem.

Error Messages have the following format:

    *ERROR: *error-message (error-info)*

Information Messages have the following format:

    *INFO: *error-message (error-info)*

In both cases, *error-info* contains two fields:

    (*error-type   error-number*)

Error-type is one the following:

USER   - The error is caused by a user of DICTDBM and may usually be
         corrected by entering a different response.

PROG   - The error is due to an error in DICTDBM's environment and may
         usually be corrected by the Systems Engineer.

SYSTEM - The error is due to constraints of the system DICTDBM is
         running on and may be corrected by the operator.

TRAP   - The error is due to an internal error in DICTDBM and its
         occurrance should be called to the attention of the Systems
         Engineer.

DICT   - The error is caused by the user and may usually be corrected
         by entering a different response. These are errors that help
         maintain the integrity of the dictionary.

IMAGE   - The error is an IMAGE data base error. Consult the
            IMAGE/3000 Reference Manual.

MPEF   - The error is an MPE file system error. Consult the MPE 3000
            System Error Messages and Recovery Reference Manual.

Error-number is the number listed in this manual for types USER, PROG,
SYSTEM, TRAP or DICT, and is a number meaningful to either the IMAGE data
base system or the MPE file system for types IMAGE or MPEF.

USER MESSAGES

NO.	MESSAGE	EXPLANATION AND/OR ACTION
1	ENTRY NOT NUMERIC	Data item type is integer, floating point, or numeric ASCII and a non-numeric character has been detected in the data entry field.
2	INPUT FIELD LONGER THAN n	Length of data entry exceeds the size ("n") defined for the associated data item.
3	ORIGINAL RECORD HAS BEEN RESTORED	An error has occurred on updating an entry in a data set and the original entry has been restored.
4	NUMERIC INTEGER PART LONGER THAN n	Integer part of a decimal number exceeds the length ("n") defined for the associated data item.
5	NUMERIC DECIMAL PART LONGER THAN n	Decimal part of a decimal number exceeds the length ("n") defined for the associated data item.
6	MISSING COMMAND	A command option was entered without a command.
7	INVALID COMMAND/ OPTION: command/option	The command or command option entered is not valid.
8	INVALID/MISSING SUB-COMMAND: sub-command	The sub-command entered is not valid for the command specified.
18	ENTRY CANNOT BE NEGATIVE	This item has been declared to always be positive.
19	CONNECTOR MUST BE ONE OF 'AND', 'OR' OR 'TO'	Connector must be 'and, 'or' or 'to'.
20	OPERATOR MUST BE ONE OF 'EQ', 'NE', 'LE', 'GE', 'LT' OR 'GT'	Operator must be one of 'eq', 'ne', 'le', 'ge', 'lt' or 'gt'.
21	UNDELIMITED TEXT STRING	A string value must terminate with a quote.

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PROG MESSAGES

NO.	MESSAGE	EXPLANATION AND/OR ACTION
17	EXCEEDED MAXIMUM TREE DEPTH	Recursive code has gone through too many performs to trace tree structure. Reduce the depth of the parent/child tree.
41	INCOMPATIBLE CODE FILE	The IPDIC.PUB code file is not compatible with the version of DICTDBM currently executing.
42	INSUFFICIENT STACK FOR WORK SPACE RELOAD	DICTDBM needs more data stack for a work space reorganization. Run DICTDBM with a MAXDATA greater than 25,000.
43	INSUFFICIENT STACK FOR SYSTEM LOAD	The data stack required for the program is greater than the maximum specified for DICTDBM. Increase the stack size by specifying a MAXDATA on the run command that is greater than the default of 25,000.

SYSTEM MESSAGES

NO.	MESSAGE	EXPLANATION AND/OR ACTION
1	SORT INITIALIZATION	Error in call to System SORT Utility. The probable cause is insufficient disc space for SORT scratch file.
2	SORT FILE WRITE	Error on releasing record to the System SORT Utility. If cause is not apparent to the resident System Programmer then contact the Systems Engineer.
3	SORT OUTPUT	Error on requesting record from System SORT Utility. If cause is not apparent to the resident System Programmer then contact the Systems Engineer.
4	SORT END	Error in System SORT Utility during exit procedures. If cause is not apparent to the resident System Programmer then contact the Systems Engineer.
5	CANNOT OPEN PRINT FILE	DICTDBM is unable to open the print file.
7	CODE FILE READ	DICTDBM detected a read error while reading the code file.
8	DISC SPACE NOT AVAILABLE FOR SORT FILE	Could not create scratch space for SORT operation.
9	PRINT FILE ACCESS	The print device is unavailable. Check file equate or call the system operator.

TRAP MESSAGES

NO.	MESSAGE	EXPLANATION AND/OR ACTION
3	WORKSPACE EMPTY	Internal DICTDBM work space is empty. Please notify Systems Engineer.
5	EMPTY CODE FILE	DICTDBM detected an empty code file.
6	UNEXPECTED EOF IN CODE FILE	DICTDBM encountered an unexpected end-of-file while reading the code file. Please notify the Systems Engineer.
7	ARITHMETIC CONVERSION FOR TABLE LITERAL	A program constant cannot be converted to the binary equivalent as the current statement requires.
8	BROKEN WORK SPACE CHAIN	DICTDBM has detected a break in a work space link list. Please report the error condition to the Systems Engineer.
9	ARITHMETIC TRAP	DICTDBM has detected an arithmetic trap condition in its internal processing. Please report the error condition and the internal address (given as %9.%99999) to the Systems Engineer.
10	OUT OF RANGE PCODE ADDRESS	DICTDBM has detected a PCODE address out of the loaded range of transaction codes. Please report the error condition and the PCODE address (given as %999.%99999) to the Systems Engineer.
11	DISPLAY FORMAT LEVEL OVERFLOW	DICTDBM has detected an overflow in managing format levels. Please report the error condition to the Systems Engineer.
12	DISPLAY FORMAT LEVEL UNDERFLOW	DICTDBM has detected an underflow in managing format levels. Please report the error condition to the Systems Engineer.

DICT MESSAGES

NO.	MESSAGE	EXPLANATION AND/OR ACTION
1	CONFLICTING LINE NUMBER SEQUENCE	Error messages of type DICT are usually due to an incorrect response to a prompt. After the message is issued, the prompt is reissued, allowing the user to respond to the prompt differently.
2	INVALID EDIT COMMAND,TRY 'HELP'	
3	NO DESCRIPTION LINES EXIST	
4	DUPLICATE ENTRY	
5	AUTO SET ALREADY HAS A KEY ELEMENT	
6	FILE TYPE MUST BE 'MAST' OR 'AUTO'	
7	SORT ELEMENT TYPE MUST BE 'X', 'U' OR 'K'	
8	CANNOT ADD AN ELEMENT TO A FILE OF TYPE *type*	
9	CANNOT ADD ELEMENTS TO A PARENT	
10	CANNOT ADD TO '$MENU'	
11	CAPABILITY MUST BE 'R', 'U', 'M', OR 'X'	
12	CANNOT ADD SECURITY TO FILE TYPE *type*	
13	CAPABILITY MUST BE 'R', 'W' OR 'X'	
14	CANNOT USE FILE TYPE *type*	
15	STORAGE LENGTH CANNOT BE ZERO	

DICT MESSAGES (continued)

NO.	MESSAGE	EXPLANATION AND/OR ACTION
16	TYPE MUST BE ONE OF: 'X','U','9','Z','P', 'I','J','K','R', OR 'E'	Error messages of type DICT are usually due to an incorrect response to a prompt. After the message is issued, the prompt is reissued, allowing the user to respond to the prompt differently.
17	SIZE CANNOT BE ZERO	
18	DECIMAL LENGTH MUST BE LESS THAN SIZE	
19	SIZE TOO LARGE FOR ELEMENT TYPE	
20	CAN ONLY RESTRICT TO A TYPE 'BASE' FILE	
21	CANNOT PURGE '$MENU'	
22	CHILD LARGER THAN PARENT	
23	CHILD FIELD NOT FULLY WITHIN PARENT	
24	RELATIONSHIP NOT GENERATED - LOOP FOUND IN STRUCTURE	
25	CHILD FILE MUST BE TYPE 'MAST', 'AUTO' OR 'DETL'	
26	CHILD FILE MUST BE TYPE 'FORM'	
27	PARENT FILE MUST BE TYPE 'BASE' OR 'VPLS'	
28	BLOCKMAX MUST BE BETWEEN 128 AND 2048	
29	CANNOT BE A PARENT IF OWN ELEMENTS	

DICT MESSAGES (continued)

NO.	MESSAGE	EXPLANATION AND/OR ACTION
30	CANNOT RELATE '$MENU' AS A CHILD	Error messages of type DICT are usually due to an incorrectly response to a prompt. After the message is issued, the prompt is reissued, allowing the user to respond to the prompt differently.
31	CANNOT SECURE A FILE OF TYPE *type*	
32	CHILD ELEMENT NOT FOUND	
33	CHILD FILE NOT FOUND	
34	CHILD PROCEDURE NOT FOUND	
35	CHILD CATEGORY NOT FOUND	
36	CHILD GROUP NOT FOUND	
37	TYPE MUST BE ONE OF 'BASE','MAST','AUTO', 'DETL','KSAM','MPEF', 'VPLS', OR 'FORM'	
38	CANNOT MODIFY '$MENU'	
39	CATEGORY NOT A PARENT	
40	ELEMENT NOT A PARENT	
41	FILE NOT A PARENT	
42	GROUP NOT A PARENT	
43	PROCEDURE NOT A PARENT	
44	CATEGORY CONTAINS NO ELEMENTS	
45	CLASS CONTAINS NO ELEMENTS	

DICT MESSAGES (continued)

NO.	MESSAGE	EXPLANATION AND/OR ACTION
46	FILE CONTAINS NO ELEMENTS	Error messages of type DICT are usually due to an incorrect response to a prompt. After the message is issued, the prompt is reissued, allowing the user to respond to the prompt differently.
47	GROUP CONTAINS NO ELEMENTS	
48	PROCEDURE CONTAINS NO ELEMENTS	
49	ELEMENT NOT IN FILE	
50	CANNOT UPDATE FILE TYPE *type*	
51	ELEMENT NOT IN PROCEDURE	
52	ELEMENT NOT IN CATEGORY	
53	ELEMENT NOT IN GROUP	
54	ELEMENT NOT IN CLASS	
55	FILE NOT IN CLASS	
56	FILE NOT IN LOCATION	
57	PROCEDURE NOT IN LOCATION	
58	LINE NUMBER DOES NOT EXIST	
59	CANNOT RENAME '$MENU'	
60	NO PARENT FILE EXISTS FOR *file*	
61	RESPONSE REQUIRED TO PROMPT	

DICT MESSAGES (continued)

NO.	MESSAGE	EXPLANATION AND/OR ACTION
62	FILE IS NOT A PARENT OF *file*	Error messages of type DICT are usually due to an incorrect response to a prompt. After the message is issued, the prompt is reissued, allowing the user to respond to the prompt differently.
63	STORAGE LENGTH MUST BE EVEN FOR IMAGE	
64	INSUFFICIENT CAPABILITY	
65	MUST BE ONE OF 'Y', 'YES','N','NO', OR <CR>	
66	SEARCH ITEM CANNOT BE ITS OWN SORT ITEM	
67	LENGTH MUST BE ONE OF 2, 4, 8, OR 12	
68	LENGTH MUST BE LESS THAN 15	
69	LENGTH MUST BE LESS THAN 28	
70	LENGTH MUST BE ONE OF 4 OR 8	
71	NEW LENGTH TOO SMALL FOR CHILD: *element*	
72	NEW LENGTH TOO LARGE FOR PARENT: *element*	
73	LINK VALUE MUST BE GREATER THAN -2	
74	REPEAT OPTION INVALID WITH THIS COMMAND STRING	
75	DICTIONARY INTERNAL CLEANUP NEEDED	Creator of data dictionary should run DICTDBM.PUB.SYS,UTIL.

The Dictionary/3000 utility programs generate five types of messages on the user terminal. Each type of message is found in this appendix or in the appropriate reference manual for the indicated subsystem. The types of messages are:

1. Errors

    *ERROR: *error-message*

    Errors are conditions that arise out of a user response or some operation during the utility process. A correct response or remedy for the error condition is required.

2. IMAGE errors

    *IMAGE ERROR: *error-message*

    IMAGE errors occur when a call to the IMAGE data base management system cannot be performed. The error message returned by IMAGE is displayed. Refer to the IMAGE/3000 Reference Manual for more information.

3. File errors

    *FILE ERROR: *error-message*

    File errors occur when a call to the MPE file system cannot be performed. The error message returned by the file system is displayed. Refer to the MPE 3000 Error Messages and Recovery Reference Manual for more information.

4. Warnings

    *WARNING: *message*

    Warning messages are conditions that the utility program informs the user about. They are not fatal to the utility process.

5. Condition prompts

    condition message>

    Condition prompts inform the user of a certain situation that
    requires a decision by the user. The usual response is "Y" for yes,
    or "N" for no.

DICTDBA MESSAGES

Errors

MESSAGE	EXPLANATION AND/OR ACTION
BASE NAME TOO LONG	Data base name, including qualifiers, is greater than 24 characters.
DATA BASE OPERATION	A data base error occurred when reading information. An IMAGE "DBEXPLAIN message block" is issued to explain the error condition.
INVALID MODE	Response to MODE prompt is a number other than 1 through 8.
INVALID RUN MODE	An incorrect response to RUN MODE prompt entered.
LIST FILE OPERATION	An error occurred during writing the list file (DICTLIST).
PASSWORD LONGER THAN 8 CHARACTERS	Response to BASE PASSWORD prompt is greater than 8 characters.
LIST FILE OPEN	Device LP is not available. File equate DICTLIST, which defaults to LP.

DICTDBA MESSAGES (continued)

Warnings

MESSAGE	EXPLANATION AND/OR ACTION
BROKEN CHAINS	A broken chain has been encountered in a detail set. The data base should be unloaded serially with DICTDBU and then reloaded with DICTDBL to recover the data base.
CONTROL(Y) NOT ENABLED	Attempt to enable control Y failed.
HIGH MASTER SET OCCUPANCY	The occupancy of a master set is higher than 80%. Consider increasing the data set capacity to reduce the occurrence of synonym chains (unless the capacity is only one entry).
SERIAL COUNT ERROR	Physical serial read count of a master set does not equal the IMAGE table count. The data base should be unloaded serially with DICTDBU and then reloaded with DICTDBL to recover the data base.

DICTDBC MESSAGES

Errors

MESSAGE	EXPLANATION AND/OR ACTION
BAD PASSWORD	The dictionary data base cannot be opened because the password entered is incorrect.
CANNOT OPEN DATA BASE DICT.PUB IMAGE *error message*	The dictionary data base cannot be opened. The error message returned by IMAGE is shown.
DBSCHEMA PROCESSOR CANNOT BE ACTIVATED	Utility has been unable to activate the DBSCHEMA program. Contact your system manager.
DBSCHEMA PROCESSOR CANNOT BE INVOKED	Utility has been unable to invoke the DBSCHEMA program in the PUB group of the SYS account. Contact your system manager.
DICTIONARY ACCESS, PROBABLY AN INCOMPATIBLE DICTIONARY DATA BASE	The dictionary schema is incompatible with current release of the utility.
DICTIONARY DATA BASE OPERATION	A data base error occurred. An IMAGE "DBEXPLAIN message block" is issued to explain the error condition.
EXCEEDED 255 ITEMS IN BASE	Utility has found more than 255 data items for the base in the dictionary and that is the limit for an IMAGE data base. The schema is generated without the excess data items.
EXCEEDED 63 CLASSES IN BASE	Utility has found more than 63 security classes for the base in the dictionary and that exceeds the limit for an IMAGE data base. The schema is generated without the excess security classes.

DICTDBC MESSAGES (continued)

Errors (continued)

MESSAGE	EXPLANATION AND/OR ACTION
EXCEEDED 99 SETS IN BASE	Utility has found more than 99 data sets for the base in the dictionary and that is the limit for an IMAGE data base. The schema is generated without the excess data sets.
FILE NAME TOO LONG	Response to SCHEMA FILE or LIST FILE is greater than 26 characters.
INVALID LIST FILE	Response to the LIST FILE prompt is not a valid file name.
INVALID STORAGE LENGTH FOR ITEM: *item-name*	Utility has detected a dictionary item whose storage length is invalid for the given type. Correct the storage length in the dictionary using the DICTDBM utility.
LINE LONGER THAN 70 CHARACTERS	The response to CONTROL LINE is longer than 70 characters.
PASSWORD DOES NOT ALLOW ACCESS TO 'CLASS-PASSWORD'	Password does not grant sufficient capability to create a data base.
PASSWORD LONGER THAN 8 CHARACTERS	Response to DICTIONARY PASSWORD prompt is greater than 8 characters.
PROCESS TERMINATED ON FATAL ERROR CONDITION	A fatal error occurred during the utility process and the program has been terminated.
SCHEMA FILE WRITE	Error detected in writing schema file. A "file error tombstone" is issued to explain the error condition.

DICTDBC MESSAGES (continued)

Errors (continued)

MESSAGE	EXPLANATION AND/OR ACTION
STORAGE LENGTH TOO SMALL FOR ITEM: *item-name*	Utility has detected a dictionary item whose storage length definition is too small to contain values. Correct the item type, size, or storage length in the dictionary using the DICTDBM utility.
TEMPORARY FILE ACCESS	Error occurred using the temporary file in preparing the schema file. A "file error tombstone" is issued to explain the error condition.
TEMPORARY FILE OPEN	A temporary file used in preparing the schema file cannot be opened. A "file error tombstone" is issued to explain the error condition.
LIST FILE OPEN	Device LP is not available. File equate DICTLIST, which defaults to LP.

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DICTDBC MESSAGES (continued)

Warnings

MESSAGE	EXPLANATION AND/OR ACTION
BASE NAME TRUNCATED TO 6 CHARACTERS	The name of a base can be up to 20 characters in the dictionary, but only the first 6 are used for generating the physical data base file name.
CONTROL(Y) NOT ENABLED	Attempt to enable control Y failed.

DICTDBC MESSAGES (continued)

Condition Prompts

MESSAGE	EXPLANATION AND/OR ACTION
[TEMPORARY] FILE ALREADY EXISTS, PURGE OLD(N/Y)?>	The file name entered in response to the SCHEMA FILE prompt already exists as a temporary or a permanent file. Respond "Y" to purge the existing file and keep the new file.

DICTDBD MESSAGES

Errors

MESSAGE	EXPLANATION AND/OR ACTION
BASE ALREADY DEFINED IN DATA DICTIONARY	The data base name is already in the dictionary. The user is prompted as to whether the data base should be given a different name when loaded into the dictionary.
BASE NAME TOO LONG	Data base name, including qualifiers, exceeds 24 characters.
DATA BASE OPERATION	A data base error occurred when reading information. An IMAGE "DBEXPLAIN message block" is issued to explain the error condition.
DATA DICTIONARY OPERATION	A data dictionary error occurred. An IMAGE "DBEXPLAIN message block" is issued to explain the error condition.
INVALID MODE	Response to MODE prompt is a number other than 1 through 8.
ITEM SEARCH IN DBINFO LIST	A system error occurred in processing "DBINFO" information from the data base. If the cause is not apparent, contact your system manager.
PASSWORD LONGER THAN 8 CHARACTERS	Response to DICTIONARY PASSWORD or BASE PASSWORD prompt is greater than 8 characters.

DICTDBD MESSAGES (continued)

Warnings

MESSAGE	EXPLANATION AND/OR ACTION
CONTROL(Y) NOT ENABLED	"Arming" control Y failed.
DATA SET HAS NOT BEEN LOADED INTO DICTIONARY	Response to the NEW PRIMARY FILE NAME prompt is RETURN, or response to USE EXISTING DEFINITION (N/Y)? prompt is "N" or RETURN.
ELEMENT HAS NOT BEEN LOADED INTO DICTIONARY	Response to the NEW PRIMARY ELEMENT NAME prompt is RETURN.

DICTDBD MESSAGES (continued)

Condition Prompts

MESSAGE	EXPLANATION AND/OR ACTION
ENTIRE DEFINITION OF DATA BASE WILL NOT FIT IN DICTIONARY, PROCEED (N/Y)?	Definition of data base will not fit in dictionary. Respond "N" to terminate utility; respond "Y" to continue until one of the data sets is full, then terminate.

DICTDBL MESSAGES

Errors

MESSAGE	EXPLANATION AND/OR ACTION
BAD DATA BASE NAME: *base-name*	The utility has encountered an invalid base name format in the store file. Probably the store file has bad data in it.
BASE LONGER THAN 6 CHARACTERS	Base name exceeds 6 characters.
BASE NAME TOO LONG	Data base name, including qualifiers, exceeds 24 characters.
DATA BASE OPERATION	A data base error occurred during the load. A "DBEXPLAIN message block" is issued to explain the error condition.
DEFERRED MODE REJECTED, CODE=*n*	The request for fast I/O has been rejected with an error code of "*n*". Refer to the DBCONTROL intrinsic in the IMAGE Reference Manual for an explanation.
FILE EQUATION NOT ALLOWED	A back-referenced file name (*filename) entered as a response to the STORE FILE prompt is not allowed.
FILE NAME TOO LONG	Response to the LIST FILE prompt is greater than 26 characters.
INCOMPATIBLE STORE FILE	The store file is incompatible with the current release of the utility.
INCORRECT STORE TAPE MOUNTED	The tape mounted is not the correct store tape. Mount the correct tape.
INCORRECT TAPE NUMBER: *n*	The given tape number "*n*" is out of sequence. Mount the correct tape.
INVALID MODE	Response to MODE prompt is a number other than 1 through 8.

DICTDBL MESSAGES (continued)

Errors (continued)

MESSAGE	EXPLANATION AND/OR ACTION
INVALID RUN MODE	Response to the RUN MODE prompt is invalid. Enter one of the modes indicated in the prompt.
ITEM CONVERSION	A conversion error occurred on an item with properties that have changed in the new data base schema. The item data field is set to a null value of all binary zeros.
ITEM NAME TOO LONG	Data item name entered in response to the NEW ITEM NAME prompt is longer than 16 characters.
PASSWORD LONGER THAN 8 CHARACTERS	Response to the BASE PASSWORD prompt is greater than 8 characters.
PRINT FILE CANNOT BE OPENED	The print file for the listing cannot be opened. Enter a correct file name to the LIST FILE prompt.
SET NAME TOO LONG	Data set name entered in response to the NEW SET NAME prompt is longer than 16 characters.
STORE FILE OPEN	The store file cannot be opened. A "file error tombstone" is issued to explain the error condition.

DICTDBL MESSAGES (continued)

Warnings

MESSAGE	EXPLANATION AND/OR ACTION
CONTROL(Y) NOT ENABLED	"Arming" control Y failed.

DICTDBL MESSAGES (continued)

Condition Prompts

MESSAGE	EXPLANATION AND/OR ACTION
CONTINUE SET LOAD(Y/N)?>	After an error or a control Y interrupt, this prompt allows the user to continue the operation or to terminate the utility program.
CONTROL(Y) BREAK, CONTINUE (Y/N)?>	User has entered control Y during a data set load. A response of "N" will terminate the utility program.
DISPLAY INPUT RECORD(Y/N)?>	After an IMAGE error in trying to store a new record in the data base, this prompt allows the user to dump the record to the list file in ASCII and octal format.
LIST FILE ALREADY EXISTS, PURGE OLD(N/Y)?>	The list file is being written to disc and a file of the same name already exists. Respond "Y" to purge the existing file and keep the new file.
TAPE FILE REQUESTED(Y/N)	This prompt is issued if RETURN is entered in response to the STORE FILE prompt. If an "N" response is given, the utility program terminates.

DICTDBU MESSAGES

Errors

MESSAGE	EXPLANATION AND/OR ACTION
BASE LONGER THAN 6 CHARACTERS	Base name exceeds 6 characters.
DATA BASE OPERATION	A data base error occurred. A "DBEXPLAIN message block" is issued to explain the error condition.
DBINFO OPERATION	The utility encountered an error when using a "DBINFO" call to IMAGE. A "DBEXPLAIN message block" is issued to explain the error condition.
DBINFO - SERIAL UNLOAD INVOKED	The utility encountered an error in the DBINFO information from IMAGE for the data base structure. A "DBEXPLAIN message block" is issued to explain the error condition. The utility has rejected the request for the chained unload of the current data set and is performing a serial unload.
FILE EQUATION NOT ALLOWED	A back-referenced file name (*filename) entered as a response to the STORE FILE prompt is not allowed.
FILE NAME TOO LONG	Response to the LIST FILE prompt is greater than 26 characters.
INCORRECT SYNTAX IN USE OF PERIOD(S)	An incorrect qualified name entered in response to the BASE prompt.
INVALID MODE	Response to MODE prompt is a number other than 1 through 8.
ITEM NOT FOUND	Named item is not found in the definition of the set when EDIT MODE used.
LIST FILE	The utility encountered an error when accessing the list file. A "file error tombstone" is issued to explain the error condition.

DICTDBU MESSAGES (continued)

Errors (continued)

MESSAGE	EXPLANATION AND/OR ACTION
PASSWORD LONGER THAN 8 CHARACTERS	Response to BASE PASSWORD prompt is greater than 8 characters.
PRINT FILE CANNOT BE OPENED	The print file for the listing cannot be opened. Enter a correct file name to the LIST FILE prompt.
SEARCH ITEM NOT FOUND	Named item is not a search item within the detail set when EDIT MODE used.
STORE FILE CANNOT BE CLOSED	The utility was unable to close the store file in either the permanent or temporary file domain. Contact your system manager.
STORE FILE EXISTS AND CANNOT BE ACCESSED	Accessing the named store file is a security violation.
STORE FILE OPEN	The store file cannot be opened. A "file error tombstone" is issued to explain the error condition.
STORE FILE WRITE	The utility encountered an error when writing the store file. A "file error tombstone" is issued to explain the error condition.

DICTDBU MESSAGES (continued)

Warnings

MESSAGE	EXPLANATION AND/OR ACTION
CONTROL(Y) NOT ENABLED	"Arming" control Y failed.
INSUFFICIENT GROUP DISC SPACE - STORE FILE IS SESSION TEMPORARY	The utility was unable to close the store file in the permanent file domain because of insufficient disc space allocation in the file group. The store file is session temporary and will be lost when the user logs off. If you would like to keep the store file as a permanent file, you should contact your system manager for a higher disc space allocation. Save the temporary file to the permanenet domain by using the MPE SAVE command.

DICTDBU MESSAGES (continued)

Condition Prompts

MESSAGE	EXPLANATION AND/OR ACTION
CONTINUE SET UNLOAD(Y/N)?>	After an error or a control Y interrupt, this prompt allows the user to continue the operation or to terminate the utility program.
CONTROL(Y) BREAK, CONTINUE(Y/N)?>	User has entered control Y during a data set unload. A response of "N" will terminate the utility program.
LIST FILE ALREADY EXISTS, PURGE OLD(N/Y)?>	The list file is being written to disc and a file of the same name already exists. Respond "Y" to purge the existing file and keep the new file.
STORE FILE ALREADY EXISTS, PURGE OLD(N/Y)?>	The store file is being written to disc and a file of the same name already exists. Respond "Y" to purge the existing file and keep the new file.
TAPE FILE REQUESTED(Y/N)	This prompt is issued if RETURN is entered in response to the STORE FILE prompt. If an "N" response is given, the utility program terminates.

DICTIONARY/3000 INITIALIZATION PROCEDURE

Once Dictionary/3000 software has been installed on your system, you must execute the program DICTINIT to create and initialize a data dictionary. This program allows you to customize the dictionary for your application and to define the security for the dictionary. It also allows you to re-initialize an existing dictionary when you want to change the passwords for access or to change the capacities of the data sets in the dictionary.

The dictionary is created in the MPE group and account from which the DICTINIT program is run. The dictionary maintenance program (DICTDBM) and the dictionary utility programs all assume the dictionary exists in the PUB group of the log-on account. If you create a dictionary in a different group and/or account, you will first have to identify these before running DICTDBM or the utilities. You do this by issuing a file equation as follows:

    FILE DICT.PUB=DICT.group.account

When running DICTINIT, you can define five levels of access to the dictionary. You do this by assigning a password to each level. The access levels are hierarchical - that is, each level is given the capability for its level and all levels below. The topmost level of MANAGER has complete and total access to the dictionary. The mid-level of INFORM has access for INFORM as well as for DOCUMENTATION and REPORT, and so forth.

Entries that pertain to security, such as security class numbers and passwords, can only be created and modified by someone using the password assigned to MANAGER. A description of each possible level and the access capability given to each follows:

LEVEL	ACCESS CAPABILITY	WHO SHOULD USE
MANAGER	Total access.	The person responsible for the data dictionary.
PROGRAMMER	Can modify entries except security entries; can read security entries.	Anyone who needs to create and maintain files and elements in the dictionary in the course of applications development.
INFORM	Can modify HP Inform/3000 group entries and all entries below; cannot read/modify security entries.	Anyone responsible for the maintenance of the HP Inform/3000 program.
DOCUMENTATION	Can modify documentation entries and all entries below; cannot read/modify security entries.	Anyone responsible for maintaining documentation entries in the dictionary (PROCEDURES, LOCATIONS, or CATEGORIES).
REPORT	Can modify NO entries; can read all entries except security entries.	Anyone who needs to write reports about the contents of the dictionary.

Once passwords for the various levels are assigned, there is no way for you to see them within Dictionary/3000. If you are the data base creator, you can run DBUTIL and see the passwords. (Refer to the IMAGE/3000 Reference Manual for a description of the DBUTIL utility.) If not, you can run the DICINIT program again and use the RE-INITIALIZATION option to assign new passwords.

If you do not specify a password for a particular level, that security level is deleted - there is no access at that level. The MANAGER level cannot be deleted; you must specify a password for the MANAGER level.

There are two phases to the DICTINIT program. During the first phase (initialization), information provided by the Dictionary/3000 software is used to create a temporary dictionary which is automatically purged at the end of phase two. To create this temporary dictionary, a special stream job is automatically invoked by DICTINIT. If you use passwords at either the user, account, or group level when you log on, the stream job prompts you to enter them before it begins.

You should monitor the status of the stream job to be sure no errors are encountered. If the job was able to complete, a message informing you to run DICTINIT.PUB.SYS,UPDATE for phase two is displayed. If the job aborts, the line printer listing will tell you why. After correcting the problem, you can begin again.

Phase two (customization) allows you to customize your dictionary or use the defaults, and to assign passwords for the levels of access. At the end of phase two another stream job is invoked. This job builds your permanent data dictionary. If the job in phase two completes successfully, you are informed that DICTINIT IS COMPLETE. If you do not receive this message, but the job has finished, check the line printer listing for the errors. After correcting them, rerun DICTINIT.PUB.SYS,UPDATE

You can terminate DICTINIT by entering a CNTL-Y at any time. If you enter a CNTL-Y while running phase two, any changes that have been verified are accepted and become the defaults when phase two is run again.

A complete list of all error messages, including what to do to recover, is given following the examples.

EXAMPLE 1

To initialize a new data dictionary using the default capacities provided by HP, simply follow the process below - substituting your responses for the ones shown where appropriate. The first step is to log on to the group and account in which you want the dictionary to appear. Then follow the following example:

```
:RUN DICTINIT.PUB.SYS                 How to start initialization process.
```

<The Dictionary/3000 initialization program banner goes here.>

```
Initialization/Re-initialization (I/R) >i  Select "I" to build a new
                                             dictionary.

USER PASSWORD >                         If logon passwords were used, enter
                                        them in response to these prompts.
ACCOUNT PASSWORD >LOCKIT                 They are used by the batch job that
                                        installs a temporary dictionary.
GROUP PASSWORD >
 #J33                                   Number of the STREAMed job which
                                        performs step one (initialization).
END OF PROGRAM                          End of step one.
:
FROM/<your account>/PLEASE RUN DICTINIT.PUB.SYS,UPDATE
                                        This message informs you that the
                                        job is complete, and you are to
                                        perform step two (customization).

:RUN DICTINIT.PUB.SYS,UPDATE            Performing step two.
```

<The Dictionary/3000 initialization program banner goes here.>

```
Initialization/Re-initialization (I/R) >i  Again - new dictionary.

Dictionary capacities: Default or Provided (D/P) >d   Use the default
                                                      capacities.

DATA-ELEMENT     will have capacity 1001    Listing of the capacities
DATA-FILE        will have capacity 503     for your examination.
DATA-PROCEDURE   will have capacity 203
DATA-CATEGORY    will have capacity 203
DATA-GROUP       will have capacity 503
DATA-CLASS       will have capacity 203
DATA-LOCATION    will have capacity 203
LINK-FILE        will have capacity 401
LINK-ELEMENT     will have capacity 401
LINK-DESCRIPTION will have capacity 2003
```

```
DATA-REPORTLOC    will have capacity 503
ELEMENT-ELEMENT   will have capacity 500
FILE-FILE         will have capacity 250
PROCEDURE-PROCED  will have capacity 100
CATEGORY-CATEGOR  will have capacity 100
GROUP-GROUP       will have capacity 250
FILE-ELEMENT      will have capacity 2000
FILE-PATH         will have capacity 400
FILE-SORT         will have capacity 400
PROCEDURE-ELEMEN  will have capacity 500
CATEGORY-ELEMENT  will have capacity 500
```

Press RETURN to continue >   Press RETURN to see the rest
                                      of the display; it fills more
                                      than one screen in this case.

```
GROUP-ELEMENT      will have capacity 1000
CLASS-ELEMENT      will have capacity 3000
CLASS-FILE         will have capacity 500
FILE-LOCATION      will have capacity 500
PROCEDURE-LOCATI   will have capacity 200
DESCRIPTION-TEXT   will have capacity 5000
REPORT-LIST        will have capacity 500
```

Are the capacities correct? (Y/N) >y   This prompt gives you a chance
                                          to answer "N" and change them;
                                          here we say yes.

Password for MANAGER access >DICTMGR   These prompts allow you to
                                          specify the security levels
Password for PROGRAMMER access >DICPRG   and their passwords; you can
                                          respond with a password or
Password for INFORM access >DICINF   simply press RETURN for no
                                          access at that level.
Password for DOCUMENTATION access >

Password for REPORT access >DICRPT

Password for MANAGER   access will be DICTMGR   Program lists the
Password for PROGRAMMER access will be DICPRG   passwords assigned.
Password for INFORM   access will be DICINF

There will be no DOCUMENTATION access allowed   RETURN was pressed,
                                                   nullifying that level.
Password for REPORT   access will be DICRPT

Are the passwords correct? (Y/N) >y   You can change the passwords
                                          by responding "N".
```

USER PASSWORD >                                    Again - any log-on passwords
                                                   are needed to start the final
ACCOUNT PASSWORD >LOCKIT                            initialization job which actually
                                                   creates the new dictionary.
GROUP PASSWORD >

 #J34                                              Number of the final job.

END OF PROGRAM                                     End of customization step.

FROM/<your account>/DICTINIT IS COMPLETE           The program is complete; your
                                                   dictionary is initialized.

# EXAMPLE 2

This example demonstrates how to enter your own capacities and change them after they are displayed.  As before, log on to the group and account in which you want the dictionary before starting.

```
:RUN DICTINIT.PUB.SYS                       How to execute the program.

<The Dictionary/3000 initialization program banner goes here>

Initialization/Re-initialization (I/R) >i  Select "I" to build a new
                                            dictionary.
USER PASSWORD >

ACCOUNT PASSWORD >LOCKIT                     If a user, account, or group
                                            password is required, enter
GROUP PASSWORD >                            it in response to these prompts.
 #J35

END OF PROGRAM
:
FROM/<your account>/PLEASE RUN DICTINIT.PUB.SYS,UPDATE  Informs you to run
                                            step two.
:RUN DICTINIT.PUB.SYS,UPDATE

<The Dictionary/3000 initialization program banner goes here.>

Initialization/Re-initialization (I/R) >i  Select "I" to build a new
                                            dictionary.

Dictionary capacities: Default or Provided (D/P) >p    Select "P" to enter
                                            new capacities; old
                                            ones are displayed.

DATA-ELEMENT      has capacity 1001
New capacity for  DATA-ELEMENT      > 1002

DATA-FILE         has capacity 503
New capacity for  DATA-FILE         > 504

DATA-PROCEDURE    has capacity 203
New capacity for  DATA-PROCEDURE    > 204

DATA-CATEGORY     has capacity 203
New capacity for  DATA-CATEGORY     > 204

DATA-GROUP        has capacity 503
New capacity for  DATA-GROUP        > 504
```

```
DATA-CLASS        has capacity 203
New capacity for  DATA-CLASS         > 204

DATA-LOCATION     has capacity 203
New capacity for  DATA-LOCATION      >          Pressing RETURN keeps the old
                                                capacity.
LINK-FILE         has capacity 401
New capacity for  LINK-FILE          > 402

LINK-ELEMENT      has capacity 401
New capacity for  LINK-ELEMENT       > 402

LINK-DESCRIPTION has capacity 2003
New capacity for  LINK-DESCRIPTION   > 2004

DATA-REPORTLOC    has capacity 503
New capacity for  DATA-REPORTLOC     > 504

ELEMENT-ELEMENT  has capacity 500
New capacity for  ELEMENT-ELEMENT    > 501

FILE-FILE         has capacity 250
New capacity for  FILE-FILE          > 251

PROCEDURE-PROCED has capacity 100
New capacity for  PROCEDURE-PROCED   > 101

CATEGORY-CATEGOR has capacity 100
New capacity for  CATEGORY-CATEGOR   > 101

GROUP-GROUP       has capacity 250
New capacity for  GROUP-GROUP        > 251

FILE-ELEMENT      has capacity 2000
New capacity for  FILE-ELEMENT       >

FILE-PATH         has capacity 400
New capacity for  FILE-PATH          > 401

FILE-SORT         has capacity 400
New capacity for  FILE-SORT          > 401

PROCEDURE-ELEMEN has capacity 500
New capacity for  PROCEDURE-ELEMEN   > 501

CATEGORY-ELEMENT has capacity 500
New capacity for  CATEGORY-ELEMENT   > 501

GROUP-ELEMENT     has capacity 1000
New capacity for  GROUP-ELEMENT      > 1001
```

```
CLASS-ELEMENT     has capacity 3000
New capacity for  CLASS-ELEMENT      > 3001

CLASS-FILE        has capacity 500
New capacity for  CLASS-FILE         > 501

FILE-LOCATION     has capacity 500
New capacity for  FILE-LOCATION      > 501

PROCEDURE-LOCATI  has capacity 200
New capacity for  PROCEDURE-LOCATI   > 201

DESCRIPTION-TEXT  has capacity 5000
New capacity for  DESCRIPTION-TEXT   > 5001

REPORT-LIST       has capacity 500
New capacity for  REPORT-LIST        > 501
```

```
DATA-ELEMENT      will have capacity 1002        Listing of capacities.
DATA-FILE         will have capacity 504
DATA-PROCEDURE    will have capacity 204
DATA-CATEGORY     will have capacity 204
DATA-GROUP        will have capacity 504
DATA-CLASS        will have capacity 204
DATA-LOCATION     will have capacity 203
LINK-FILE         will have capacity 402
LINK-ELEMENT      will have capacity 402
LINK-DESCRIPTION  will have capacity 2004
DATA-REPORTLOC    will have capacity 504
ELEMENT-ELEMENT   will have capacity 501
FILE-FILE         will have capacity 251
PROCEDURE-PROCED  will have capacity 101
CATEGORY-CATEGOR  will have capacity 101
GROUP-GROUP       will have capacity 251
FILE-ELEMENT      will have capacity 2000
FILE-PATH         will have capacity 401
FILE-SORT         will have capacity 401
PROCEDURE-ELEMEN  will have capacity 501
CATEGORY-ELEMENT  will have capacity 501
```

```
Press RETURN to continue >
```

```
GROUP-ELEMENT     will have capacity 1001
CLASS-ELEMENT     will have capacity 3001
CLASS-FILE        will have capacity 501
FILE-LOCATION     will have capacity 501
PROCEDURE-LOCATI  will have capacity 201
DESCRIPTION-TEXT  will have capacity 5001
REPORT-LIST       will have capacity 501
```

Are the capacities correct? (Y/N) >n   Enter "N" to change values.

Data-set name (DONE/ALL/name) >report-list   Change capacity of data
                                                set REPORT-LIST.
REPORT-LIST   has capacity 501
New capacity for REPORT-LIST   > 200

Data-set name (DONE/ALL/name) >description-text

DESCRIPTION-TEXT has capacity 5001
New capacity for DESCRIPTION-TEXT   > 5000

Data-set name (DONE/ALL/name) >done   Enter DONE to stop
                                                changing capacities.

DATA-ELEMENT   will have capacity 1002   Listing of capacities.

     .   .
     .
     .

Press RETURN to continue >

     .
     .
     .

DESCRIPTION-TEXT will have capacity 5000
REPORT-LIST   will have capacity 200

Are the capacities correct? (Y/N) >y

Password for MANAGER access >DICTMGR

Password for PROGRAMMER access >   Entering RETURN indicates that
                                          there will be no access to the
Password for INFORM access >   dictionary at these levels.

Password for DOCUMENTATION access >

Password for REPORT access >

Password for MANAGER   access will be DICTMGR   Listing of passwords
There will be no PROGRAMMER   access allowed   assigned.
There will be no INFORM   access allowed
There will be no DOCUMENTATION access allowed
There will be no REPORT   access allowed

Are the passwords correct? (Y/N) >y

USER PASSWORD >

ACCOUNT PASSWORD >LOCKIT

GROUP PASSWORD >
 #J36

END OF PROGRAM
 :

FROM/<your account>/DICTINIT IS COMPLETE   Program is complete; your
                                            dictionary is initialized.

EXAMPLE 3

This example shows a dictionary re-initialization. That is, there is already
a data-dictionary in your group, and you want to resize it and/or change the
passwords to access it.

```
:RUN DICTINIT.PUB.SYS                How to execute the program.

<The Dictionary/3000 initialization program banner goes here>

Initialization/Re-initialization (I/R) >r  Select "R" to re-initialize
                                           an existing dictionary.
USER PASSWORD >
                                     If logon passwords were used, enter
ACCOUNT PASSWORD >                   them in response to these prompts.

GROUP PASSWORD >

Dictionary store file on Tape or Disk(T/D) >d
```

The present contents of the dictionary
will be stored by DICTINIT, to be
recovered into the new dictionary when
it is created. This store file may be
quite large, and you may not have the
disk space to hold it. In this case,
you may store it to tape. Otherwise,
request DICTINIT to use a disk file,
as in this example.

```
#J46

END OF PROGRAM
:
FROM/<your account>/PLEASE RUN DICTINIT.PUB.SYS,UPDATE  End of step one.

:RUN DICTINIT.PUB.SYS,UPDATE                Execute step two.

<The Dictionary/3000 initialization program banner goes here>

Initialization/Re-initialization (I/R) >r   Select R to re-initialize.

Dictionary capacities: Default or Provided (D/P) >d   Use defaults.

DATA-ELEMENT     will have capacity 1001   Listing of capacities.
```

CATEGORY-ELEMENT will have capacity 500

Press RETURN to continue >

GROUP-ELEMENT   will have capacity 1000

    .
    .
    .

REPORT-LIST   will have capacity 500

Are the capacities correct? (Y/N) >y

Password for MANAGER access >DICTMGR   Enter passwords for the various
                                        security levels.
Password for PROGRAMMER access >

Password for INFORM access >DICINF

Password for DOCUMENTATION access >

Password for REPORT access >DICRPT

Password for MANAGER   access will be DICTMGR   Listing of
There will be no PROGRAMMER   access allowed   passwords.
Password for INFORM   access will be DICINF
There will be no DOCUMENTATION access allowed
Password for REPORT   access will be DICRPT

Are the passwords correct? (Y/N) >y

USER PASSWORD >   If log-on passwords were used,
                                   enter them in response to these
ACCOUNT PASSWORD >   prompts.

GROUP PASSWORD >

Dictionary store file on Tape or Disk(T/D) >d   Indicates a disk file;
                                                 must be answered as in
 #J50   step one.

END OF PROGRAM
 :
FROM/<your account>/DICTINIT IS COMPLETE   The program is complete;
                                               your dictionary is now
                                               re-initialized.

DICTINIT ERROR MESSAGES

The error messages are divided into three groups. The first group corresponds to step 1 (initialization). The second group corresponds to step 2 (customization). The third group corresponds to the final initialization job stream at the end of step 2, which builds your permanent dictionary.

Group 1 - Initialization Startup Errors

The error messages you might receive during the initialization startup phase (while running DICTINIT.PUB.SYS) are as follows:

YOU DO NOT HAVE BATCH ACCESS CAPABILITY

> In order to run the job streams that initialize the dictionary, the user, group, and account must all have BA capability. Consult your system or account manager.

PLEASE PURGE *file* AND RERUN DICTINIT

> *file* is one of the files MDIC, DICT, MDSCH. These files are used in the initialization process, and so cannot appear in your log-on group. You should either rename them or purge them.

DICTIONARY DATA-BASE DICT MUST EXIST TO RE-INITIALIZE

> When re-initializing, the data base file named DICT must exist in your logon group and account. Check to make sure you are in the correct group and account, then retry.

ERROR OCCURRED WRITING STREAM FILE

> This message is preceded by an MPE file system error message. Refer to the MPE 3000 Error Messages and Recovery Reference Manual. The error prevented opening, writing, or closing the stream file which will perform the batch processing. Consult your system manager.

JOB COULD NOT START - INVALID PASSWORD

> One of the passwords required for logon (account, user, or group) was either missing or incorrect. Check your passwords and respond again to the password prompts. Note that leading blanks are not allowed.

COMMAND ERROR = *nnnn*
ERROR OCCURRED STREAMING JOB

> *nnnn* is the number of a CIERR or CIWARN message. Consult the MPE 3000
> Error Messages and Recovery Reference Manual for the full text. The error
> occurred while executing a STREAM command to start the phase 1 job which
> creates the temporary dictionary. Consult your system manager.

FROM */your account/file system error message*
FROM */your account/* ERROR OCCURRED OPENING FILE MDSCH
FROM */your account/* ERROR OCCURRED WRITING FILE MDSCH
FROM */your account/* ERROR OCCURRED CLOSING FILE MDSCH

> You will receive the first line, which is an MPE file system error message
> detailing the error, and one of the next three lines, which will tell you
> what DICTINIT was trying to do at that time. MDSCH is a schema file
> describing the temporary dictionary. Consult the MPE 3000 Error Messages
> and Recovery Reference Manual to resolve the MPE error, then rerun
> DICTINIT. These messages come from the job that was invoked for you.

Group 2 - Customization Errors

The error messages you might receive during the customization phase (while
running DICTINIT.PUB.SYS,UPDATE) are as follows:

YOU DO NOT HAVE BATCH ACCESS CAPABILITY

> In order to run the job streams that initialize the dictionary, your group
> must have BA capability. Consult your system or account manager.

*DB ERROR: *IMAGE data base error message*

> This error occurs while manipulating the temporary dictionary. Consult
> your system manager if you receive one of these messages. The data base
> error message corresponds to an IMAGE error message from the DBERROR
> facility. Consult the IMAGE/3000 Reference Manual.

ERROR OCCURRED OPENING MDIC

> This is preceded by a *DB ERROR: *message*. This error may occur if phase
> two is run before the stream job from phase one completes. Wait to
> receive the message to run the UPDATE portion of DICTINIT.

ERROR IN INITIALIZING CAPACITIES FROM MDIC

This is preceded by a *DB ERROR: *message*. This occur occurs while reading
default capacities in MDIC.

ERROR IN UPDATING CAPACITIES TO MDIC

This is preceded by a *DB ERROR: *message*. The error occurs after you
respond that the capacities are correct, and the information is being
transferred.

ERROR OCCURRED CLOSING MDIC

Consult your system manager.

CAPACITY MUST BE A NUMBER
CAPACITY MUST BE LESS THAN 2,147,483,647
RESPONSE MUST BE 10 CHARACTERS OR LESS
CAPACITY MAY NOT BE ZERO

All these messages come from invalid responses to the NEW CAPACITY prompt.
(Note that the capacity should probably be MUCH less than 2,147,483,647.)

THE DATA SET NAME DOES NOT EXIST

This comes from an invalid (or misspelled) data set name in response to
the DATA-SET NAME(DONE/ALL/name) prompt.

YOU MUST ENTER A PASSWORD FOR MANAGER ACCESS

All the other security levels may be deleted by pressing RETURN in
response to the PASSWORD prompt - EXCEPT manager, which must have a
password.

PASSWORD MUST BE 8 CHARACTERS OR LESS
PASSWORD MAY NOT CONTAIN A SEMICOLON (;)

These messages are the result of invalid responses to a PASSWORD prompt.
Reenter the PASSWORD.

UNEXPECTED ERROR: MANAGER PASSWORD IS NULL,
                  PLEASE REENTER THE PASSWORDS

   Reenter all the passwords.

ERROR OCCURRED UPDATING MDIC WITH NEW SECURITY

   This is preceded by a *DB ERROR: *message*. Please consult your system
   manager before proceeding.

DISK STORE FILE MDSCH NOT FOUND

   You responded D for the re-initialization prompt for tape or disk. In
   that case, the file MDSCH must be present, and must contain the contents
   of the old data-dictionary. Either respond T if on tape, or locate MDSCH.

JOB COULD NOT START - INVALID PASSWORD

   One of the passwords required for logon (user, account, or group) was
   missing or incorrect. Check your passwords and respond again to the
   password prompts. Note that leading blanks are not allowed.

FILE ERROR: *MPE file system error message*
ERROR OCCURRED WRITING STREAM FILE

   This message is preceded by an MPE file system error message. See the MPE
   3000 Error Messages and Recovery Reference Manual. The error prevented
   opening, writing, or closing the stream file which will perform the batch
   processing. Consult your system manager.

COMMAND ERROR = *nnnn*
ERROR OCCURRED STREAMING JOB

   nnnn is the number of a CIERR or CIWARN message. Consult the MPE 3000
   Error Messages and Recovery Reference Manual for the full text. The error
   occurred while executing the STREAM command to start the phase 1 job,
   which creates the temporary dictionary. Consult your system manager.

Group 3 - Final Initialization Errors

The error messages you might receive during the final initialization job at the end of phase 2 are as follows:

FROM/*your account*/ *DB ERROR: *IMAGE data base error message*
FROM/*your account*/ ERROR OCCURRED OPENING MDIC
FROM/*your account*/ ERROR OCCURRED READING CLASS *nn*
FROM/*your account*/ ERROR OCCURRED REINITIALIZING CLASS *nn*
FROM/*your account*/ ERROR OCCURRED CLOSING MDIC

    You will receive the first line, followed by one of the next four lines. *nn* is the number of a security class entry in MDIC. Please consult your system manager before proceeding. These messages come from the job that was invoked for you.

FROM/*your account*/ *DB ERROR: *IMAGE data base error message*
FROM/*your account*/ ERROR OCCURRED OPENING DICT
FROM/*your account*/ ERROR OCCURRED INITIALIZING DIC-CONTROL
FROM/*your account*/ ERROR OCCURRED INITIALIZING DATA-GROUP
FROM/*your account*/ ERROR OCCURRED DELETING A CLASS
FROM/*your account*/ ERROR OCCURRED INITIALIZING CLASS *nn*
FROM/*your account*/ ERROR OCCURRED CLOSING DICT

    The first message will appear, followed by one of the next six (*nn* is the number of a security class). Please consult your system manager before proceeding. These messages come from the job that was invoked for you.

HOW HP INFORM/3000 LINKS
FILES TO GENERATE REPORTS

When generating reports using HP Inform/3000, the user selects the desired elements from HP Inform/3000's Data Names Menu. If the user has chosen to report from elements organized into an HP Inform/3000 group, these elements may exist in various files - MPE files, KSAM files, or IMAGE data sets. HP Inform/3000 needs to be able to link these files so that the desired lines of the report can be generated.

It is important for the data base administrator to understand how HP Inform/3000 links the various files. The linking process determines whether it is possible to generate the requested report and, if so, what specific data will be printed in the report.

Common elements (elements that exist in more than one file) are used to build links between the files which contain elements needed for the report. An element that is used in this way is called a "link element".

NOTE: An element which has been defined as a CHILD element through the RELATE ELEMENT command string can not be used as a link.

Before reading this appendix, you should read Using Commands to Define HP Inform/3000 Groups in Section III.

DIRECT LINKS

A link between two files, each of which contains the values of one or more elements needed for a report, is called a "direct link".

When two files are linked, the value of the link element is retrieved from the first file and is used to determine the correct record to retrieve from the second file. If the link is *from* an IMAGE master set, IMAGE detail set, KSAM file, or MPE file *to* an MPE file, the link element must simply exist in both files; if the file you are linking *to*, however, is an IMAGE master, IMAGE detail, or KSAM file, there are additional requirements on the link element. These are:

(1) If the file you are linking to is a KSAM file, the link element must be a common element (must exist in both files) and must be a *key* item in the KSAM file. Note that when the link is from a KSAM file to another KSAM file, the link element need only be a key item in the second file accessed.

(2) If the file you are linking to is an IMAGE detail set, the link element must be a common element and must be a *search* item in the detail set. These are the only requirements even when the link is from one data base to another. Note that when the link is from a detail set to another detail set, the link element need only be a search item in the second file accessed.

(3) If the file you are linking to is an IMAGE master set, the link element must be a common element and must be a *search* item in the master set. These are the only requirements even when the link is from one data base to another. Note that when the link is from a master set to another master set, the link element need only be a search item in the second file accessed. (There are two additional ways that a data set can be linked to a master set as long as the link is within one data base; these are explained below under Indirect Links.)

The following table summarizes the above requirements for direct links according to what type of file is being linked *to*. Note that the file you are linking *from* can be any type - MPE, KSAM, IMAGE detail, or IMAGE master.

FILE BEING LINKED *TO*	REQUIREMENT ON LINK ELEMENT
MPE	Common element.
KSAM	Common element which is a *key* item in the KSAM file being linked to.
DETAIL	Common element which is a *search* item in the DETAIL data set being linked to.
MASTER	Common element which is a *search* item in the MASTER data set being linked to.

EXAMPLE 1 at the end of this appendix demonstrates direct links from an MPE file to a KSAM file and from an MPE file to an IMAGE detail set.

INDIRECT LINKS

If two files containing elements needed for a report are linked through other files which contain no elements needed for the report, the link is called an "indirect link". There are only two indirect links which HP Inform/3000 allows and both apply only to data sets within the same data base. These links are the following:

(1) If a master set needs to be linked to another master, a link can be made by going through a detail which has a search item in common with each of the masters. For example, assume the following is a partial representation of a data base:

ZONING-MASTER   CITY-MASTER

```
  \*zoning-code/                  \*city-abbr /
   \zoning-des/                    \city-name/
      .                                .
      .                                .
      .                                .
       \/                              \/
              COMMERCIAL
          \   *zoning-code   /
           \  *city-abbr    /
              .
              .
              .
```

                              * search item

Suppose the report requests the data element "zoning-des" from the master set ZONING-MASTER and the data element "city-name" from the master set CITY-MASTER. An indirect link can be made by going through the detail set COMMERCIAL. The master set ZONING-MASTER has the search item "zoning-code" which forms an IMAGE path to the detail set COMMERCIAL, and the master set CITY-MASTER has the search item "city-abbr" which also forms an IMAGE path to COMMERCIAL.

(2) If a detail set needs to be linked to a master set, a link can be made by going through a second detail which has a search item in common with the first detail (forming IMAGE paths to a common master) and a second search item forming an IMAGE path to the desired master. For example, assume the following is a partial representation of a data base:

```
        LIST-PRICE-MSTR                      CITY-MASTER
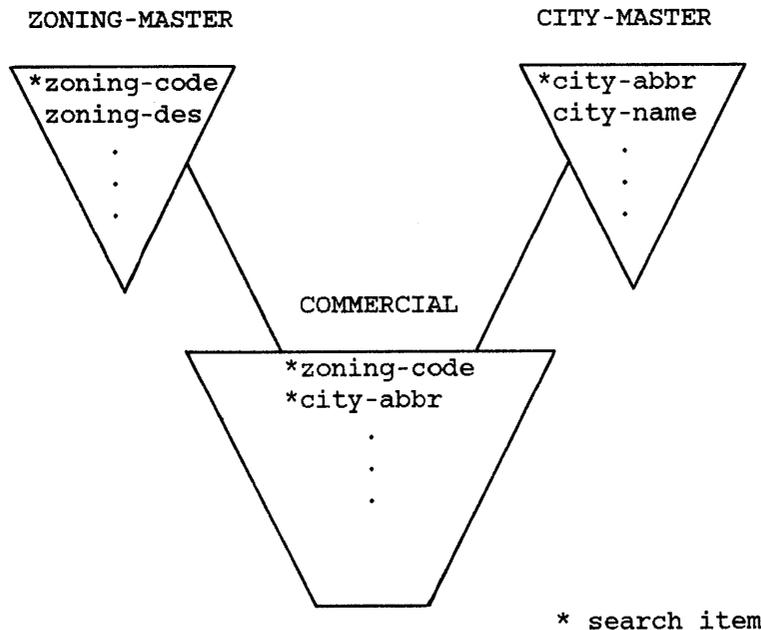
        ╲ *list-price ╱                      ╲ *city-abbr  ╱
         ╲     .     ╱                        ╲ city-name ╱
          ╲    .    ╱                          ╲    .    ╱
           ╲   .   ╱                            ╲   .   ╱
            ╲     ╱                              ╲  .  ╱
                                                 ╲   ╱

  COMMERCIAL                      RESIDENTIAL

  ╱ *list-price ╲                 ╱ *city-abbr  ╲
 ╱  occupied     ╲               ╱  *list-price  ╲
╱       .         ╲             ╱       .         ╲
 ╲      .        ╱               ╲      .        ╱
  ╲     .       ╱                 ╲     .       ╱
   ╲          ╱                    ╲          ╱
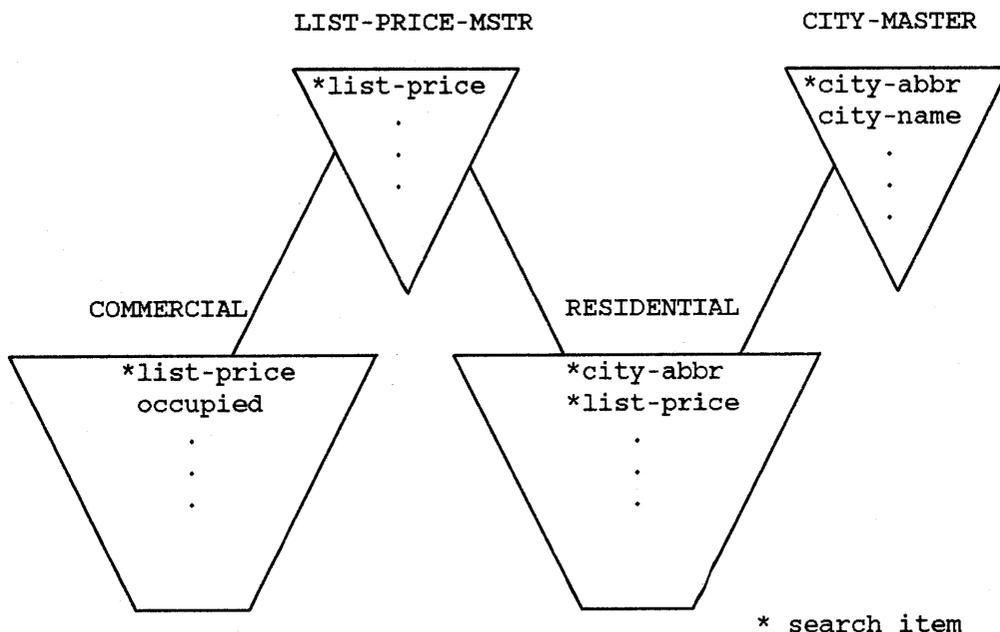
                                      * search item
```

Suppose the report requests the data element "occupied" from the detail set COMMERCIAL and the data element "city-name" from the master set CITY-MASTER. An indirect link can be formed by going through the detail set RESIDENTIAL. The detail set COMMERCIAL and the detail set RESIDENTIAL both have the search item "list-price" (which forms IMAGE paths to the common master set LIST-PRICE-MSTR); the detail set RESIDENTIAL has a second search item "city-abbr" which forms an IMAGE path to the master set CITY-MASTER.

As stated earlier, these are the only two indirect links which HP Inform/3000 allows and both apply only to data sets within one data base.

THE DRIVING FILE

The driving file is the file that is accessed first. Since at least one line
of the report will be generated for each record retrieved from the driving
file, the contents of a report could be quite different if the driving file
is different. Files which meet the following criteria are considered:

> (1) the file must contain an element having a positive link value (greater
> than zero) which may or may not be included in the report, and

> (2) the file must contain an element to be included in the report.

One, none, or more than one file might meet these two criteria:

> (a) If only one file meets these two criteria, then it will be chosen as
> the driving file.

> (b) If no files meet these two criteria, then files which contain an
> element to be included in the report are considered in the following
> order:

> > MPE files
> > KSAM files
> > IMAGE detail data sets
> > IMAGE master data sets

> If more than one file exists in the highest possible category, the file
> with the most elements to be included in the report is chosen as the
> driving file. If there are two such files or more, one of them is
> arbitrarily chosen.

> NOTE: The driving file will always be read serially. It is
> desirable to use an MPE file as the driving file whenever
> there is one which contains an element to be included in
> the report; this is because HP Inform/3000 must perform a
> serial read every time it accesses an MPE file to retrieve
> a value for a line of the report. If the MPE file is the
> driving file, this serial read is done only once; if it is
> not, then a serial read is done for each value of the
> element used to link to the MPE file. This is not true for
> KSAM files or IMAGE data sets.

> (c) If more than one file meets these two criteria, the file which has the
> highest priority link value specified (lowest positive integer) is
> chosen as the driving file. If more than one of these files has the
> highest priority link value, then the driving file is chosen from among
> them as in case (b) above.

Hence, to ensure that a particular file is the driving file whenever an element which exists in that file is requested for a report, add an element from that file to the group, specify the name of that file in response to the FILE prompt, and specify a positive link value in response to the VALUE AS A LINK prompt. The element used should be one which allows HP Inform/3000 to link directly with other files to obtain as many elements from the group as possible. The file you choose to specify in this manner should:

(1) be an MPE file (see the NOTE earlier) if the group contains elements which only exist in that file or if the MPE file is needed by HP Inform/3000 to link directly to other files;

(2) contain the appropriate subset of data desired for reports which will be generated from that group.

If more than one file satisfies (1) or (2), specify a link value of 1 for the file that contains the greatest number of elements from the group, 2 for the file that contains the next greatest number of elements from the group, and so on.

Note that the more specific or limited a group is (that is, the less varied the kinds of reports that will be generated from it are), the more likely it is that a file which meets (2), above, can be specified.

EXAMPLE 1 at the end of this appendix demonstrates choosing a file which meets (1), above. EXAMPLE 2 demonstrates choosing a file which meets (2), above.

LINKING FILES

All elements in a group that have been assigned a positive link value form a prioritized list for use by HP Inform/3000's access algorithm when linking files. Elements which have been added to a group which will not be displayed on HP Inform/3000's Data Names Menu are included in this list if they have been assigned a positive link value. The following steps outline how HP Inform/3000 links files. If, at any particular step, all files containing elements needed for the report are linked, the steps which follow that one do not occur.

(1) HP Inform/3000 first tries to use the element in the group with the highest priority link value (lowest positive integer) to directly link the driving file with any other files containing elements needed for the report.

(2) HP Inform/3000 next tries to use the element in the group with the second highest priority link value to directly link those files linked in step (1) - that is, the driving file and any files which were successfully linked to it - with any other files containing elements needed for the report.

(3) Next, the element in the group with the next highest priority link value is used to try to directly link those files linked in steps (1) and (2) with any other files containing elements needed for the report; and so on, until the prioritized list of elements with a positive link value is exhausted.

(4) HP Inform/3000 next tries to use elements in the group with a link value of zero (the default) to directly link those files linked in steps (1), (2), and (3) with any other files containing elements needed for the report. The elements with a link value of zero are tried in an arbitrary order.

(5) If all the files have still not been linked successfully, HP Inform/3000 tries to use elements which are not in the group to directly link any of the files linked in steps (1), (2), (3), and (4) with any of the remaining files. As always, a direct link is successful if the element exists in both files and if any additional requirements on the file being linked *to* are met (see "Direct Links" earlier in this appendix).

(6) If still no link can be made and if the files HP Inform/3000 is attempting to link are IMAGE data sets, HP Inform/3000 will try the two allowable indirect links. If this fails to link all the needed files, the report can not be generated and the HP Inform/3000 user will receive an error message.

DEFAULT FILE ACCESS

HP Inform/3000 provides defaults designed to maximize performance of the file accesses necessary during report production. One such default, which was explained in the discussion on the driving file, is that an MPE file will be used as the driving file whenever possible. In addition, if file names (in response to the FILE prompt) and link values that override the defaults have not been specified, HP Inform/3000 will try to follow these guidelines:

- Involve as few files as possible in the access.

- Access a KSAM file in preference to a data base (since there is less overhead involved).

- Open as few data bases as possible.

- Use master data sets whenever possible (since they will need to be accessed only once per key value, while detail data sets and KSAM files may require several accesses per key value).

Note that by specifying a file name in response to the FILE prompt, HP Inform/3000's access algorithm may not work efficiently and possibly not at all. It is best to not specify a file name in response to the FILE prompt unless necessary to ensure that the correct values of an element are retrieved. If a file name is specified when it is not necessary to do so, it is possible that more files will be accessed than HP Inform/3000 would otherwise access. In the worst case, it may result in HP Inform/3000 being unable to create a link - when there is no link element to the designated file.

HP Inform/3000 uses link elements to accomplish the above goals; the link elements are used in the order which produces maximum performance. The use of link values assigned to elements allows you to override this - to control which elements are tried to link files and in what order. However, the ability of HP Inform/3000 to maximize performance may be hampered by the improper use of link values.

EXAMPLE 1

Assume the following files:

SALESTAT (KSAM file)	WARRANTY (MPE file)	INVENTORY (IMAGE detail)
del-flag	account	*prod-no
account (KEY)	owner	*ship-date backorderflg unit-cost
address	prod-no	
	descrip	
ytd-sales	total	
sales-rep	ship-date	
owner	wrnty-no	

Suppose we wish to create a group called ACCOUNT ORDERS. The purpose of the
ACCOUNT ORDERS group is to generate reports about the orders of each account.
The group consists of the data elements:

        account
        address
        owner
        prod-no
        unit-cost

By accessing the files SALESTAT and INVENTORY, we could obtain all the
elements in the group; however, it is not possible to link these two files
since there is no element which exists in both of them. The MPE file,
however, also contains elements from the group and, in particular, contains
the element "account" which exists in the KSAM file and which is a key item
in the KSAM file; hence a direct link can be made from WARRANTY to SALESTAT.
In addition, the MPE file contains two elements ("prod-no" and "ship-date")

which also exist in the IMAGE detail set and which are search items in the IMAGE detail; hence a direct link can be made from WARRANTY to INVENTORY.

Since the MPE file allows us to directly link to the two other files and since it is preferable to access an MPE file first, we want to make the MPE file the driving file. To accomplish this, we need to specify the file name WARRANTY in response to the FILE prompt and a link value of 1 in response to the VALUE AS A LINK prompt when adding an element from the file WARRANTY to the group. We would like to pick an element which will allow HP Inform/3000 to link WARRANTY directly with other files to retrieve as many elements from the group as possible.

The elements "account", "prod-no", and "ship-date" are our three possibilities. Since "ship-date" is not in the group, we will use "account" or "prod-no". The data element "account" links WARRANTY and SALESTAT, where "address" can be retrieved; the data element "prod-no" links WARRANTY and INVENTORY, where "unit-cost" can be retrieved. (Note that the values for "account", "owner", and "prod-no" will all be retrieved from the MPE file since it is accessed first.) Since both data elements allow us to link to one other file where one required element can be retrieved, it does not matter which one we use.

After linking WARRANTY with SALESTAT through the element "account", HP Inform/3000 will try to use the element in the group with the next highest priority link value to directly link WARRANTY or SALESTAT with INVENTORY - assuming "prod-no" or "unit-cost" was requested for the report. To make this most efficient, we can give "prod-no" a link value of 2.

Thus, we could add elements to the ACCOUNT ORDERS group as follows:

```
>ADD GROUP

                    GROUP> account orders       <

                 ELEMENT> unit-cost             <
           ELEMENT ALIAS> cost of unit          <
                    FILE>!                       <

                 ELEMENT> address               <
           ELEMENT ALIAS> !                      <

                 ELEMENT> owner                 <
           ELEMENT ALIAS> !                      <

                 ELEMENT> account               <
           ELEMENT ALIAS>                        <
                    FILE> warranty              <
           VALUE AS A LINK> 1     <
DISPLAY ELEMENT ON MENU (Y/N)?>!

                 ELEMENT> prod-no               <
           ELEMENT ALIAS> product number        <
                    FILE>                        <
           VALUE AS A LINK> 2     <
DISPLAY ELEMENT ON MENU (Y/N)?>!

                 ELEMENT>                        <
```

EXAMPLE 2

Assume the following data base:

```
    LOCATION    BORROWER    CALL-NO    SUBJECT     AUTHOR      TITLE
  \*branch  /  \*borrower\  \*call-no/\*subject/  \*author  /  \*title  /
   \city   /    \phone  /    \      /           \        /    \       /
    \     /      \     /      \    /             \      /      \     /
     \   /        \   /        \  /               \    /        \   /
      \ /          \ /   CATALOG \/                \  / BOOK      \ /
       V            \              \                \ /            V
                     \    *call-no  \                \   *title   /
                      \   *borrower  \                \  *author  /
                       \   bor-date   \                \ *subject/
                        \  *branch     \                \*call-no/
                         \              \                \pub-date/
                          \              \                \publisher/
                           _____\                _____/
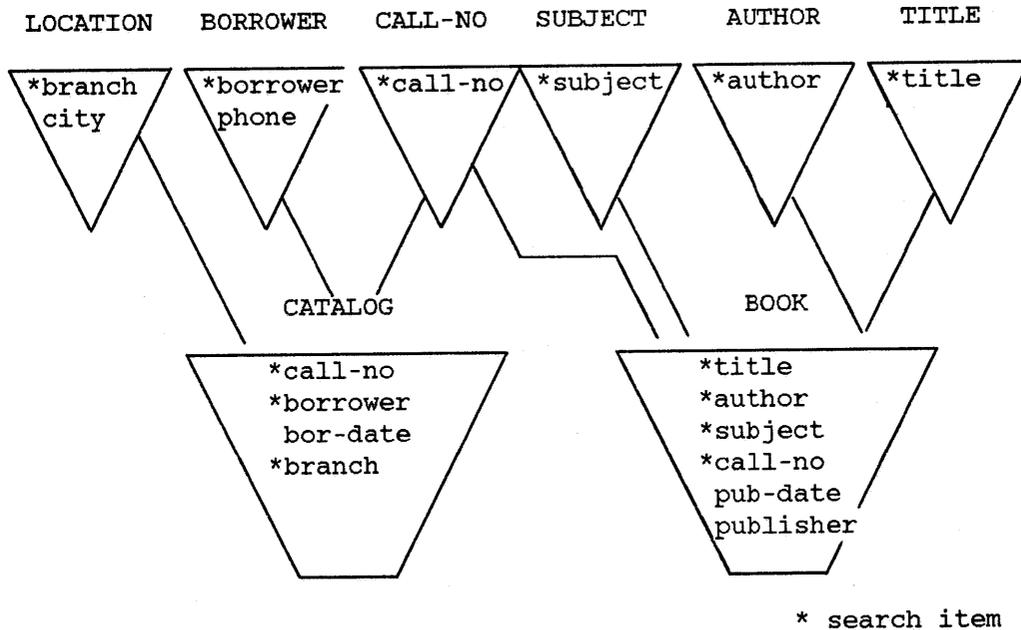
                                              * search item
```

Suppose we wish to create a group called BOOKS OUT. The purpose of the BOOKS OUT group is to generate reports about books that are checked out of the library. The group consists of the data elements:

        title
        author
        call-no
        borrower
        phone

Since the purpose of the BOOKS OUT group is to report on books that are checked out, it makes sense to access the detail set CATALOG as the first file; since CATALOG has only one entry for every book checked out, there will be at least one line of the report for each book that is checked out of the library. That is, CATALOG contains the appropriate subset of data which is desired for reports which will be generated from the BOOKS OUT group. BOOK, TITLE, and CALL-NO, on the other hand, have one entry for each book in the library; if one of these files is the first file accessed, there will be at

least one line of the report for every book in the library. Accessing
BORROWER or AUTHOR as the first file would also not be satisfactory, since
BORROWER has one entry for each person registered to check out books from the
library and AUTHOR has one entry for each author. (SUBJECT and LOCATION are
not considered since they do not contain any elements from the group.)

To make CATALOG the driving file, we need to specify the file name CATALOG in
response to the FILE prompt and a link value of 1 in response to the VALUE AS
A LINK prompt when adding an element from the file CATALOG to the group. We
would like to pick an element which will allow HP Inform/3000 to link CATALOG
directly with other files to retrieve as many elements from the group as
possible. The elements "call-no" and "borrower" are our two possibilities
since they are search items. The data element "call-no" links CATALOG and
BOOK, where "title" and "author" can be retrieved; the data element
"borrower" links CATALOG and BORROWER, where only "phone" can be retrieved.
Hence, we pick the element "call-no".

After linking CATALOG and BOOK through the element "call-no", HP Inform/3000
will try to use the element in the group with the next highest priority link
value to directly link CATALOG or BOOK with BORROWER - assuming "phone" was
requested for the report. To make this most efficient, we can give
"borrower" a link value of 2.

Thus, we could add elements to the BOOKS OUT group as follows:

```
>ADD GROUP

                GROUP> books out              <

             ELEMENT> title                   <
       ELEMENT ALIAS> !                        <

             ELEMENT> author                  <
       ELEMENT ALIAS> !                        <

             ELEMENT> phone                   <
       ELEMENT ALIAS> phone number            <
                FILE> !                        <

             ELEMENT> call-no                 <
       ELEMENT ALIAS> call number             <
                FILE> catalog                 <
     VALUE AS A LINK> 1      <
DISPLAY ELEMENT ON MENU (Y/N)?>!

             ELEMENT> borrower                <
       ELEMENT ALIAS>                          <
                FILE>                          <
     VALUE AS A LINK> 2      <
DISPLAY ELEMENT ON MENU (Y/N)?>!

             ELEMENT>                          <
```

GLOSSARY
OF TERMS

You should be familiar with the terms defined in this appendix in order to
use Dictionary/3000.

DICTIONARY/3000 TERMS

access capability -
>   The type of access to be given to a user security class for a file or
>   element, as follows:

>   R - allows the user identified by the security class to locate and read
>   a file or an element;

>   U - allows the user identified by the security clas to read and update
>   values in a file or an element, except search or sort elements;

>   M - allows the user identified by the security class to read, update,
>   add to, and delete from a file or an element;

>   X - allows only the creator to access the data set or data element;

account -
>   The name of an MPE account.   (See the MPE Commands Reference manual.)

alias -
>   An optional name you assign to an already defined entity for local use
>   in programs, groups, and files.

association -
>   Ties together unlike entities such as an element and and a file.

AUTO -
>   An IMAGE automatic master data set which contains only one data item -
>   the search item - and is related to one or more IMAGE detail data sets.

BASE -
>   An IMAGE data base, consisting of master data sets and/or detail data
>   sets.

blocking factor -
>   The number of records per block; a block is the smallest unit of data
>   transferred by the file system.

byte position -
>   The starting position for a data element within a parent data element.

category -
>   The name used to identify the natural relationships within an
>   organization or a business.

child -
>   An entity which is subordinately related to another entity of the same
>   type, such as:

CHILD CATEGORY - a category that is subordinately related to another category;

CHILD ELEMENT - a data element that is subordinately related to another data element;

CHILD FILE - a file that is subordinately related to another file;

CHILD GROUP - a group that is subordinately related to another group;

class -
A numeric value which can be assigned to data elements for the purpose of defining who may or may not access the file.

class-file -
A data dictionary entity to which data files can be assigned in order to define who may or may not have access to those files.

count -
The numeric value used to identify the number of sub-elements in a compound element.

decimal -
The number of decimal digits to allow for a numeric type data element.

DETL -
An IMAGE detail data set.

direct link -
A link between two files, where each file contains the values of one or more elements needed by HP Inform/3000 for a report.

driving file - .
The file that HP Inform/3000 accesses first when linking files in order to generate a report; one line of the report is generated for each record retrieved from the driving file.

edit mask -
Text used to edit the value of data elements before displaying them.

element -
The smallest accessible unit of data in a data base or file; the same as an 'item' in IMAGE/3000.

entry text -
The textual information used by HP Inform/3000, Report/3000, and Transact/3000 when prompting for input; if no entry text has been specified, the primary name is used in the prompt.

file -
> A collection of logically related data elements; may be an IMAGE data base or set, or a KSAM, MPE, or VPLUS file.

file-loc -
> A data dictionary entity used to document the physical location of a file.

file size -
> The maximum number of records a file is allows to contain.

form-
> The name used to identify a form for a VPLUS forms file.

GROUP -
> A collection of data elements in the data dictionary, established for the users of HP Inform/3000.

heading text -
> The textual heading used by HP Inform/3000, Report/3000, and Transact/3000 for labeling data elements in reports; if no heading text has been specified, the primary name is used.

indirect link -
> A link between two files, each containing elements needed by HP Inform/3000 for a report, which is formed by linking through one or more other files which do not contain elements needed for the report.

key element -
> Used to identify a data element which is the key in a KSAM file.

KSAM -
> Refers to a KSAM file. (See the KSAM/3000 Reference Manual.)

language -
> The name of the implementation language used to write a program, procedure, or subroutine.

level -
> The identifying number used to identify the position of an entity within the hierarchical structure established with the RELATE command; 1 is the top of the structure.

link value -
> A -1, 0, or positive integer assigned to a data element which is used to specify which elements should preferably be selected by HP Inform/3000 to link the desired elements into a logical record for reporting.

location -
   A data dictionary entity which is used to document the physical location
   of data.

lockword -
   Used to provide access to an MPE or KSAM file. (See the MPE Commands
   Reference Manual.)

long name -
   A fuller textual name used to identify an entity.

MAST -
   An IMAGE manual master data set.

measurement units -
   Identifies the unit of measure of a data element, such as days, lbs.,
   etc.

MPEF -
   An MPE file.

parent -
   The name of an entity in a hierarchical structure which owns child
   entities.

password -
   Used to provide access to a file through a security system; also,
   dictionary password - allows a certain level access to a data
   dictionary.

primary -
   The name given an entity when it is first created in the data
   dictionary; as opposed to an alias.

procedure -
   The name used to identify a system, program, or routine which is
   recorded in the data dictionary.

procedure-loc
   A data dictionary entity which is used to document the physical location
   of a procedure.

relationship -
   Ties together like entities such as a child file and a parent file.

responsibility -
   The name of the person, area, or department that is responsible for the
   integrity of an entity.

RETURN -
    A carriage return/line feed.

search element -
    Used to identify an element which is a search item in an IMAGE master or
    detail data set.

type -
    The attribute for a data element (X, I, etc.), file type for a file
    (VPLS, MAST, KSAM, etc.), or a user-definable 4-character definition for
    other entities.

VPLS -
    Refers to a VPLUS form file.

The following chart indicates the order in which the data dictionary commands can be used.

```
                        ┌──────────┐
                        │  CREATE  │
                        └────┬─────┘
            ┌────────────────┼────────────────┐
        ┌───┴───┐            │            ┌────┴─────┐
        │  ADD  │            │            │  RELATE  │
        └───┬───┘            │            └────┬─────┘
            │                │                 │
    ┌───────┴──────┐   ┌─────┴──────┐   ┌──────┴──────┐
    │ REPORT       │   │ REPORT     │   │ SHOW        │
    │ SHOW         │   │ DISPLAY    │   │             │
    │              │   │ LIST       │   │             │
    │              │   │            │   │             │
    │ RESEQUENCE   │   │ RENAME     │   │ REORDER     │
    │              │   │            │   │             │
    │ UPDATE       │   │ MODIFY     │   │ CHANGE      │
    │              │   │            │   │             │
    │ DELETE       │   │ PURGE      │   │ REMOVE      │
    │              │   │            │   │             │
    │ SECURE       │   │            │   │             │
    └──────────────┘   └────────────┘   └─────────────┘
```

COMMAND/SUB-COMMAND GUIDE

This is a quick reference guide for each command which shows what sub-commands can be used and what the command/sub-command does.

ADD

CATEGORY	- adds a data element to a category
CLASS	- adds a data element to a user security class
CLASS-FILE	- adds a file to a user security class
FILE	- adds a data element to a file
FILE-LOC	- adds a file to a physical location
GROUP	- adds a data element to an HP Inform/3000 group
PROCEDURE	- adds a data element to a procedure
PROCEDURE-LOC	- adds a procedure to a physical location

CHANGE

CATEGORY	- changes a category to category description
ELEMENT	- changes an element to element entry and/or description
FILE	- changes a file to file entry and/or description
GROUP	- changes an HP Inform/3000 group to group description
PROCEDURE	- changes a procedure to procedure description

CREATE

CATEGORY	- creates a new category
CLASS	- creates a new user security class
ELEMENT	- creates a new data element
FILE	- creates a new file
GROUP	- creates a new HP Inform/3000 group
LOCATION	- creates a new physical location
PROCEDURE	- creates a new procedure

DELETE

CATEGORY	- deletes an element to category association
CLASS	- deletes an element to class association
CLASS-FILE	- deletes a file to class association
FILE	- deletes an element to file association
FILE-LOC	- deletes a file to location association
GROUP	- deletes an element to HP Inform/3000 group association
PROCEDURE	- deletes an element to procedure association
PROCEDURE-LOC	- deletes a procedure to location association

DISPLAY

CATEGORY   - displays attribute information for a category plus all
                  the directly related categories
CLASS   - displays attribute information for a user security class
ELEMENT   - displays attribute information for an element plus the
                  directly associated and/or directly related entities
FILE   - displays attribute information for a file plus the
                  directly associated and/or directly related entities
GROUP   - displays attribute information for an HP Inform/3000
                  group plus the directly related entities
LOCATION   - displays attribute information for a physical location
PROCEDURE   - displays attribute information for a procedure plus the
                  directly associated and/or directly related entities

HELP

Provides brief description of any command and its sub-categories. HELP
sub-categories are DICTDBM command names.

LIST

CATEGORY   - lists the categories
CLASS   - lists the security classes
ELEMENT   - lists the data elements
FILE   - lists the files
GROUP   - lists the HP Inform/3000 groups
LOCATION   - lists the physical locations
PROCEDURE   - lists the procedures

MODIFY

CATEGORY   - modifies a category
CLASS   - modifies a security class
ELEMENT   - modifies a data element
FILE   - modifies a file
GROUP   - modifies an HP Inform/3000 group
LOCATION   - modifies a physical location
PROCEDURE   - modifies a procedure

PURGE

CATEGORY   - purges the category and all references to it
CLASS   - purges the security class and all references to it
ELEMENT   - purges the data element and all references to it
FILE   - purges the file and all references to it, with the option to
                  purge related files and associated elements.
GROUP   - purges the HP Inform/3000 group and all references to it
LOCATION   - purges the location and all references to it
PROCEDURE   - purges the procedure and all references to it

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RELATE

CATEGORY	- relates a category to a category
ELEMENT	- relates a data element to a data element
FILE	- relates a file to a file
GROUP	- relates an HP Inform/3000 group to a group
PROCEDURE	- relates a procedure to a procedure

REMOVE

CATEGORY	- removes the relationship between a child and a parent category
ELEMENT	- removes the relationship between a child and a parent element
FILE	- removes the relationship between a child and a parent file
GROUP	- removes the relationship between a child and a parent HP Inform/3000 group
PROCEDURE	- removes the relationship between a child and a parent procedure

RENAME

CATEGORY	- renames an existing category
CLASS	- changes the existing identifying number of a security class
ELEMENT	- renames an existing data element
FILE	- renames an existing file
GROUP	- renames an existing HP Inform/3000 group
LOCATION	- renames an existing physical location
PROCEDURE	- renames an existing procedure

REORDER

CATEGORY	- reorders a child category within a parent category's entry list
ELEMENT	- reorders a child data element within a parent data element's entry list
FILE	- reorders a child file within a parent file's entry list
GROUP	- reorders a child HP Inform/3000 group within a parent group's entry list
PROCEDURE	- reorders a child procedure within a parent procedure's entry list

REPORT

CATEGORY	- reports all the data elements associated with a category or with related child categories
CLASS	- reports all the data elements associated with a security class
ELEMENT	- reports all the data elements defined in the dictionary
FILE	- reports all the data elements associated with a file or with related child files
GROUP	- reports all the data elements associated with an HP Inform/3000 group or with related child groups
PROCEDURE	- reports all the data elements associated with a procedure or with related child procedures, including any owned by the named procedure

RESEQUENCE

CATEGORY	- resequences a data element within a category
CLASS	- resequences a data element within a security class
FILE	- resequences a data element within a file
GROUP	- resequences a data element within an HP Inform/3000 group
PROCEDURE	- resequences a data element within a procedure

SECURE

FILE	- secures all data elements in a file to one user security class

SHOW

CATEGORY	- shows all the relationships for a category plus associated data elements where applicable
CLASS	- shows all the associations for a user security class
ELEMENT	- shows all the relationships for a data element
FILE	- shows all the relationships and links for a file plus associated data elements where applicable
GROUP	- shows all the relationships for an HP Inform/3000 group plus associated data elements where applicable and access information for the group
LOCATION	- shows all the associations for a location
PROCEDURE	- shows all the relationships for a procedure plus associated data elements where applicable

UPDATE

CATEGORY	- updates a data element to a category association
CLASS	- updates a data element to a user security class association
CLASS-FILE	- updates a file to a user security class association
FILE	- updates a data element to a file association
FILE-LOC	- updates a file to a location association
GROUP	- updates a data element to an HP Inform/3000 group association
PROCEDURE	- updates a data element to a procedure association
PROCEDURE-LOC	- updates a procedure to a location association

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R

READER COMMENT SHEET

HP 3000 Computer System

DICTIONARY/3000

Reference Manual

32244-90001   Nov 1982

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MANUAL UPDATE

MANUAL IDENTIFICATION	UPDATE IDENTIFICATION

MANUAL IDENTIFICATION

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THE PURPOSE OF THIS MANUAL UPDATE

is to accumulate all changes to the current edition of the manual. Earlier updates, if any, are contained herein. This update consists of: this cover letter, a revised "List of Effective Pages," and all new and changed pages (backup pages are provided when necessary).

CHANGED PAGES ARE IDENTIFIED

by the date of the update at the bottom of the page and a vertical bar in the outside margin opposite the changed material.

NEW PAGES ARE IDENTIFIED

by the date of the update at the bottom of the page. "New" pages are those which were not present in the original edition of the manual.

TO UPDATE YOUR MANUAL,

replace change pages with the update pages and insert any new pages. Destroy all replaced pages.

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