



SUPPLEMENTAL

MANUAL

(Version 3.1)

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REtrieval of census DATa for small Areas by Microcomputer

(REDATAM)

Version 3.1 (31 March 1988)

SUPPLEMENTAL MANUAL

(Supplement to the User's Manual
and the Database Generation Manual)

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TABLE OF CONTENTS

| | |
|---|----|
| 1. INTRODUCTION | 1 |
| 1.1 How to use the REDATAM Manuals. | 2 |
| 2. GENERAL TOPICS | 4 |
| 2.1 Accessing REDATAM. | 4 |
| 2.2 Environmental Parameters Menu. | 4 |
| 2.2.1 User Parameters. | 6 |
| 2.2.2 System Parameters. | 6 |
| 2.2.3 Environmental Parameter Checking. | 7 |
| 2.3 Main Menu. | 8 |
| 2.4 Function Keys. | 9 |
| 2.4.1 In the Statistical Processor. | 10 |
| 2.4.2 In the REVIEW command. | 10 |
| 2.5 Sensitive Help. | 10 |
| 3. STATISTICAL PROCESSOR | 11 |
| 3.1 Process identification in the listing (new). | 11 |
| 3.2 Batch Processing (new). | 11 |
| 3.3 Usage of decimal variables (new). | 12 |
| 3.4 Process Status (new). | 13 |
| 3.5 CASES command (new). | 14 |
| 3.6 COMMANDS command (new). | 15 |
| 3.7 DICTIONARY command (new). | 16 |
| 3.8 ENDHP command. | 17 |
| 3.9 EXIT command. | 18 |
| 3.10 GEOGRAPHY command. | 19 |
| 3.11 Composed IF command (new). | 21 |
| 3.12 LOAD command. | 23 |
| 3.13 PROCESS command. | 25 |
| 3.14 RECODE command. | 26 |
| 3.15 REVIEW command. | 27 |
| 3.16 SAMPLE command (new). | 29 |
| 3.17 SAVE command. | 30 |
| 3.18 SHELL command (new). | 32 |
| 3.19 VALUE LABEL command. | 33 |
| 3.20 VIEW command. | 34 |
| 3.21 WEIGHT command. | 35 |
| 4. GEOGRAPHIC SELECTION | 36 |
| 4.1 Area Selection. | 36 |
| 4.2 Geographic definition menu. | 36 |
| 4.2.1 "Walking" method. | 36 |
| 4.2.2 Additional selection technique (new). | 37 |
| 4.3 Number of observations in the selection file (new). | 39 |
| 4.4 Display Geography (new). | 40 |
| 4.4.1 Minimum geographical level for display. | 41 |
| 4.4.2 Geographical code for selection. | 41 |

| | |
|---|----|
| 4.5 Geographical selection from an external file (new). | 41 |
| 5. DATA DICTIONARY | 44 |
| 5.1 Variable insertion (new). | 44 |
| 5.2 Variable deletion (new). | 44 |
| 5.3 Variable codes deletion (new). | 44 |
| 5.4 Find variables (new). | 44 |
| 5.5 Decimal variables (new). | 45 |
| 5.6 Out of Range value (new). | 45 |
| 5.7 Variables with negative values. | 45 |
| 5.8 Password protection module (new). | 46 |
| 5.8.1 Password. | 47 |
| 5.8.2 Dictionary Update. | 47 |
| 5.8.3 Database Update | 47 |
| 5.8.4 Minimum geographical level. | 47 |
| 5.8.5 Minimum number of cases. | 48 |
| 6. MANAGEMENT FUNCTIONS | 49 |
| 6.1 Geography names update (new). | 49 |
| 6.2 Automatic load. | 50 |
| 6.3 Manual load. | 50 |
| 6.3.1 Data Files Generation. | 51 |
| 6.3.2 Hierarchical File Generation. | 52 |
| 6.3.3 Index Generation. | 52 |
| 6.4 Database creation piece by piece (new). | 52 |
| 6.5 Files with only one record type (new). | 53 |
| 6.6 Variables with alphanumeric values. | 53 |
| APPENDIX A - SYSTEM INSTALLATION AND TESTING | 54 |
| APPENDIX B - TUTORIAL | 56 |
| APPENDIX C - SYSTEM LIMITATIONS | 57 |
| APPENDIX D - ERROR MESSAGES | 59 |
| APPENDIX E - FOR VERSION 2.00 USERS | 61 |
| APPENDIX F - REDATAM FILES | 63 |
| INDEX | 65 |

Chapter 1. INTRODUCTION

This manual is a supplement to the REDATAM User's Manual 1/ and the REDATAM Database Generation Manual 2/, intended to document the new facilities of the system's version 3.1, as well as some necessary changes that were introduced in order to make the system more dynamic and user friendly.

It is not our intention here to redescribe again the whole REDATAM system, but only the changes from version 2.00 and the new facilities implemented. For the remainder, the other manuals are still valid.

The new version is totally compatible with the databases created under the previous versions of the system. The need to develop the new version came from the fact that many users asked for new facilities, like the processing of decimal variables, database protection to insure statistical data security, batch processing, and geographic selection using external files. At the same time, some changes were introduced in the system's menus, the Geographic Selection has new implementations (geography display, recording of number of cases, global selection), new instructions in the Statistical Processor (CASES, the composed IF, SAMPLE, SHELL), and generally, a complete standardization of formats, functions and command keys.

The management functions were also redesigned, increasing its database generation power, such as the generation of databases in parts, data concatenation, and the update of geographic area names.

This manual is divided into 6 chapters, 6 appendices and an index. The two initial chapters serve as an introduction and to describe the general changes of the new version. The other four chapters are dedicated, respectively, to the system's four main functions.

All the references in this supplement correspond to items and topics of the supplement itself, unless one of above mentioned, already published manuals is explicitly indicated.

1/ CELADE, REDATAM USER'S MANUAL (version 2.00). (LC/DEM/G.50), Santiago de Chile, June 24, 1987.

2/ CELADE, REDATAM DATABASE GENERATION MANUAL, (version 2.00). (LC/DEM/G.53), Santiago de Chile, October 1987.

1.1 How to use the REDATAM Manuals.

SUGGESTION: In order to find any reference to a specific item or subject, we suggest that you try to find it **FIRST** in the **INDEX** which appears at the end of this Supplement. If it is not found, use the previous manuals.

NOTES:

a) The concepts established in this Supplement supersede the Database Generation Manual, which in turn has precedence over the User's Manual. For practical reasons, it was impossible to prepare a whole new manual combining and consolidating the already existing documentation with the new facilities of version 3.1.

b) All HELP screens ([F1] key) and COMMANDS ([F4] key in the Statistical Processor) are complete, integrating all Manuals.

If you are not acquainted with the REDATAM system, please read the Introduction in the User's Manual.

Initially, if you need to install the system on your computer, read Appendix A.

To access REDATAM, read Chapter 2 - General Topics. If you are a first-time user or are not familiar with microcomputers, proceed to the TUTORIAL (Appendix B) used along with the Chapter 3 - TUTORIAL of the User's Manual, where you will be taken step by step through most of REDATAM's facilities by working out specific examples on your computer with a small database that comes with the REDATAM system.

Once you start using the system, Chapters 3 - STATISTICAL PROCESSOR, and 4 - GEOGRAPHIC SELECTION, together with Chapter 4 - REFERENCE from the User's Manual, will be useful in explaining the functioning of each of REDATAM's options and commands.

When you are ready for more complex work, Chapter 5 - SPECIAL FEATURES of the User's Manual, will show you how to use the more advanced options of REDATAM.

Appendix C summarizes general specifications and limitations of the REDATAM system, while Appendix D refers to some of the better known errors users might make.

If you are already familiar with REDATAM's version 2.00, Appendix E will be useful to point out the differences with this new version.

Appendix F describes the files used by the system.

Finally, if you need to generate your own database, refer to Chapters 5-DATA DICTIONARY and 6 - MANAGEMENT FUNCTIONS, which supplement the Database Generation Manual.

Chapter 2. GENERAL TOPICS

This chapter offers some comments about the necessary procedures to invoke the REDATAM functions, and a brief explanation of the usage of the function keys in most of the system screens.

2.1 Accessing REDATAM.

Before calling REDATAM, it would be wise to select a work directory, with the command

```
CD \work
```

where the word "work" should be substituted by the name of your working directory.

Load the system into memory by entering the name REDATAM and the [ENTER] key such as in:

```
C:\WORK> REDATAM [ENTER]
```

Then you should see the REDATAM "logo" (the same as it appears in the manuals' front covers), which will be visible for a few seconds, going immediately to the Environmental Parameters Menu. If, for any reason (a system presentation for instance), you want to freeze the "logo" on the screen, just press any key while it is being shown, and the message "Press any key" will appear at the right side of the screen.

Next, the system will show the Environmental Parameters Menu, with the cursor positioned at the Database name field.

2.2 Environmental Parameters Menu.

Actually, this menu is divided into two parts which are superimposed on the screen. Initially the environmental description fields will appear, and after they are processed, the password field will be requested, at the bottom part of the menu.

This menu is always shown, and is used to establish the variables that will control the environment of a REDATAM session. All the variables have a default value, which will be explained later in the corresponding sections.

The following figure is an example of a screen with the environmental variables.

REDATAM 3.1 Environment Parameters

Date: 29/04/1988

| | |
|---------------------|------------|
| Database Name: | mi80 |
| Database Directory: | c:\miranda |
| Working Directory: | . |
| Language: | ENG |
| Screen Type: | COLOR |

| Type a 4 character Database name. |

F1 help F3 process F10 exit <^v move cursor ENTER next field ESC del

Figure 1

To change any parameter value, use the arrow keys to position the cursor on the desired field and enter the new value. The [<--] (backspace) key may be used to edit the field. The [Esc] can be used to erase the previous field value. The [ENTER] key can be used interchangeably with the down arrow key.

Upon finishing entering (or changing) the field values, press [F3] to start the parameter verification process, and if there are no problems, the system stores the new values and asks for the password (only if the database is protected). Otherwise it directs the system to the Main Menu.

The parameters are separated into two logical groups: user parameters and system parameters. The first group consists of those which are the user's responsibility, the ones that can be changed from one user to the other and/or from one REDATAM session to another. The second group, as the name says, is made up of parameters belonging to the system, which should only be changed during the system installation.

2.2.1 User Parameters.

Database Name: It is the identification (four characters) of the database to be used. By default, it is the last database used by the system. For the MIRANDA database, enter:

MI80

Database Directory: It is the directory where the database is stored. By default, it is the directory of the last database used by the system. To work with the demonstration database, enter:

C:\MIRANDA

Working Directory: It is the directory where the system will store the output process files, as well as the geographic selection files, the temporary system files and other user-created programs. By default, it is the directory where the user was when the REDATAM was invoked (the default value is informed by a period "." in the field). For example, if you are inside a directory named TEST and call REDATAM, as

C:\TEST> REDATAM [ENTER]

the working directory will be, by default, C:\TEST. To change it, enter the **COMPLETE** name (with all the path) of the new directory, like,

C:\USER\RED

Password: It is defined by a set of up to 12 letters, numbers or special characters that determine the access type to the active database. For security reasons, the characters that are entered **WILL NOT** be shown on screen. After entering the password, press [F3] and control will be transferred to the Main Menu. For more information about database protection, see Chapter 5 - DATA DICTIONARY.

2.2.2 System Parameters.

These parameters **SHOULD NOT** be changed, but only set initially when the system is installed.

Language: It is the system working language. Its default value is determined during installation time, when the user selects between **ENG** for English and **ESP** for Spanish (only if the original system disks come with both versions). To change it, enter **ENG** or **ESP**, and this will be the new default value.

Screen Type: It is the computer's monitor type. The default value is for a monochrome monitor. In case the computer has a color display monitor, change its value to **COLOR**, and this will be the new default value.

2.2.3 Environmental Parameter Checking.

After the parameter values entered and/or modified and [F3] pressed (note that the Password is the only mandatory parameter, and even so only for the protected databases), the REDATAM system will verify the consistency among them, and if any errors are found, these will be shown in a box at the lower part of the screen.

Following is a list of the system messages with a brief description of each of them:

Invalid Directory

This message means that one of the two directories specified (database or working) was not found by the system. Remember that they should be entered with their **COMPLETE** definition, including the letter corresponding to the logical disk where they are stored.

File "bbbb.DIC" does not exist

It means that the "bbbb.DIC" file was not found in the specified database directory ("bbbb" replaces the database name). Check if there is no error in the database directory name or in the database name.

Access denied

It means that the password does not belong to the password list of the specified database. Check the appropriate password with your Database Manager.

Notes:

- a. For a non-protected database (the MIRANDA database, for instance), the system will not request any password. For other protected databases, consult with the Database Manager for the available passwords.
- b. In the circumstance that the system requests a password and you do not know any, just enter a "null" value ([ENTER] or [F3] immediately), and the system will assume the "minimum password" parameters established for the database.
- c. The values for Language and Screen Type will not be checked: in case of error the system ignores the new value and maintains the previous value.

As the cursor goes over one of the modules or sub-modules, the screen shows immediately the existing options, and at its bottom part there appears a small help "box" with a summarized description of the indicated module, that is, where the cursor is (the module name is shown in reverse). This "box" is called the Sensitive Help, fully described in item 2.5.

To go back to the hierarchically superior modules, press [Esc] or the [F10] key. An [Esc] (or [F10]) while in the first level will exit the system, going back to DOS.

A list with all the existing modules and sub-modules in the REDATAM system is shown below. Almost all of them are described in the previous manuals (User's and Database Generation). The ones marked with an asterisk (*) are new features and are described later on in this Supplement.

- Statistical Processor
- Geographic Selection
 - Area Selection
 - Display Geography (*)
- Data Dictionary
 - Display Active Dictionary
 - Create Dictionary
 - Update Dictionary
 - Password Protection (*)
- Management Functions
 - Geography Structure Generation
 - Update Geography Names (*)
 - Auto Load
 - Manual Load
 - Data File Generation
 - Hierarchy Generation
 - Index Generation
 - Append Variables

2.4 Function Keys.

The [F1] key is a standard user help key, working in every module and screen of the system. When [F1] is pressed the system pops up a "window" with a description of the keys that can be used in the module, or a small comment about the action that is required in each section of the system. This window disappears with the [Esc] or [F10] keys.

The bottom line on the screen shows the set of function keys ([F1], [F2], etc.), movement keys (arrows, [Home], [End], etc.), and combination keys ([Ctrl-->], [Ctrl]-D, etc.), that can be used in each of the system's situations and modules, with a descriptive word.

As a system standard, the following keys have **ALWAYS** the same function in all the modules and screens (when applicable):

- F1 - help
- F3 - process
- F4 - print
- F5 - save
- F10 - exit

The [F10] key can be used interchangeably with the [Esc] key, unless the system is in editing mode.

2.4.1 In the Statistical Processor.

For the Statistical Processor, these function keys can also be used to replace some of the more commonly used commands, like [F2] for DICTIONARY, [F3] for PROCESS, [F5] for SAVE, etc. Specially, there is the [F9] key, which is not shown on the help line, used to display the Process Status screen. Following is a list with all the function keys used, together with a small description of their purpose:

| | |
|-------|---|
| [F1] | Help |
| [F2] | DICTIONARY command (displays the dictionary variables) |
| [F3] | PROCESS command |
| [F4] | COMMANDS command (displays a help with a description of the available commands) |
| [F5] | SAVE the commands to a file |
| [F6] | LOAD the commands from a file |
| [F7] | REVIEW command. Edit commands |
| [F8] | VIEW process output |
| [F9] | View the Process Status screen |
| [F10] | EXIT Statistical Processor |

2.4.2 In the REVIEW command.

The REVIEW command, whose function is to provide an editing facility of the commands in memory, also makes an intensive use of these keys. For the complete list of them and their usage, see item 3.15.

2.5 Sensitive Help.

The REDATAM system has three types of user help: a) the [F1] key, already mentioned; b) the screen bottom line, where a list of the keys used is shown; and c) the Sensitive Help. This is so called because it is dependent on the cursor positioning, and consists of a box that is shown at the bottom part of the screen, just above the help line.

Generally, this box has some descriptive information of interest to the user, such as the module functions in the Main Menu, or the definitions and values accepted in each field to be key entered, as in the Environmental Parameters Menu and in the Update Geography Names.

Chapter 3. STATISTICAL PROCESSOR

Initially four generic items about the Statistical Processor are described, and after that, the changes implemented in the commands and the new ones, in alphabetical order.

3.1 Process identification in the listing (new).

The system displays, concurrently with the result of each one of the statistical commands, the command line number in the user's program instruction set, in order to clarify the relationship between the results and the REDATAM program.

3.2 Batch Processing (new).

This technique consists in that the user builds an external file with all the commands that s/he wishes to process in REDATAM, in the same fashion as they would be entered in the interactive mode. For example, if the user wants to execute two processes (that is, two programs with the ".ECF" extension) called respectively AGES and FERTIL, s/he would enter a command sequence like:

```
LOAD AGES
PROCESS OUTPUT=LIST1
NEW Y
LOAD FERTIL
PROCESS OUTPUT=LIST2
EXIT Y
```

Similarly, using the BATCH mode, the user should create, using any text editor of his/her choice, a file with the same commands, with the only difference that it is not necessary to wait for the first one to finish to enter the commands for the second.

To invoke the system in BATCH mode it is necessary to append to the name REDATAM the filename of the file that contains the REDATAM commands. For example, if the file IN_BATCH (the filename has to be specified completely, including the extension, if any) was created with the six commands mentioned above, it will be executed in REDATAM with the DOS command:

```
C> REDATAM IN_BATCH      [ENTER]
```

Notes:

- a. Each command in the file has to be finished with an [ENTER], especially the last one if it is an EXIT.
- b. The PROCESS command should direct the output to a file (preferably) or to the printer, in order for the VIEW command not to stop the program flow.

- c. If the last command of a BATCH file is not an EXIT, the REDATAM session will be active in the Statistical Processor, and the user would be able to enter other commands, but in this case, if any syntax error is found, the system will not activate the line editor to fix them.

3.3 Usage of decimal variables (new).

The system uses and accepts both integer and decimal (real) variables. These can come from the data dictionary (belonging to the database) or be calculated during the process.

The type (integer or real) of a variable calculated during the process (with the COMPUTE command or as a result of any algebraic expression) is defined by the expression result. An expression is said to produce an integer value when ALL its operandi are integers, being real otherwise.

The numerical constants can be real or integers, depending upon the existence of the decimal point (the number 3 is an integer, 3.2 is decimal, and 3. is also a decimal).

Some examples of integer expressions and their corresponding decimals follow:

| integers | decimals |
|----------|--------------------------|
| 3 / 2 | 3. / 2 (o 3/2. o 3./2.) |
| sex + 3 | sex + 3. |
| age / 5 | age / 5. |

If, for any reason, an expression produces a result in decimal form, but it is necessary as an integer, one can "force" it through a previous COMPUTE just to establish the variable type as integer. For example,

```
COMPUTE aux = 0
COMPUTE aux = age / 2.5
```

Internally the decimal (real) variables are stored as a floating point, and therefore can have an almost unlimited precision. However, to display (or print) the results, the system is limited to TWO decimal places.

For the dictionary variables, please see item 5.5.

The statistical processes of AVERAGE, CROSSTABS, and FREQUENCIES that involve a decimal variable work the same way as the ones used with integer variables.

3.4 Process Status (new).

This is not a REDATAM command, but a new screen that is always shown after the PROCESS command, bringing in some information about the process status. This screen is active during the time the process is being executed, with the following contents:

Start and finish process time

An up-to-date number of cases read, for each record level

Information about the geographical file being used

Variables used (from the dictionary or created) during the process

If the CASES and/or SAMPLE commands were used, the respective values of each one of them

If the WRITE command was used, the filename of the output file

If the OUTPUT option of the PROCESS command was used, the filename of the output file

The following picture is an example of a Process Status screen.

| | | | | | | | | |
|----------------------------|----------|---------|---------------------------------------|---------|---------------------|----------|-----------------|-------------|
| REDATAM 3.1 Process Status | | | | | Data Base: mi80 | | Date:29/04/1988 | |
| ----- | | | | | | | | |
| Start 19:05:14 | | Level 1 | | 50 | Total cases | | 179 | Sample 0 |
| Finish : : | | Level 2 | | 300 | Total cases | | 861 | Cases 0 |
| ----- | | | | | | | | |
| Tables Require (bytes) | | | | 288 | Write Cases to | | | |
| Laser Mounted (bytes) | | | | | Output Sent to VIEW | | | |
| ----- | | | | | | | | |
| Geography: TEST | | | Label: MI80:REDATAM installation test | | | | | |
| ----- | | | | | | | | |
| NUM | VARIABLE | TYPE | DATA | LENGTH | NUM | VARIABLE | TYPE | DATA LENGTH |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 032 | ATTISCH | 2 | BIN | 01/03 0 | | | | |
| 019 | AGE | 2 | BIN | 03/07 0 | | | | |
| | GROUP | 2 | INT | | | | | |
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Press F10 to Abort

Figure 3

Upon finishing the process the system automatically presents its results on the screen (if in interactive mode). To see the Process Status screen in the Statistical Processor again, press the [F9] key. To exit press [Esc] or [F10].

3.5 CASES command (new).

CASES

Usage: Limits the number of cases at the first record level to be processed by REDATAM inside a specific geographical area.

Syntax: CASES <number>

(CA) -- Minimum abbreviation

Notes: Its usage is evident when it is necessary to test the REDATAM instructions without reading ALL cases of the selected area.

<number> is the number of cases to be processed.

The number of cases is checked at the first record level.

There can be only one active CASES command. If a second one is issued, it supersedes the first.

If the command is entered without <number> the system displays the actual number of cases selected.

Example: CASES 100

The system reads and processes only the first 100 households.

CASES 0

The system cancels any previous CASES command, and will process the whole selected geographical area.

See Also: Process Status, PROCESS

3.6 COMMANDS command (new).

COMMANDS

Usage: Displays on screen the existing REDATAM commands, with their description, syntax, examples, etc.

Syntax: COMMANDS

(COMMA) -- Minimum abbreviation

Notes: At the top of the screen the command names are shown. When the arrow keys are used to locate the cursor over a command name, the corresponding information about the command is shown at the lower part of the screen.

The information displayed is the same as depicted in the REDATAM User's Manual, Chapter 4 - REFERENCE, and complemented with the description of the new commands found in this section.

This command replaces the HELP command of the previous versions.

Example: COMMANDS

See Also: Help in the User's Manual, page 4-1

3.7 DICTIONARY command (new).

DICTIONARY

Usage: Displays on screen the variables belonging to the active database dictionary, with a description of their fields.

Syntax: DICTIONARY

(D) -- Minimum abbreviation

Notes: At the top of the screen the variable names are shown. When the arrow keys are used to locate the cursor over the desired variable name, the corresponding information about the variable is shown at the lower part of the screen.

This command is similar to the DISPLAY DICTIONARY of the DATA DICTIONARY module.

It replaces the BROWSE command of the previous versions.

Example: DICTIONARY

See Also: BROWSE command in the REDATAM User's Manual, DISPLAY DICTIONARY

3.8 ENDHP command.

ENDHP

Notes: If the ENDHP command is used for hierarchical processing but no IF...QUALIFY command was used, the REDATAM processes the **LAST** person's record for the household, not the **FIRST** as stated in the User's Manual.

Before an ENDHP command, do not use any command that is not directly related with the hierarchical processing, otherwise the results can be apparently unpredictable and wrong. For example,

```
IF sex > 0 QUALIFY
IF sex > 0 COUNT persons
RECODE age TO group (0-14 = 1) (15 - 99 = 2)
ENDHP
FREQUENCY sex persons group
```

presents a false result for the "group" variable. The proper way would be

```
IF sex > 0 QUALIFY
IF sex > 0 COUNT persons
ENDHP
RECODE age TO group (0-14 = 1) (15 - 99 = 2)
FREQUENCY sex persons group
```

that is, the recoding of the variable must be after the ENDHP command, because it does not belong to an hierarchical processing.

3.9 EXIT command.

EXIT

Usage: This command exits the Statistical Processor and returns control to the Main Menu.

Syntax: EXIT [Y]

(EX) -- Minimum abbreviation

Notes: The whole command set is lost, unless it was previously saved.

New: On entering EXIT without the parameter (which can be done also by using the [F10] key), REDATAM displays:

| Are you sure (Y/N): |

If confirmed, the system returns to the Main Menu.

If the "Y" response is used, the system returns to the Main Menu without confirmation.

See Also: SAVE, NEW

3.10 GEOGRAPHY command.

GEOGRAPHY

Usage: The GEOGRAPHY command is used to indicate the geographic area of interest, by specifying the Geographic Selection File to be used for the run.

Syntax: GEOGRAPHY [<file name>]

(G) -- Minimum abbreviation

Notes: This command indicates to REDATAM which Geographic Selection File is to be used. The file must exist, having been previously created through the Area Selection Module.

There can be only one active GEOGRAPHY command. If a second one is issued, it supersedes the first.

<file name> is the name of an existing selection file (with a ".SEL" extension), residing in disk. If the file is not in the working directory, its name should be specified with its complete path, but without the ".SEL" extension.

New: If this command is entered without parameters, the system will "pop up" a window with the filenames of the geographical files (the ones with ".SEL" extensions) existing in the working directory. Moving the cursor with the arrow keys, the user selects the filename s/he wants. The label of the "current" file (the one where the cursor is) is shown at the bottom part of the window, together with the number of records for each one of the record types (households and persons).

Once the filename has been selected, use the [ENTER] or the [F3] key to actually select the geographical file, or [Esc] to go back to the Statistical Processor.

If there are no geographical files in the working directory the system displays the word "Filename" and waits for the user to enter the file name of the geographical file (one with the ".SEL" extension) s/he wants to use. Probably it will be inside another directory, since the system did not find any ".SEL" file inside the working directory, and, in this case, the user must provide the completed filename (with the whole path), but without the ".SEL" extension (for example, C:\TEST\SELEC1).

Example: GEOGRAPHY case4

Uses the geographical area defined in file CASE4.SEL for all the requested statistics. The suffix ".SEL" must not be written.

GEOGRAPHY

The system will show a box with the geographic selection files existing in the user's working directory.

See Also: Area Selection Module

3.11 Composed IF command (new).

----- IF composed -----

Usage: Besides the existing variations of the IF command, it has now another construction, whose effect is "local", that is, it affects only the instruction following the IF condition, and not every command that follows the IF command.

Syntax: IF <condition> THEN <command>

or

```
IF <condition> THEN BEGIN
<command 1>
<command ...>
<command n>
ENDIF
```

(I) -- Minimum abbreviation

Notes: <condition> is an algebraic/logical expression with the same description used in the previous forms of the IF command.

For the syntax IF <condition> THEN <command>, <command> is one of the followings: AVERAGE, COMPUTE, CROSSTABS, FREQUENCIES, RECODE, WEIGHT, or the word BEGIN. These **CANNOT** be abbreviated.

BEGIN is used when it is necessary that the IF condition be extended for more than one command that follows it. In this case, to finish the IF effect one uses the ENDIF instruction.

Example: IF sex = 1 AND age > 15 THEN COMPUTE counter = 1

The advantage of this new form over the traditional one (IF <condition>) is that, for the latter, the effect of the IF condition continues until another IF is found. In the new form, the condition only affects the command which follows. For example,

```
IF a = 1 THEN COMPUTE b = 1
```

is equivalent to

```
IF a = 1
COMPUTE b = 1
IF 1
```

(the last IF is to eliminate the effect of the condition a = 1).

```
IF situac = 1 THEN BEGIN
    FREQUENCIES water
    CROSSTABS sex BY age
ENDIF
```

See Also: IF (User's Manual)

3.12 LOAD command.

LOAD

Usage: The LOAD command retrieves from disk storage a previously SAVED command set.

Syntax: LOAD [<file name>]

 (LO) -- Minimum abbreviation

Notes: When LOAD is invoked, the specified file is located in the disk, and if found, all the statements it contains are loaded, and appended after the last command of the current set.

<file name> is the name of a command file (one with the ".ECF" extension) residing in disk. If the file is not in the working directory, its name should be specified with its complete path, but without the ".ECF" extension.

The commands are checked for syntax as they are loaded. They can be further modified with the REVIEW command. See SPECIAL FEATURES (Part 5 of the User's Manual) for a tutorial on the use of editing commands.

New: If this command is entered without parameters, the system will "pop up" a window with the filenames of the REDATAM command files (the ones with ".ECF" extensions) existing in the working directory. Moving the cursor with the arrow keys, the user selects the filename s/he wants. The first command line of the "current" file (the one where the cursor is) is shown at the bottom part of the window.

Once the filename has been selected, the user has to choose among the options shown in the help line, that is, the [F6] key to append the command file to the commands already existing in the computer memory, [ENTER] to replace them, or [Esc] to go back to the Statistical Processor.

There is also the [F8] key to display on the screen the contents of the selected file, and using the arrow keys, [PgUp], [PgDn], [Home] and [End], the user can "browse" through it completely in order to see if that is the one s/he really wants. The [F10] or [Esc] brings back the filenames' window.

If there are no REDATAM command files in the working directory the system displays the word "Filename" and waits for the user to enter the filename of the command file (one with the ".ECF" extension) s/he wants to use. Probably it will be inside another

directory, since the system did not find any ".ECF" file inside the working directory, and, in this case, the user must provide the completed filename (with the whole path), but without the ".ECF" extension (for example, C:\TEST\TEST1).

Example: LOAD myfile

Loads the commands previously saved in the file MYFILE.ECF. The suffix ".ECF" must not be written.

LOAD

The system will show a box with the command files existing in the user's working directory.

See Also: SAVE, REVIEW, NEW

Note: Since the system displays the first command line of the selected file at the bottom of the window, it is a good REDATAM programming practice to start every program with a comment line to document what it does or what its purpose is, or better yet, to use the RUN NAME command.

3.13 PROCESS command.

PROCESS

Usage: The PROCESS command has two new options, NOFF and LOTUS. The first one is used to eliminate the insertion of the "form feed" characters in the results, and the second is used to write the results into a file in such a format that it can be "imported" later by LOTUS 3/ to be manipulated.

Notes: The LOTUS option writes, in the output file, only the numerical results of the AVERAGE and CROSSTABS commands, without the variables descriptors that are involved in the process. For the FREQUENCIES command, the system writes also the descriptors of the variable's categories.

Syntax: PROCESS [OUTPUT = <filename>] [,NOFF] [,LOTUS]

Examples: PROCESS OUTPUT = FILE1,NOFF

 PROCESS OUTPUT = FILE2,LOTUS

 PROCESS OUTPUT = FILE3,NOFF,LOTUS

In the first case, REDATAM will write a file with the filename "FILE1.PRN", with a "form feed" at the beginning and another one between the command instructions and the first result. The second example writes a file named "FILE2.PRN", with the results separated by double quotes ("). To process it in LOTUS, this file can be "imported" (/File Import Numbers). The last example is a combination of the first two.

3/ LOTUS is a registered trademark of Lotus Development Corporation.

3.14 RECODE command.

RECODE

Besides the original format the new version presents another option that can be used to concentrate in one category all the categories not mentioned previously. This is the ELSE option, which is specified at the end of the command. For example, the command

RECODE VARa TO VARb (1-2-1) (4-5-2) (7-3) (ELSE 9)

copies the VARa values to the variable VARb, transforming the values inside each interval, and changing every other value of VARa which is not inside the mentioned intervals to the value 9.

The ELSE option should be specified after the last recode interval.

3.15 REVIEW command.

----- REVIEW -----

Usage: Allows the user to edit the current command set.

Syntax: REVIEW

(REV) -- Minimum abbreviation

Notes: This command acts as an internal editor that can be used to make changes on a line by line basis. Each command is rechecked for syntax and context after leaving the editor.

External editors, such as SIDEKICK 4/, may also be used, but of course, they will not check for syntax, which may have to be corrected when LOADING the file. If an external editor is used, the file name extension must be ".ECF".

The following keys may be used while editing:

The arrow keys move up, down or along the command lines.

The [<--] ("backspace") and [Del] keys erase characters

| | | |
|-----------------|---|--------------------------------------|
| [<u>Esc</u>] | - | Erase the line |
| [<u>Home</u>] | - | Go to the first position in the line |
| [<u>End</u>] | - | Go to the last position in the line |
| [<u>PgUp</u>] | - | Go to the first command line |
| [<u>PgDn</u>] | - | Go to the last command line |

Function keys:

| | | |
|---------------|---|--|
| [<u>F1</u>] | - | Help. Displays the help box |
| [<u>F2</u>] | - | DICTIONARY command. Displays the existing variables in the dictionary of the active database |
| [<u>F3</u>] | - | Process. Returns to the Statistical Process, accepting the changes and checking the commands for syntax |
| [<u>F4</u>] | - | COMMANDS command. Displays the existing REDATAM commands, with their description, syntax and examples |
| [<u>F5</u>] | - | Saves the entire set of commands in the same fashion as in the SAVE command. If a group of commands has been collected (with [F9]), only the commands in the highlighted block are saved |

- [F6] - Loads an existing command file in the same fashion as in the LOAD command. If an [ENTER] is used while in the LOAD box, the file replaces the current command set. If the [F6] key is used while in the LOAD box, the file is included in the position where the cursor was when [F6] was pressed
- [F7] - Inserts a blank line before the current command, where a new command can be entered
- [F8] - Deletes the current line
- [F9] - Collects a block of commands to be saved. Pressing it once activates collect mode. The cursor can then be moved down until the desired lines are highlighted. Pressing [F9] again returns to edit mode while the lines remain highlighted. When [F5] is pressed, that block of commands is saved. Pressing [F9] twice returns all lines to normal
- [F10] - Quits REVIEW ignoring any changes made. The system asks for confirmation

Example: For an explanation of their usage, please refer to the SPECIAL FEATURES (Chapter 5 of the User's Manual).

See Also: COMMANDS, DICTIONARY, EXIT, LOAD, SAVE

3.16 SAMPLE command (new).

SAMPLE

Usage: Selects a systematic sample of the observations in the geographical area concerned.

Syntax: SAMPLE <number>

 (SAM) -- Minimum abbreviation

Notes: <number> is the sample interval selection.

The first observation is selected randomly inside the first selection interval

There can be only one active SAMPLE command. If a second one is issued, it supersedes the first.

For the databases with more than one record level, the selection is made in the first level (households for the demographic censuses).

If the command is entered without <number> the system displays the actual sample selection, if any.

Example: SAMPLE 20

The system reads and processes one twentieth of the households, that is, a five percent sample.

SAMPLE 0

The system cancels any previous SAMPLE command, and will process the whole selected geographical area.

See Also: Process Status, PROCESS

3.17 SAVE command.

SAVE

Usage: Instructs the system to write to disk all the commands in use.

Syntax: SAVE [<file name>]

(SAV) -- Minimum abbreviation

Notes: The entire active command set is saved, that is, all commands entered since entering the Statistical Processor or the last NEW command.

File names must be valid DOS names. REDATAM adds the suffix ".ECF".

Files are saved in the current working directory.

New: If this command is entered without parameters, the system will "pop up" a window with the filenames of the REDATAM command files (the ones with ".ECF" extensions) existing in the working directory. Moving the cursor with the arrow keys, the user selects the filename s/he wants. The first command line of the "current" file (the one where the cursor is) is shown at the bottom part of the window.

Once the filename has been selected, the user has to press [ENTER] to actually save the commands in memory into the file, or the [Esc] key to choose another filename. In this case the system will ask for the new name. The [Esc] at this point exits the SAVE and goes back to the Statistical Processor.

There is also the [F8] key to display on the screen the contents of the selected file, and using the arrow keys, [PgUp], [PgDn], [Home] and [End], the user can "browse" through it completely in order to see if that is the one s/he really wants. The [Esc] brings back the filenames' window.

If there are no REDATAM command files in the working directory the system displays the word "Filename" and waits for the user to enter the filename s/he wants to use, which has to be provided without the ".ECF" extension.

Example: SAVE myfile

Saves the current command set in file MYFILE.ECF. The suffix ".ECF" must not be written.

SAVE

The system will show a box with the command files existing in the user's working directory.

See Also: LOAD, EXIT, NEW

3.18 SHELL command (new).

SHELL

Usage: Opens a window to the DOS to execute directly any of its commands,
 like copying and/or erasing files, listing or printing them, etc.

Syntax: SHELL

 (SH) -- Minimum abbreviation

Notes: When executed, the screen will be cleared and the DOS prompt will
 appear. To go back to REDATAM, enter the EXIT DOS command.

Example: SHELL
 dir a: (DOS commands)
 ...
 EXIT

See Also: DOS Manual

3.19 VALUE LABEL command.

VALUE LABEL

Usage: Besides the original command format, used to define labels for the variable categories, it has now a new format which is used to copy the category labels from an existing variable.

Syntax: VALUE LABEL rVAR FROM dVAR

Notes: The rVAR variable (receiving variable) will be the one that accepts the categories from the variable dVAR (donor variable), which can be a dictionary variable or a temporary variable created previously in the REDATAM session.

Example: RECODE RELAT TO RELATION (6-HIGHEST=6)

VALUE LABEL RELATION FROM RELAT

In this case the RELAT variable (Relationship to the Head) is recoded grouping the categories from 6 and higher, and after that one should use the VALUE LABEL command to copy the categories from RELAT to RELATION.

It would probably be advisable to change the label of the value 6, which now envelopes the values from 6 on, with

VALUE LABEL RELATION 6 "6 and over"

3.20 VIEW command.

VIEW

Here the facility is included to print the output through the [F4] key, and to save it to a disk file with the [F5] key. In this case the system will "pop up" a window with the filenames of the REDATAM output files (the ones with ".PRN" extensions) existing in the working directory. Moving the cursor with the arrow keys, the user selects the filename s/he wants.

Once the filename has been selected, the user has to press [ENTER] to actually save the output, or the [Esc] key to choose another filename. In this case the system will ask for the new name. The [Esc] at this point gives control back to the VIEW command.

There is also the [F8] key to display on the screen the contents of the selected file, and using the arrow keys, [PgUp], [PgDn], [Home] and [End], the user can "browse" through it completely in order to see if that is the one s/he really wants. The [Esc] brings back the filenames' window.

If there are no REDATAM output files in the working directory the system displays the word "Filename" and waits for the user to enter the filename s/he wants to use, which has to be specified without the ".PRN" extension.

See Also: SAVE

3.21 WEIGHT command.

WEIGHT

The WEIGHT command defines the weighting factor, derived from the result of the evaluation of an algebraic expression, which in this version **CAN** have decimal places. This means that when the expression is evaluated the result is not truncated to the nearest integer.

See Also: Algebraic expressions.

Chapter 4. GEOGRAPHIC SELECTION

This chapter summarizes the new outline of the Geographic Selection module, as the new facilities incorporated like the account of the number of records, listing and printing part or all of the geographic hierarchy, and how to import a geographic selection created externally to the REDATAM system.

4.1 Area Selection.

When this option is selected, the REDATAM system reacts similarly to the GEOGRAPHY command of the Statistical Processor: it pops up a window with the filenames of the geographical files (files with the ".SEL" extension) existent in the working directory. The difference is that, in this case, one can select the word "CREATE" to create a new geographic selection.

At the bottom part of the window the system shows the label of the selection file to which the cursor is pointing (at the beginning the cursor is positioned at the word "CREATE" and, in this case, the label is replaced by the words "Label of the file to be created").

Moving the cursor with the arrow keys, the user can "navigate" through the filenames, select the filename s/he wants, and use one of the function keys shown at the help line, like: [F4] to print it, [Del] to erase it, [F8] to display it on screen, [ENTER] to update it, etc.

To create a new file, position the cursor over the word "CREATE" and press [ENTER]. The system will erase this word and in the same place will wait for the user to enter a filename with up to 8 characters and the [ENTER] key. The system will position the cursor at the file label, to be entered by the user, followed by the [ENTER] key. At this time the system will display the first geographical level of the active database.

4.2 Geographic definition menu.

These menus correspond to a series of screens, each one of them showing a specific geographical level, where the user can select the desired geographic areas (see item 4.2, pages 4-66 to 4-70 of the User's Manual). Upon entering these menus, the first one corresponds to the highest geographical level. Two changes were introduced in the present version of the system: the "walking" way between the different screens, and an additional selection mode.

4.2.1 "Walking" method.

In this version, the [Home] and [End] keys were replaced by the [F3] (process) and [F5] (save) keys, but besides that their functions are exactly as in the previous versions. The [F3] records the selection performed and verifies the lower levels of the partial selections ("p") to see if they are completed with at least one Total selection ("t"). Once all partial selections are completed, the system goes back to the highest

geographical level (first level). The [F5] key saves the geographical selection file, returning the control to the main menu.

To end a geographical selection, **ALWAYS** be sure to press the [F3] key until the first selection level appears, to confirm that all pending selections were completed, then press the [F5] key to save the file and exit to the main menu.

The change that was introduced is in the way one uses the arrow keys to move between the geographical levels, mainly if the user wants to update the selection file. The entire concept is now based in the **CURSOR POSITION** to "walk" between levels. The user positions the cursor at the line of the desired area (with the "up" and "down" arrow keys), and uses the same arrow keys combined with the [Shift] key to descend or ascend from the level, as s/he wishes.

[Shift]-"down" arrow (holding down the [Shift] key while pressing the "down" arrow key), displays the hierarchical level immediately inferior of the area where the cursor is pointing at. This has any meaning only when the desired area has a partial selection ("p"), as it denotes that the user wants to "see" or update its lower selections. That is, this key combination **DOES NOT WORK** when there is a total ("t") selection or when there is no selection at all for the area where the cursor is. The function of the "down" arrow is to "descend" to the immediately inferior geographical level.

[Shift]-"up" arrow displays the hierarchical level immediately superior, that is, "returns" or "goes up" in the geographic "tree".

4.2.2 Additional selection technique (new).

In the previous versions, in order to have access to any specific geographical level explicitly, that is, identifying every one of the lower level areas, it was mandatory for the user to select all the geographical areas up to this level, even though a total ("t") selection at an upper level was enough to reflect the area as a whole.

For example, in MIRANDA, if one wished to have AREABREAK results at the ED level (third geographical level) of all Florinda province, it was not sufficient to have a "t" at the province level since this would be treated as a complete set, not being able to be analyzed in terms of its hierarchical lower level areas. The system demanded the specific selection of all the EDs below the desired level.

In this version, besides the "partial" ("p") and "total" ("t") selections, there is also an option with the letter "g" for "group" selection, which means to automatically select all the lower levels of the specific geographic area. That is, for the same MIRANDA example above, it is enough to select the province of Florinda with the letter "g", and REDATAM automatically assigns a "p" for Florinda's towns and a "t" for all EDs belonging to them.

The geographical codes used by the AREABREAK command are obtained from the geographical selection files, therefore it is essential that the selection go down to the last requested level.

In other words, for the MIRANDA case, in the previous versions, to use the command

AREABREAK ED

it was necessary to have the geographic selection down to this level, like

01 Florinda

01 Vilches

085

t

086

t

087

t

088

t

99 Rural

089

t

090

t

091

t

092

t

093

t

094

t

095

t

096

t

Now, to get the same result, it is enough to have

01 Florinda

g

This feature is needed not only when the AREABREAK command is used, but with any command that uses the geographical variables, as for example,

WRITE ed sex age

to write a file with the sex and age variables with the identification of the enumeration district to which they belong, or

CROSSTABS ed BY sex

when one wants the population by sex at the ED level.

Note: For efficiency purposes, this kind of selection should be used only when the geographic codes of the lower levels are really needed. The most common examples are: a) when generating a sub-set of the database; and b) when the AREABREAK command is used for the levels lower than the selected one. Otherwise, the "t" selection should be used directly.

4.3 Number of observations in the selection file (new).

When creating and/or updating a geographic selection file (see item 4.2 of the User's Manual), REDATAM has an option to display, together with the geographical levels, a window with four counters; two for each record level (households and persons), as shown in the picture below:

1. Household records selected
2. Person records selected
3. Household records existent in the "current" geographical area.
4. Person records in the "current" selected area

REDATAM 3.1 Geography Selection Data Base: ml80 Date:29/04/1988

| | | | |
|------------------|-----------|-----------------|--------|
| PROVINCE TOWN ED | | File : TEST.SEL | |
| Code | Area Name | Sel | Recode |
| ----- | | | |
| 01 | Florinda | | |
| 01 | Vilches | | |
| 99 | Rural | t | |
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F1 help F3 process F5 save F8 view F10 exit ^v move cursor PgDn PgDn PgUp PgUp

Figure 4

The "current" geographical area stands for the area where the cursor is positioned, that is, the area to which the system is "pointing". If this area is selected with a "t" (Total selection), the values of its household and person counters (counters 3 and 4) will be added to the counters 1 and 2 respectively.

This option is activated with the [F8] key, which is used also to deactivate it.

When saving the selection file, counters 1 and 2 will be stored in the ".SEL" file together with the geographical indices. Later these values will be

Truly these counters can be seen as the first statistical result provided by REDATAM from the database, or else, the total frequency of the record type variable (for each geographical area the system indicates instantaneously the number of households and persons).

a. The selection files (".SEL" extensions) created with the previous versions of the system, do not have those counters incorporated, therefore, when displayed, they are shown as zero ("0").

b. When erasing a partial selection ("p") from a selection file, the system cannot subtract the values corresponding to the total selections hierarchically subordinated, and therefore those counters will have a value that does not correspond to the real ones.

This facility of the REDATAM system allows the user to display on screen all the geographical levels of the active database, without the need to create a geographical selection file. To use it, one has to specify two additional optional parameters: the minimum geographical level (the lowest one) for display and the geographical code for selection. The picture below shows the screen to select these parameters:

Figure 5

4.4.1 Minimum geographical level for display.

It is the level down to which the user wants to "descend" in the geographical hierarchy of the database. In the case of MIRANDA, it has three levels, Province, Town and ED, and if one wants to display only down to the Town level, this parameter should be "2". For all MIRANDA levels, use "3".

If this code is left blank, the system assumes 0 (zero) and gives an error message. If the user specifies 99 as the level, the system assumes that s/he wants to examine ("descend") down to the last (lowest) level in the geographical hierarchy.

4.4.2 Geographical code for selection.

This parameter allows the selection of only a part of the geography to display. The user has to provide the complete code for the selected area. If left blank the system will display all codes and names for the geographical base down to the geographical level specified in the previous parameter.

Some examples with MIRANDA follow (to have a proper understanding, see the hierarchical diagram on page 4-67 of the User's Manual):

- a) To display only the province of Florinda, enter "01".
- b) To display only the rural area of the same province, enter "0199" ("01" for province and "99" for the rural area at the town level).

After entering these parameters the system will display on screen the selected geography. To examine it, use the arrow keys, [PgUp], [PgDn], [Home] and [End] keys. The [F10] or [Esc] key returns to the Main Menu.

There are also two additional options, one to print the selection using the [F4] key, and the other to save it in a disk file, with [F5], when the system will ask for a filename, adding to it the ".PRN" extension. A [Esc] returns control to the geography display.

4.5 Geographical selection from an external file (new).

This facility allows the user to generate a geographic selection file (".SEL") from a standard flat file with the desired area codes. It should be used when the desired area is composed of many geographical areas and the interactive method is too cumbersome and inefficient. In this case, the user should generate a character rectangular ("flat") file, specifying the geographical areas that s/he is interested in, with the following record format:

```
nncccc...c|rrrrrr
```

Where :

- nm : corresponds to the selected geographical area level.
- ccc...c : corresponds to the area geographic code, including all the hierarchically superior geographical levels.
- |rrrrrr : corresponds to the recodification information, if desired, a geographic area to be regrouped when displaying the statistical results (equivalent to the AREABREAK column of the interactive geographic selection, see also the User's Manual, page 4-68). It is important to place the pipe bar "|" even though there is no need for a recodification of the selected area. Its purpose is to show clearly, besides separating, the geographic code from the recodification one.

Notes:

- a. The file can be created with any text editor which produces an ASCII file.
- b. The file must be ordered in ascending order by the geographical area code.
- c. It is sufficient to specify the lowest level of a selection. It may not select an area in a level and then select others from the geographical levels that are hierarchically below it.
- d. The last record has to end with a "NEW LINE", that is, with a "CR-LF" ("carriage return and line feed"). An [ENTER] after the code provides this combination.
- e. The file has to be saved with a filename without any extension ("ffffffff") in the working directory.

Once the file has been built, the user has to choose the Geographic Selection option of the REDATAM Main Menu and the Creation/Update sub-module. At this point, one indicates that s/he wants to create a new file and enters the same filename of the flat file to be imported (optionally the user can enter a label for this file). Then, being positioned at the label field, press [F9] to import the flat file, generating the selection file "ffffffff.SEL".

After that, the system shows the same geographical menus described earlier, and enables the user to retrace them, making any changes in the selections if desired. To return to the Main menu and save the file, press the [F3] (process) and [F5] (save) keys.

Example: Suppose that the user wants to select the Enumeration Districts 84, 85, 91, 93 and 101, and all Tumaco town from the MIRANDA database (see the hierarchical structure on page 3-39 of the User's Manual). To do that s/he has to create a file with any name, for example AREAl, without extension, and enter the following lines:

030101084|

GEOGRAPHIC SELECTION -----

030101085|
030199091|
030199093|
020201|
030299101|

Upon invoking the File Creation option of the Geographical Selection and using the [F9] key, the system will create the "AREAL.SEL" file.

Chapter 5. DATA DICTIONARY

This chapter presents the new facilities of insertion and deletion of variables and/or categories of the data dictionary variables, the implementation of the decimal places and out of range fields for the variables, and the access protection of the databases through passwords.

With the introduction of the database protection concept (see item 5.8 below), the sub-modules for Dictionary Update and Password Protection can be accessed only by the database administrator, who has a special password.

5.1 Variable insertion (new).

The system allows to insert new variables between two already existing variables in the Dictionary. To accomplish this, invoke the Update Dictionary option and position yourself, with [Ctrl-->] and [Ctrl<--] (holding the [Ctrl] key while using the right arrow key to move forward or the left one to move backward), at the variable immediately BEFORE which you want to insert the new variable, and press the [Ctrl]-I ("insert") key combination. The system then will make room for a variable, and you can enter its field descriptions. The new variable will automatically receive an identification number, internal to the system, by which the variable will be referenced in the management functions.

5.2 Variable deletion (new).

Variable deletion from the dictionary is now permitted (in Update mode), through the usage of the [Ctrl]-D ("delete") key combination. Care should be taken when erasing variables from existing databases, specially the geographic identification ones.

5.3 Variable codes deletion (new).

To erase a variable category, the user has to position the cursor, inside the dictionary (in Update mode), at the respective variable, and at the line of the desired category, and then press the [Ctrl]-D key combination.

5.4 Find variables (new).

To find a variable in the dictionary and to display it on screen, enter [Ctrl]-F (the [Ctrl] key combined with the letter "F" for "find"). The system displays the word "variable" at the bottom of the screen and waits for the user to enter the variable identification in either form: a) by its internal system number; and b) by its name (or part of it).

5.5 Decimal variables (new).

The REDATAM system, in its new version 3.1, allows the definition of decimal (real) variables, by specifying, in the data dictionary, the number of decimal positions of the variable. If left blank, the variable will be considered as an integer.

5.6 Out of Range value (new).

This field in the dictionary is used to assign a value, at the moment of database creation, to the records whose values are outside of the specified range (less than the minimum value or greater than the maximum one) in the dictionary, or are not numeric.

Its usage is important in the cases when the original file is not totally "cleaned". When an Out of Range value is established for each variable, the system guarantees, at database creation time, that all variables have consistent values as far as the dictionary is concerned, for all records. Every invalid value will be replaced by the Out of Range Value designated for each variable in the dictionary.

For example, let us consider the variable SEX, with values 1 and 2 for Male and Female. If we use the 0 (zero) in the dictionary as the Out of Range Value, every person with an invalid value for SEX (blanks, alphanumeric characters or any character different from 1 or 2) will be changed to zero.

Note: If the database is already created, care should be taken when modifying the Out of Range Value of a variable, since this could change the variable's compressed size (its size in bits), forcing the user to regenerate it.

5.7 Variables with negative values.

The REDATAM system accepts negative values for its variables, if and only if these **ARE NOT** in a compressed form, that is, the dictionary field "Data type (c/b)" should have a "C". Also, the variable size must have space for the minus sign, and the Minimum Range field must be specified with the negative sign.

For example, if the variable INCOME can vary from -50000 to +90000, this should be specified in the dictionary with the following values:

| | |
|-----------------|----------|
| Data type (c/b) | : C |
| Original size | : 6 |
| Minimum value | : -50000 |
| Maximum value | : 90000 |

The Password Protection function is related to the authorization of access to the database files; that is, it belongs to the database and not to the user who knows the password. In order to protect access to the data of a database, the Database Manager has to use this sub-module, when, at that time, the system shows a screen where the Manager establishes a list of permitted passwords and the access types each one of them can have. These passwords and their respective access types are stored in encrypted form in the database files.

It is not mandatory to protect a database. In fact, the MIRANDA database does not have this kind of protection. However, if the database is not protected, any user can have access to its data, and what is more dangerous, to have access to the Dictionary Update functions, or the Database Management functions. Those controls are established according to the password specified in the Environmental Parameters Menu (see item 2.2), and for an unprotected database, any password is valid (including a null password). A picture with an example of a screen for the specification of the password protection scheme is shown below.

F1 help **F5** save and quit **F10** exit **^v** move cursor **PgUp** previous **PgDn** next

Figure 6

5.8.1 Password.

Field with up to 12 alphanumeric characters, given by the Database Manager. All passwords in the database must be unique, because each one of them will have a different set of access types.

Initially a database is unprotected. The first time that this sub-module (Password Protection) is invoked, the user (who will be the Manager) has to specify as the **FIRST** password the one that will become the Master Password, which has to be known only by her/him. This password will be the **ONLY** one that can update the password file.

The Manager can also, at her/his judgment, enter another specific password, called Minimum Password, which will have compulsorily the name "\$MIN". This password is important because it establishes the minimum access rights for a user who does not know any password of this database. As an example, if one uses the \$MIN password for MIRANDA with a minimum geographical level of "2" and a minimum number of cases as "1000", this will indicate that the common user who provides no password to the Environmental Parameters Menu, will be able to use the database only if the number of selected cases is equal to or greater than 1000, and the geographic selection is done down to the second level (Town).

5.8.2 Dictionary Update.

Establishes the password rights to update the dictionary of the active database. Entering an "X" means that the users knowing this password can use the Dictionary Update module. Any other character will inhibit this usage by the password.

5.8.3 Database Update.

Establishes the password rights to update the database. Entering an "X" means that the users knowing this password can use the Management Functions module. Any other character will inhibit this usage by the password.

5.8.4 Minimum geographical level.

This establishes the geographic level down to which the user knowing this password can reach to process the database. For example, for MIRANDA, with three geographic levels (Province, Town and ED), if a "2" is specified it means that the user cannot have access to a selection in the third level, that is, the ED level. In order to allow a password total access, just specify the total number of levels of the database ("3" in MIRANDA). It is important that this field always be specified because otherwise the system assumes 0 (zero) for the minimum level, meaning that the password cannot access any geographical level (i.e., it cannot process the database at all).

5.8.5 Minimum number of cases.

It sets the minimum number of cases needed in a geographic selection for it to be processed. The system controls only the first hierarchical level (that is, households). For example, supposing the database is of a sample survey, if it is necessary to limit the access to sectors of, say, 100 households in the sample, this is the minimum number of cases for this password. Any geographic selection that has less than 100 households (and which is invoked with this password) will not be processed. Nevertheless, if one establishes 20 as a minimum for another password, it is possible that the same geographic selection file works with that other password.

If 0 (zero) is specified, it means that the password has no limit for the number of cases, that is, the geographic selection can have any number of households.

Notes:

- a. The master password has unlimited access to the database, that is, it is independent of the values entered for the parameters above.
- b. The system **DOES NOT** distinguish between upper case and lower case letters in the password names, i.e., "BASE" is the same as "base", and BAse".
- c. The database can have an unlimited number of passwords, each one of them with its proper characteristics of minimum geographical level and minimum number of cases.
- d. If no password is established for a database, this will be said to be "unprotected", that is, the user will not need to provide any password in the Environmental Parameters in order to have access to the database.
- e. For the user who does not know any password for a protected database, even then s/he might access it with the Geographic Selection and the Statistical Processor modules, provided the Manager has specified the Minimum Password (\$MIN), and in this case, the user will have the same rights as specified in it. If this password was not specified, only the users knowing any password of this database will be able to process it.
- f. It is also important that the Manager does not forget her/his Master Password, the one that gives her/him unlimited access to the Management facilities. If this occurs, please send a diskette to CELADE containing the files with the extensions ".CTL", ".DIC", ".GEO" and ".PSW" of the database, and these will be returned without any password protection.

Figure 7

The user should enter the geographical code level to be updated, the complete geographical code itself whose name one wants to update, and the new name. To activate the process press [F3], and the system will display the current name, asking for confirmation.

For example, let us suppose that, for the demonstration database (MIRANDA), we want to change the name "Rural" in Florinda to "Florinda-Rural". In this case, enter

```
Geographic Level: 02
Geographic code : 0199
Name             : Florinda-Rural
```

and press [F3]. The system displays

```
Old Name        : Rural
```

and asks for confirmation, which is done with a "Y". An "N" clears the fields, giving a chance to re-enter them. An [Esc] returns to the main menu.

The system changes only one name at a time.

6.2 Automatic load.

The geographic identification code needs to be composed of consecutive and sequential fields in the original record, without any blanks or other variables that do not belong to it. The geographical variables have to be organized from left to right, according to their order in the hierarchical geography.

6.3 Manual load.

The Manual Load facility of a database may be used when the original flat file is too big to fit in the microcomputer's hard disk. In this case, the initial file is first transformed on a mainframe computer by a series of programs, and its parts are transferred depending upon the space available in the micro. The whole transformation process is described in detail in the REDATAM Database Generation Manual.

Also, the Manual Load can be used to aggregate two databases that were generated separately, as for example, if a regional decentralized process was used, creating one database for each region, and then one wants to combine those "mini bases" into a single database for the whole country. This feature will be described in detail below in item 6.4.

The Manual Load has three components: Data Files Generation, Hierarchical File Generation, and Index Generation. All of them have two internal options of LOAD and APPEND. The LOAD option is used when one is creating only one database, while the APPEND option serves when one wants to join two databases

which already exist (see item 6.4 below). Those three components must be executed sequentially, in the way delineated in the Database Generation Manual.

To execute the options of LOADING a database or APPENDING a database to one already existing, the user has to define the Environmental Parameters (see Chapter 2, specifically the topic 2.2), according to the database which will be loaded (if LOAD) or the one that will "receive" the new database (if APPEND), that is, it has to be the active database.

6.3.1 Data Files Generation.

Here the system creates one REDATAM file for each variable defined in the dictionary (files with the extension ".BIN"). When the user selects the option LOAD and presses [ENTER], the system will show the name of the active database and will wait for the user to enter the variable numbers to be generated (several can be done at a time), and to press [F3] to start the process.

The variables to be inverted (generated) can be entered individually or by a range of numbers. In this case, enter the number of the first and the last variables separated by a dash ("-"). According to the example shown in the picture below, the system will generate the inverted files for the variables with numbers between 21 and 34, inclusive, and the variable 41.

REDATAM 3.1 Data Files Generation Data Base: m180 Date: 29/04/1988

```

-----
|                                     |
|               Load               Append               |
|               -----               -----               |
|                                     |
|               Data Base               |
|               MI80                   |
|                                     |
| Variable Number   Start   Finish   Records   |
| 1    21-34_____ |
| 2    41_____    |
|                                     |
|-----|
| Variable number or range of variables will generate data files. |
|-----|

```

F1 help F3 process F10 exit ENTER sel option ^v move cursor

Figure 8

6.3.2 Hierarchical File Generation.

This option created the connection between the first level variables (household) and second level (persons), through the pointer file (".RED" extension). When the LOAD option is selected with the arrow keys and [ENTER] is pressed, the system will show the name of the active database. To start the process, press [F3].

6.3.3 Index Generation.

Before executing this module, according to the Database Generation Manual, it is necessary to execute the Geographic File Generation (extension ".GEO"), which will contain the names of the geographical variables. This operation is done by the option of Geographic Structure Generation of the Management Functions module.

Then, this option is used to generate the files that will contain the data for those geographical variables (files with ".INX" extension). When the LOAD option is selected with the arrow keys and [ENTER] is pressed, the system shows the name of the active database (the first four letters already defined at the moment of the data dictionary creation, "MI80" for the MIRANDA database). Press [F3] to start the process.

6.4 Database creation piece by piece (new).

This facility works basically to connect two databases, already existing, with the same characteristics, forming a unique database with the name of the first one (for example, connecting country regions). That is, what the system does is to "aggregate" or to "append" to the first database the "records" of the second one. The "receiving" database as well as the "donor" one could have been generated either by the manual or the automatic load process. The important thing is that they must have the same dictionary, with the same variables identified internally inside REDATAM with the same number.

To invoke this facility to load the databases by pieces, the procedures are the same already described in the Manual Load, with the difference that one has to select the APPEND option instead of the LOAD option. In this case the system displays the name of the "receiving" database and asks for the name of the "donor" database. Then, the procedures of the three components (Inverted Files Generation, Index Generation, and Hierarchical Access Generation) are identical to the ones used for the Manual LOAD option.

Notes:

- a. It is mandatory to execute **FIRST** the Data Files Generation function for all variables, and then the appending of the Indexes and the Hierarchical Access.

- b. For security reasons, it is highly desirable to save the "receiving" database **BEFORE** executing the appending processes. Those processes **DO NOT** allow the recovering of the original database, i.e., if something wrong does happen during their execution (like a voltage problem), it is necessary to start from the original state of the "receiving" database.
- c. The REDATAM system executes the append process having the "receiving" database as the active database, and the "donor" database has to be stored inside the working directory.
- d. If both databases are completely stored on disk, and if the logical unit disk of the active database has a free space **GREATER** than the space occupied by the "donor" database, it is possible to execute the append process automatically in just one pass, using the APPEND option of the Automatic Load process, which will undertake the task of the three required functions.

6.5 Files with only one record type (new).

In the previous versions, the existence of the "record type" field in the original file was mandatory, even though this file would have just one record type. This was eliminated in the new version; it is sufficient to specify in the data dictionary that the file has only one record type. The fields of record type location and size are irrelevant in this case.

6.6 Variables with alphanumeric values.

The REDATAM system **DOES NOT** store alphabetic values (letters, special characters, etc.). When the database is generated by either method, Automatic or Manual, every value that does not belong to the numeric range specified for each variable in the data dictionary, will be converted to the Out of Range Value, also specified in the dictionary (see item 5.6).

APPENDIX A - SYSTEM INSTALLATION AND TESTING

If you already have a previous REDATAM version installed in your computer, please, save it as a precaution, because the installation procedure will write the new modules inside the same directory called REDATAM. The same will happen with the MIRANDA directory.

To install REDATAM in your hard disk, you **MUST** use the INSTALL.EXE program, which is in the REDATAM system Disk 1. Position yourself in any hard disk drive that you want to store the system in (for example C:), and then inside any working directory, insert the system Disk 1 in drive A:. Then enter

```
A:INSTALL <language> [ENTER]
```

where <language> is either ENG for English or ESP for Spanish ("ESpañol"), only in case you received both versions. Otherwise the procedure will install the system with the version you received. Then follow carefully the instructions given by the program.

Note: It is imperative to use the INSTALL procedure because the files come in a compressed form in the system diskettes.

It is highly desirable to back up the demonstration data base, which is in the MIRANDA directory, to a diskette. Those files occupy around 230 Kb of disk space, and can be copied by a simple DOS COPY command like

```
COPY C:\MIRANDA\*.* A:
```

This suggestion arises from the fact that this database is sent totally unprotected (see Password Protection in Chapter 5), and therefore, exposed to a possible inclusion of a special password by any user, preventing any subsequent utilization.

Please edit your AUTOEXEC.BAT file in the root directory to place the REDATAM directory in the PATH command. Example:

```
PATH = C:\;C:\DOS;C:\REDATAM
```

An environment called REDATAM has to be specified in the same AUTOEXEC.BAT file, with the command

```
SET REDATAM=C:\REDATAM
```

Please, check if the CONFIG.SYS file exists in the root directory, with at least the following commands:

```
FILES = 20  
BUFFERS = 20
```

Check if the REDATAM Environmental Parameters correspond to your needs by executing the command:

C> REDATAM [ENTER]

and compare them with the following:

Database Name: **MI80**
Database Directory: **C:\MIRANDA**
Working Directory: . (meaning the current directory)
Language: **ENG**
Screen Type: **blank** or **COLOR** (if your computer has a color monitor)

If not, change them according your needs (see item 2.2 - Environmental Parameters Menu)

Subsequently, for a fast installation check, call the Statistical Processor from the Main Menu (it is enough to press [ENTER] when the cursor is placed over its name), enter the REDATAM command

LOAD TEST

and then press the [F3] key to process it. The result should be the same as the one that is shown in Appendix B of the User's Manual.

Upon finishing, you can start the REDATAM tutorial session, being guided by Appendix B of this Supplement accompanied by Chapter 3 - TUTORIAL of the User's Manual.

Please, do not forget to read the NOTES file containing some last minute information.

APPENDIX B - TUTORIAL

This section has to be used in combination with Chapter 3 - TUTORIAL of the User's Manual. The initial description of the exercises and the examples are the same, but as some changes were made in the screen structures and in the main menu, here we go over a "mini-tutorial", using it as a basis for the one described in the User's Manual.

We will use here for this tutorial Case 1 of the User's Manual, depicted there on page 3-6.

To invoke REDATAM just position yourself inside any working directory, enter REDATAM and press [ENTER]. After a few seconds the system's logo will appear, and then the Environmental Parameters Menu. Press [F3] and the system will show the Main Menu with the cursor positioned at the Statistical Processor. For more details, see Chapter 2 - General Topics.

Position the cursor over Geographic Selection (using the right arrow key) and press [ENTER] three times (this will force the system to go directly to the creation of a geographic selection file).

From now on it is exactly as described on pages 3-7 through 3-10 of the User's Manual (enter the filename, its label and then execute the geographical selections). Remember that the [F1] key is a user help, "popping up" a window showing the usage of the other keys. To get out from help, press [Esc]. Note also that the [Home] and [End] keys described in the User's Manual were replaced respectively by [F3] (process) and [F5] (save), by means of keyboard standardization.

After finishing the geographical selection (which ends with the [F5] key to save the file), press [Esc], the left arrow key and [ENTER], which will take the system back to the main menu and then right into the Statistical Processor.

To execute the Case, follow the description in the User's Manual, pages 3-11 through 3-16.

The other exercises can be executed in a similar fashion. For more details about the functioning of the Environmental Parameters Menu, the Main Menu, and the usage of the keyboard, please refer to Chapter 2 - General Topics).

APPENDIX C - SYSTEM LIMITATIONS

This section should replace entirely Appendix E of the User's Manual, page E-1.

The REDATAM system has some capacity limitations, which have to be considered if one wants huge tabulations or if the command sequences are very complex. These are:

1. Statistical Processor.

- 2048 - Maximum size of a statistical command, in characters
- 14 - Maximum size of a category VALUE LABEL of a variable
- 38 - Maximum size of a VAR LABEL variable label
- 128 - Maximum number of variables temporarily created in a session
- 64 - Maximum size of an AVERAGE or CROSSTABS table, in Kbytes
- 64 - Maximum number of ranges in a RECODE
- 10 - Maximum number of WRITE commands in a session
- 10 - Maximum number of records for each WRITE
- 100 - Maximum number of variables by record type in a WRITE
- 100 - Maximum number of variables in a CROSSTABS
- 4 - Maximum number of levels in an AVERAGE or CROSSTABS
- 20 - Maximum number of continuation lines for a command
- 64 - Maximum number of operandi in an algebraic expression
- 256 - Maximum number of lines for a command set, including the continuation lines
- 128 - Maximum number of active variables in a command set
- 32 - Maximum number of AVERAGES in a command set
- 64 - Maximum number of COMPUTEs in a command set
- 32 - Maximum number of CROSSTABS in a command set
- 32 - Maximum number of FREQUENCIES in a command set
- 64 - Maximum number of RECODEs in a command set
- 128 - Maximum number of VAR and VAL LABELs defined (var + val labels)
- 2 - Maximum number of displayed decimal positions for a variable

2. Geography Selection.

- 7 - Maximum label size for the area recodification
- 2000 - Maximum number of geographical selections
- 128 - Maximum number of geographical selection files in the working directory
- 50 - Maximum label size for a geographical selection file

3. Data dictionary.

The dictionary variables have to be numeric, meaning that the REDATAM system **DOES NOT** work with alphabetic variables. The variables storing negative values have to be of the type Character (cannot be compressed), and their size have to be big enough to include the negative sign.

The dictionary variables can only be of three levels:

- 0 - Geographical Variable
- 1 - Household Variable or first record level
- 2 - Person Variable or second record level

When the data dictionary is created one has to specify for each variable one of the three values above, depending upon the variable level. It is the user's responsibility to check that all the variables have actually their corresponding level (the system only checks if the value is between 0 and 2).

- 8 - Maximum variable name size
- 74 - Documentation line size
- 16 - Maximum label size for the categories of a variable
- 12 - Maximum number of geographical levels
- 1024 - Maximum number of variables
- 9 - Maximum size of a variable
- 2500 - Maximum number of categories for all the variables
- 16000 - Maximum value that can be defined for a category code

4. Management Functions.

- 2 - Maximum number of record types in a database
- 45 - Maximum label size of a geographical area.
- 512 - Maximum record size of the original file to be generated
- 512 - Maximum number of geographical areas immediately hierarchically subordinate to any area. For example, the number of Provinces for a specific Region, or the number of blocks for a census tract.

APPENDIX D - ERROR MESSAGES

Almost all the error messages displayed by the REDATAM system in all of its modules are self-explanatory, and it is not worthwhile to show them here. However, there are some errors that cannot be detected at first sight by the user. They are:

Access denied to the specified geographic level

The password entered by the user in the Environmental Parameters Menu has a minimum geographic level that is superior to the geographic levels of the geographic selection file.

Error in pointers of "PUNTER.RED" file

There is an inconsistency between the pointer file and the geographic index files. Probably the pointer file had a problem when generated, or it was severely damaged in the disk. Contact your Database Administrator to restore it.

Error when retrieving selection, incorrect database

The geographic selection file does not correspond to the active database.

File "xxxxxxxx.xxx" does not exist

The file in question was not found in the working directory.

File "xxxxxxxx.INX" not found

Check if the CONFIG.SYS file exists in the root directory of your computer, and if it has the commands FILES=20 and BUFFERS=20.

Insufficient memory for ...

The computer does not have enough memory to execute the instruction.

Number of cases less than the authorized one

The password entered by the user in the Environmental Parameters Menu has a minimum cases limit that is superior to the number of cases of the geographic selection file.

Process aborted by the system

Probably there is no statistical command (AVERAGE, CROSSTABS or FREQUENCIES) in the process.

There are also other known problems in the REDATAM system. These are:

1. In the Statistical Processor, the GEOGRAPHY and LOAD commands, when executed followed by a filename, check for the existence of the selection file (".SEL" for GEOGRAPHY) or the program file (".ECF" for LOAD), displaying an error message if not found. However, the names of the system devices as COM1, LPT1, COM2, etc., **DO NOT** flag an error, even though there are no files with those names. That is, the command

GEOGRAPHY LPT1

will answer "File LPT1.SEL selected". If the process is executed, REDATAM will not flag any error, but will select zero ("0") cases.

2. Sometimes, because of an unexpected temporary memory overflow, REDATAM, by mistake, displays a message of

File "xxxxxxxx.xxx" not found

and returns to DOS. Please retry to execute the module function you were in.

3. If the AREABREAK command is used and there are "out of range" cases in the statistical process results, those are cumulative, and **DO NOT** reflect the actual number of out of range cases of each area. The total number of out of range cases is shown for the global result.
4. If REDATAM does not work properly or presents an unexpected flaw, please go back to the DOS and call REDATAM again. If the error persists, turn off the machine, turn it on and then re-execute the process. If even then the error continues, please make a brief summary of the problem and send it to CELADE's Chief of Data Processing, Casilla 91, Santiago, Chile. Cable UNATIONS, phone 228-3206.

APPENDIX E - FOR VERSION 2.00 USERS

This new version of REDATAM maintains total compatibility with the databases generated with the older system versions, and all geographical selection files and programs can be executed directly without any problems.

The changes included in the various parts of the system are almost always in the form, not in the functions themselves, that is, mainly the functions are the same, but presented in a more integrated way, trying to achieve the total standardization of interaction with the user.

However, as this can affect the user who was already familiar with the former versions, the most important changes are presented below:

1. There is no need any more for the DOS command files (".BAT") with the "SET" commands to start REDATAM. It is enough to enter REDATAM. For a more detailed explanation see Chapter 2 - General Topics and the item on the Environmental Parameters Menu.
2. The [Home] and [End] keys in the Geographical Selection were replaced respectively by [F3] (meaning "process") and [F5] (meaning "save").
3. Some of the function keys ([Fx]) in the Statistical Processor had their function changed. For a better explanation of the keyboard function, see Chapter 2 - General Topics.
4. Similar changes were introduced in the editing mode (REVIEW command) of the Statistical Process. For a better explanation of the keyboard, please see the description of the REVIEW command in Chapter 3, item 3.15.
5. The HELP command in the Statistical Processor had its name changed to COMMANDS, to avoid any possible confusion with the [F1] key (help), which now, in every REDATAM module, pops up a window with an explanation of the functions and the keyboard.
6. The BROWSE command of the Statistical Processor had its name changed to DICTIONARY, first of all because it is more mnemonic, and also to avoid any possible confusion with the VIEW command.
7. It is recommended to the Database Administrators to take advantage of the new password protection feature (see item 5.8) to protect their existing databases.
8. The GEOGRAPHY, LOAD and SAVE commands can be used without the filename parameter. Please refer to the respective descriptions of them in Chapter 2- STATISTICAL PROCESSOR.
9. The DIRECTORY command was eliminated. Its function was replaced by the execution of the GEOGRAPHY and LOAD commands without the filename argument.

For a more detailed explanation of the new functions incorporated into this new version, please refer, in the Table of Contents, to the items marked with the word "(new)".

APPENDIX F - REDATAM FILES

This appendix replaces entirely section 4.6 - REDATAM File Names of the User's Manual. REDATAM uses many files, which can be classified into several different categories, depending on their extensions (the DOS three letter suffix). These are:

System Files:

These files are stored in the REDATAM directory. The files that have a number as the last character of the extension refer to the two languages for which REDATAM has different versions. The ones with a "1" are for the English version while the others that finish with a "2" are for the Spanish version. In the following listing these numbers are replaced by an "x".

| | |
|--------------|--|
| REDPARAM.env | File containing the environmental variables that the system comes with |
| REDMESSG.enx | Message File |
| *.exe | Executable program files |
| REDHELP.hlx | Help text file |
| REDMANUA.hlx | Help command text file |
| REDHELP.kex | Pointer file for the help text file |
| REDMANUA.kex | Pointer file for the help command text file |
| REDATAM.lo1 | File with the system's logo for a monochrome monitors |
| REDATAM.lo2 | File with the system's logo for a color monitor |
| REDSCR.pax | Screen image file |

Database Files:

These files have to be stored in the database directory. The "bbbb" that appears below represents the database name.

| | |
|-------|---|
| *.bin | Transposed data files. One for each variable in the Data Dictionary |
| *.ctl | Data Dictionary control file |
| *.dic | Data Dictionary text file |

- *.geo File containing the geographic structure of the database
- *.inx Geographic Index files (geographic codes and names). One for each geographic level
- *.psw File containing the database protection passwords
- *.nom Geographic names file. Contains the names of the geographic areas. This file is necessary only when creating a database. The WRITE command with the OPTION DOCUMENTATION - REDATAM also creates a ".NOM" file.
- *.red File with pointers to link the household variables with the population data files.

User Files:

These files are stored in the user's working directory.

- *.cmd SL-MICRO 5/ or SPSS-PC 6/ command format file documentation (generated by the WRITE command)
- *.ecf User-created Statistical Processor command files, created by the SAVE command
- REDPARAM.env File containing the user's specific environmental variables
- *.err System message files, created during the database generation processes. They should be verified after each generation process step (they can be erased later)
- *.prn Print format output files generated by the PROCESS command of the Statistical Processor and by the DISPLAY GEOGRAPHY module
- *.sel User-created Geographic Selection files.
- *.tmp Temporary system work files (may be erased). REDOUTPU.TMP is the file that contains the last REDATAM output sent to the screen.

5/ SL-MICRO is a registered trademark of QSC, Box 23056, Lansing, MI 48909.

6/ SPSS-PC is a registered trademark of SPSS Inc., 444 N. Michigan Ave., Chicago, Ill 60611.

INDEX

Accessing REDATAM 4
Alphabetic variables 58
Alphanumeric values 53
APPEND a database 50
Area selection 36
AREABREAK 38
ASCII 42
AUTOEXEC.BAT 54
Automatic database load 50
AVERAGE 21, 25
BAT 61
Batch processing 11
BEGIN, in IF 21
BIN file extension 51
BROWSE 16, 61
BUFFERS, in config.sys 54
CASES 14
Cases selection 14
Change (edit) commands 27
Color 6
COM1 60
COMMANDS 15
Composed IF 21
COMPUTE 21
CONFIG.SYS 54
Copy categories 33
CREATE a geography file 36
CROSSTABS 21, 25
Data files generation 51
Database creation 52
Decimal variables 12
Decimal, dictionary variables 45
Deletion, dictionary categories 44
Deletion, dictionary variables 44
Demonstration database 6
DICTIONARY 16
DIRECTORY 61
DISPLAY dictionary 16
Display geography 40
DOS 32
ECF 11
Edit 27
ELSE, in RECODE 26
End key 61
ENDHP 17
ENDIF, in IF 21
Environment Parameters 4
 Checking 7

INDEX -----

- Database directory 6
- Database Name 6
- Language 6
- Screen type 6
- System parameters 6
- User 6
- Working directory 6
- ERROR messages 59
- EXIT 11, 18, 32
- External editors 27
- External file for geographical selection 41
- FILES, in config.sys 54
- FILES, in REDATAM 63
- Find, dictionary variables 44
- Form feed, elimination 25
- Freeze the system "logo" 4
- FREQUENCIES 21, 25
- Function keys 9
- G group selection 37
- GEO 48
- Geographic definition menu 36
- Geographic structure generation 52
- Geographical code for selection 41
- GEOGRAPHY 19, 61
- Geography names update 49
- Geography selection limitations 57
- Global selection 37
- Group selection 37
- Help 9, 15, 61
- Help, sensitive 10
- Hierarchy generation 52
- Home key 61
- IF...QUALIFY 17
- IF, composed 21
- Import selection files 36
- Index generation 52
- Insertion, dictionary variables 44
- INSTALLATION 54
- Interval selection 29
- Keys
 - Position Cursor 8
- Labels 33
- Language 6, 54
- LIMITATIONS, system 57
- Line number 11
- LOAD 23, 50, 61
- Load a database, automatic 50
- Load database, manual 50
- Logo 4
- LOTUS, in PROCESS 25
- LPT1 60
- Main Menu 8

INDEX -----

Manual load, database 50
 Manuals 2
 Master password 47
 MESSAGES, error 59
 Minimum geographical level for display 41
 Minimum password 47
 Modules and submodules 9
 Negative values, variables with 45
 NOFF, in PROCESS 25
 NOTES 55
 Number of cases 14
 Number of observations 39
 Out of range, values of variables 45
 OUTPUT in process 13
 P, geographic selection 37
 Password 6, 46, 47
 Database update 47
 Dictionary update 47
 Master 47
 Minimum 47
 Minimum geographic level 47
 Minimum number of cases 48
 PATH, in autoexec.bat 54
 Print the output 34
 PRN file extension 34
 Problems 60
 PROCESS 11, 25
 Process Status Screen 10, 13
 Process time 13
 Protection 46
 Range 45
 Real variables 12
 RECODE 21, 26
 Record type 53
 RED file extension 52
 REDOUTPU.TMP 64
 REVIEW 27, 61
 RUN NAME 24
 Sample 29
 SAVE 30, 34, 61
 SEL file extension 19
 SET 54, 61
 SHELL 32
 SIDEKICK 27
 SL-MICRO 64
 SPSS-PC 64
 Statistical Processor 10
 Status Screen 10
 Status, Process 13
 Sub-set generation 38
 SYSTEM installation 54
 SYSTEM limitations 57

INDEX -----

T geographic selection 38
 TEST 55
 Text editor 42
 THEN, in IF 21
 Time, Process 13
 TUTORIAL 56
 Update, geography file 37
 Update, geography names 49
 Update, selection file 37
 VALUE LABEL 33
 VIEW 11, 34
 Walking method, geographical selection 36
 WEIGHT 21, 35
 Work directory 4
 WRITE 38

