NS-Report

User Manual

Ref. NSREPUSR001

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Organization of the Manual

This manual comprises 9 chapters and 2 appendixes:

Chapter 1 **NS-Report overview**

This chapter provides an overview of the NS-Report tool and describes the various components of a report.

Chapter 2 **Components of a NS-Report document**

This chapter intends to recall or to learn you the different items of a report document.

Chapter 3 **Design approach for NS-Report**

This chapter shows you how to make full use of NS-Report by planning the steps you'll carry out.

Chapter 4 **Quick tour of NS-Report**

This chapter describes the various features of this graphical interface.

Chapter 5 **Developing a generic document**

This chapter describes the various manipulations that you can perform.

Chapter 6 **Using calculation fields in NS-Report**

This chapter shows you how to use calculation fields.

Chapter 7 **Testing a generic document**

This chapter shows you how to test a generic document.

Chapter 8 **Multi-target considerations**

This chapter deals with some of the questions you may ask when using NS-Report under Windows and OS/2.

Chapter 9 **Examples**

This chapter introduces the creation of two generic documents with NS-Report using the approach described in chapter 3.

Appendix A **Limitations**

This appendix introduces the limitations which may appear when NS-Report is being used.

Conventions

Typographic Conventions

Important term	Important terms are printed in **bold**.
Interface component	The names of windows, dialog boxes, controls, buttons, menus and options are printed in *italics*.
[F9]	Function key names appear in square brackets.
FILENAME	Filenames are printed in UPPERCASE.
`syntax example`	Syntax examples are printed in a `fixed-width font`.

Notational Conventions

•	A round bullet is used for lists.
♦	A diamond is used for alternatives.
1.	Numbers are used to mark the steps in a procedure to be carried out in sequence.

Operating Conventions

Activate the *XXX* \ *YYY* ... command	This means that you need to open menu *XXX*, then select the *YYY* command (option) on this menu. You can perform this action using the mouse or mnemonic characters on the keyboard.
Activate the *XXX* \ *YYY* ... button	This means that you need to display the tool bar named *XXX*, then click the *YYY* button in this tool bar (the name of each button is shown by its help bubble). You can only perform this action with the mouse.
Activate the *XXX* ... button	This means that you need to select button *XXX* in a dialog box. You can perform this action using the mouse or mnemonic characters on the keyboard.

Icon Codes

Indicates specific information on using the software under DOS-Windows (all versions).

Indicates specific information on using the software under DOS-Windows 3.x (16-bit versions).

Indicates specific information on using the software under DOS-Windows 32-bit versions.

Indicates specific information on using the software under OS/2-PM (all versions).

Indicates specific information on using the software under OS/2-PM Version 1.3 and higher (16-bit versions).

Indicates specific information on using the software under OS/2-PM Version 2.x (32-bit versions).

Indicates specific information on using the software under OS/2-PM 1.x or DOS-Windows 3.x (16-bit versions).

Indicates specific information on using the software under OS/2-PM 2.x or DOS-Windows 32-bit versions.

Indicates specific information on using the software under Macintosh.

Chapitre 1 NS-Report overview

NS-Report is a graphical tool for designing reports such as financial statements, inventories, statistics and invoices.

This chapter provides an overview of the NS-Report tool and describes the various components of a report. By identifying these components during the specification phase, you'll find it much quicker to design a report with this tool.

This chapter explains

- The NS-Report tool’s main concepts
- How a report is structured
- The components in the body of a report

Contents

Introduction to NS-Report

Simple to use, NS-Report allows you to design the different parts of your final document on the screen, then handles the report's presentation and page layout when it's output to the printer or screen.

You use NS-Report's graphical interface to create generic documents in which you define your report's page layout and its variable fields. NS-Report provides a palette of graphical objects designed to enhance your documents' appearance and highlight specific sections.

NS-Report allows to dynamically update the variable fields in your generic documents. Your report data can come from files, windows, controls in the final application, or databases.

With NS-Report, you avoid the complex programming required for graphical presentation on the printer or screen. It also manages dynamic page layouts, where the quantity of data printed on each page can vary.

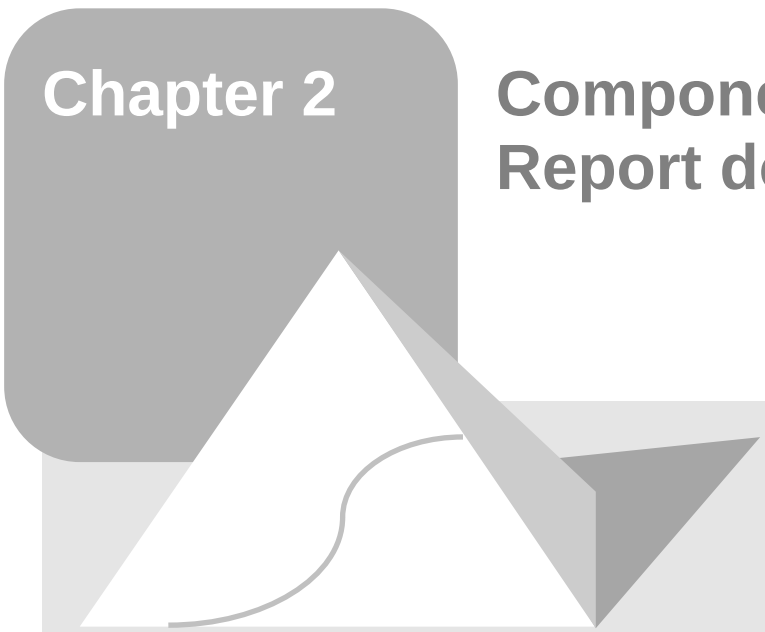
In addition to these features, it enables you to split the development process into two separate phases:

1. Designing the presentation of the report
2. Inserting custom controls into an application designed to output the report to the printer or screen

In this way, the design phase can be entrusted to someone more familiar with the type of report required, its presentation, its data, and its page layout.

After the design phase, the various reports can be handed over to someone else responsible for developing a NS-DK application that produces one or more reports.

Chapter 2 Components of a NS-Report document



This chapter intends to recall or to learn you the different items of a report document.

This chapter explains

- The regions of a NS-Report document
- The body of NS-Report document

Contents

NS-Report structure

Most reports are made up of four regions:

- **Header**

  This region appears at the top of each page in the document. It usually contains static items only (such as the title, logo and corporate name), but sometimes contains variable items (such as the print date).

- **Footer**

  This region appears at the bottom of each page. Its contents may be static or variable.

- **Body**

  This region appears between the header and the footer. It can contain any number of static items and variable data fields.

- **Summary**

  A report can also end with a summary region, which appears above the footer on the last page.

The two figures below show a typical page, made up of three regions, and a final page that ends with a summary.

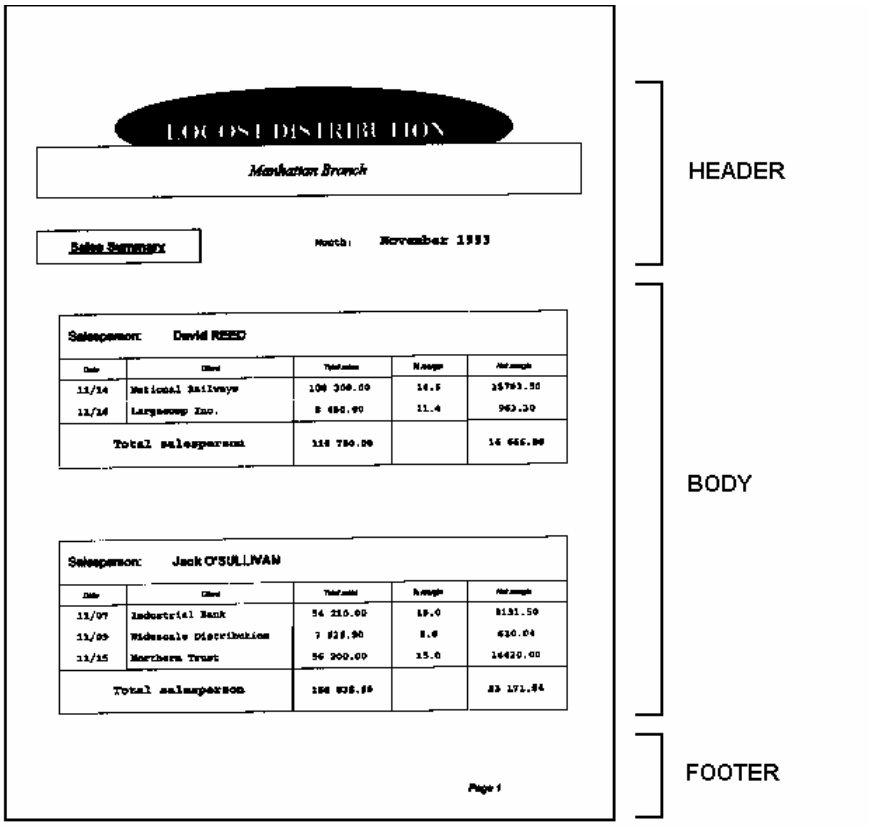
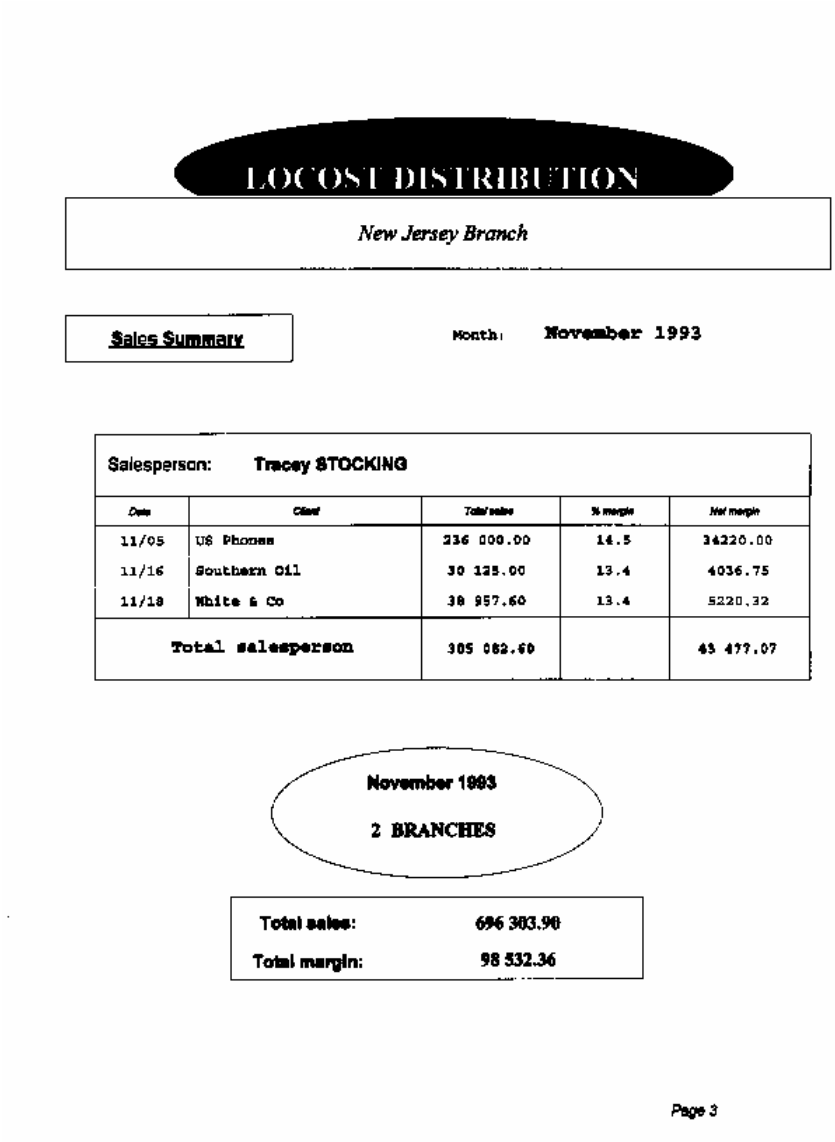


Figure - Structure of a document



LOCOST DISTRIBUTION

New Jersey Branch

Sales Summary Month: **November 1993**

Salesperson: **Tracey STOCKING**

Date	Client	Total sales	% margin	Net margin
11/05	US Phones	236 000.00	14.5	34220.00
11/16	Southern Oil	30 125.00	13.4	4036.75
11/18	White & Co	38 957.60	13.4	5220.32
Total salesperson		305 082.60		43 477.07

November 1993

2 BRANCHES

Total sales:	**696 303.90**
Total margin:	**98 532.36**

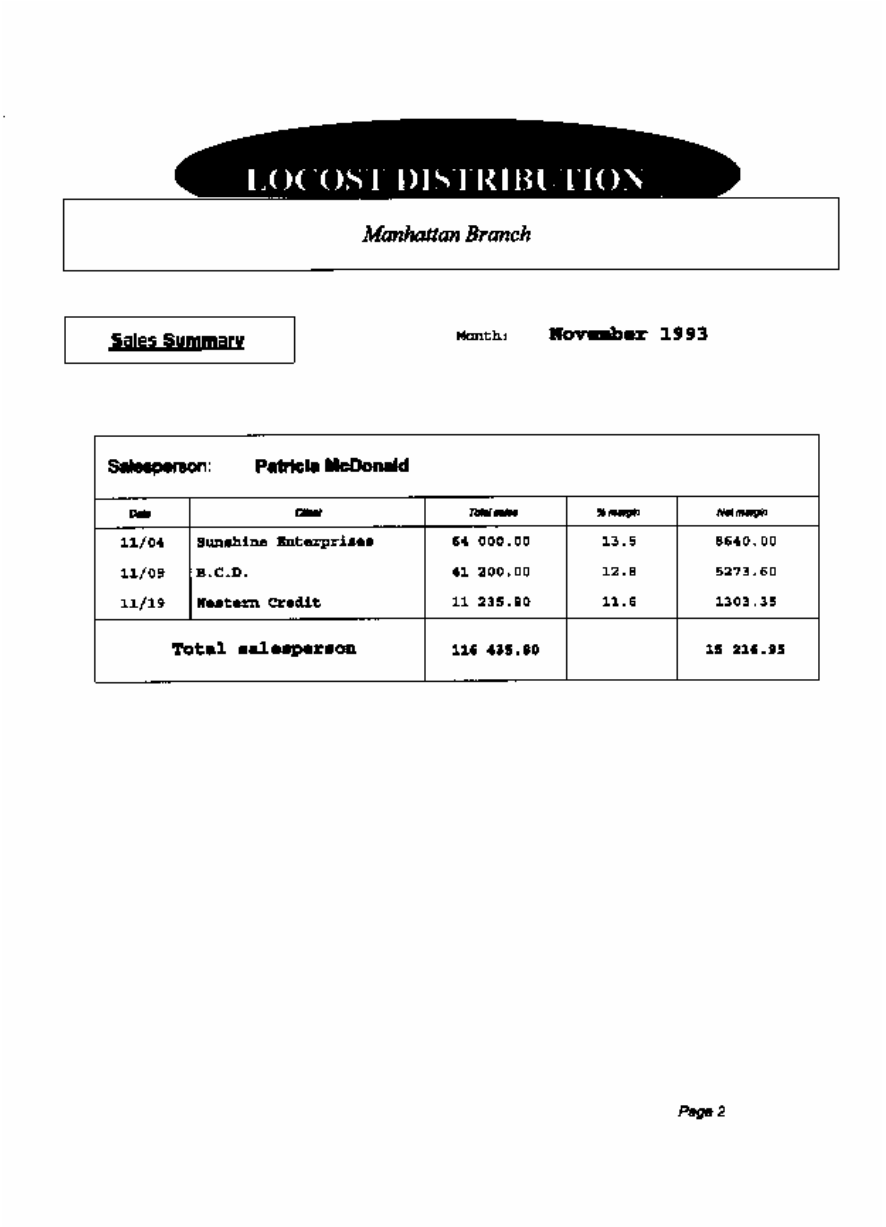
Page 3

Figure - Last page with summary

Document body

The body is the most important part of a document. Its appearance can vary from one document to another.

Some document bodies are simple: they just repeat the same type of line but vary the contents of each line. A line is also called a **record**.



LOCOST DISTRIBUTION

Manhattan Branch

Sales Summary

Month: **November 1993**

Salesperson: **Patricia McDonald**

Date	Client	Total sales	% margin	Net margin
11/04	Sunshine Enterprises	64 000.00	13.5	8640.00
11/09	B.C.D.	41 200.00	12.8	5273.60
11/19	Western Credit	11 235.80	11.6	1303.35
Total salesperson		116 435.80		15 216.95

Page 2

Figure - Simple document body

Most document bodies, however, have a more complex presentation: the record is printed several times to form a series of lines called a **group**.

Generally speaking, this group is also repeated several times within the document body. This repetition is always controlled by a data value, which we'll call a **group control variable** in this manual.

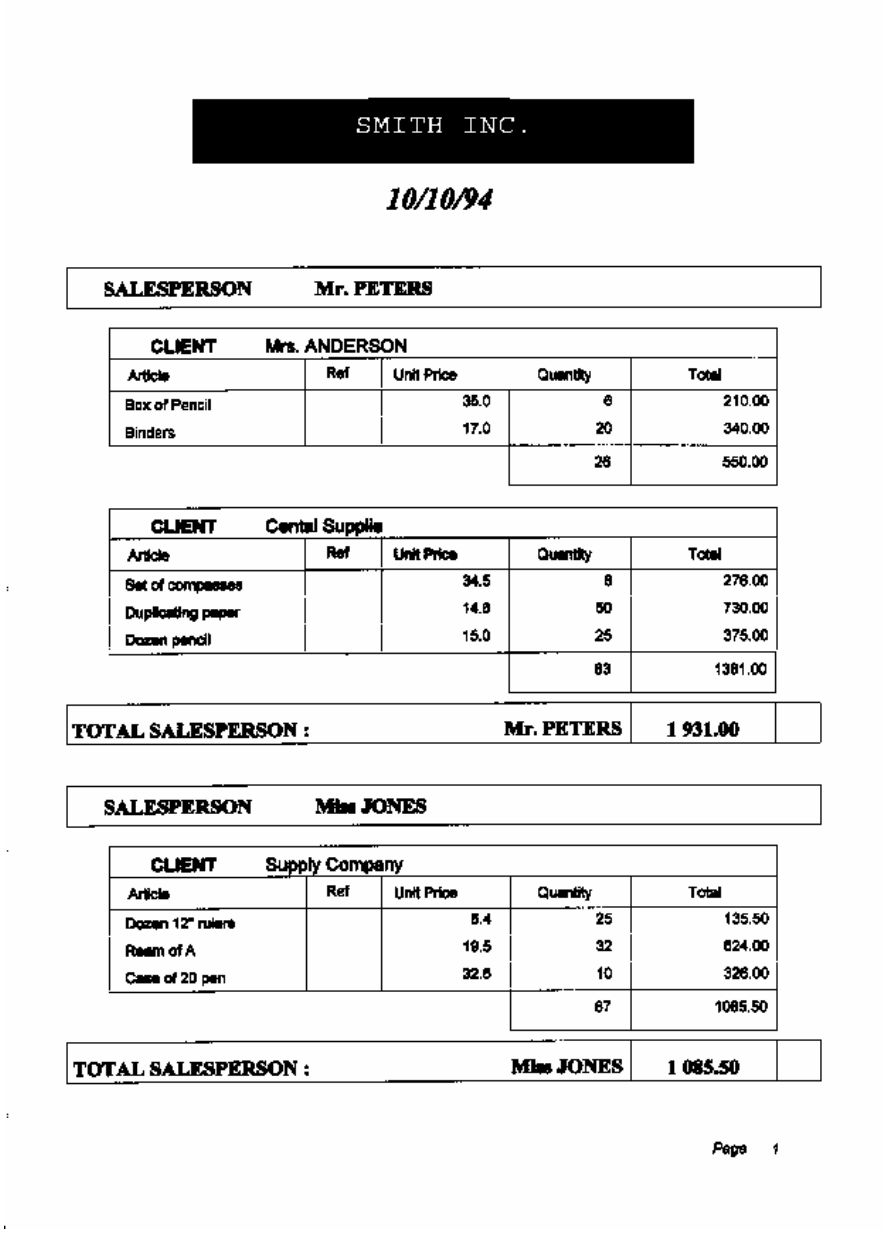
The records in a group can be enclosed between two regions:

1. A **group header**

   This region is printed each time the control variable changes its value.

2. A **group trailer**

   This region is also printed each time the control variable changes its value. It terminates a group.



SMITH INC.

10/10/94

SALESPERSON **Mr. PETERS**

CLIENT Mrs. ANDERSON

Article	Ref	Unit Price	Quantity	Total
Box of Pencil		35.0	6	210.00
Binders		17.0	20	340.00
			26	550.00

CLIENT Central Supplie

Article	Ref	Unit Price	Quantity	Total
Set of compasses		34.5	8	276.00
Duplicating paper		14.6	50	730.00
Dozen pencil		15.0	25	375.00
			83	1381.00

TOTAL SALESPERSON : **Mr. PETERS** **1 931.00**

SALESPERSON **Miss JONES**

CLIENT Supply Company

Article	Ref	Unit Price	Quantity	Total
Dozen 12" rulers		5.4	25	135.50
Ream of A		19.5	32	624.00
Case of 20 pen		32.6	10	326.00
			67	1085.50

TOTAL SALESPERSON : **Miss JONES** **1 085.50**

Page 1

Figure - Complex document body

In the following chapters, you'll learn how to use NS-Report to create a generic document that defines the various components of a report.

Chapter 3 Design approach for NS-Report

To make full use of NS-Report and create a generic document easily, you need to plan the steps you'll carry out. An improvised approach will result in hesitation, readjustments and major corrections, which will slow down and complicate the entire design process.

To make the most of NS-Report, we suggest you read this chapter fully before you move on to rest of this manual or create your first report. Any references to Chapter 5 are simply intended to help you tie in the design approach with the actual creation of a generic document.

This chapter explains

- How to develop a generic document
- How to view and print a generic document
- How to use a generic document

Contents

The report design procedure

We have devised a two-phase design procedure that you can use as a basis for developing generic documents.

1. The first phase is the **specification phase**, which you do on paper. This involves drafting your report's layout and defining some of the parameters required to create the generic document.
2. The second phase covers all the steps involved in using NS-Report to **build** and **refine** the generic document, based on your specifications from the previous phase.

At the end of this phase, you print out the report after integrating the generic document.

Each of these phases is described in the remaining sections of this chapter.

Obviously, the procedure shown in this chapter doesn't intend to be universal or mandatory. However, you may find it very useful when designing your first few documents with Report and it can help you develop your own procedure.

Preliminary specifications

Drafting the final document's layout

Before you start building your generic document, which will control how your report is printed, you need to define your report's layout. By starting out with an idea of how the end-product will look, you'll avoid having to make numerous readjustments, which can turn the development process into a time-consuming and tedious task.

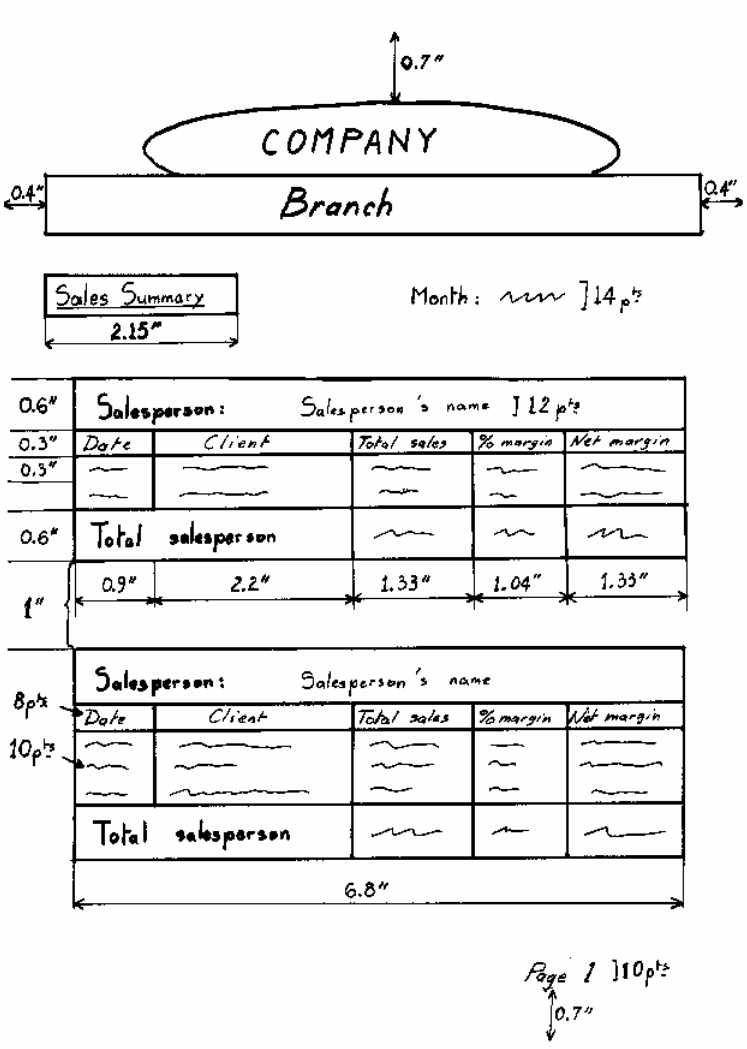
For this reason, we recommend that you draft the document on paper and define some of its characteristics, such as:

- Paper format
- Margins
- Border sizes and positions
- Image sizes and positions
- Font sizes and line spacing (wherever possible)

This draft document doesn't have to be very accurate and you can even draw it free-hand. The main aim is to include any information that will help you design the document in NS-Report as quickly and efficiently as possible.

The example below identifies:

- *The paper format*
- *The margin widths*
- *The dimensions of the various borders*
- *The font styles used (bold, italic, etc.)*
- *The contents of all the static text fields that will appear in the report*



☞ Some annotations have been left out to make this sample document easier to read.

Identifying your variables

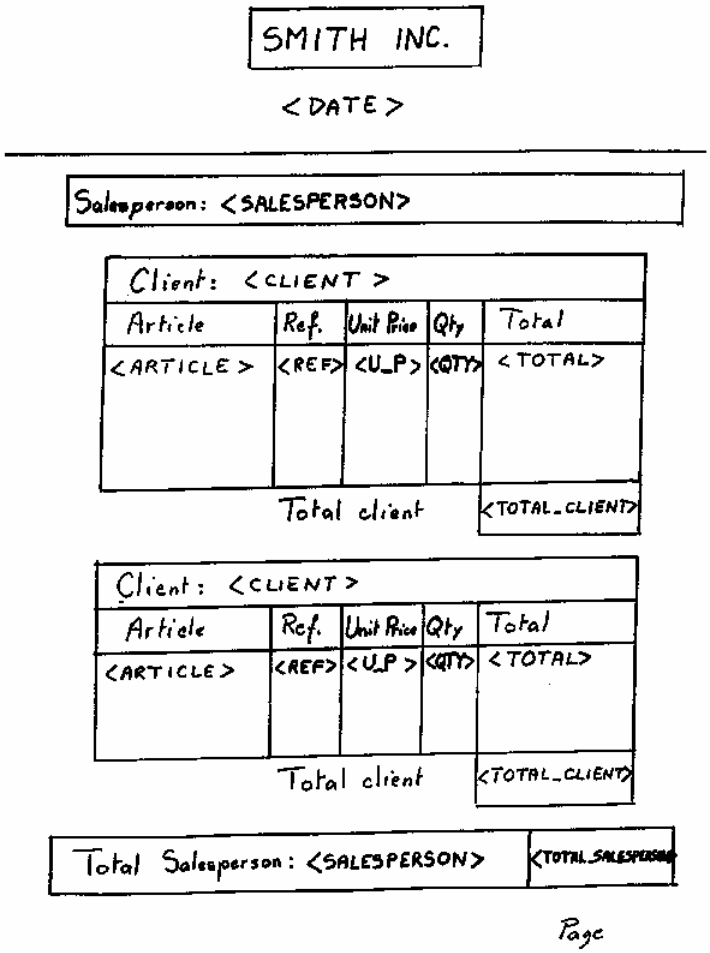
Once you've finalized your report's layout, you'll find it easier to position your variable fields, whose values will be set dynamically when the report is output on the printer or screen.

Each of these fields is identified by a unique name which represents the corresponding data item. The variables may come from the application's data model (**class variables**) or may be **local variables** declared in the report.

Some variable fields, known as **calculation fields**, aren't derived from external data but contain a numerical value that corresponds to the result of an operation (total, average, etc.). However, you must still identify and name them so that they can hold an expression, whose result will be substituted when the report is displayed.

You can use a special notation on your draft report to distinguish between static text and variable fields more easily.

For example, you can use the Report tool's notation and enclose variable fields between "<" and ">". Class variables are preceded by a period: <.variable>.



The variable fields in this example are: DATE, SALESPERSON, CLIENT, ARTICLE, REF, U_P, QTY, TOTAL, TOTAL_CLIENT, TOTAL_SALESPERSON and PAGE.

The last four are calculated fields which won't be set by external data.

Setting page breaks

NS-Report automatically generates a page break when the physical page is full, according to the number of regions defined on the page and their height.

NS-Report also allows you to generate a page break whenever a variable's value changes; for example, a branch name or account number. It is important that you decide early which variables will generate a page break, as you'll need to associate them with a **region group**.

To keep control over the way a document is printed and ensure maximum readability, we suggest you restrict the number of variables that generate page breaks.

Breaking down the document

The next step in drafting the document, and possibly the most important, involves identifying each of the regions described in Chapter 2 of this manual.

Your initial breakdown should identify the document's three basic regions, as shown in the following example:

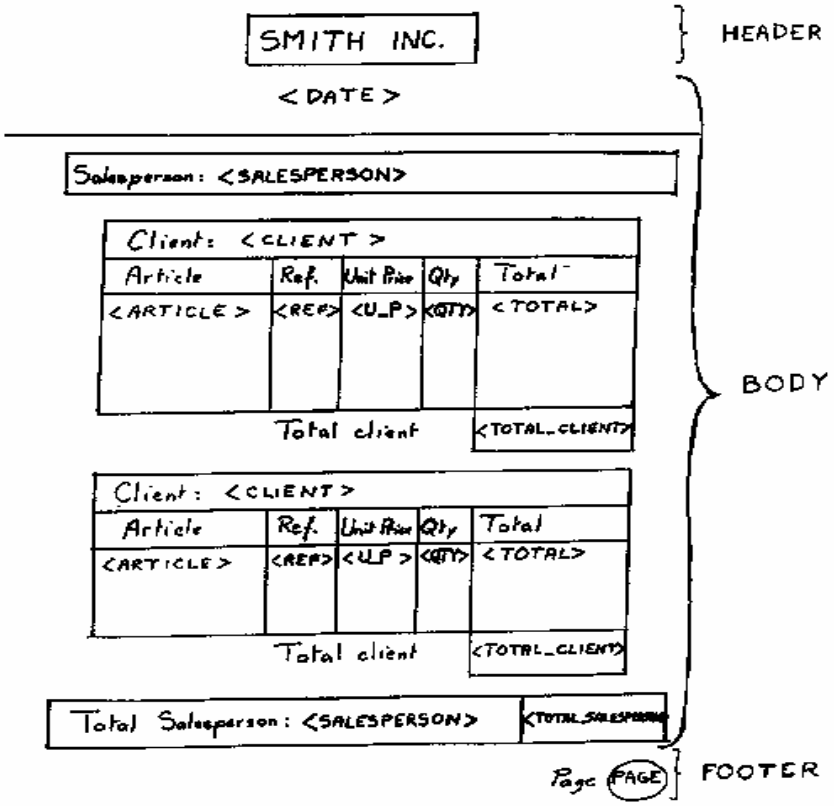


Figure - Basic breakdown

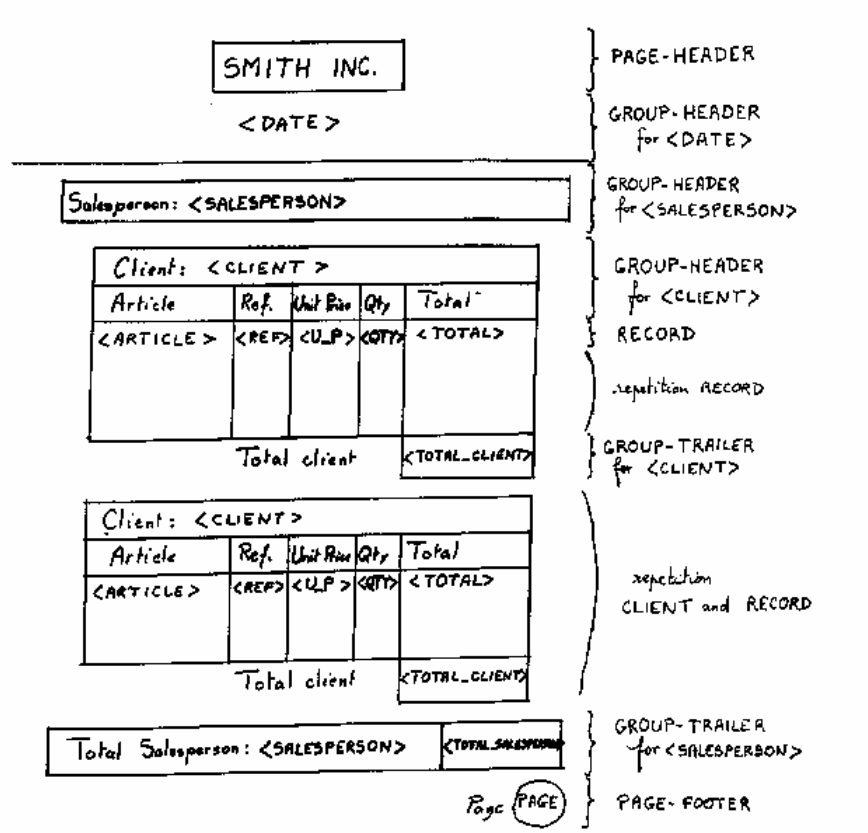
Next, you need to analyze the document's body to identify its components.

In this example, the document's body contains:

- *The date*
- *The salesperson's ID*
- *Several tables, each associated with a client name*
- *A total line for the salesperson*

In this report, lines with the same structure are repeated in each "client" table. Each of these lines is a record.

This document is broken down as follows:



End-of-phase checklist

Now that you've completed the initial phase, you've defined all the details that will help you produce a generic document rapidly with NS-Report:

- Document layout
- List of variables
- Identification of all the regions to include in the report
- Graphical components and static text fields for each region
- Variables used to generate a page break

Now, all you need to do is launch NS-Report to move onto the second phase.

Developing your generic document

Creating the generic document

A generic document is a library resource whose type is *Report*. You can create it in different ways:

- By inserting it in an existing library in the *Libraries* window
- By choosing *File \ New*
- By clicking the *New* button in the permanent tool bar

Once you've created a NS-Report resource, you can open the NS-Report editor window.

For complete information, see the next chapter.

Setting up the generic document

The generic document you just created will have default characteristics that may not be suitable for your final document. To avoid corrections later on, it is wiser to configure the generic document's layout when you create it.

Choose *Edit \ Report Info* to open the *Report Info* box and enter the page format and margins you identified during the first phase.

Creating regions

When you create a generic document, it contains at least the four regions described in Chapter 2 of this manual. If your breakdown analysis of the document identified a need for extra regions with associated variables, you must create these regions. You'll insert text and graphical objects into them later on.

The number of regions required and their associated variables were identified during the first phase.

For more information about creating extra regions, see Chapter 5, “Region groups”.

Inserting and configuring objects

The document layout you drafted during the first phase identified the text items and graphical objects that make up the printed page. The page will be built by inserting text and graphical objects into each region.

If you were able to identify all the relevant parameters in your draft document, it doesn't matter which order you create your regions in. On the other hand, if some of the height and width values have not been defined, it is preferable to begin by defining the *Record* region, followed by the regions that enclose it, and leave the *Header* and *Footer* regions until last. In most cases, this approach reduces the adjustments required to align the borders of neighboring regions.

This phase is usually the longest and can be particularly difficult if the positions and dimensions of the various objects have not been defined beforehand.

For more information about inserting and manipulating objects, see Chapter 5, “Using objects.” For information about configuring objects, see “Setting objects’ attributes” in the same chapter.

Chapter 4 Quick tour of NS-Report

You use NS-Report's graphical interface to develop generic documents, which define each report's format when it is previewed and printed in a NS-DK application. This chapter describes the various features of this graphical interface.

This chapter explains

- How to launch report
- The Report window
- Its menus and tool bars

Contents

Launching NS-Report

NS-Report may be launched in two ways :

- From the Program Manager group of Windows where it was installed

  You have to double-click on the icon NS-Report or to press on the [Return] key when the icon is selected.

- From File/Run of Windows

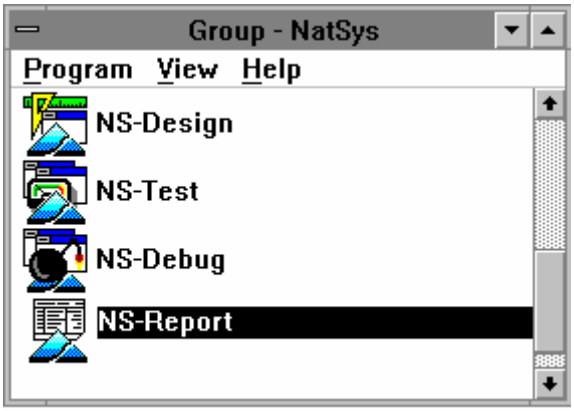
  You have to type the name of the executable one preceded by its path access.

  For example:

  ```
  C:\NSDKWIN\BIN\NSREPORT.EXE
  ```

NS-Report may be launched in two ways :

- From the Desktop Manager OS/2 PM where it was installed, if this option was selected at the time of the installation:



You have to double-click on the icon NS-Report or to press on the [Return] key when the icon is selected.

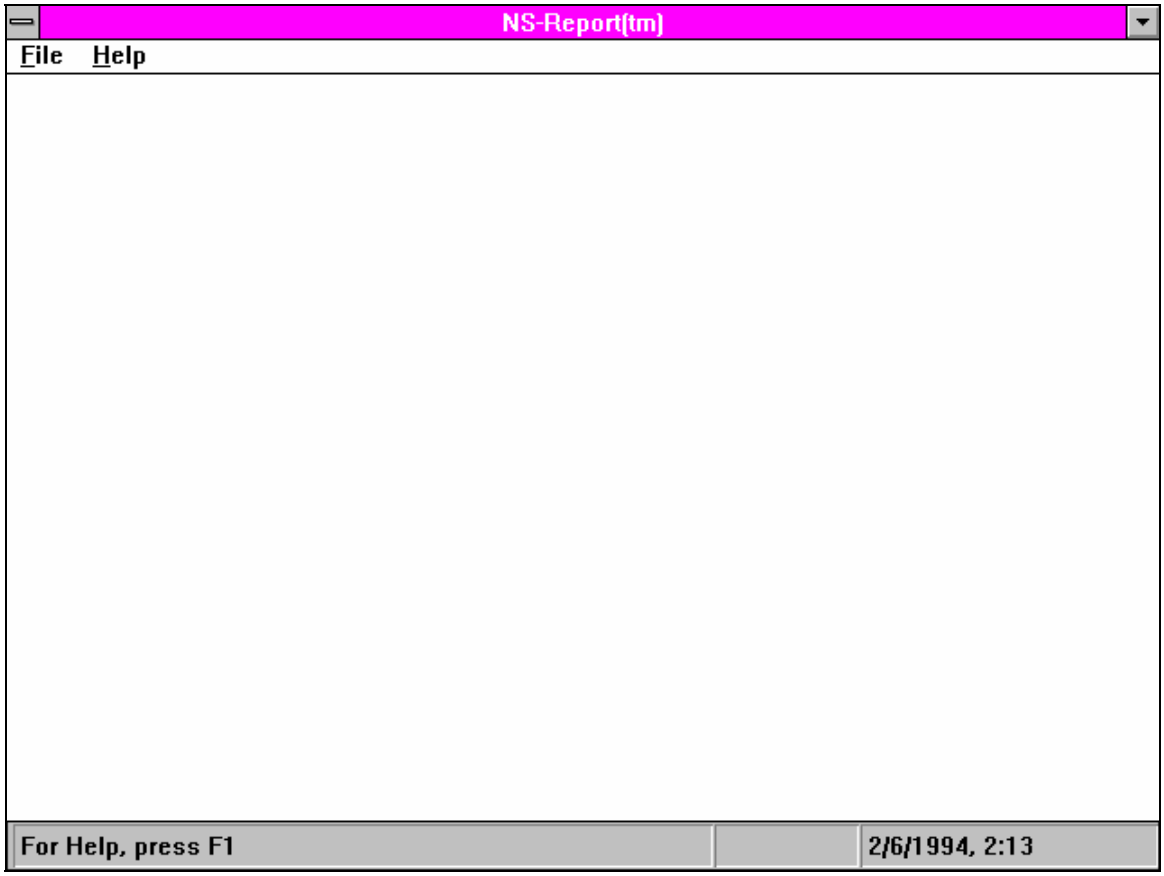
- From a command line of OS/2 session. You have to type `NSREPORT` only if the directory who contains NSREPORT.EXE was integrated into the PATH.

Notes :

- NS-Report seeks from its launching the NSREPORT.HLP help file.
- If the message "Failed to initialise help file" is posted, check that NSREPORT.HLP file is present in the repertory specified by the NS-HELP environment variable.

NS-Report workspace

When you start up NS-Report, the workspace looks like this:



It contains four parts:

1. The title bar. This bar contains (from left to right): the system menu icon, the product name and the minimize icon.

2. The menu bar. This bar contains the File and Help menus only.

3. The editing area. This is the area that displays the various NS-Report windows. It is initially empty.

4. The status line. This line is divided into three parts:

   - The first part displays help on the selected menu or option.

- The central part displays information which varies according to the current window type.
- The right-hand part displays the current date and time.

NS-Report is an MDI (Multiple Document Interface) application, which means that it has the following characteristics:

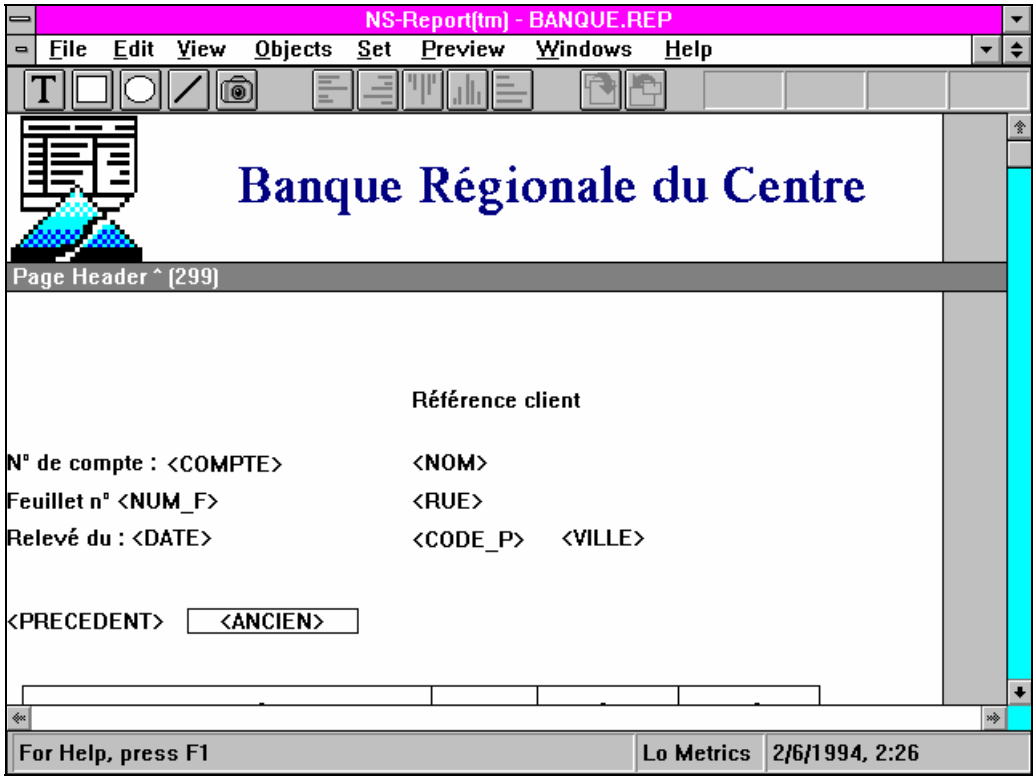
- several windows can be opened simultaneously inside the workspace,
- its menus change according to the context (selected window and item),
- the windows in the editing area can be arranged in cascade or tile mode.

An additional feature, specific to NS-Report, is that all windows are maximized when they are opened: by default, they occupy the entire editing area.

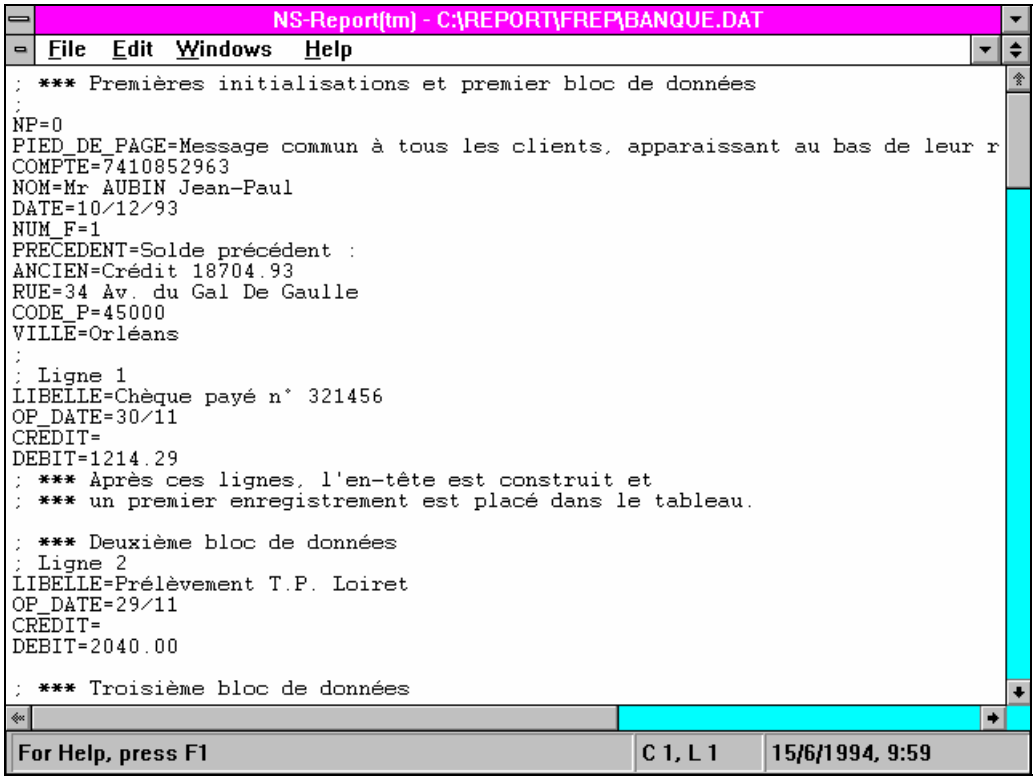
Three types of window can be opened:

- Report window
- Data window
- Preview window

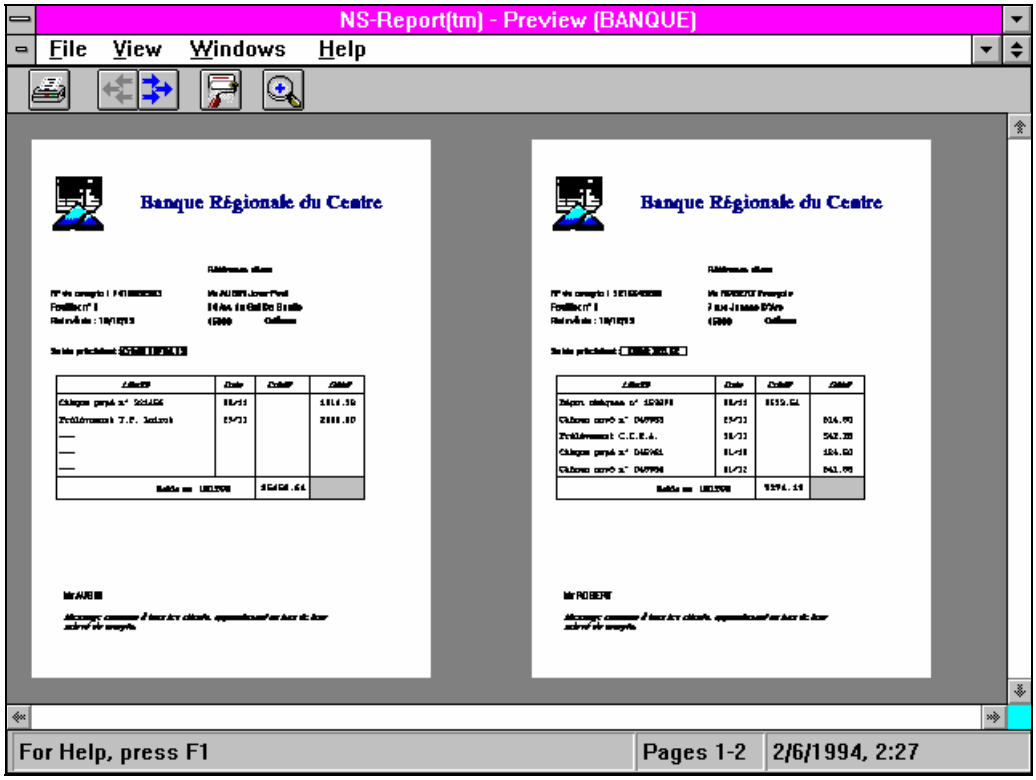
- Report window



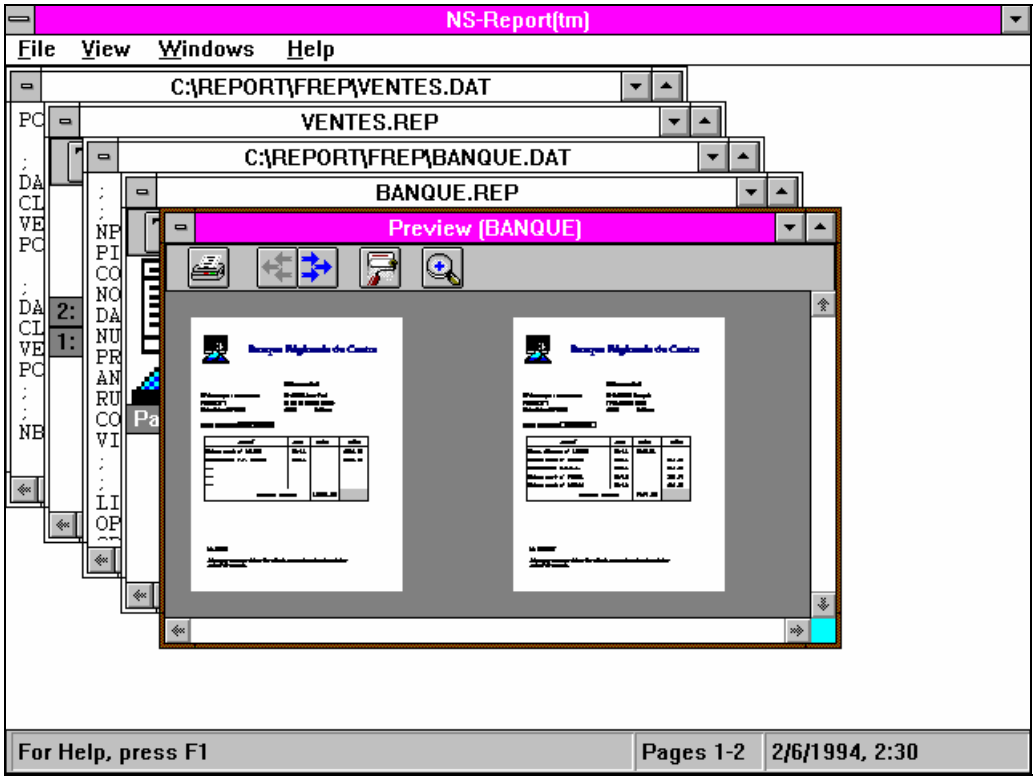
- Data window



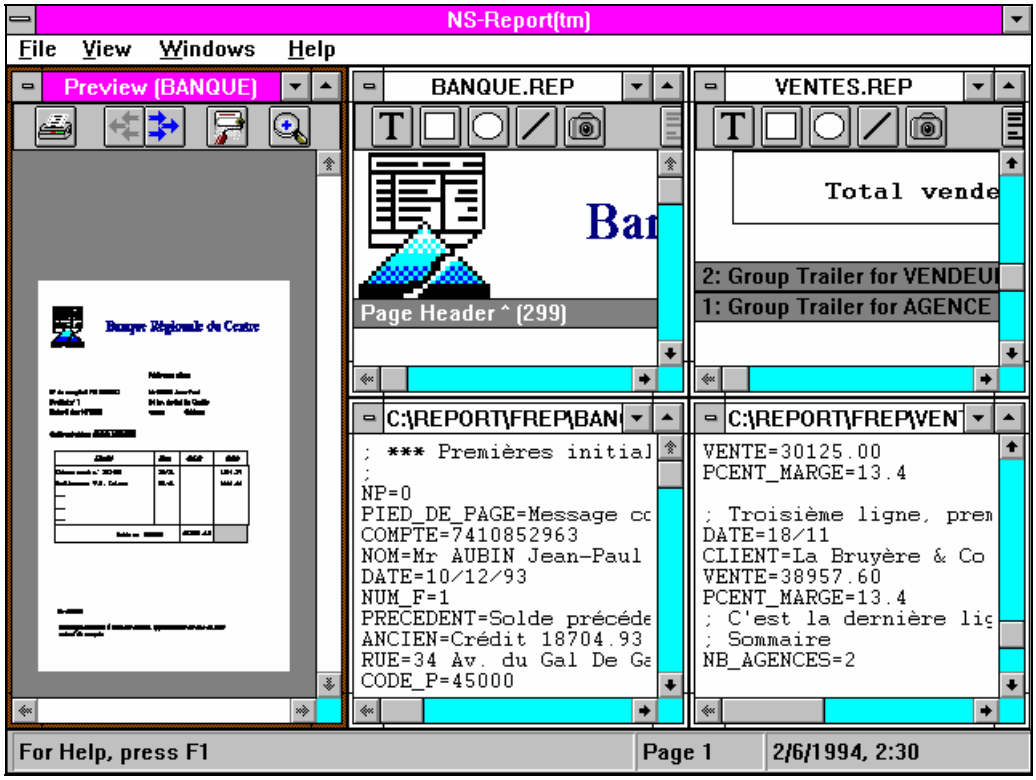
- Preview window



The windows can be disposed in cascade mode :



or in tile mode:


NS-Report(tm)
File View Windows Help
Preview (BANQUE)
BANQUE.REP
Page Header ^ (299)
VENTES.REP
Total vende
2: Group Trailer for VENDEUI
1: Group Trailer for AGENCE
C:\REPORT\FREP\BAN
; *** Premières initial
;
NP=0
PIED_DE_PAGE=Message cc
COMPTE=7410852963
NOM=Mr AUBIN Jean-Paul
DATE=10/12/93
NUM_F=1
PRECEDENT=Solde précéde
ANCIEN=Crédit 18704.93
RUE=34 Av. du Gal De Ga
CODE_P=45000
C:\REPORT\FREP\VEN
VENTE=30125.00
PCENT_MARGE=13.4
; Troisième ligne, prem
DATE=18/11
CLIENT=La Bruyère & Co
VENTE=38957.60
PCENT_MARGE=13.4
; C'est la dernière lig
; Sommaire
NB_AGENCES=2
For Help, press F1
Page 1
2/6/1994, 2:30

The Report window

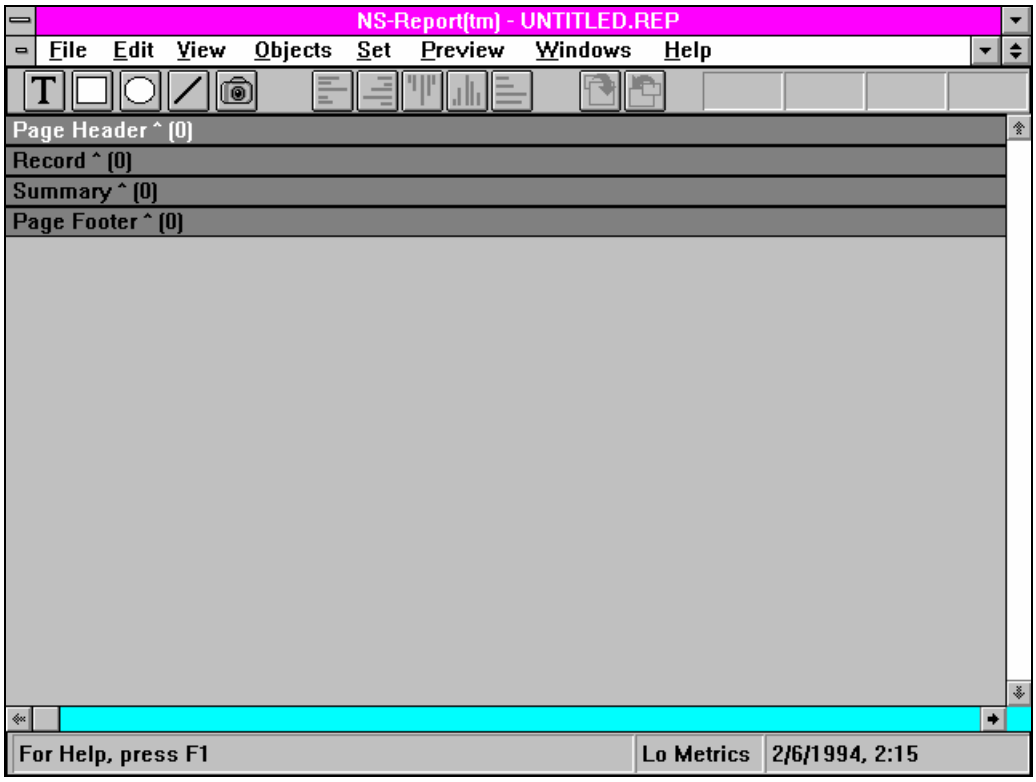
The **Report window** is a graphical window that displays the report's image. You use this window to define the report's layout. This window is opened when you launch Report.

This window is opened by selection of File/New menu or File/Open menu by specifying the name of a file of '.REP' extension. It allows to define and position the components of a Report file components.

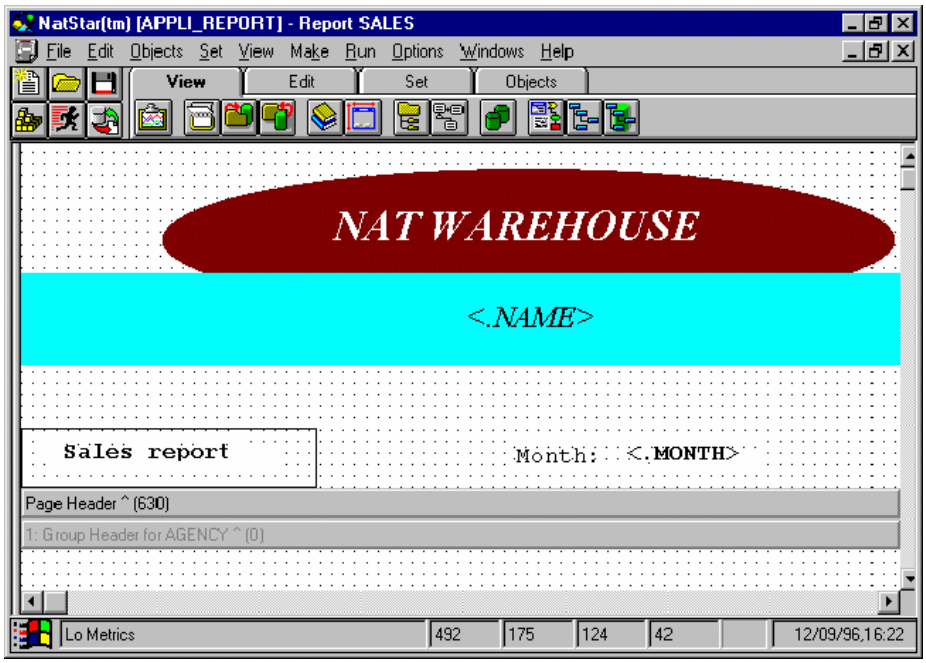
Its workplace contains a number of gray, horizontal banners that define the various regions of the report.

If the generic document was modified since the opening of the window, its name is followed of a character ' * ' in the bar of title.

Report window: new report



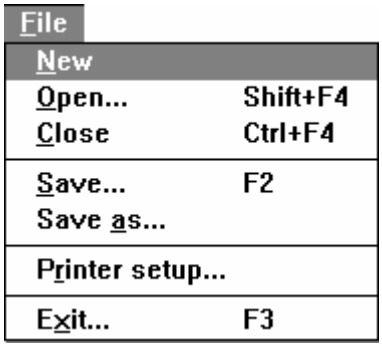
Report window: working on an existing report



Menus

File menu

The *File* menu contains options that allow you to open, close or save a file, and set up or exit Report.



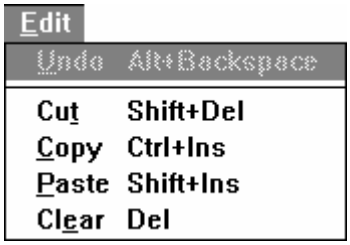
File menu

	Effect	Notes
New	Creates a new report	Opens the *New* dialog box, which allows you to choose the report's name and the library it belongs to. The default name assigned to the first file opened is UNTITLED.REP. Any files opened after this are assigned the default name UNTITLDx.REP or, ultimately, UNTITLxx.REP, where x stands for a digit.
Open ([Shift]+[F4])	Opens an existing report	Displays the Open Report dialog box, which allows you to select the name of the file that you want to open. By default, it searches for files with the .DAT extension. If the specified file does not exist, you can create it. If the filename has the '.DAT' extension, or any other extension except '.REP', a Data window will be opened, otherwise a Report window will be opened.
Close ([Ctrl] + [F4])	Closes the current Report window and the report it contains	Closes the current Data window together with the corresponding test file. You will be prompted to save the file if you have made any changes to the last version saved.
Save ([F2])	Saves the report displayed in the active window	If you've changed the report without saving it, *Save* will be followed by three dots ("...")

Save as	Saves the current text file under a new name.	Displays the Save text file box, in which you must enter the new filename and the directory used to save it. The name of the saved file must not end with the '.REP' extension..
Printer setup	Displays the Printer setup box, which allows you to select a printer and modify its setup.	
Exit ([F3])	Closes NS-Report.	If you've modified an open report or any other edited resources, a message will prompt you to save them first. In this case, *Exit* will be followed by three dots ("...").

Edit menu

The *Edit* menu includes the standard clipboard editing functions (cut, copy and paste) and related commands.



It also allows you to display information about reports, banners and objects.

Edit menu

	Effect	Notes
Undo ([Alt] + [Backspace])	Reverses the last change or adjustment made to one or more objects.	
Cut ([Shift] + [Del])	Deletes the selected object and places it in the clipboard.	
Copy ([Ctrl] + [Ins])	Deletes the selected object and places it in the clipboard.	
Paste ([Shift] + [Ins])	Pastes the contents of the clipboard into the active region.	You can paste the description of a graphical object into a test file ('.DAT' file). However, this operation has no practical application. You cannot paste text into a region of a generic document. If you request this action, the message "Invalid clipboard" will be displayed.
Clear	Deletes the selected object.	

([Del])

View menu

The *View* menu contains a variety of options that allow you to select different views.

Only the first two options affect the Report window:

Edit menu

	Effect	Notes
Arrange ([F9])	Displays the *Arrange items* dialog box, which lets you align objects or give them equal dimensions	
Report Info ([Shift] + [F8])	Displays the *Report Info* box, which lets you set up the current document	
Banner info ([F8])	Displays the *Banner Info* box, which lets you set the active region's parameters	This dialog box's title displays the region's type.
Info ([Enter])	Displays the selected object's *Info* box	This dialog box allows you to modify the object's parameters. This option is equivalent to *Banner info* if a region's banner is selected.
Next Banner ([F6])	Selects the next region's banner and makes it the active region	This option is cyclic.

Objects menu

This menu displays the five types of object that you can insert into a report. The selected object is inserted into the active region at position 0, 0 (lower left-hand corner of the region). The coordinates of an object are always defined in relation to the region that contains it.

Objects menu

	Effect
Text	Inserts a Text object
Rectangle	Inserts a Rectangle object
Oval	Inserts an Oval object
Line	Inserts a Line object
Picture	Inserts a Picture object

Set menu

The options on this menu allow you to set certain object attributes.

Set menu

	Effect	Notes
Foreground color	Displays the *Select foreground color* dialog box, which allows you to choose a foreground color for the selected object	For Text objects, this color is applied to their characters. For Rectangle, Oval and Line objects, the color is applied to their outline. For Picture objects, this option has no effect.
Background color	Displays the *Select background color* dialog box, which allows you to choose a background color for the selected object	For Text objects, this color is applied to the background of the rectangle containing the text. For Rectangle and Oval

		objects, the color is applied to the area inside the object. For Line and Picture objects, this option has no effect.
Font	Displays the *Font selection* dialog box, which allows you to choose a font and character size for the selected object	This option is only available for Text objects.
Foreground layer	Places the selected object in the foreground if it is overlaid by another object.	
Background layer	Places the selected object in the background if it overlays another object.	

Windows menu

This menu provides standard options for controlling the windows you've opened. You can rearrange the windows on the screen or activate one of the windows displayed in the list. The options on this menu remain unchanged, whichever type of window is active.

Objects menu

	Effect
Cascade	Arranges the windows in cascade mode.
Tile	Arranges the windows in tile mode.
1.FIRST / ... / 9.NINTH	Activates the window FIRST, ..., NINTH.
More	Displays a list of all the windows opened and allows you to select a window from this list. This option is only displayed if more than nine windows have been opened.

Help menu

This menu provides access to NS-Report on-line help. Its options remain unchanged, whichever type of window is active.

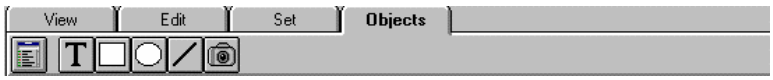
Help menu

	Effect
Help for Help	Explains how to use the on-line help facility.
Keys help	Summarizes the keyboard shortcuts available in
Help index	Displays the on-line help index.
About	Displays the NS-Report version number and Nat System copyright message.

Tool bars

Report provides a tool bar consisting of three tabbed tool bars. Its buttons provide quick access to various functions.

Objects tool bar



Buttons in the Objects tool bar

	Effect	Notes
	Displays the *Tools* box	
	Text object	*Objects* \ *Text*
	Rectangle object	*Objects* \ *Rectangle*
	Oval object	*Objects* \ *Oval*
	Line object	*Objects* \ *Line*
	Picture object	*Objects* \ *Picture*

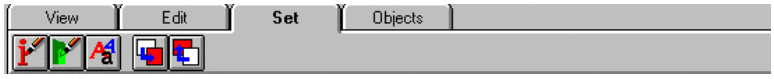
Edit tool bar

Buttons in the Edit tool bar

	Effect
	Undoes the last action
	Left-aligns selected objects
	Right-aligns selected objects
	Distributes objects vertically
	Aligns objects with the top-most object
	Aligns objects with the bottom-most object
	Distributes selected objects vertically and equidistant from each other
	Sets equal width
	Sets equal height
	Displays information about the object

☞ These buttons are only available if at least two objects have been selected in the same region

Set tool bar



Buttons in the Set tool bar

	Effect	Notes
	Sets the background color	
	Sets the foreground color	
	Selects the font	
	Moves selected objects into the foreground	*Set \ Foreground Layer*
	Moves selected objects into the background	*Set \ Background Layer*

☞ These buttons are only available if at least one object has been selected.

Status line

In a Report window, the central field on the status line displays the selected unit in the *Report Info* box. All dimensions displayed in the Report window are expressed in this unit.

As you modify the height of a region using the mouse, this field is dynamically updated with the new height.

The four fields on the status line (coordinates and dimensions of the last object selected)

	Information displayed
X	X-coordinate
Y	Y-coordinate
Width	width
Height	height

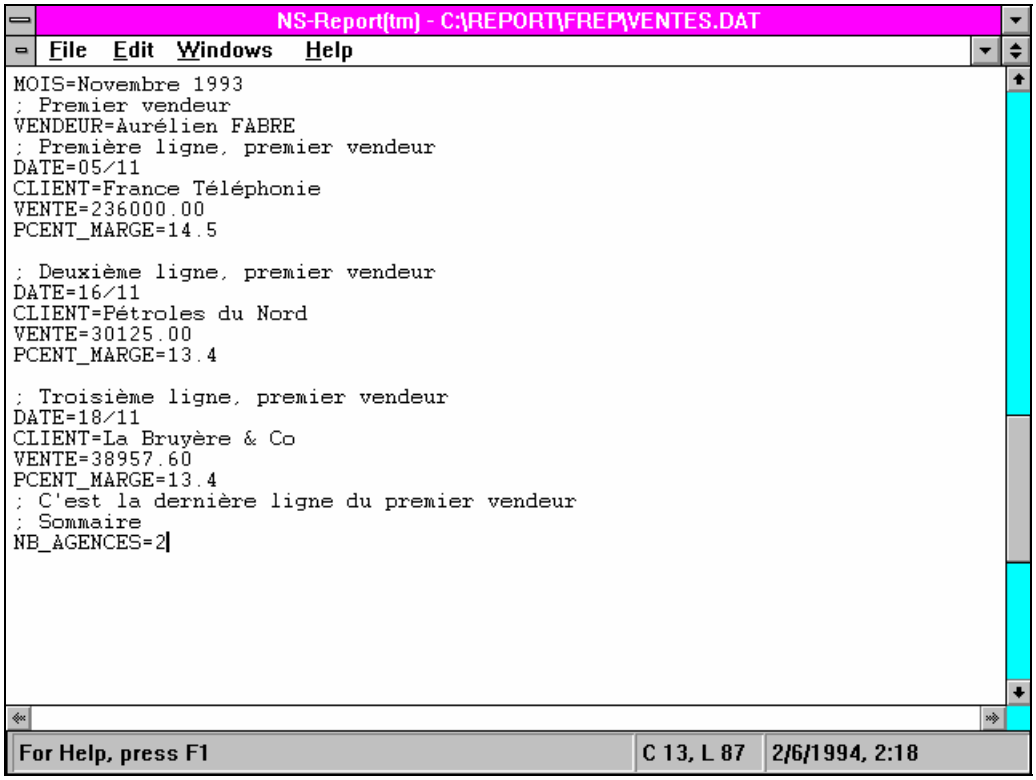
☞ Dimensions are expressed in the unit selected for the document in the *Report Info* box. This unit is displayed on the status line.

The Data window

The Data window is an edit window that allows you to create, modify and save a text file. It provides all the standard window editing functions.

To open this window, select the File/Open option and specify a filename with any extension except '.REP'.

If the test file has been modified since the window was opened, an asterisk ('*') is displayed after its name in the title bar.



Menus

File menu

The File menu contains options that allow you to open, close and save a file, set up the printer and exit NS-Report.

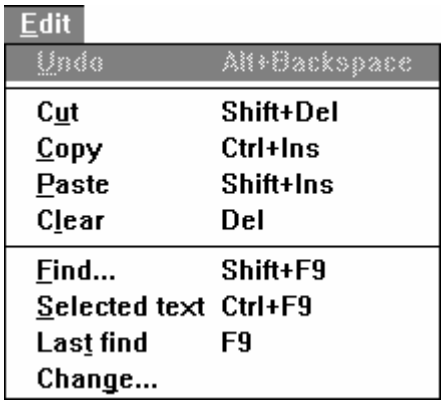
File menu

	Effect
New	Creates a new generic document and opens a Report window. The default name assigned to the first file opened is UNTITLED.REP. Any files opened after this are assigned the default name UNTITLDx.REP or, ultimately, UNTITLxx.REP, where x stands for a digit.
Open ([Shift] + [F4])	Opens a file. Displays the Open Report dialog box, which allows you to select the name of the file that you want to open. By default, it searches for files with the .DAT extension. If the specified file does not exist, you can create it. If the filename has the '.DAT' extension, or any other extension except '.REP', a Data window will be opened, otherwise a Report window will be opened.
Close ([Ctrl] + [F4])	Closes the current Data window together with the corresponding test file. You will be prompted to save the file if you have made any changes to the last version saved.
Save ([F2])	Displays the NS-Report version number and Nat System copyright message.
Save as	Saves the current text file under a new name. Displays the Save text file box, in which you must enter the new filename and the directory used to save it. The name of the saved file must not end with the '.REP' extension.
Printer setup	Displays the Printer setup box, which allows you to select a printer and

	modify its setup.
Exit	Closes NS-Report.
([F3])	If you have modified any of the files opened, you will be prompted to save them first. In this case, the Exit option will be followed by three dots ("...").

Edit menu

The Edit menu provides the standard clipboard editing functions (cut, copy and paste) and allows you to find and replace text.



Edit menu

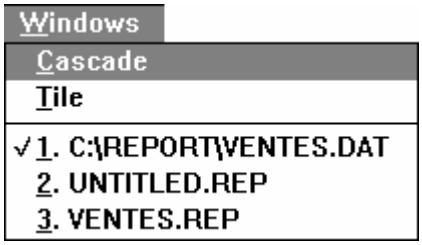
	Effect
Undo ([Alt] + [Backspace])	Reverses the most recent modification made to the text.
Cut ([Shift] + [Del])	Deletes the selected text and copies it into the clipboard.
Copy ([Ctrl] + [Ins])	Copies the selected text into the clipboard.
Undo	Reverses the most recent modification made to the text

([Alt] + [Backspace])

Paste ([Shift] + [Ins])	Pastes the contents of the clipboard into the text at the insertion point.
Clear ([Del])	Clears the selected text.
Find ([Shift] + [F9])	Opens the Find dialog box, used to search for text.
Selected text ([Ctrl] + [F9])	Searches for the next occurrence of the selected text.
Last find ([F9])	Repeats the last search in the text.
Change	Opens the Change dialog box, used to replace text strings.

Windows menu

This menu includes options that allow you to control the windows opened. You can rearrange the windows on the screen or activate one of the windows displayed in the list. The options on this menu remain unchanged, whichever type of window is active.



Windows menu

	Effect
Cascade	Arranges the windows in cascade

	mode.
Tile	Arranges the windows in tile mode.
1.FIRST / ... / 9.NINTH	Activates the window FIRST, ..., NINTH.
More	Displays a list of all the windows opened and allows you to select a window from this list. This option is only displayed if more than nine windows have been opened.

Help menu

This menu provides access to the NS-Report on-line help system. Its options remain unchanged, whichever type of window is active.

Help menu

	Effect
Help for Help	Explains how to use the on-line help facility.
Keys help	Summarizes the keyboard shortcuts available in NS-Report.
Help index	Displays the on-line help index.
About	Displays the NS-Report version number and Nat System copyright message.

Status Line

In a Data window, the central field on the status line displays the position of the edit cursor in the form: column number, line number.


For Help, press F1
C 28, L 9
4/5/1994, 5:08

The Preview window

Usage

The Preview window is a graphical window that displays the result of a test run on a generic document.

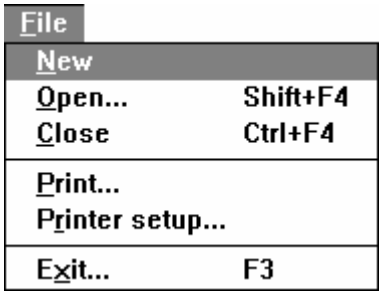
You can open this window from a Report window by selecting the Preview/Display option. It displays a preview of the pages in your prospective document and combines the generic document shown in the window with the corresponding test file (if there is one).

It includes a Zoom in function which allows you to view each page in greater detail.

Menus

Menu File

The File menu contains options that allow you to open, close and save a file, request a printout, set up the printer and exit NS-Report.



File menu

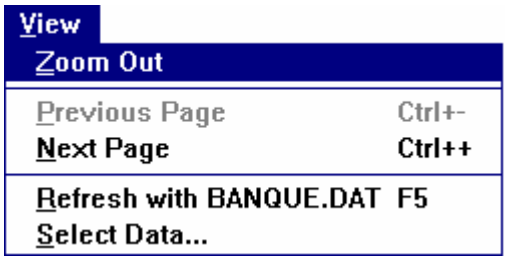
	Effect
New	Creates a new generic document and opens a Report window. The default name assigned to the first file opened is UNTITLED.REP.

	Any files opened after this are assigned the default name UNTITLDx.REP or, ultimately, UNTITLxx.REP, where x stands for a digit.
Open ([Shift] + [F4])	Displays the Open Report dialog box, which allows you to select the name of the file that you want to open. If the specified file does not exist, you can create it. If the filename has the '.REP' extension, a Report window will be opened, otherwise a Data window will be opened.
Close ([Ctrl] + [F4])	Closes the current Preview window.
Print	Opens the Print box, which allows you to print the document displayed in the Preview window.
Printer setup	Displays the Printer setup box, which allows you to select a printer and modify its setup.
Exit ([F3])	Closes NS-Report. If you have modified any of the files opened, you will be prompted to save them first. In this case, the Exit option will be followed by three dots ("...").

View menu

The View menu provides options that allow you to:

- zoom in and out of the displayed document,
- move around the document,
- refresh the contents of the window after changing one of the relevant files,
- select a new test file.



View menu

	Effect
Zoom in/out	Toggles between display modes in the Preview window. If the current page is displayed in reduced mode, you can use the Zoom in option to display it in full-page mode. If the current page is displayed in full-page mode, you can use the Zoom out option to display it in reduced mode, together with the next page if their dimensions allow this.
Previous Page ([Ctrl]+[-])	Displays the previous page. If the current page is the first page, this option is disabled.
Next Page ([Ctrl] + [+])	Displays the next page. If the current page is the last page in the document, this option is disabled.
Refresh with ([F5])	Updates the Preview window to reflect any changes made to the generic document or the test file whose name is displayed on this line. The changes must first be recorded by saving the generic document or test file.
Select Data	Opens the Load test data dialog box, which allows you to select another test file for the current generic document.

If the specified file does not exist, you can create it.

Windows menu

This menu includes options that allow you to control the windows opened. You can rearrange the windows on the screen or activate one of the windows displayed in the list. The options on this menu remain unchanged, whichever type of window is active.

Windows menu

	Effect
Cascade	Arranges the windows in cascade mode.
Tile	Arranges the windows in tile mode.
1.FIRST / ... / 9.NINTH	Activates the window FIRST, ..., NINTH
More	Displays a list of all the windows opened and allows you to select a window from this list. This option is only displayed if more than nine windows have been opened.

Help menu

This menu provides access to the NS-Report on-line help system. Its options remain unchanged, whichever type of window is active.

Help menu

	Effect
Help for Help	Explains how to use the on-line help facility.
Keys help	Summarizes the keyboard shortcuts available in NS-Report.
Help index	Displays the on-line help index.
About	Displays the NS-Report version number and Nat System copyright message.

Tool bar

The tool bar in a Preview window contains five icons:

Requests a printout and displays the Print window, which displays a set of options. Equivalent to the File/Print option.

Displays the previous page. If the active page in the document is the first page, this icon is disabled. Equivalent to the View/Previous Page option.

Displays the next page. If the active page in the document is the last page, this icon is disabled. Equivalent to the View/Next Page option.

Refreshes the window: if the generic document or test file has been changed and saved, the image in the Preview window is updated.
Equivalent to the View/Refresh option.

Equivalent to the View/Zoom in option.

If the window contains a reduced view, this button zooms in on the current page and displays it in its actual size.

or

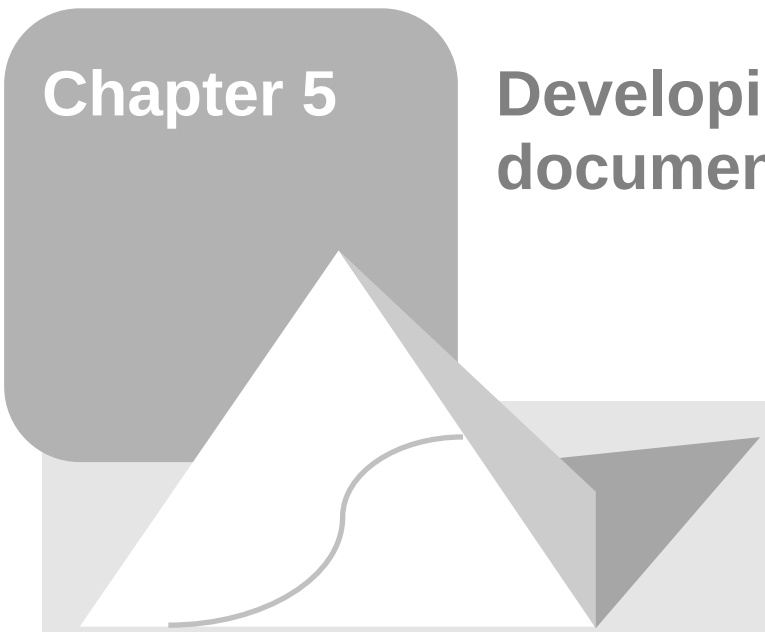
Equivalent to the View/Zoom out option.

If the page is displayed in its actual size, this button zooms out.

Status Line

In a Preview window, the central field on the status line displays the current page number (Zoom out mode) or page numbers (Zoom in mode).

Chapter 5 Developing a generic document



When you develop a generic document, you use the mouse or keyboard to manipulate its graphical image in the Report window.

This chapter describes the various manipulations that you can perform.

This chapter explains

- The different regions in a generic document
- How to define a document's format
- How to use the Report tool's functions

Contents

Structure of a generic document

Generic document	A **generic document** is a file that contains a document's layout description. You create and modify this file in Report.

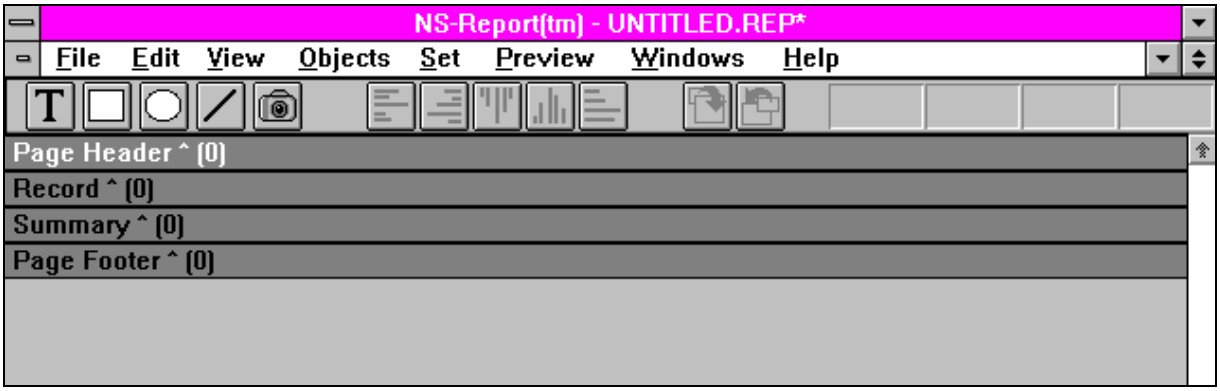
From now on, we'll use the shorter term 'report' to designate a generic document.

Developing and refining a report can involve a large number of operations. You apply some of these operations directly to the report's graphical image. They can affect a region, an object or a selection of objects. You apply other operations to a specific type of object by configuring its *Info box*, a dialog box that displays all the object's characteristics.

Standard regions

Definition in the Report window

Each report contains at least four regions, which are delimited by their banner in the Report window.



- **Page Header**
  Region used to define the report's header
- **Record**
  Region used to define a record
- **Page Footer**
  Region used to define the report's footer

- **Summary**
  Region used to define the summary that appears on the report's last page

Functionality at run time

When an application uses a report to output a document, it sets up the various regions as follows:

1. After receiving the first record:
   - Inserts the Page- Header region
   - Inserts the Record region
2. After receiving each subsequent record:
   - Repeats the Record region
   - If the remaining page length is less than the combined height of the Record and Page Footer:
     - Inserts the Page Footer
     - Generates a page break
   - Any record that didn't fit on this page will be the first record on the new page.
3. After receiving the last record:
   - Inserts the Record region
     - ♦ If there is enough space left to accommodate the Summary region and Page Footer, these regions will be added to this page.
     - ♦ Otherwise, the Page Footer is printed and a new page is generated. This page will contain:
     - The Page Header region
     - The Summary region
     - The Page Footer region

     In this case, the page number is reset to 0.

Groups

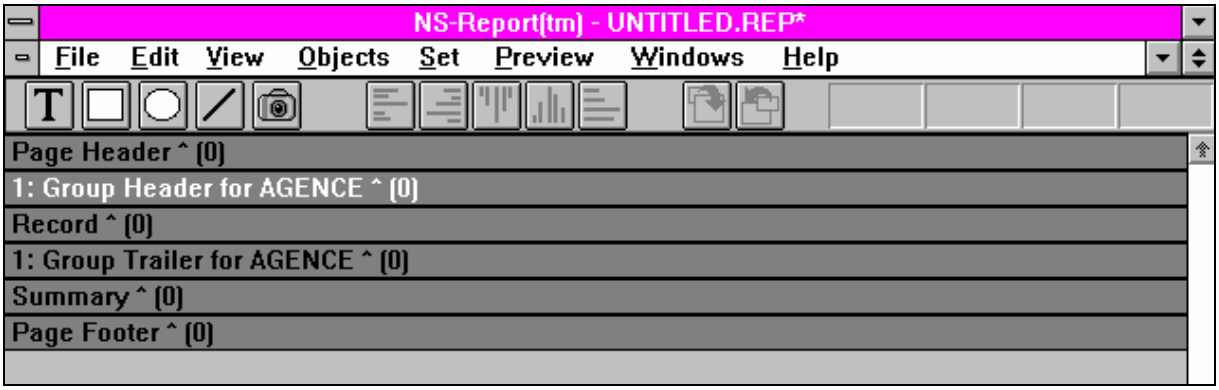
A group consists of a pair of regions associated with a **control variable**. At run-time, each group is controlled by changes in the value of this variable.

Defining groups in the Report window

The two regions that make up a group are known as the Group Header and Group Trailer. You can create and manipulate them in the same way as standard regions. They always enclose the report's Record region.

You can create several groups. In this case, all the Group Headers will appear above the Record region, while all the Group Trailers will appear below the Record region, forming a symmetrical structure around the Record region.

The image of the groups displayed in the Report window can't accurately reflect how the document will look when it is printed because the control variables can take any number of different values.



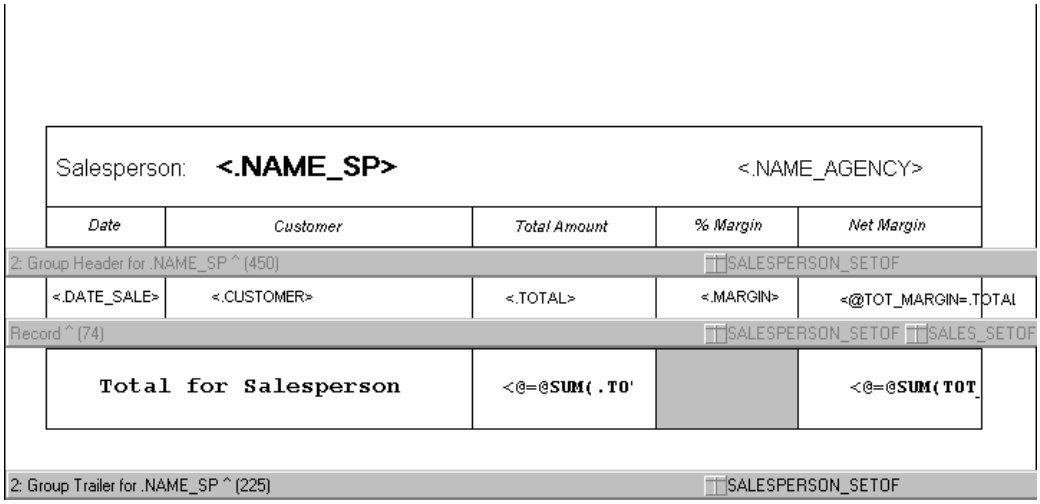
Functionality at run time

When the application uses the report, it prints the Group Header region and sets a value in its control variable. Next, it prints all the regions between this Group Header and the Group Trailer, and repeats them until the value in the Group Header's control variable changes. Then it prints the Group Trailer and the regions that follow it.

If the page break option has been activated for the group, the application prints the Page Footer and starts a new page.

Otherwise, it repeats the Group Header with the new value in its control variable.

This figure shows a report containing two groups. The first group is associated with the agency name and generates a page break. The second group is associated with the salesperson's name and doesn't generate a page break.



For the second agency, the names of both salespeople appear on the same page in the report.

For information about adding and deleting new regions, see the section "Region groups."

Components

Each region defined in a report can contain two types of objects:

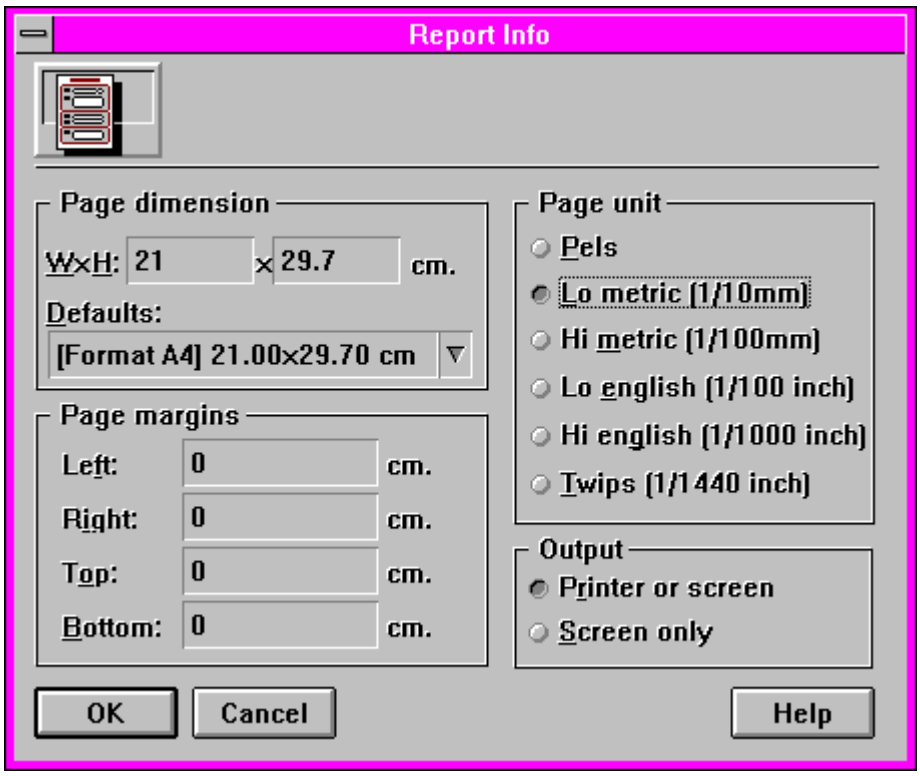
- A range of graphical objects: rectangle, oval, line or picture

  These objects allow you to enhance your data's presentation by drawing borders around it and highlighting it.

- Three types of object that display the report's information:
  - Static text used to present the data
  - Text containing a class variable set by external data sources
  - Text containing the result of a calculation applied to certain numerical variables

Report format

You can set up your report's characteristics in the *Report Info* box. To open this box, choose *View \ Report Info* or double-click an empty part of any region.



In the *Page dimension* group, you set the format of the page you want to use.

Page dimension

	Effect	Notes
WxH	Page width and height, expressed in the selected unit	The default page dimensions are set to 21 x 29.7 cm or 8.27" x 11.69" (A4).
Defaults	Choice of standard US and European formats (A4, A5, Letter, etc.)	Default: A4

In the *Page margins* group, you set the widths of the margins between the edge of the text and the edge of the page. These values are expressed in pixels, centimeters, inches or twips, depending on your choice in the *Page unit* field.

Page margins

	Effect
Left	Left margin
Right	Right margin
Top	Top margin
Bottom	Bottom margin

In the *Page unit* group, you select the unit for the screen or printer.

Page unit

	Effect
Pels	Pixels (points)
Lo metric	1/10 millimeter
Hi metric	1/100 millimeter
Lo english	1/100 inch
Hi english	1/1000 inch
Twips	Twips, i.e. 1/1440 inch

Selecting an *Output* option selects the device where the report will be output.

Output

	Effect	Notes
Printer or screen	The report can be output to the screen or printer.	You can choose a unit other than *Pels* (pixels). This option is checked by default.
Screen Only	The report can only be output to the screen.	In this case, the only unit allowed is *Pels* (pixels).

☞ The white background in the Report window represents the report's printable area. When you update the page format or margins, the width of the white background is readjusted.

After selecting a new unit, the dimensions and margin widths are immediately converted into this unit.

To configure a report for the printer, you should set the fields in the *Report Info* box in the following order:

1. Select *Output \ Printer or screen*.
2. Select a unit in the *Page unit* field.
3. Set the report's dimensions in the *Page dimension* field.
4. Set the margin widths in the *Page margins* field.

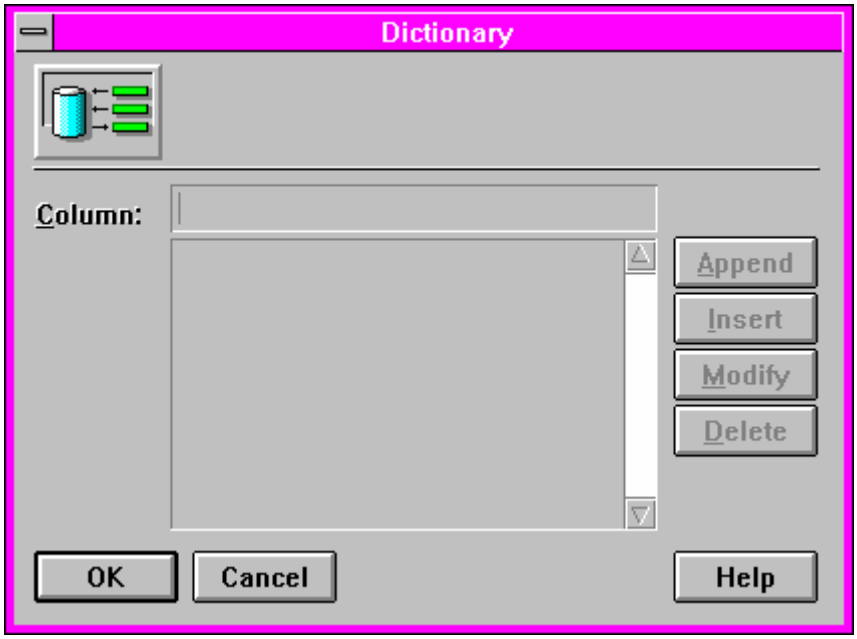
☞ You must set the unit used to define and print your document as soon as possible. This also applies to your page dimensions. In effect, these units determine the numerical values stored in the report, which are used to position and size each object. Changing the unit or paper format at a later stage can lead to errors or complications when you preview or print the file.

Variable dictionary

You will use the dictionary:

- To associate a variable with a Text item defined with the Field option,
- To create a group,
- To check the variable names used when testing,
- To display the names of the fields that need to be set when you program the application that uses the generic document.

The dictionary is called by the View/Dictionary option. This option displays the Dictionary window, which allows you to create and modify the variables in the dictionary.



Column

Name of the variable selected from the list. This field also allows you to enter a new variable name.

Append

Adds the variable entered in the Column field to the end of the list.

Insert

Adds the variable entered in the Column field and inserts it above the variable selected in the list.

Modify

Replaces the variable name selected from the list with the one specified in the Column field.

Delete

Deletes the selected variable from the list.

Notes:

1. You must confirm each new entry by pressing the Append or Insert button.
2. You can define control variables without placing them in a text object. This means that they will never be displayed when you view the document. However, they should still be added to the dictionary.

Creating a report

Creating a Generic Document

Throughout this manual, the term generic document refers to a file that contains the layout description for a document. This file is created and modified in NS-Report. Its name must end with the '.REP extension'.

Developing and testing a generic document can involve a significant number of operations. These are applied to the graphical image in the Report window using the mouse or keyboard.

Some of these operations are performed by manipulating the image directly and can affect a region, an object or a selection of objects.

Others are applied to specific objects by configuring their Info box, a dialog box that defines all the object's characteristics.

Regions

Each region is delimited by the banner belonging to the region above it and its own banner (situated on its bottom edge). The only exception is the Page Header region, which starts at the top of the page.

Selecting a region

You can select a region:

- With the mouse

  Click an empty part of the region to select it.

- With the keyboard

  Press [F6] to select each region successively. This function cycles through all the regions defined on the page.

When you select a region, the text in its banner is highlighted in white.

If the selected region isn't visible in the Report window, the window is automatically scrolled up or down so that the region's banner appears in the workspace.

To reveal a region, you can also use the [PgUp] and [PgDn] keys to scroll the Report window up or down.

Only one region can be active at any given time.

Any actions performed with the menus or keyboard (e.g. *View* menu, *Objects* menu and [Tab] key) are applied to the active region.

Opening a region

You can open any standard region created in a new report or any new region added to a group. In both cases, the region's banner is either attached to the region banner above it or to the top of the document.

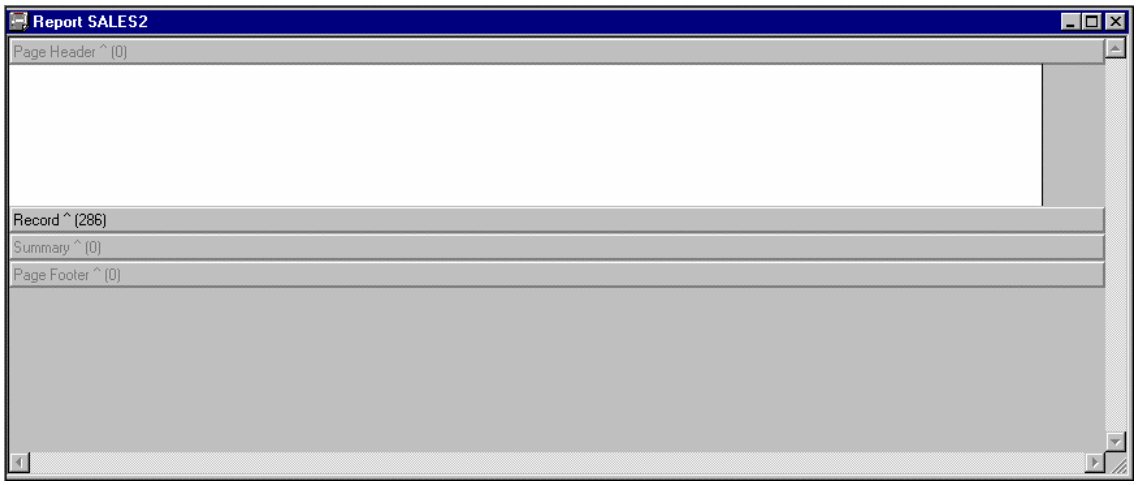
Opening a region involves adjusting its height so you can insert objects into it. The mouse or keyboard actions for this operation are the same as those used to modify the height of a region, which are described below.

Modifying a region

To modify the height

- With the mouse
  - **a)** Place the mouse pointer over the banner for the region that you want to modify. The pointer changes to a double-headed vertical arrow.
  - **b)** Hold down the left-hand mouse button and move the pointer downwards. Two dotted lines show you where the banner will be positioned. You can move the banner upwards to reduce the height of the region or downwards to increase it. As you move the dotted lines, the new height of the region is displayed in the central field on the status line.
  - **c)** Release the mouse button when the position of the dotted lines reaches the desired height. The banner will move to this position and the new height will be displayed inside it.

- With the keyboard
  - **a)** After selecting the region, choose *View \ Info*, or press [Enter] to open the *Banner Info* dialog box.
  - **b)** Enter a height in the *Height* field, according to the unit you selected in the *Report Info* dialog box.



☞ The coordinates of the objects inside a region remain unchanged when the height of the region is changed. As a result, the objects move with the banner as it is adjusted.

Each region should be high enough to accommodate the objects inserted into it. If the value entered in the *Height* field of the *Banner info* box is too low, the error message "Banner height cannot be less than xx" will be displayed and you'll need to readjust the height.

If the current unit isn't pixels, you may not be able to obtain the exact height you want. Due to the screen's graphical resolution, a pixel, which is the minimum increment value for the height of a region, can correspond to several values in another unit.

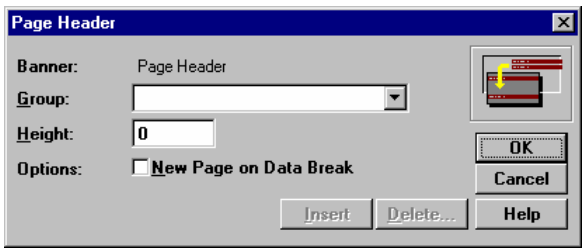
Report may reject the region's new height if the total height of [Page Header + Record + Page Footer] or [Page Header + Summary + Page Footer] exceeds the page length.

To modify a region's characteristics

To modify a region's characteristics, use the *Banner info* box.

You can open this dialog box in three ways:

- Double-click the region's banner.
- Choose *View* \ *Banner info* after selecting the region.
- Click *View* \ *Info*.



Page Header

	Effect	Notes
Banner	Name defined for the region and displayed in its banner.	You can't modify this field.
Group	Name of the region's control variable.	You can select a variable from the dictionary or enter a new name. For the standard regions (Page Header, Record, Summary, Page Footer), you should leave this field blank, unless you want to create a new region group based on this variable. This operation is described in the section "Creating a group". Otherwise, the message "Group name not valid for default banner" will be displayed when you choose **OK**.
Height	Height of the region, expressed in the unit selected in the *Report info* box	
Options *New Page on Data Break*	If this option is checked, a page break will be generated each time the value in the control variable changes	The purpose of this option is described in the section "Page breaks." You can't use this option in a Page Header or Page Footer region. If you do, the error message "New Page option cannot be set for Page Header & Footer!" is displayed when you choose *OK*.
Insert	Closes the dialog box and inserts a new region group associated with the variable name displayed in the *Group* field	
Delete	Closes the dialog box and deletes the corresponding region group	
OK	Closes the dialog box and confirms any changes made	You may not be able to confirm in some cases. An error message will explain why.
Cancel	Closes the dialog box without modifying the characteristics of the corresponding region	

Region groups

To create or delete regions, use the *Banner info* box described in the previous section.

Creating a group

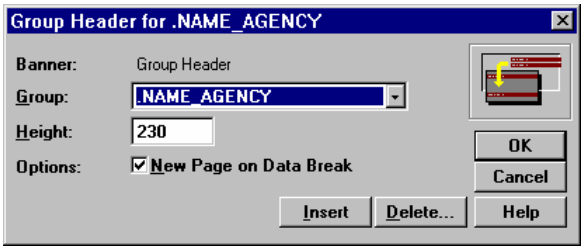
Creating a new region always involves defining a control variable. This variable can either be a class variable in the data model used, or a local variable.

☞ If you want to create regions associated with class variables, you must first associate the report with a class. To do this, enter a class in the *Class* field of the *Report Info* box, as described in the section "Associating a report with a class" in this chapter.

To create a new region group

You can create a new group in two ways:

1. Open the *Banner Info* box for any region except the Page Footer, by double-clicking its banner, choosing the *View* \ *Banner Info* command, or clicking the *Edit* \ *Info* button. The *Group Header for...* dialog box opens.



2. Select a variable or enter a variable name in the *Group* field.
3. Choose *Insert*.

Alternatively, you can:

1. Select the *Record* banner.
2. Click the *Objects* \ *Tool-box* button. The *Tools* box opens and displays the variables in the class associated with the report.

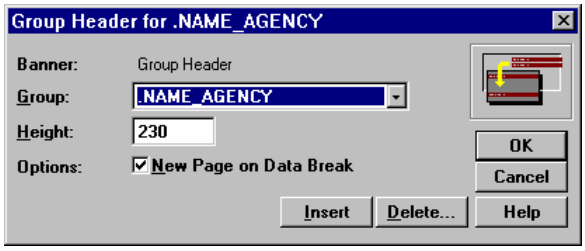
3. Drag the desired variable into the banner.

If this variable isn't directly accessible, drag the RefTo or SetOf link that references this variable's class and drop it into the banner. The banner indicates the type of link with the referenced class:

or

Select this flag. The contents of the *Tools* box change to display the variables in the referenced class. Now, position the desired variable.

The *Group Header for...* dialog box opens.



The *Group* field displays the variable name, preceded by a period (.).

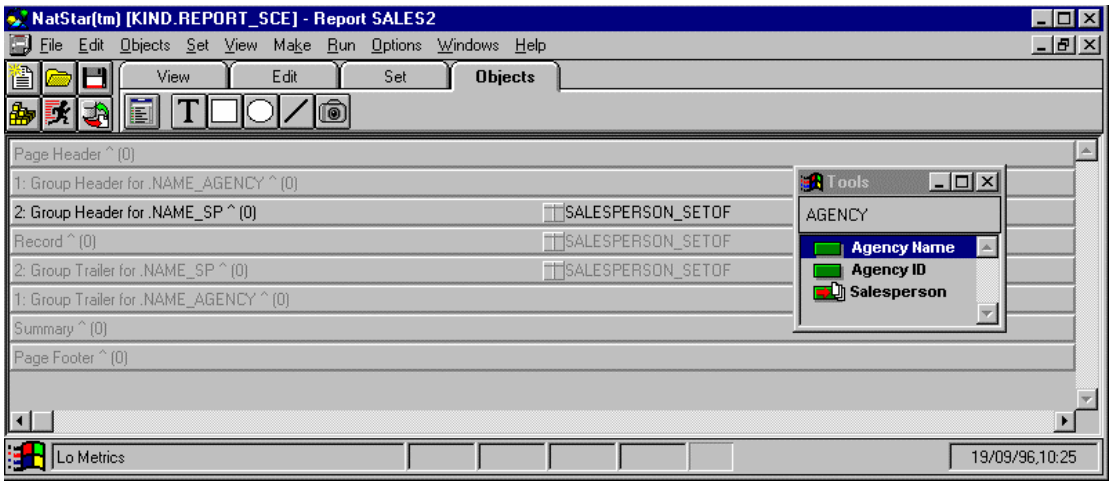
4. Choose *Insert.*

For more information about RefTo and SetOf links, see Chapter 4.

A group with two regions has now been created. Their respective banners contain:

- Group Header for **<VAR>**
- Group Trailer for **<VAR>**

(where **<VAR>** stands for the variable name associated with these regions).



The groups are numbered in ascending order, starting from the one whose Group Header is located under the Page Header, which is numbered 1. These numbers change as groups are created and deleted.

The following table shows where these new regions will be positioned in relation to the banner selected when the *Banner Info* box is opened.

	Selected banner	
	Group Header position	**Group Trailer position**
Page Header	Below Page Header	Above Summary
Group Header for <VAR>	Above Group Header for **<VAR>**	Below Group Trailer for **<VAR>**
Record	Above Record	Below Record
Group Trailer for <VAR>	Below Group Header for **<VAR>**	Above Group Trailer for **<VAR>**
Summary	Below Page Header	Above Summary

Deleting a group

To delete both the regions in the group together with all the objects they contain, open the *Group Header for...* dialog box for the group you want to delete, and press the *Delete* button. A message will always prompt you to confirm each deletion.

You can't delete any of the four standard regions.

Page breaks

By default, when the final document is composed, page breaks are controlled by the following algorithm :

- Print the Header region
    - While there is enough space for the Record region + all the Trailer regions + the Page Footer region, print the Record region.
    - Otherwise, terminate the page with the trailer and Page Footer regions.
- Generate a page break
- Start a new page with the Header region and the Record that didn't fit on the previous page.

You can only force a page break at the group level. To do this, check the *New page on Data break* option in the region's *Banner Info*.

Page breaks for groups are controlled by the following algorithm :

When the value of the control variable changes :

- Print the objects in the Group Trailer region.
    - If the *New page on Data Break* option has been checked, generate a page break and start a new page with the Header region and the Record region containing the new control variable value
    - Otherwise, return to the corresponding Group Header region
- Print the Group Headers for the new group
- Print the Record region for the current record

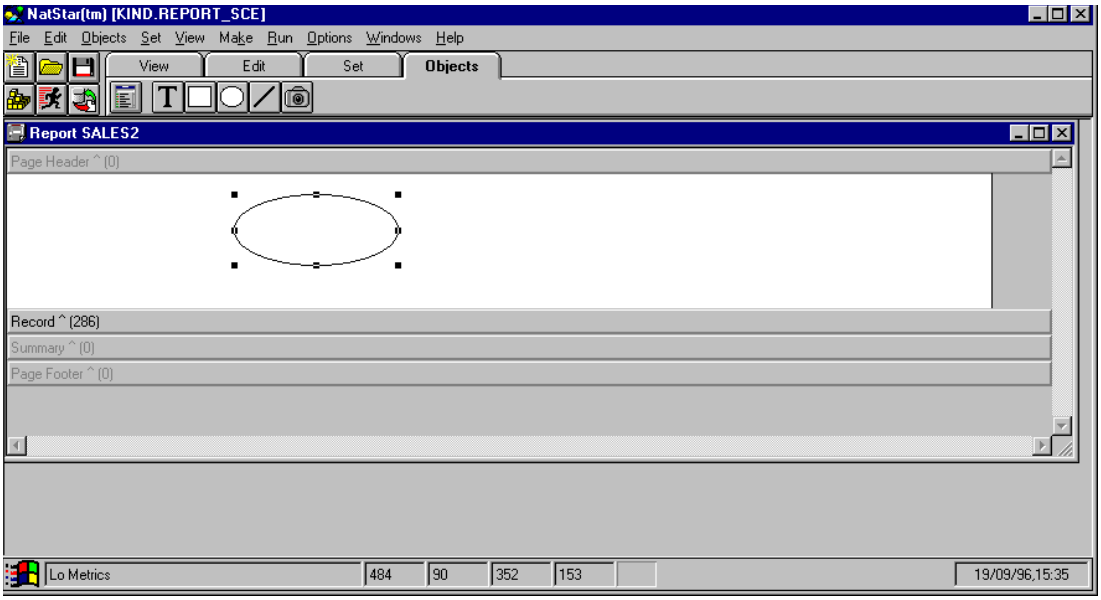
Using objects

Inserting an object

You can insert a new object in three ways.

With the mouse

1. Select the icon corresponding to the new object in the *Objects* tool bar.
2. Drag the icon into the appropriate region.
3. The pointer is now displayed as a cross. When it reaches the required position, release the mouse button. The object is displayed in a rectangle. The bottom left corner of this rectangle coincides with the center of the cross. The coordinates and dimensions of the object are displayed in the status bar.



With the Objects *menu*

1. Select the *Objects* menu, then the type of object you want.
2. The selected object appears at position 0, 0 in the active region (bottom left corner).

With the Clipboard

1. Select an existing object from any region.
2. Copy this object into the Clipboard (press [Ctrl] + [Ins] or choose *Edit* \ *Copy*).
3. If you want to place the new object in another region, select the destination region.
4. Paste the object from the clipboard (press [Shift] + [Ins] or choose *Edit* \ *Paste*).

The object you pasted is inserted at position 0, 0 in the active region (bottom left corner). It retains all the characteristics of the duplicated object.

Deleting an object

You can delete an object in two ways:

- Select the object and press [Del], or choose *Edit* \ *Clear*.
- If you've selected several objects, they'll all be deleted. Open the object's *Info* box and choose the *Delete* button.

You won't be prompted to confirm the deletion.

Selecting objects

To select an object

You can select an object in two ways:

- With the mouse
  Click an object.
- With the keyboard
  Press [Tab] to select each object in the active region successively.
  The key combination [Shift] + [Tab] reverses the direction of the selection cycle.

When you select an object, it is surrounded by a box and its coordinates and size are displayed in the tool bar.

If an object is partially or fully superimposed by another object, you may have to place the top object in the background before you can select the superimposed object (see the section "Foreground/Background").

To select several objects

A useful feature when copying objects, setting colors or using the rapid arrangement functions is the ability to select several objects simultaneously. You can do this in two ways:

- Hold down the [Shift] key while clicking each object.
- "Drag select" the area containing the objects that you want to include:
  a) Place the mouse pointer at the top left-hand corner of the area containing the objects.
  b) Hold down either mouse button and drag the pointer downwards and to the right to obtain a dotted rectangle.
  c) Once this rectangle contains all the objects you need, release the mouse button.

The selected objects are surrounded by small squares.

The same selection can also be defined by clicking the right-hand corner of the area containing the objects and dragging the pointer upwards and to the left.

☞ If you select several objects with the same type and dimensions, the message "Invalid clipboard" may be displayed when you attempt to copy them into the clipboard. This is because Report resets the coordinates of all the objects to zero, which means that the clipboard will contain several objects with identical definitions and will not be able to distinguish between them.

Moving an object

You can move an object inside a region in three ways:

With the mouse

1. Place the mouse pointer on the object that you want to move. It changes to a four-headed arrow.
2. Hold down the left-hand mouse button and move the pointer: the rectangle that surrounds the object follows the pointer.
3. Release the mouse button. The object moves to the rectangle's current position.

With the keyboard

1. Select the object.
2. Use the direction keys on the keyboard to move the selected object in the direction of the arrow.

Using the object Info box

1. Display the selected object's *Info* box (choose *View \ Info*, press [Enter] or double-click the object).
2. Change the values in the *X* and *Y* fields to reposition the object.
3. Click *OK* to confirm the new position.

Resizing an object

You can resize an object in two ways.

With the mouse

1. Place the mouse pointer on the object's border. The pointer changes to a double-headed arrow.
2. Hold down the left-hand mouse button and move the pointer in the direction of one of the arrows: the size of the object's dotted box changes as you move the mouse pointer.
3. Release the button when the box reaches the required size.

Using the object's Info box

1. Display the selected object's *Info* box (choose *View \ Info*, press [Enter] or double-click the object).
2. Change the values in the *Width* and *Height* fields to the required dimensions.
3. Click the *OK* button to confirm the object's new size.

☞ If the new size is too large for the object to fit inside the region, the error message "Object must fit in banner!" will be displayed and the modification will be canceled.

Setting an object's color

Changing an object's color affects:

- The object's text or outline (*Foreground color*)
- The object's background or contents (*Background color*)

To set an object's color, use the *Foreground* and *Background* fields in its *Info* box.

You can set a color in three ways.

Using the object's Info box

1. Display the selected object's *Info* box.

2. Select the required field: *Foreground* or *Background*.
3. Choose a color.
4. Press *OK* to confirm.

Using the Set menu

Select the required option: *Foreground color* or *Background color*.

This will open the *Select foreground color* or *Select background color* dialog box. Choose a color from the list and confirm by pressing *OK*.

Using the Set tool bar

Use the *Foreground color* or *Background color* button.

Use colors sparingly, as overuse of color is more likely to add confusion to a report than clarify it. In addition, if the report is printed out on a black and white printer, some objects may become unreadable due to the gray shade used to substitute the color.

Modifying a text item

You can directly modify the contents of a text object displayed in a Report window, without opening its *Info* box.

To do this, simply select the object and modify its contents by typing characters on the keyboard.

Any characters entered in this way are added to the end of the text. You can use the [Backspace] key to delete the last character in the text.

You can always modify text, even if the object contains a variable name or a calculation field, in which case you should enter the name of another variable in the dictionary (in upper case) or another expression.

Foreground/Background

Several objects can overlap each other, either partially or fully. This feature can be used to produce special graphical effects when you display or print the document.

To modify the appearance of your report, you can place some of your objects in the foreground or background of other objects.

You can place an object in the foreground in two ways:

- Click *Set* \ *Sends to Front*.

- Choose *Set* \ *Sends to Front*.

If you check the *Erase region* option in the *Info* box for this object, the objects that it superimposes will be fully or partially hidden.

You can place an object in the background in two ways:

- Click *Set* \ *Sends to Back*.

- Choose *Set* \ *Sends to Back*.

After this, the object will be hidden by any superimposed objects defined with the *Erase region* option.

If an object is totally covered by another object whose *Erase region* option is set off, it will still be visible but you won't be able to select it.

To access it, you'll need to carry out the following steps:

1. Select the object situated in the foreground.
2. Place this object in the background.
3. Select the object that's now in the foreground. If this isn't the object you want, repeat the previous step.

☞ If you follow these steps to modify an object that is deliberately superimposed by another object, you should move each object back to its original position so that the report's appearance is unchanged.

Arranging objects

To help you lay out your document, NS-Report provides a number of functions that allow you to arrange groups of objects rapidly:

- Horizontal and/or vertical alignment
- Horizontal and/or vertical distribution

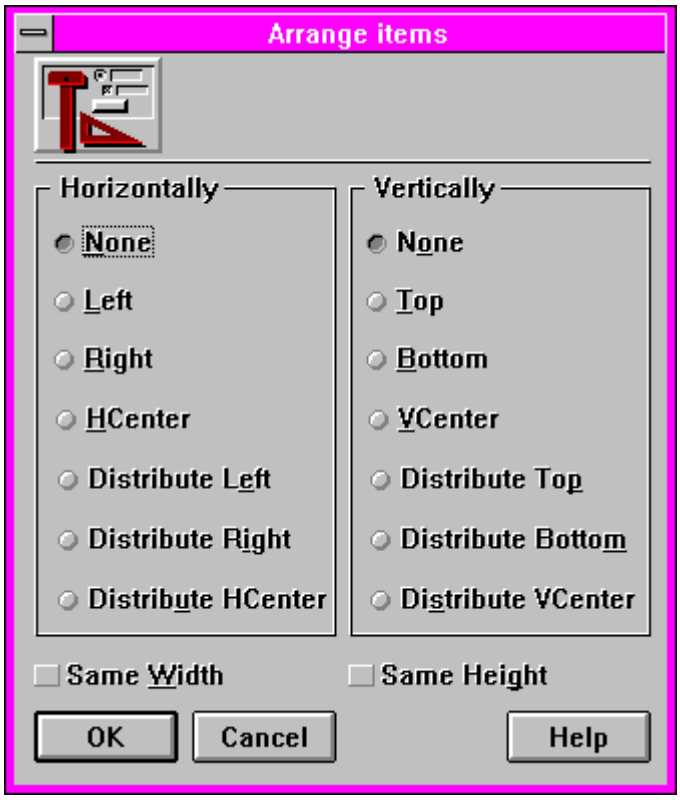
- Width and/or height alignment

☞ These functions are only available if you've selected at least two objects.

All the arrangement functions can be accessed through the *Arrange items* dialog box.

Some of the most commonly used arrangement functions are available from the tool bar.

The Arrange items dialog box



You can display this dialog box in two ways:

- Choose *View \ Arrange*.
- Press [F9].

The *Horizontally* group lets you arrange the horizontal (X-axis) positions of selected objects.

Horizontally	
	Effect
None	(Default) No horizontal arrangement
Left	The left borders of the selected objects are aligned with the left border of the left-most object in the selection
Right	The right borders of the selected objects are aligned with the right border of the right-most object in the selection
HCenter	Centers the selected objects with the mid-point between the left-most and right-most object in the selection
Distribute Left	Doesn't move the left-most and right-most object in the selection, but moves all the other objects so that the distance between their left borders is equal
Distribute Right	Doesn't move the left-most and right-most object in the selection, but moves all the other objects so that the distance between their right borders is equal
Distribute HCenter	Doesn't move the left-most and right-most object in the selection, but moves all the other objects so that the distance between their horizontal centers is equal

The *Vertically* group lets you arrange the vertical (Y-axis) positions of selected objects.

Vertically

	Effect	Notes
None	No vertical arrangement	Default
Top	The top borders of the selected objects are aligned with the top border of the top-most object in the selection	
Bottom	The bottom borders of the selected objects are aligned with the bottom border of the bottom-most object in the selection	
VCenter	Centers the selected objects with the mid-point between the top-most and bottom-most object in the selection	
Distribute Top	Doesn't move the top-most and bottom-most object in the selection, but moves all the other objects so that the distance between their top borders is equal	
Distribute Bottom	Doesn't move the top-most and bottom-most object in the selection, but moves all the other objects so that the distance between their bottom borders is equal	
Distribute VCenter	Doesn't move the top-most object and bottom-most object in the selection, but moves all the other objects so that the distance between their vertical centers is equal	
Same Width	Gives all selected objects the same width as the active object in the selection	This option has no effect on text objects whose *Auto-size* option is checked in their **Info** box.
Same Height	Gives all selected objects the same height as the active object in the selection	

Alignment buttons

The buttons in the tool bar provide rapid access to the most commonly used alignment functions.

☞ These buttons are only available if the selection contains at least two objects.

Object alignment icons (Arrange items window)

	Effect
	Left-aligns selected objects
	Right-aligns selected objects
	Aligns with the top-most object
	Aligns with the bottom-most object
	Distributes selected objects vertically and equidistant from each other

Configuring objects

In the previous sections, we showed you how you can modify some of your objects' attributes by manipulating them directly with the mouse or keyboard. This section describes each object's *Info* box, which defines all the object's characteristics.

You can open these boxes in three different ways:

- Double-click an object.
- Choose *View \ Info* after selecting an object.
- Press [Enter] after selecting an object.

Text

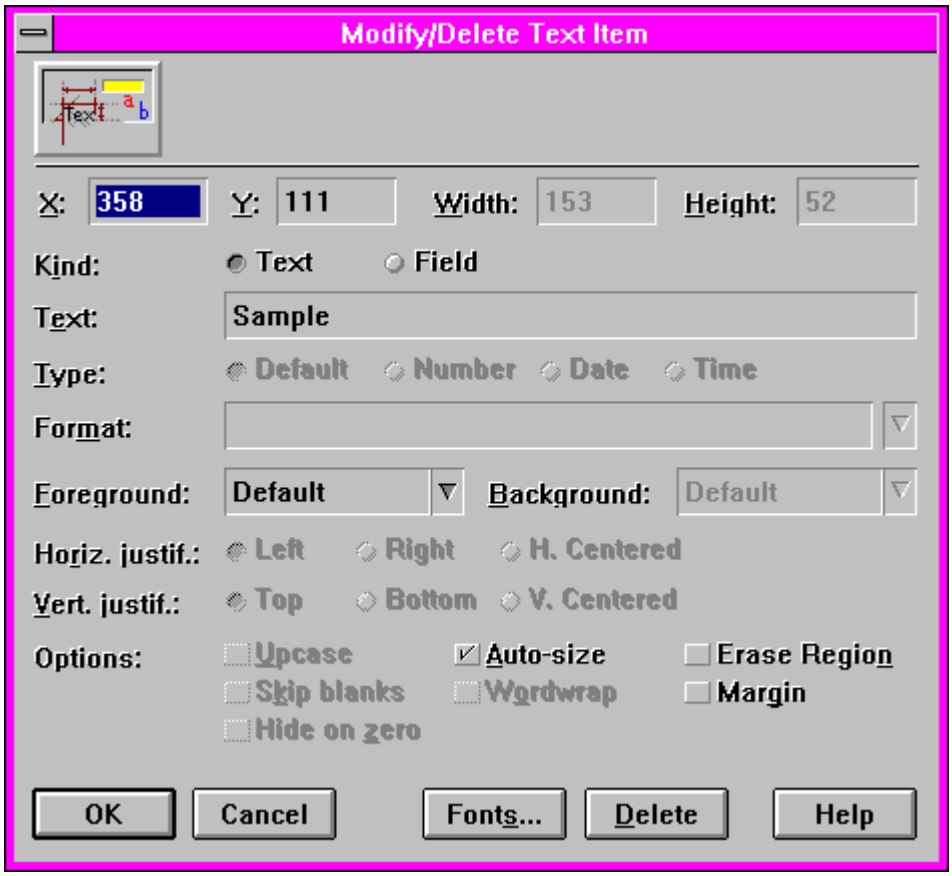
Configuring a text object is particularly important as it allows you to transform a simple text object into a local or class variable.

The section "Creating a group" showed you how to create region groups associated with a class or variable. Once you've associated a group with a class, you can use the *Tools* box to insert a variable from this class into the region by simply dragging it to the region with the mouse.

However, to create and insert a local variable, you must first insert a text object, then choose the *Local variable* option in the *Kind* field of the object's *Info* box.

Defining a text object's characteristics

You use the *Modify \ Delete Text Item* dialog box to define a Text object's characteristics. It looks like this:



Modify/Delete Text Item

	Effect	Notes
X, Y	Horizontal and vertical position of the bottom left corner of the rectangle that surrounds the object	This position is expressed in the current unit and in relation to the bottom left corner of the region that contains the object.
Width	Object's width, expressed in the current unit	
Height	Object's height, expressed in the current unit	

Modify/Delete Text Item

	Effect	Notes
Kind	Type of Text object	*Text* indicates that the field below, also named *Text*, contains a static text field. *Local variable* indicates that the field is a local variable or calculation field. *Class variable* indicates that the field is a class variable. In the latter two cases, the variable name or calculated expression is enclosed by the symbols '<' and '>' in the Report window. *Default: Text*
Text	Contents of the Text object	The text entered will appear in full and will replace the object.
Local variable	Name of a local variable or calculated expression	You can enter the name of a non-class variable. You can also enter an expression that will be evaluated when the report is printed or displayed. The contents of a text object can't exceed 200 characters.
Class variable	Name of a variable that belongs to a class in the data model	

Modify/Delete Text Item

	Effect	Notes
Type	Format applied to the contents of the *Text* field	The corresponding options are only available if the object has been defined as a *Field*. Depending on the option you've checked, the contents of the variable will be displayed in the specified type's format: *Default*: String *Number*: Numerical format *Date*: Date format *Time*: Time format These formats are described in the *Format* field. Default: *Default*
Format	Format of the character string displayed in a variable	This option is only available if the selected type isn't *Default*. The corresponding list displays the standard formats. Any checks and conversions are made when the report is output.
Foreground	Color used for the characters in the text	Default: *Default*
Background	Object's background color	This color is only visible if *the Erase Region* option is checked. Default: *Default*
Horiz. justif.	Type of horizontal justification applied to the contents of the *Text* field	The corresponding options are only available if the *Auto-size* option is unchecked. *Left* left-aligns the text in the field. *Right* right-aligns the text in the field. *H.Centered* centers the text horizontally.

		Default: *Left*

Modify/Delete Text Item

	Effect	Notes
Vert. justif.	Type of vertical justification applied to the contents of the *Text* field	*Top* aligns the text with the top of the field *Bottom* aligns the text with the bottom of the field. *V.Centered* centers the text vertically. Default: *Top*
Options	Properties that can be defined for the object	
Upcase	Converts the text displayed in a Field object to uppercase	Default: *unchecked*
Skip blanks	Automatically removes any leading or trailing spaces in a Field object	Default: *unchecked*
Hide on zero	Hides the variable if its value is 0	This option is only effective if the selected type is Number. Default: *unchecked*
Auto-size	Automatically adjusts the *Text* field's width so that the text it contains is fully visible	Default: *checked*
Wordwrap	Allows the text to be displayed over several lines and ensures that the words at the end of each line are not truncated	This option is only available if *Auto-size* is disabled. Default: *unchecked*
Erase Region	Erases the rectangular background and uses the background color specified in *Background*	If this option is unchecked, the object will be transparent. Default: *unchecked*
Margin	Frames the text	Default: *unchecked*
OK	Closes the *Info* box and confirms any changes made since it was opened	

Modify/Delete Text Item

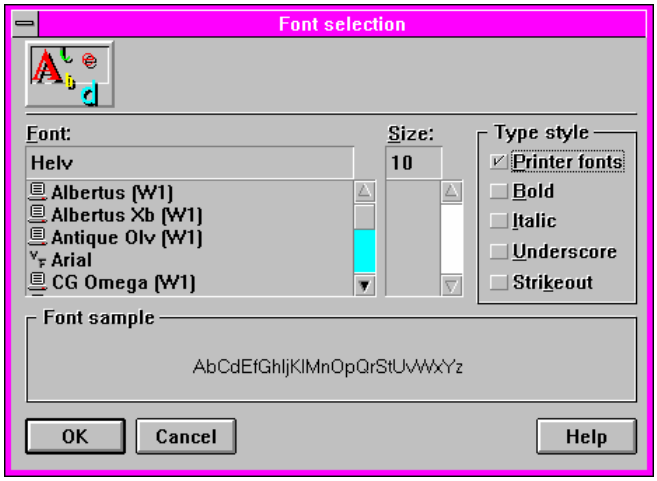
	Effect	Notes
Cancel	Closes the *Info* box and ignores any changes made	
Fonts...	Opens the *Font selection* dialog box, which allows you to select a character font	
Delete	Deletes the object	

Choosing a font

The default font applied to all text objects is Helvetica, 10 points.

You can choose another font from the *Font selection* dialog box, which you can open in three ways:

- Choose the *Fonts* button in the *Modify \ Delete Text Item* dialog box.
- Choose *Set \ Font*.
- Click the *Set \ Font* button.



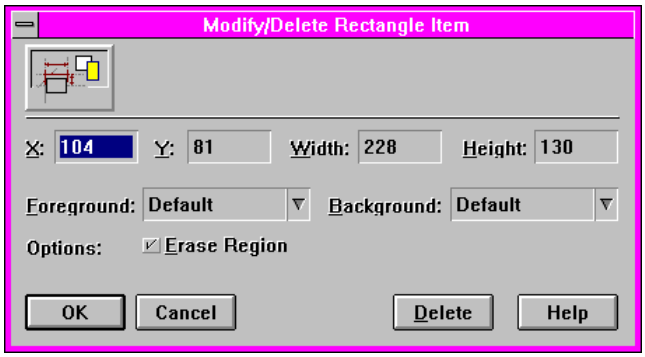
Font selection

	Effect	Notes
Font	Font name	You can enter this name directly or select it from the list below. The second alternative is recommended since this list includes all the fonts available on the machine.
Size	Font size	You can enter this size directly or select it from the list below. This list displays the sizes available on the machine for the selected font.
Type Style	Type of fonts available and character attributes	Character attributes can be combined. *Printer fonts* adds the fonts installed on the current printer to the list of available fonts *Bold* makes characters bold. *Italic* makes character italic. *Underscore* underlines characters. *Strikeout* strikes out characters.
Font sample	This area displays a sample of the font, in the selected size and style	

Avoid choosing special fonts which may not be installed on the target machine that uses the generic document.

Rectangle

You use the *Modify \ Delete Rectangle Item* dialog box to define a rectangle's characteristics. It looks like this:



Modify/Delete Rectangle Item

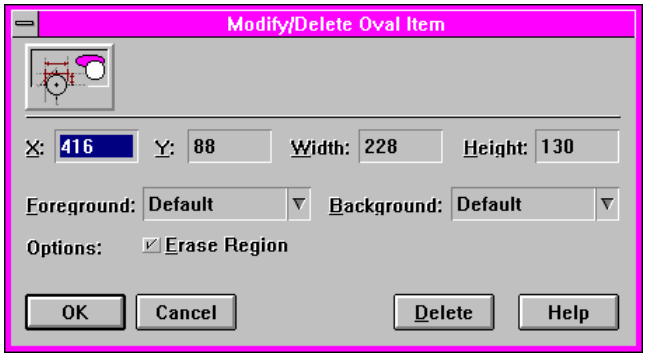
	Effect	Notes
X, Y	Horizontal and vertical position of the bottom left corner of the rectangle that surrounds the object	This position is expressed in the current unit and in relation to the bottom left corner of the region that contains the object.
Width	Object's width, expressed in the current unit	
Height	Object's height, expressed in the current unit	
Foreground	Color used for the rectangle's outline	Default: *Default*
Background	Rectangle's background color	This color is only visible if the *Erase Region* option is checked. Default: *Default*
Options	Object's properties	
Erase Region	Uses the background color specified in *Background*	If this option is unchecked, the object will be transparent. Default: *unchecked*
OK	Closes the *Info* box and confirms any changes made since it was opened	
Cancel	Closes the *Info* box and ignores any changes made	

Modify/Delete Rectangle Item

	Effect	Notes
Delete	Deletes the object	

Oval

You use the *Modify \ Delete Oval Item* dialog box to define an oval item's characteristics. It looks like this:



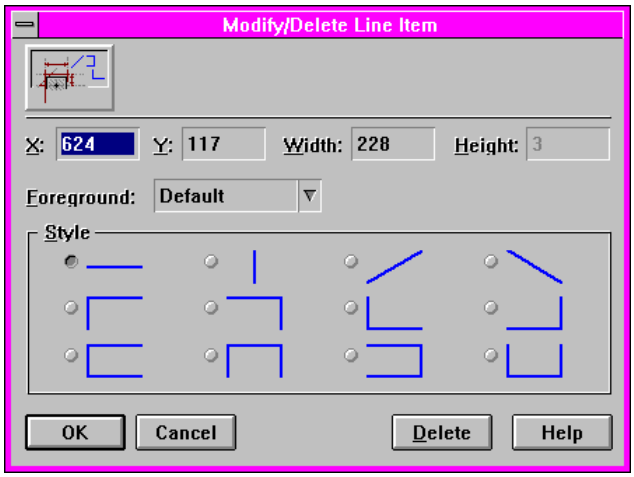
Modify/Delete Oval Item

	Effect	Notes
X, Y	Horizontal and vertical position of the bottom left corner of the rectangle that surrounds the object	This position is expressed in the current unit and in relation to the bottom left corner of the region that contains the object.
Width	Object's width, expressed in the current unit	
Height	Object's height, expressed in the current unit	
Foreground	Color used for the oval's outline	Default: *Default*.
Background	Oval's background color	This color is only visible if the *Erase Region* option is checked. Default: *Default*.
Options	Object's properties	
Erase Region	Uses the background color specified in *Background*	If this option is unchecked, the object will be transparent Default: *unchecked*
OK	Closes the *Info* box and confirms any changes made since it was opened	
Cancel	Closes the *Info* box and ignores any changes made	
Delete	Deletes the object	

Line

The default object drawn is a horizontal line with a length of 70 pixels.

The *Modify \ Delete Line Item* dialog box looks like this:

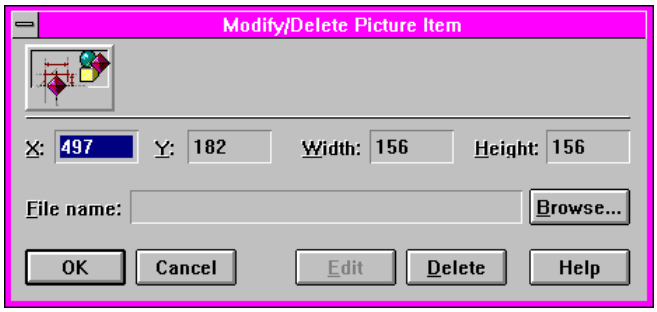


Modify/Delete Line Item

	Effect	Notes
X, Y	Horizontal and vertical position of the bottom left corner of the rectangle that surrounds the object	This position is expressed in the current unit and in relation to the bottom left corner of the region that contains the object.
Width	Object's width, expressed in the current unit	
Height	Object's height, expressed in the current unit	
Foreground	Line color	Default: *Default*
Style	Choice of twelve predefined line types	
OK	Closes the *Info* box and confirms any changes made since it was opened	
Cancel	Closes the *Info* box and ignores any changes made	
Delete	Deletes the object	

Picture

You use the *Modify \ Delete Picture Item* dialog box to define a picture object's characteristics. It looks like this:



Modify/Delete Picture Item

	Effect	Notes
X, Y	Horizontal and vertical position of the bottom left corner of the rectangle that surrounds the object	This position is expressed in the current unit and in relation to the bottom left corner of the region that contains the object.
Width	Object's width, expressed in the current unit	
Height	Object's height, expressed in the current unit	
Filename	Name of a bitmap file	If the file isn't located in the same directory as the report, you must specify a full pathname.
Browse	Displays a list of all files in the current directory with the '.BMP extension'	You can select one of the files displayed in this list or search another directory for '.BMP' files.
OK	Closes the *Info* box and confirms any changes made since it was opened	
Cancel	Closes the *Info* box and ignores any changes made	
Edit	Opens the image editor	This editor lets you modify or create bitmap images.

Delete	Deletes the object

Chapter 6 Using calculation fields in reports

A calculation field is a local variable field whose value is calculated automatically by NS-Report. It is defined by an expression whose result is displayed when you view or print the report.

Calculation fields allow your report to include numerical fields that are not set directly by external data. They let you calculate totals, percentages, averages and other operations. They are calculated from constants and values stored in certain numerical variables.

This chapter explains

- How to create calculation fields
- How to use them

Contents

Creating calculation fields

You define a calculation field in a *Text* object. To do this, you need to:

1. Create or select a Text object.
2. Open the object's *Info* box by pressing [Enter] or choosing the *View \ Info* command.
3. Select the *Local variable* field in the *Kind* group.
4. Enter the required formula in *Field*.

Syntax for formulas

The typical syntax for a calculation field is:

```
@[<VARIABLE>]=<Expression>
```

- <VARIABLE> is a local or class variable name.
- <Expression> is a character string that defines the formula.

The square brackets indicate that the variable name is optional. They shouldn't appear in the actual formula.

When you view the report, two cases can arise:

- If the calculation field contains the formula '@=<Expression>', its value will only appear in the object where it's defined.
- If the calculation field contains the formula '@<VARIABLE>=<Expression>', the numerical result of the expression will be placed in the specified variable. This value will be displayed or printed wherever the variable is referenced.

Components of an expression

An expression can contain variables, constants, operators or predefined functions.

- **Variable**

Local or class variable name

- **Constant**

Any integer or real number

- **Operator**

The four basic arithmetic operators are recognized:

+	addition
-	subtraction
*	multiplication
/	division

- **Function**

There are five predefined functions that you can use as operands in an expression:

- @SUM(VARIABLE)
  Calculates the sum of all the values received by this variable
- @MIN(VARIABLE)
  Returns the lowest value received by the variable
- @MAX(VARIABLE)
  Returns the highest value received by the variable
- @COUNT
  Counts the number of records on the current page
- @PAGE
  Returns the current page number (1 for the first page)

Sample expressions:

- *Calculates a total price from a unit price (U_P variable) and a quantity (QTY variable):*

@=.U_P.QTY*

- *Calculates a percentage from a sum (SALES variable) and a rate (PC_MARGIN). Places the result in the MARGIN variable:*

@MARGIN=.SALES.PC_MARGIN/100*

- *Calculates the average deposit (DEPOSIT variable), assuming that a deposit appears in each record on the page:*

@=@SUM(.DEPOSIT)/@COUNT

Using calculation fields

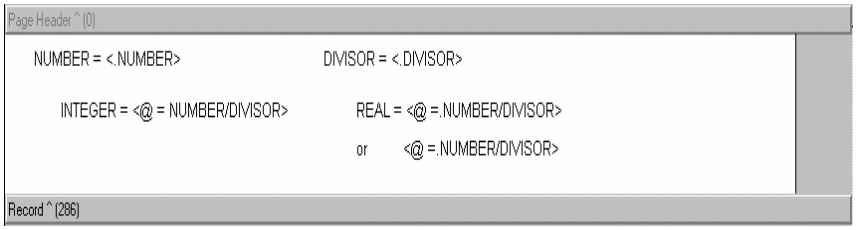
Display format

The display format selected for a calculation field defines:

- Its appearance when the report is output
- The data type used to evaluate it

Formatting numerical results

This example shows how the Format parameter affects a calculation field's definition.

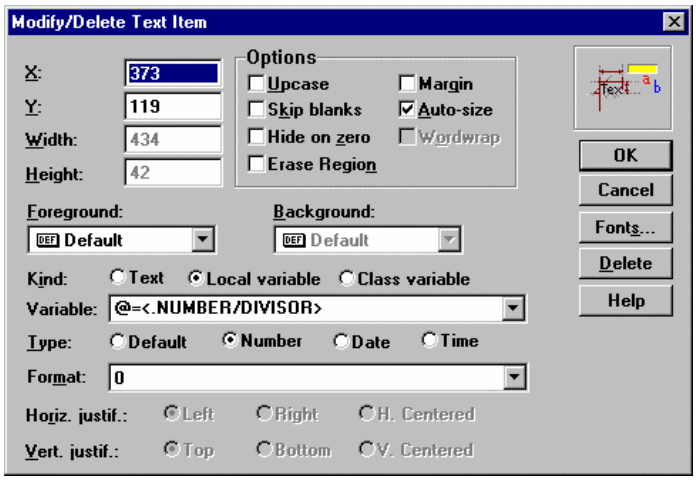


Three objects are associated with the field "@=NUMBER/DIVISOR".

- The first is in integer format (`0` selected in the *Format* field).
- The second is in real number format (`0.00` selected in the *Format* field).
- The third is also in real number format (`0.000 000` specified in the *Format* field).

These three formats are specified in each object's *Info* box.

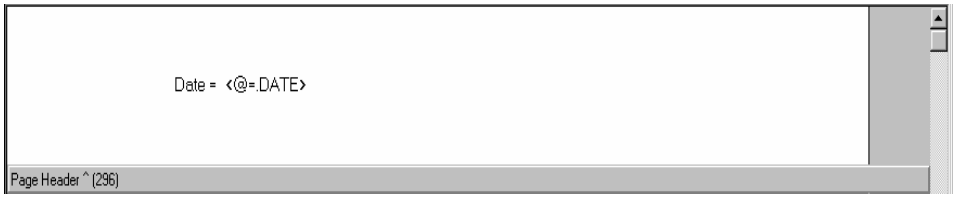
Here's the definition for the last object in the example:



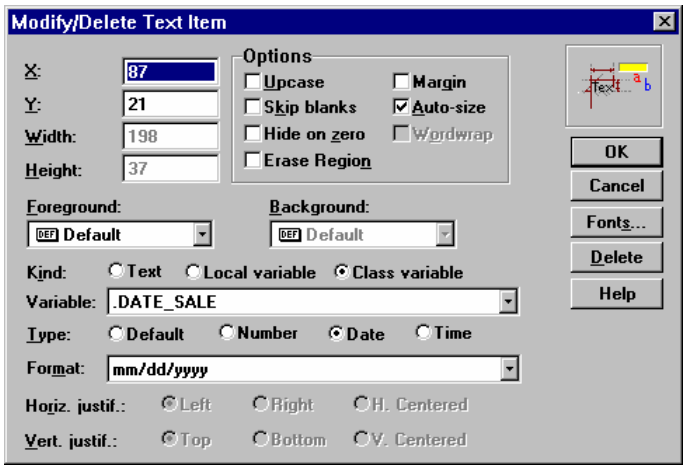
Date format

By default, the value of the DATE variable that appears in each record is interpreted as the number of days since 1/1/1900. You can convert it into the format month/day/year by specifying that format in the *Format* field in the object's *Info* box.

This example shows you how to display a date derived from a numerical value.



The DATE variable is set by external data. The @=DATE field has the following parameters:

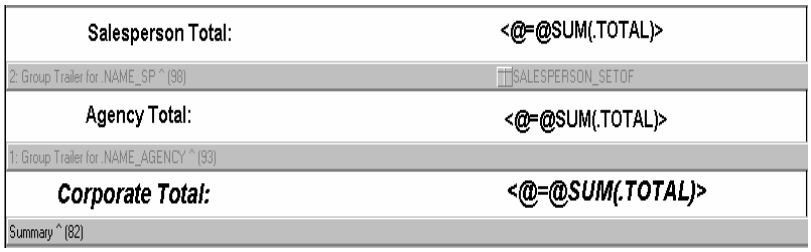


Calculation fields and groups

The values returned by the calculation functions may depend on the group that contains the object.

Let's take the @SUM(VAR) function as an example:

- *In a group: this function totals the variable's values for the group.*
- *In the Page Footer region: it totals the variable's values for the page.*
- *In the Summary region: it totals the variable's values for the whole document.*



The generic document illustrated above evaluates the field '@SUM(.TOTAL)' in the following places:

- *In a group associated with the '.NAME_SP' variable*

  This field will display the sales total for the salesperson associated with that variable.

- *In a group associated with the '.NAME_AGENCY' variable (new page)*

  This field will display the sales total for all the agency's salespeople listed on that page.

- *In the Summary*

Chapter 7

Testing a generic document

This chapter explains

- How to test a file
- How to view a test
- How to print a generic document

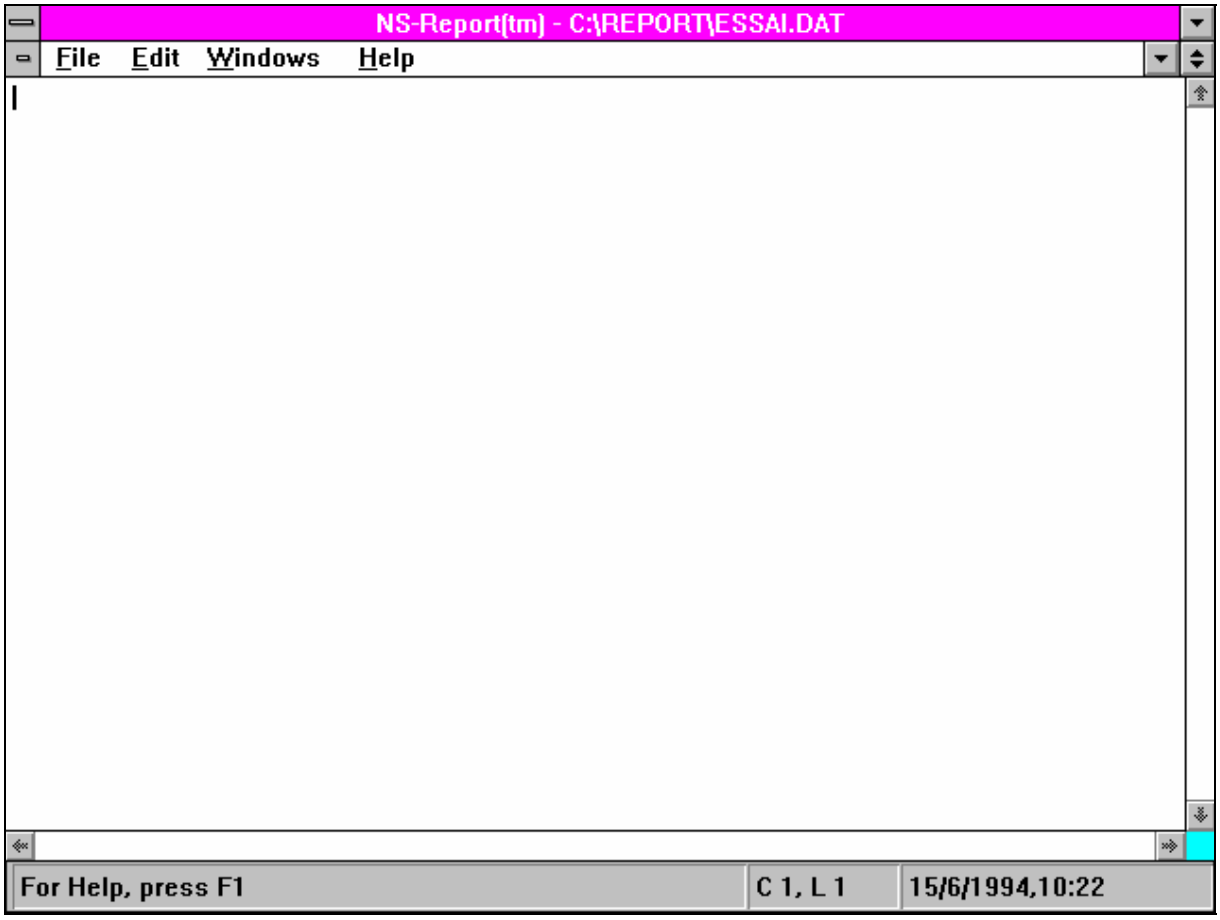
Contents

Test file

Data window

Test files are edited in a special window, called a Data window. This is an editor that allows you to insert, delete, update and select parts of the text. It is displayed whenever you create or open a test file.

The contents of each test file must conform with a specific syntax and structure. They allow you to assign values to the variables and define a varying number of records for each region group.



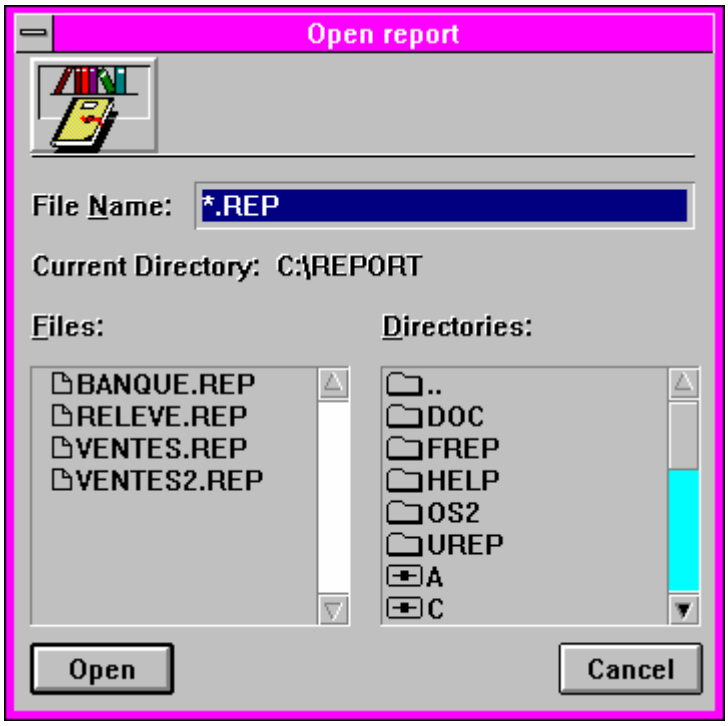
As with any MDI application, after opening the Data window, you can switch to another window by selecting it from the Windows menu or by reorganizing the windows with the aid of the Tile and Cascade options on this menu.

Creating a test file

You can create a test file in two ways:

Call the File/Open option (or press [Shift] + [F4]).

This will display the Open Report box:



Enter the name of a file with the '.DAT' extension (or any other extension apart from '.REP'). Press Open to create the new file.

Call the View/Select Data option in a Preview window.

This will display the Load test data box, which is practically identical to the Open Report box.

Enter the name of a file with the '.DAT' extension (or any other extension apart from '.REP'). Press Open to create the new file.

In both cases, the message "File XXX.DAT does not exist! Do you want to create it?" is displayed. Reply "Yes" to create the file. This will display an empty Data window, with the name of the new file in its title bar.

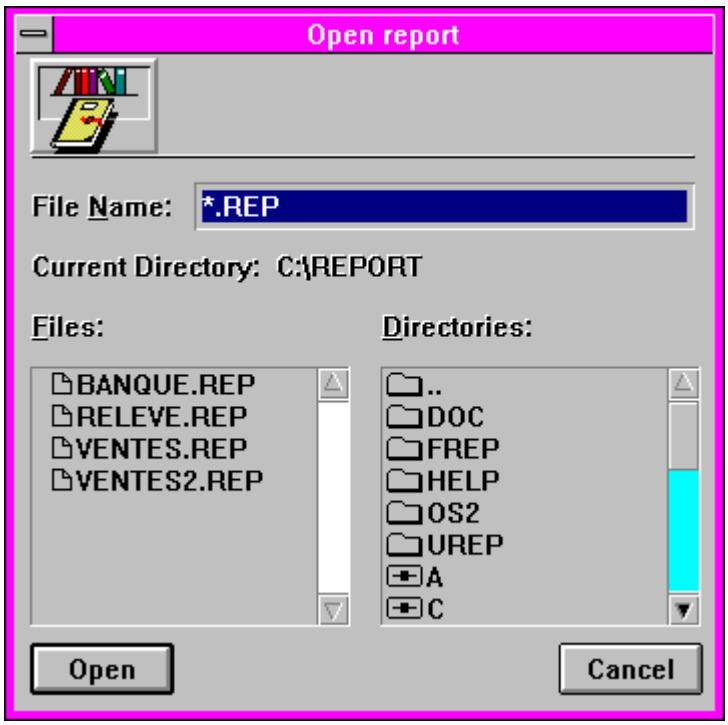
Note:

We suggest that you create at least one test file that has the same name as the generic document, ends in the '.DAT' extension and is located in the same directory. NS-Report will automatically search for this file each time you start a test.

If you have used another extension for this file, you will need to select it manually via the View/Select Data option.

Opening a Test File

Select the File/Open option (or press [Shift] + [F4]) to display the Open Report box:



Select an existing file name with the '.DAT' extension to open it. This will display its contents in a new Data window, whose title bar will contain the name of the file opened.

Note:

If you specify a file name with the '.REP' extension, a Report window will be opened.

Test File Structure

A test file contains several groups of lines arranged consecutively.

Each group of lines is known as a data block.

Two data blocks are separated by one or more blank lines.

A data block contains:

- statements that assign values to some or all of the variables in the Record region of the generic document,
- statements that assign values to one or more control variables.

Each line in a data block assigns a value to one variable.

Test File Syntax

Each line in a test file begins with the name of a variable, followed immediately by an equal sign ('=') and a character string specifying the value assigned to this variable.

For example, the following line:

```
TEXT=This is an example
```

assigns the character string "This is an example" to a variable field called `TEXT` .

And this line:

```
CONTACT=
```

assigns an empty string to a variable called `CONTACT` , which clears its previous contents.

A line beginning with a semi-colon (';') is a comment and is ignored during the test.

Notes:

1. The variables in a data block can be specified in any order. However, for clarity, we recommend that you set them in the order in which they appear on the document page.

2. Unlike NCL language, character strings do not need to be enclosed in quotes.

Comments in a Test File

You can place comments in a test file.

All lines that begin with a semi-colon (';') in the first column are ignored during the test.

To space out the contents of your test file without modifying the structure of your data blocks, we suggest that you insert lines containing nothing but a semi-colon (';').

For example:

```
 ; First data block
BRANCH=NY 3
 ;
NAME=Mr King
CONTRACT=Life
AMOUNT=158.50
 ; End of first block

 ; Second block
NAME=White
CONTRACT=Automobile
AMOUNT=235.60
 ;
 ; Contract with option
OPTION=All-risks
 ;
 ; End of second block
```

Test File Interpretation Rules

The way NS-Report interprets a generic document together with the contents of a test file is based on the following principles:

1. During the test, each data block is used to output a Record region in the generic document. The other regions are only produced if the end of a page has been reached or the value of a control variable has changed. Hence, the generic document's Record region can be repeated several times within the same page.

2. If the value of a variable in the Record region is not updated between two data blocks, it is repeated in the document with its previous contents.

3. Generally speaking, all variables retain their former value until a new value is assigned.

4. Any uninitialized or blank variables will not appear in the document when it is tested.

5. If a line does not begin with the name of a variable defined in the dictionary, the error message "Field XX not found in dictionary!" will be displayed when the test is started.

6. If two consecutive blank lines appear in the test file, a blank record will be generated for the output report and the last data block will be repeated.

This also applies to the last two lines in the test file.

Modifying a Test File

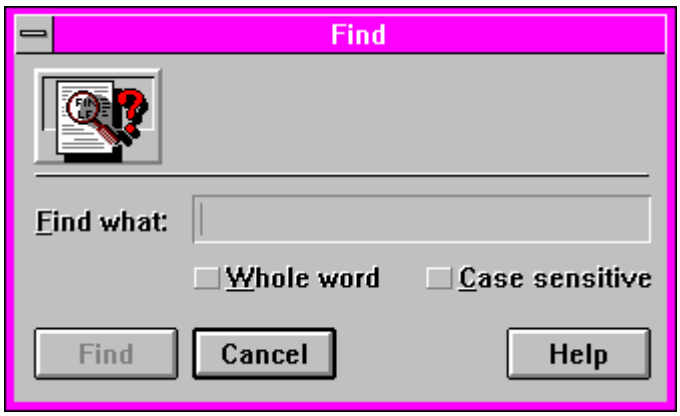
After opening a test file, you can add and delete lines or modify the values of certain variables. You can also adjust the structure of your data blocks.

Modifying a test file is made easier with the clipboard and the various editing features provided by the Data window, such as:

- text search functions,
- text replacement functions,
- standard use of the keyboard to insert, delete or move text.

Finding Text

Select the Edit/Find option (or press [Shift] + [F9]). This will display the Find box.



Find what

Specifies the text to search for.

Whole word

Indicates that the text in the Find what field must match a whole word. If this option is not checked, the text can be part of a longer word.

Case sensitive

Indicates that the search should distinguish between lowercase and uppercase characters. If this option is not checked, no distinction is made between lowercase and uppercase characters.

Find

Starts searching from the current cursor position until the end of the file. After this, the search continues from the beginning of the file. If the text is found, it is selected and the Find window is closed.

If the text is not found in the file, the message "Pattern not found" is displayed.

Cancel

Cancels the search and closes the Find window.

Help

Displays on-line help for this dialog box.

Select the Edit/Last Find option (or press [F9]).

The cursor will be positioned on the next occurrence of the last text string searched for using the Find box.

Note:

In both cases, if the specified text is not found in the file, the message "Pattern not found" is displayed.

Select the text to be searched for.

After selecting the text that you want to search for, call the Edit/Selected text option (or press [Ctrl] + [F9]).

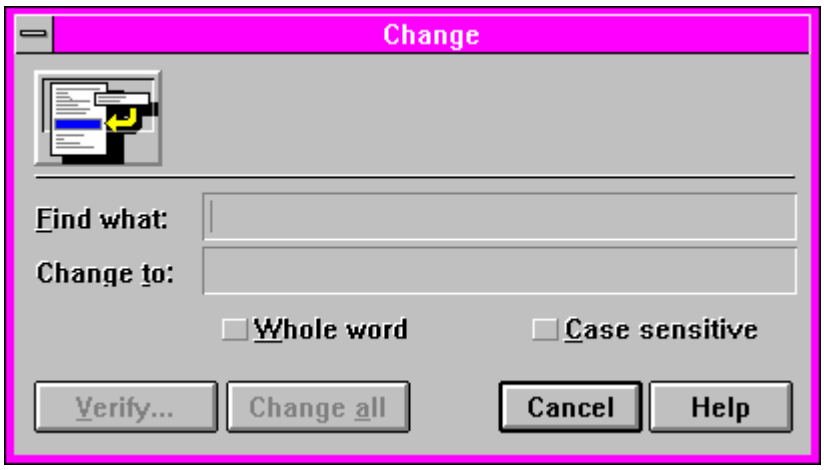
The cursor will be positioned on the next occurrence of the selected text.

Note:

If no more occurrences of the selected text are found, the original text remains selected.

Replacing text

Select the Edit/Change option in the Data window to display the Change box.



Find what

Specifies the text that you want to replace.

Change to

Specifies the replacement text.

Whole word

Indicates that the text replaced must be a whole word.

If this option is not checked, the text can be part of a longer word.

Case sensitive

Indicates that search should distinguish between lowercase and uppercase characters.

If this option is not checked, no distinction is made between lowercase and uppercase characters.

Verify

Starts searching from the current cursor position until the end of the file. After this, the search continues from the beginning of the file.

Each occurrence of the text found is selected and a confirmation message is displayed.

The Change window is closed once the whole file has been searched. If the specified text is not found in the file, the Change window is closed immediately.

Change all

Changes all occurrences of the specified text and closes the Change window.

Cancel

Cancels the text replacement operation and closes the Change window.

Help

Displays on-line help for this dialog box.

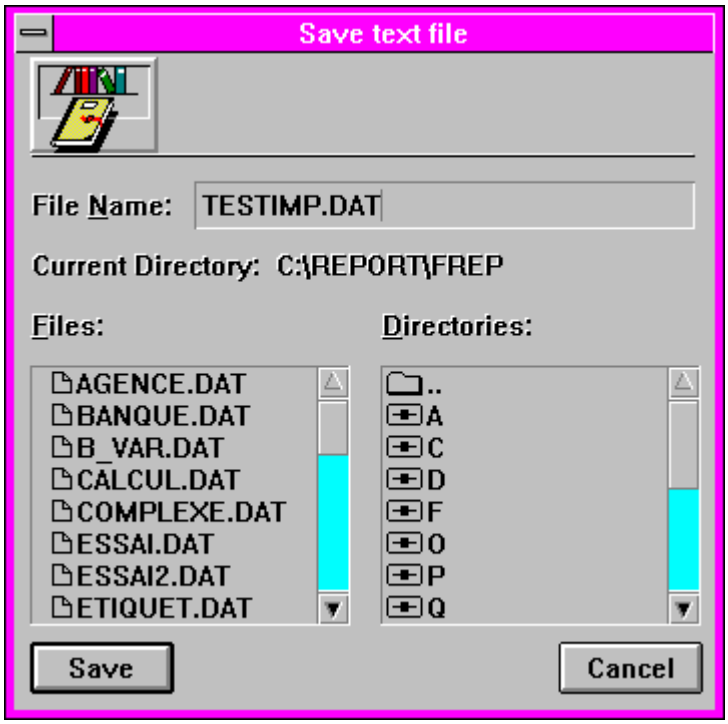
Note:

Whenever text is replaced, the message "N occurrence(s) replaced!" is displayed.

Saving a Test File

Select the File/Save option or press [F2] to save the contents of the current Data window to the file whose name is displayed in the title bar.

The contents of the Data window can be saved to a new file by using the File/Save as option. You must specify the name of this file in the Save text file box displayed by this option.



Press the Save button to activate the save.

Note:

The test file is saved in the text format used by the operating system.

Viewing a Test

The result of testing a generic document is displayed in a graphical window called the Preview window. You can also print the report from this window.

The main purpose of previewing a report is to check how the various regions are positioned in relation to how they were defined and the volume of data included in the report . Depending on the character fonts selected in the document, the displayed image of the report may differ from the printed version. This is because printer fonts and screen fonts do not always match exactly. In this case, several attempts may be necessary before you achieve the desired result for the printed version of your report.

A test can only be started from a Report window. This is done by selecting the Preview/Display option or pressing [F5].

By default, the data used for the test are extracted from a test file that has the same name as the Report file and ends with the .DAT extension.

If the .DAT file is not found, the test runs with an empty data block and only the static objects will appear on the report.

When you start the test, the first page of the report is displayed in a reduced format so that it fits in the screen. The first two pages are displayed together if their sizes allow this. You can then request a full-size view of the current page in the document.

As with any MDI application, after opening the Preview window, you can switch to another window by selecting it from the Windows menu or by reorganizing the windows with the aid of the Tile and Cascade options on this menu.

Zooming in and out of a Preview Window

When the report is displayed in reduced format, the View/Zoom in option allows you to view the page in its actual size. In this case, only part of the page may be visible . The window's scroll bars or the [Page Up] and [Page Down] keys can then be used to display other parts of the page.

The same result is achieved by pressing the  icon.

When the document is displayed in its actual size, the View/Zoom out option allows you to display the current page in a reduced size so that you can view it all at once. If there is enough room left on the screen, the next page is also displayed on the right-hand side of the current page.

The same result is achieved by pressing the  icon.

Displaying a Report

If the number of pages in a report exceeds the maximum number than can be displayed in either zoom mode, you will need to page through the report to display all of it.

To display the next page, call the View/Next Page option, select the  icon or press [Ctrl] + [+].

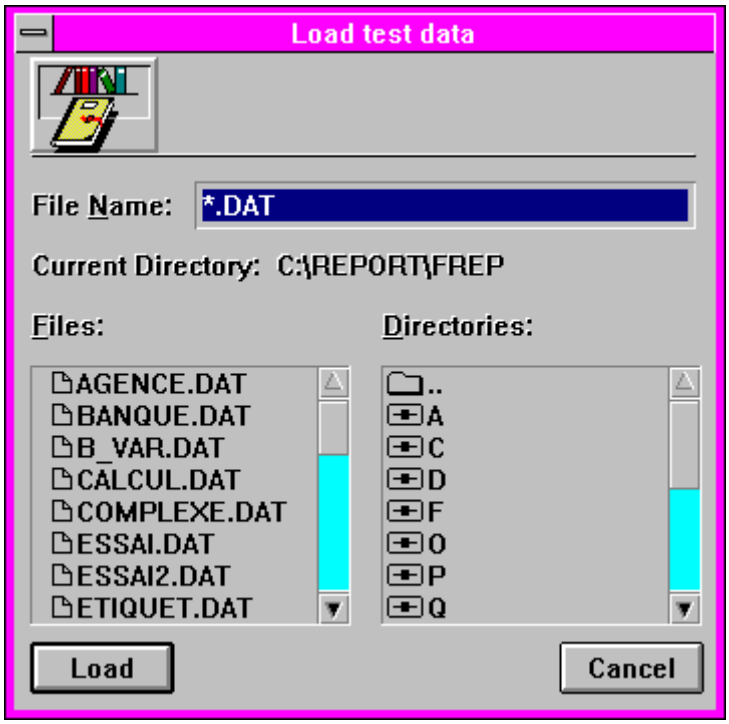
To display the previous page, call the View/Previous Page option, select the  icon or press [Ctrl] + [-].

The current page numbers are displayed in the second field on the status line.

Selecting a Test File

You can test a generic document using a test file other than the default file that the systems searches for automatically. To do this, you need to:

1. Start the test from the Report window (See Preview/Display option or [F5])
2. Call the View/Select Data option in the Preview window. This will display the Load test data box.



It lists all the files in the current directory with the '.DAT' extension.

3. You can select one of the files in the current directory, search for a file in another directory or enter a file name. Press the Load button to confirm your choice.

This will update the report displayed in the Preview window to include the contents of the selected test file. The window title will contain the name of the new test file.

If the name specified in step 3 is not that of an existing file, you can create it. This will open a Data window, allowing you to enter the data blocks for the new test file.

Next, you need to return to the Preview window and refresh it (See View/Refresh option or  icon) so that the report takes into account the new data.

Refreshing the Preview Window

After updating the generic document or test file, you can refresh the Preview window by calling the View/Refresh with option, selecting the  icon or pressing [F5].

Note:

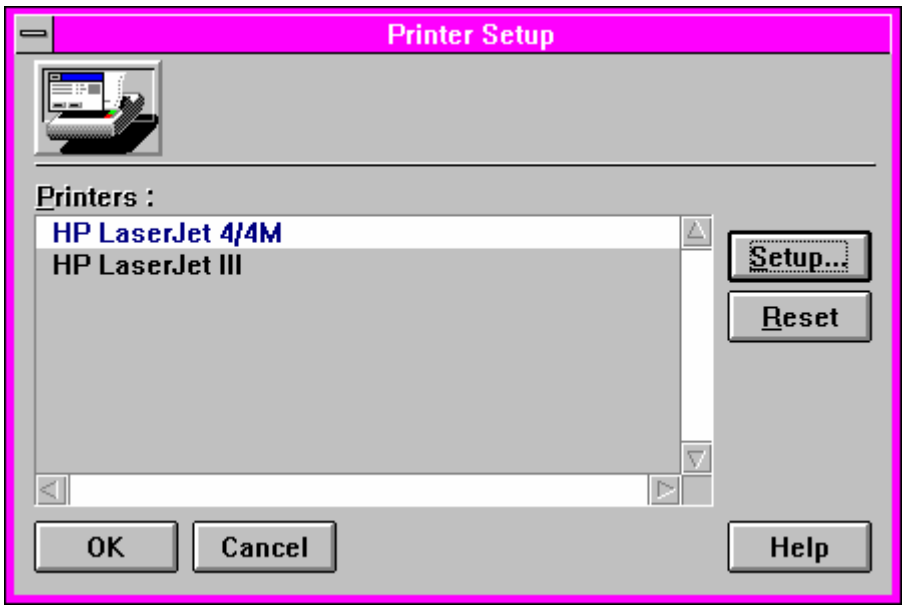
Before refreshing the window, the Report and Data files are automatically saved if they have been modified.

Printing

The impression of a report is possible only from a Preview window which posts already this report with or without data of test. But, the printer setup is possible from all the windows of NS-Report.

Printer Setup

To select and set up the printer, display the Printer Setup box by selecting the File/Printer setup option.



Printers

Lists the available printer drivers. Allows you to select the printer used to output the report.

Setup

Displays the Setup box for the printer selected from the Printers list.

You are advised to refer to the documentation supplied with your printer for full details on how to set it up.

Reset

Resets the printer's default parameters.

OK

Confirms any changes made to the printer setup.

Cancel

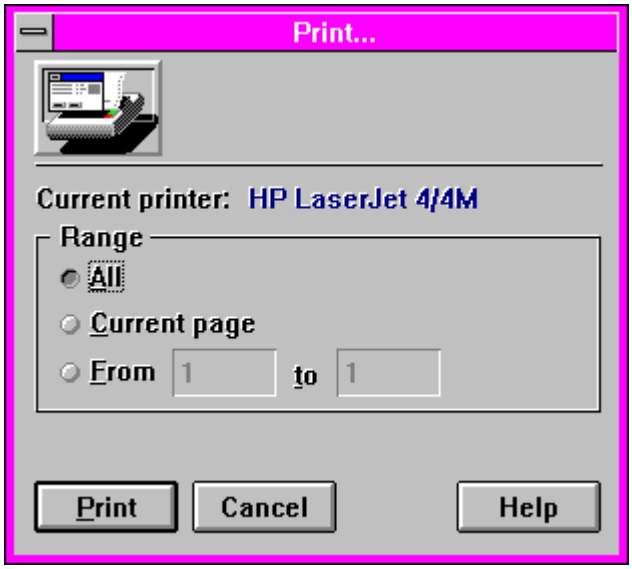
Closes the dialog box and ignores any changes made to the printer setup.

Help

Displays on-line help for this dialog box.

Launching the printing

Press the  button or select the File/Print option in the Preview window to open the Print box.



Current printer

Displays the printer that will output the report. This is the printer that was selected via the File/Printer setup option.

Range

Specifies the range of pages in the document that you want to print.

All

Prints the entire document.

Current page

Prints the current page.

From ... to ...

Prints the pages between the first page number and the second one. You must specify both page numbers.

Print

Starts printing the selected pages. The pages are composed and then sent to the printer. The page number currently being prepared is displayed in the Print box via the message "Layout page N". When this operation is complete, the message "Page(s) sent to printer" is displayed.

Cancel

Closes the window without printing.

Help

Displays on-line help for this dialog box.

Chapter 8 Multi-target considerations

This chapter deals with some of the questions you may ask when using NS-Report under Windows and OS/2, namely:

- Can a generic document be read by any operating system used to run NS-Report ?
- Can a test file be reused ?
- How compatible are the various fonts ?

This chapter explains

- How to read a generic document
- How to read a test file

Contents

Reading a Generic Document

A generic document is a text file saved in the text format used by the system:

- ANSI for Windows,
- ASCII for OS/2.

NS-Report is capable of recognizing the coding mode used and can, if required, translate the generic document when it reads it. It can also adapt any images included in the document.

Therefore, a generic document can be used by NS-Report under both Windows and OS/2.

Reading a Test File

A test file is a text file saved in the format used by the operating system. However, it does not contain any information about the type of coding used when it was saved . When a test file is read in, any special characters it contains (e.g. accented characters used by foreign languages) may be interpreted incorrectly.

As a result, test files cannot always be used directly on another system.

Fonts

The main difference between the two systems concerns the use of fonts. These are produced on the screen as well as on the printer.

The following fonts have equivalents in both systems:

Windows name	**OS/2 name**	**Common sizes**
Arial	Helvetica	8, 10, 12, 14, 18, 24
Times New Roman	Tms Rmn (Roman)	8, 10, 12, 14, 18, 24
Courier	Courier	10, 12
System	System Proportional	10

Note:

Font names can be substituted under Windows. See the FontSubstitutes section in the Windows WIN.INI file to find out how to define aliases.

Printer-specific fonts are substituted on the screen by similar fonts, which vary according to the operating system. Consequently, the results obtained in the following cases can be very different:

- on a Windows screen,
- on an OS/2 screen,
- printed on paper.

For this reason, you should always create a generic document on the same system as the one that will run it.

If your generic document needs to be used by both systems, we recommend that you create a separate version for each system, using the appropriate fonts for each one.

Chapter 9 Examples

This chapter introduces the creation of two generic documents with NS-Report using the approach described in chapter 3. These two examples enable readers to manage the various functions provided by NS-Report and to handle page layout objects before creating their own documents.

A test file is provided for each of these examples and thus lets you display and print the report, the description of which has just been built. They can then serve as the basis for creating more complex generic documents.

The character sets used in this example are those available in Windows. The equivalent OS/2 fonts are given in chapter 8 of this manual.

Readers should select equivalent fonts if those used in the examples are not available on their machine.

This chapter explains

- How to use NS-Report in concrete terms.
- How to print bank account statements.

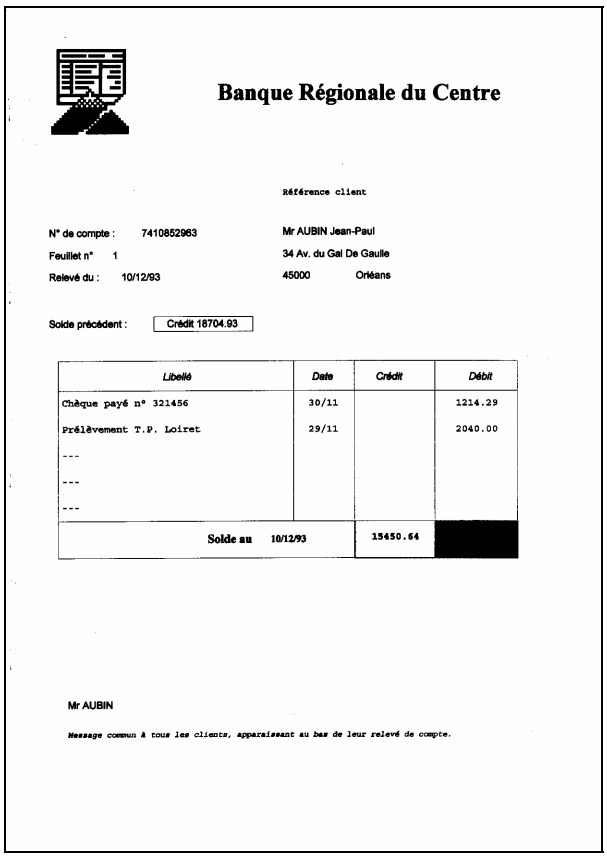
Contents

First example

This example describes the printing of bank account statements.

Each statement includes details of the bank and the customer, and a table with a fixed number of lines. If the number of transactions exceeds the maximum number of lines in the table, a second page is produced, carrying over the total from the preceding page.

A page footer can be used or not as the case may be, for a personalized message that provides information useful to account holders.



Banque Régionale du Centre

Référence client

N° de compte : 7410852963
Feuillet n° 1
Relevé du : 10/12/93

Mr AUBIN Jean-Paul
34 Av. du Gal De Gaulle
45000 Orléans

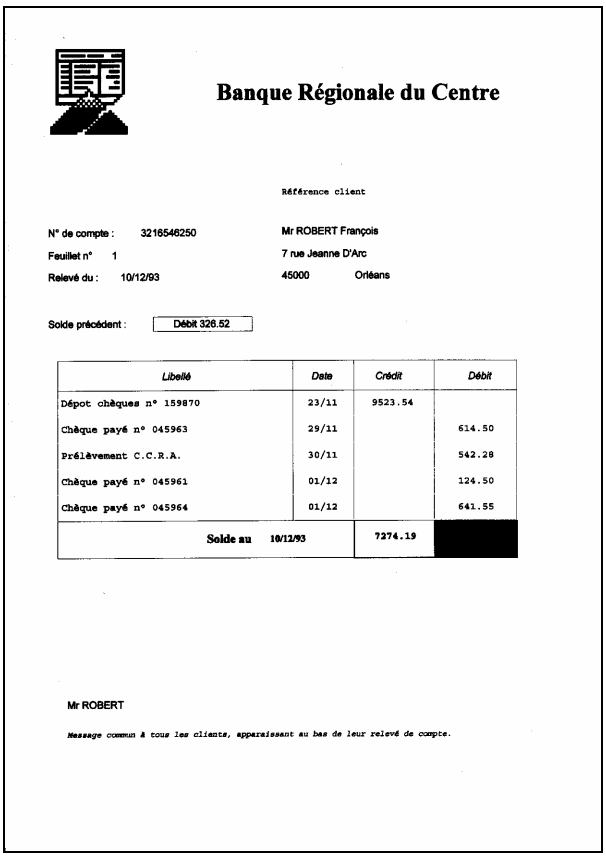
Solde précédent : Crédit 18704.93

Libellé	*Date*	*Crédit*	*Débit*
Chèque payé n° 321456	30/11		1214.29
Prélèvement T.P. Loiret	29/11		2040.00

Solde au 10/12/93		15450.64	

Mr AUBIN

Message commun à tous les clients, apparaissant au bas de leur relevé de compte.



Banque Régionale du Centre

Référence client

N° de compte : 3216546250
Feuillet n° 1
Relevé du : 10/12/93

Mr ROBERT François
7 rue Jeanne D'Arc
45000 Orléans

Solde précédent : Débit 326.52

Libellé	*Date*	*Crédit*	*Débit*
Dépot chèques n° 159870	23/11	9523.54	
Chèque payé n° 045963	29/11		614.50
Prélèvement C.C.R.A.	30/11		542.28
Chèque payé n° 045961	01/12		124.50
Chèque payé n° 045964	01/12		641.55
Solde au 10/12/93		7274.19	

Mr ROBERT

Message commun à tous les clients, apparaissant au bas de leur relevé de compte.

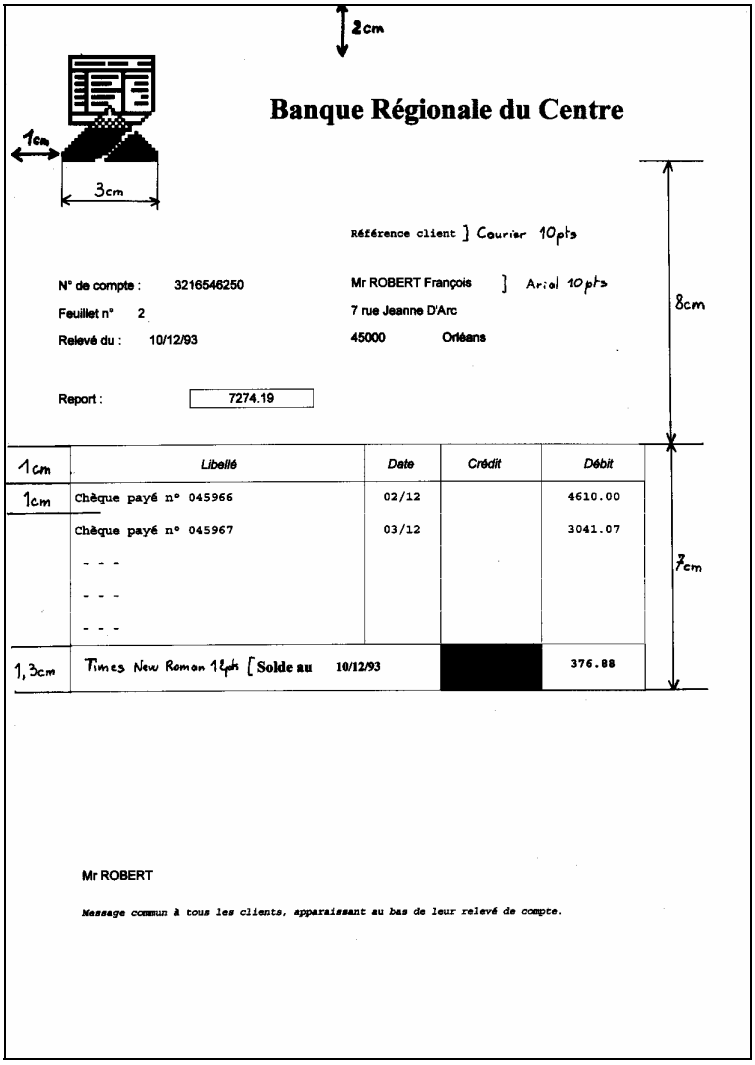
This first example explains in detail the steps involved in building the generic document, following the approach suggested in chapter 3. In particular it illustrates:

- Handling objects (text and graphics)
- Handling bitmaps
- Managing several pages per subject
- How to change the aspect of an object according to its content.

Description of the final document

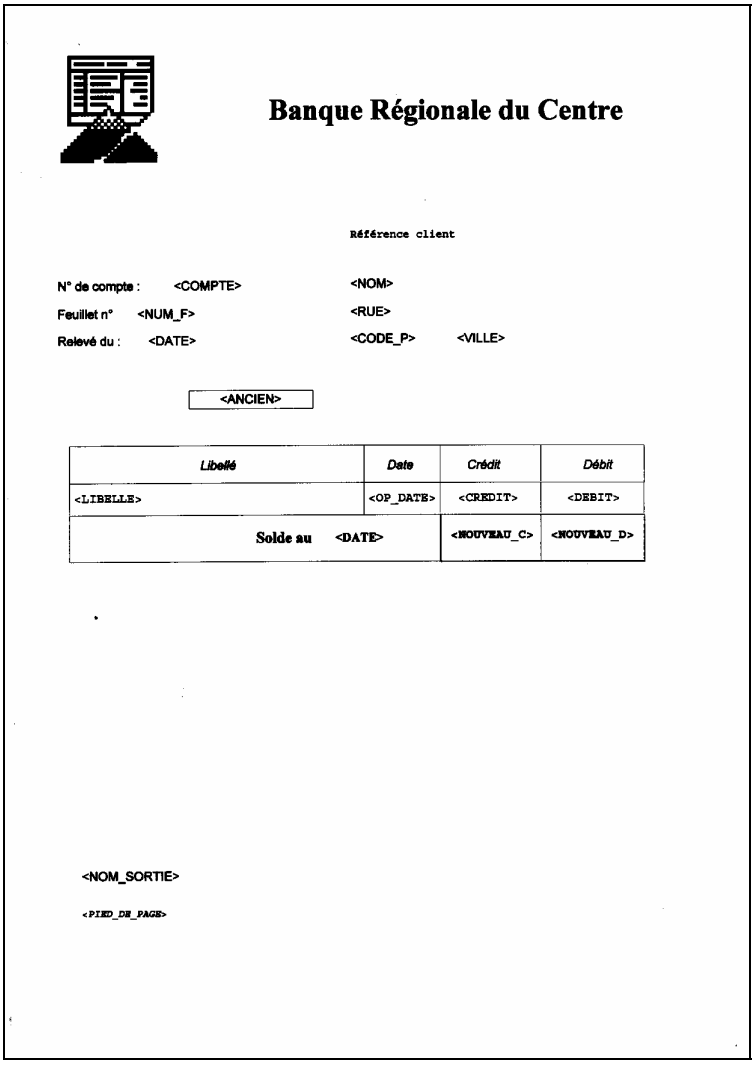
For this document, we will choose A4 portrait orientation for the paper.

The following figure shows a mock-up of a page of the document created, with various annotations specifying how the different elements going to make up the page are arranged. In order not to overload this figure, only a few dimensions are shown.



Listing variables

The next figure shows a page of the document in which the variable fields are represented by the names we will subsequently give them.



Variable data in this document can be grouped into three categories:

Customer identification:

ACCOUNT	Account no.
NUM_P	Page no.
DATE	Statement date
NAME	Name and first name of customer
STREET	Name of the street and number
CODE_P	Post code
TOWN	Town or Post Town
PREVIOUS	Indicates “Previous balance” or “Carried forward”
OLD	Old balance or balance brought forward

A description of the transaction:

DESCRIPTION	Description of the transaction
TR_DATE	Date of the transaction
CREDIT	Sum to be credited
DEBIT	Sum to be debited

Total and page output:

NEW_C	New credit balance
NEW_D	New debit balance
OUTPUT_NAME	Header for the output message
PAGE_FOOTER	Output message

Procedures for page breaks

A page break may be required:

- For a new customer
- Because the table on the current page is full

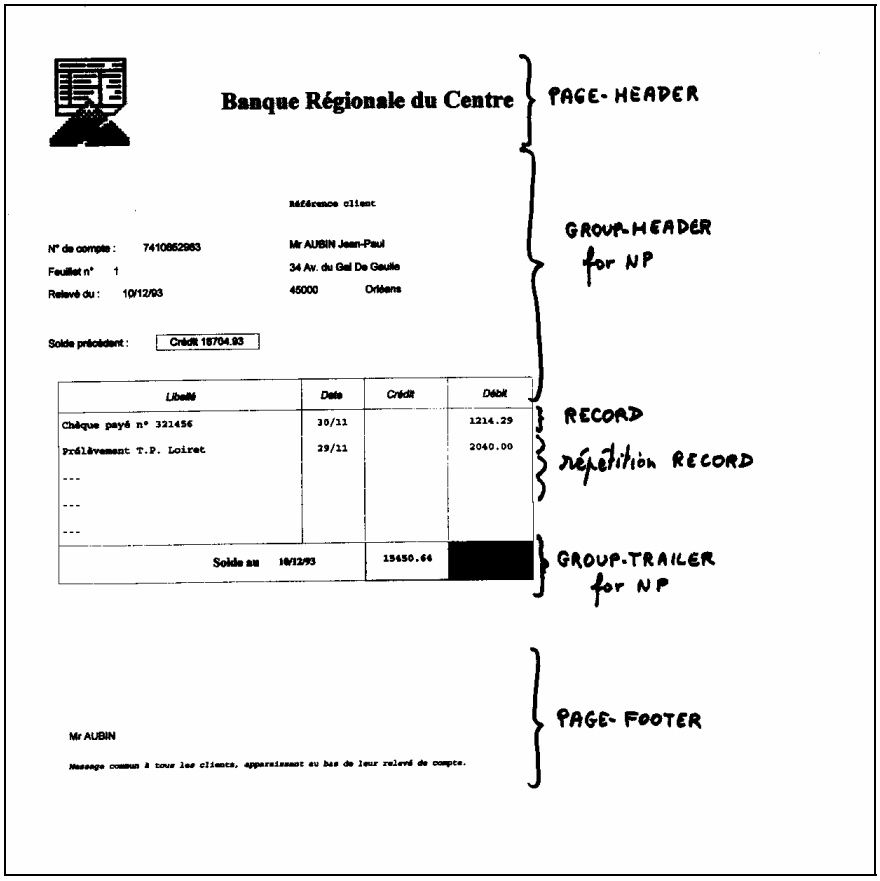
In both cases, debits and credits must be totalled in order to record the new balance or the balance to be carried forward.

This means that each page break must be controlled, whatever the reason for a new page. To do this, it is helpful if the table containing the transactions for an account is of constant size. In this example we are using five lines. During display or use, it will be easy to set the page break after five records.

This page break will be controlled using a variable with which we will associate a group. It will only be significant as it changes in value. We are calling this variable NP. Although it is never displayed in the document, its name should be in the dictionary.

Splitting up the document

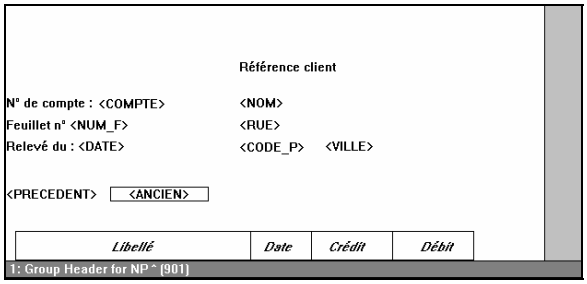
The approach described in chapter 3, applied to this document, leads to the following breakdown:



A page is composed of five regions.

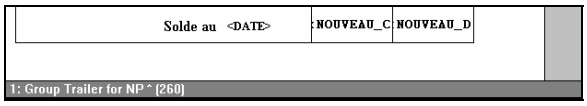
The five following figures give an idea how the different elements of information in the document are broken down and split up.

Page Header
Contains the logo and name of the bank.

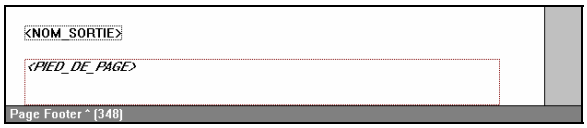


Group Header for the NP variable.
Contains the initialization of the customer details: name, account no, etc.
including the initial line of the table.

Record
Represents a line in the table describing a transaction carried out on the account.



Group Trailer for the NP variable.
This is the end of the table. In particular, it shows the new balance or the balance to be carried forward.



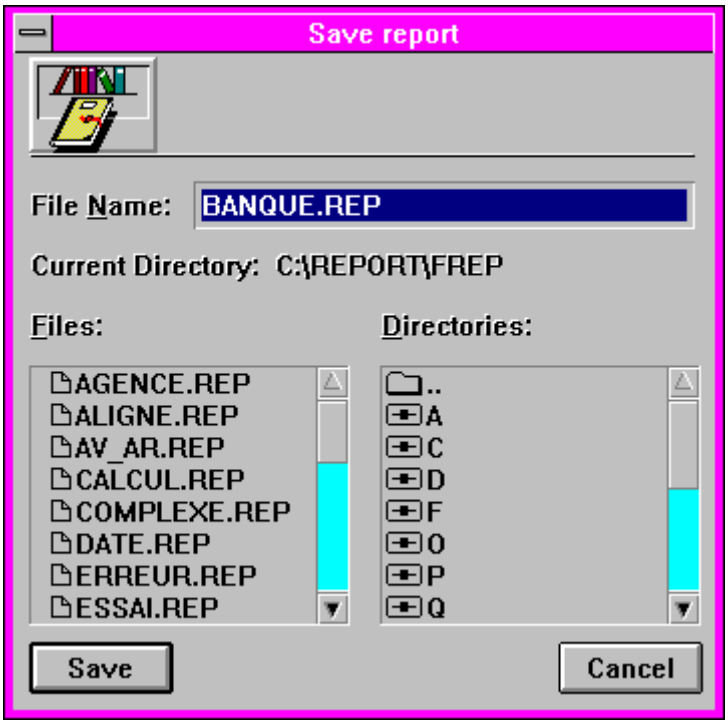
Page Footer
Prints a sales or information message.

Creating a Report file

Now that preparation of the document specification is finished, we can run NS-Report.

Selecting the File/New menu causes an empty Report window to appear which is given the default Report file name of UNTITLED.REP.

For the moment, no file is created on the disk. To avoid loosing data it is wise to actually create a file. To do this, select File/Save as from the menu. The *Save Report* box lets you choose a working directory, then give the newly created file a name (BANK.REP for example).

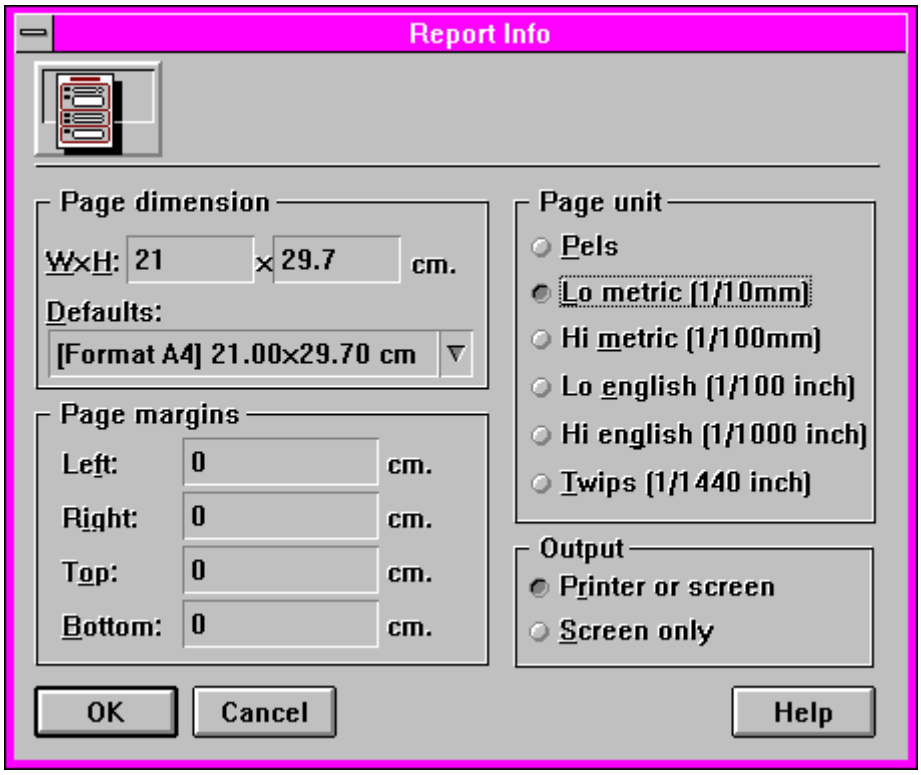


☞ Although saving is not always mentioned at every step in this document, it is understood that the file being created is regularly updated on the disk using File/Save from the menu (or the [F2] key), at least at the end of each step.

Configuring the Report file

We are going to use the initial characteristics drawn up for the generic document BANK.REP in defining the print format.

Selecting View/Report from the menu or the [SHIFT] + [F8] key combination displays the *Report Info* box:



It offers a choice of output peripheral and report format. The default options are kept:

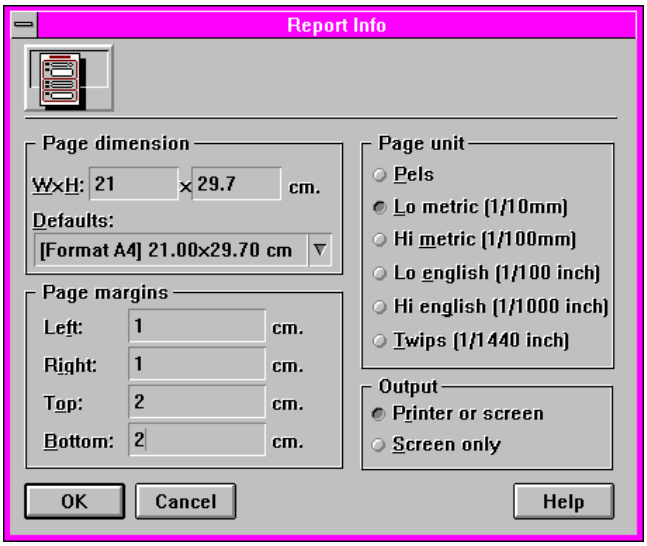
- Output **Printer or screen** in order to be able to access the paper formats.
- **Format A4** for the page format.

The default units chosen in the *Page unit* field are **Lo metric(1/10mm).** We will keep this unit so that the dimensions given to the objects are independent of screen resolution.

These options are satisfactory and will be kept. It just remains to enter the margins as specified in "Display" paragraph:

Left	1cm
Right	1cm
Top	2cm
Bottom	2cm

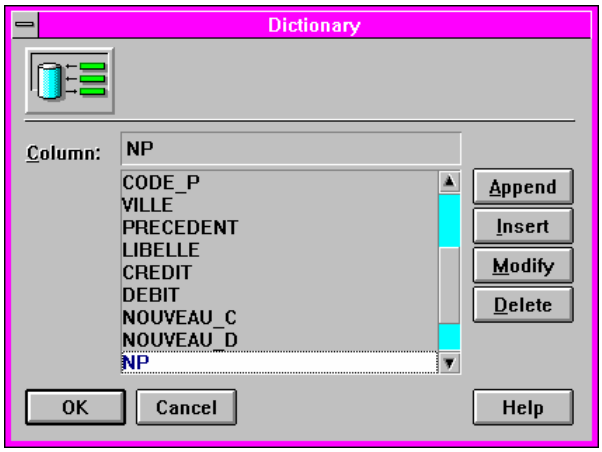
After making the selections described above, the *Report Info* window should look like this:



Creating the dictionary

The View/Dictionary menu gives access to the dictionary. We will enter the variables listed in "Listing variables". in it.

The NP variable described in "Procedures for page break" paragraph should be added, which, although it is not displayed on the screen, needs to be changed in order to force a page break.



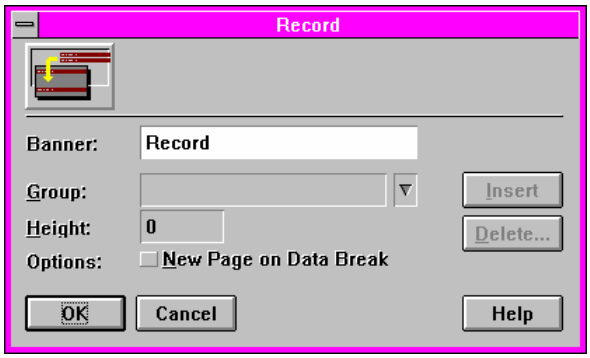
Preparing regions

The final document has been broken down into five regions:

- Page Header
- Group Header for NP
- Record
- Group Trailer for NP
- Page Footer

The two regions associated with the NP variable must be created. In order to do this, carry out the following:

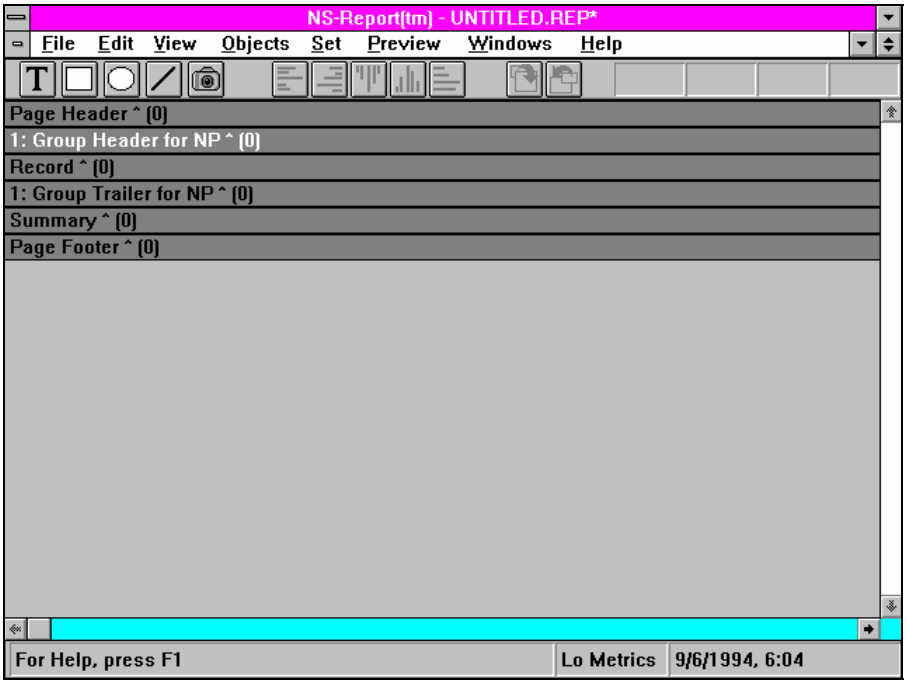
1. Double-click on a banner (*Record* for example) in order to display a *Banner Info* box.



2. Select the NP variable in the **Group** field.
3. Tick the "**New Page on Data Break**" option
4. Accept this new group by selecting the **Insert** Push-Button.

Two new banners are displayed, with the titles *Group Header for NP* and *Group Trailer for NP*.

The Report window now looks like this:



Inserting and configuring objects

General remarks

The general method of inserting objects into a region may be described as follows:

1. Open the region.
2. Insert the objects into the open region one by one.
3. Configure the objects on insertion.

☞ The dimensions shown in this document are likely to be changed slightly by NS-Report when it displays the document. This is the result of inevitable rounding differences in conversion between millimetres and pixels.

☞ Objects are referenced by their coordinates in the region that contains them. The origin is located in the lower left-hand corner. If the region needs to be extended in order to add new objects, its banner will be moved down but objects already present will follow this movement. Space is made at the top of the region. In consequence, it is easier to insert objects in a region starting at the bottom. This is the method we will use here.

☞ Configuring objects determines their position, size and aspect on the screen. For this reason it will be carried out as soon as they are inserted into the area.

☞ Fonts and character size are chosen so as to make the most of the possibilities provided by NS-Report. They may be replaced by others if they don't exist on the test machine or are not aesthetically pleasing in use.

Opening regions

The report description has enabled heights to be given to the regions from which it is composed.

We are now able to open all the usable regions on the page, giving them the following heights (in 1/10 of a millimetre):

- Page Header 299
- Group Header for NP 900
- Record 90
- Group Trailer for NP 260
- Page Footer 350

☞ The dimensions shown may not be, in general, obtained exactly for rounding reasons during conversion between pixels and tenths of a millimetre.

In order to open a region:

- Place the mouse pointer on the region's banner.
- Keep the mouse button pressed and move the pointer downwards. Two dotted horizontal lines follow its movement. The current height of the region is displayed in the Report window status bar.
- When the height displayed is satisfactory, release the mouse button.

Another method consists of using this region's *Banner info* box:

- Place the mouse pointer on the region's banner.
- Double-click or press the [Enter] key in order to open the *Banner info* box.
- Enter the desired height in the **Height** field.
- Accept by selecting **OK**.

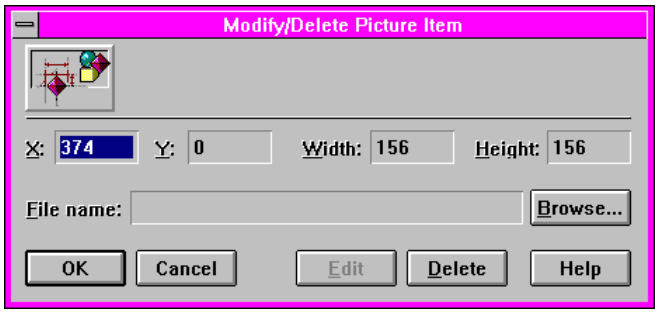
This second method has the advantage of being quicker and more accurate when the height of the region has already been specified during the preparation phase on paper.

The Page Header Region

Inserting a bitmap

Place the mouse pointer on the  icon and, still keeping the left mouse button pressed, drag the pointer into the *Page Header* region, then release the button.

A double-click on the square displayed then gives access to the *Modify/Delete Picture Item window:*



This window allows you to change the coordinates of the bitmap image and to enter the name of a bitmap file containing the image

For the moment, we will enter the path to the image file in the *Filename* field: C:\REPORT\LOGO.BMP.

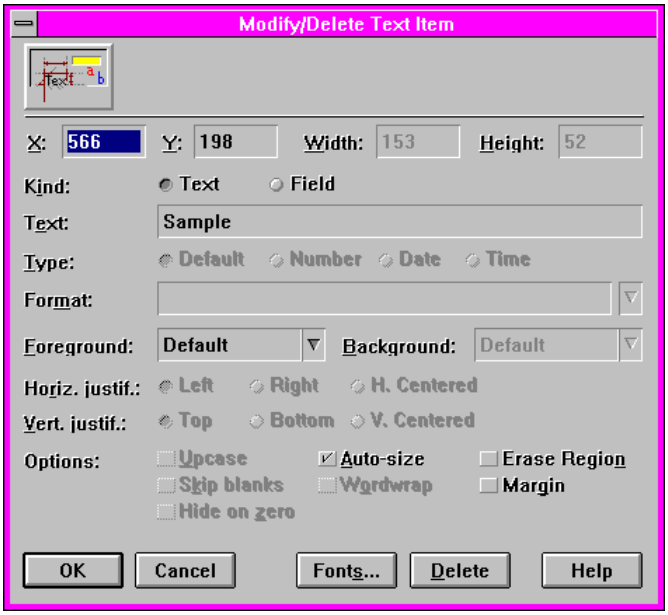
We will set the coordinates of this image as: X=0, Y=0, Width=300, Height=300

Accepting these coordinates causes an image to appear on the extreme left-hand side of the *Page Header* region.

Inserting the title

The title is a text object. As for the previous bitmap image, place the mouse pointer on the  icon then drag the pointer towards the *Page Header* region without releasing the mouse button.

Then open its info box (double-click or [F8] key or View/info menu).



Disable the **Auto-size** option (The size will be fixed).

Enter the following values:

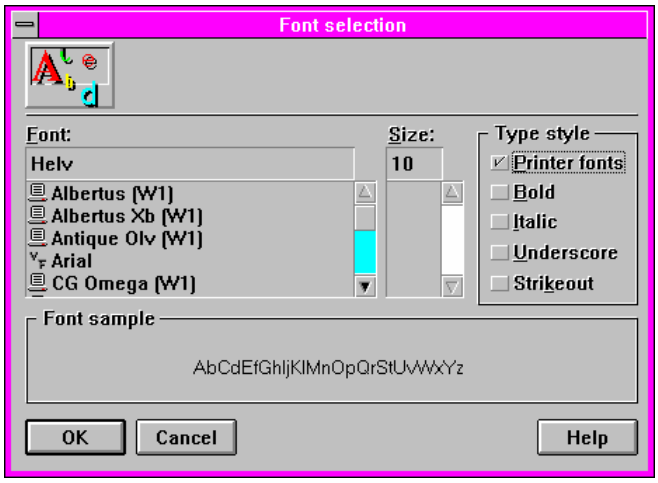
X=320, Y=0, Width=1580, Height=300.

The **Text** Radio-Button is already ticked. Enter the text: "**Banque régionale du centre**".

Tick the **H.Centered** and **V.Centered** options in the *Horiz.Justif.* and *Vert.Justif.* groups (in order to centre the text in the object space).

In the **Foreground** field choose the colour Blue.

Select the **Fonts…** button in order to change the character set using the *Font Selection* dialogue box:



In this window, the **Printer fonts** field in the *Type style* group makes the character sets available on the current printer accessible. We are going to enable this button, then:

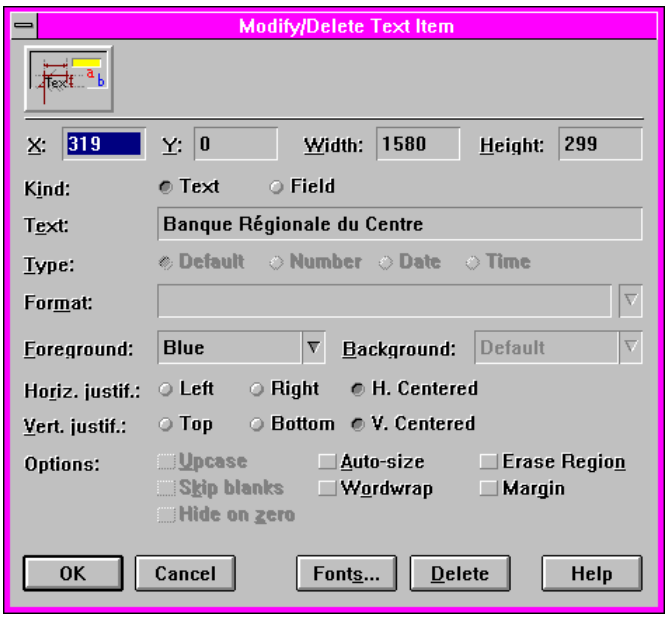
- Choose a character set from the **Font** list.

Depending on the operating system under which the report is printed, the character sets available may be different. Chapter 8 of this manual provides more information on this subject.

For this example, we will choose the Times New Roman font (Times New Roman under Windows if the alias is not defined).

- Select a **Size** from the list (24 for example).
- Tick the **Bold** button in the *Type style* group.

Configuring the object is now as follows:



Accept the selection using the **OK** button.

Group Header region for NP

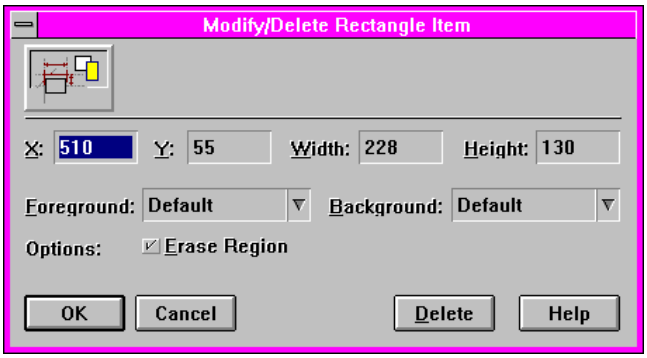
This region must be opened with a height of about 900 tenths of a millimetre.

It contains text and graphics objects that constitute the framework of the first line of a table. We start with the objects located close to the banner. It's a question first of a rectangle, then three vertical lines and four text objects.

Inserting a rectangle

Place the mouse pointer on the  icon. Drag the pointer towards the *Group Header for NP* region, then release the mouse button.

A rectangle appears in this region, surrounded by a red line. A double-click on this object displays the following Info window:



We find four fields, the contents of which fix the coordinates and size of the object. Enter the following values:

X=30, Y=0, Width=1560, Height=105

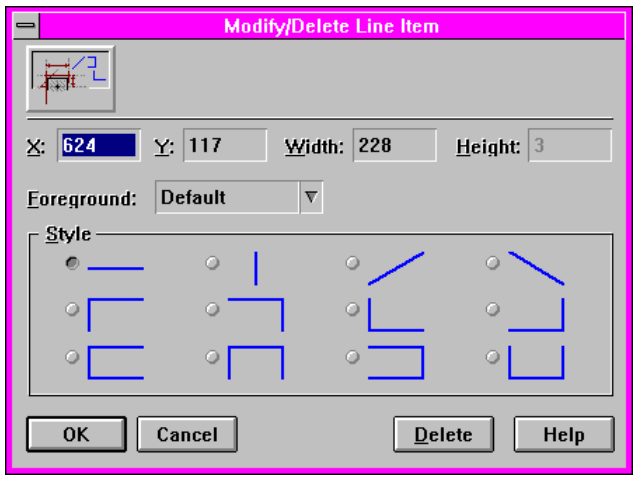
You should disable the **Erase Region** option in order to enable the text objects present in this frame to be visible at all times.

Inserting vertical lines

Place the mouse pointer on the  icon.

Drag this object into the *Group Header for NP* region, then release the mouse button. The object obtained is in the form of a red horizontal line. A double-click on this object will enable you to change its aspect.

The following window is displayed on the screen:



First you need to select the button that corresponds to a vertical line from the *Style* group.

The firsts four fields are then changed using the following values:

X=860, Y=0, Width=3, Height=105

After accepting these values a small vertical line is displayed to the left of the active region.

☞ The minimum width of a “vertical line” object is at least 1 pixel. The value given here (3 tenths of a millimetre) is the minimum width accepted by NS-Report without risking refusal of the parameters of this object. It can be considered that 0.3 mm is the effective width of a pixel.

If the units selected in the Report info box are pixels, the width of the vertical line is then 1.

The same technique allows you to place two other vertical lines with the coordinates:

X=1075, Y=0, Width=3, Height=105

X=1335, Y=0, Width=3, Height=105

Inserting text objects

The insertion of this type of object is carried out as described in "The Page Footer Region" paragraph. Their content is static text:

Description

Date

Credit

Debit

The justification options are: **H.Centered** and **V.Centered**. The **Auto-size** Check Box must be disabled in order to allow changes to be made to the length of *Text* type objects.

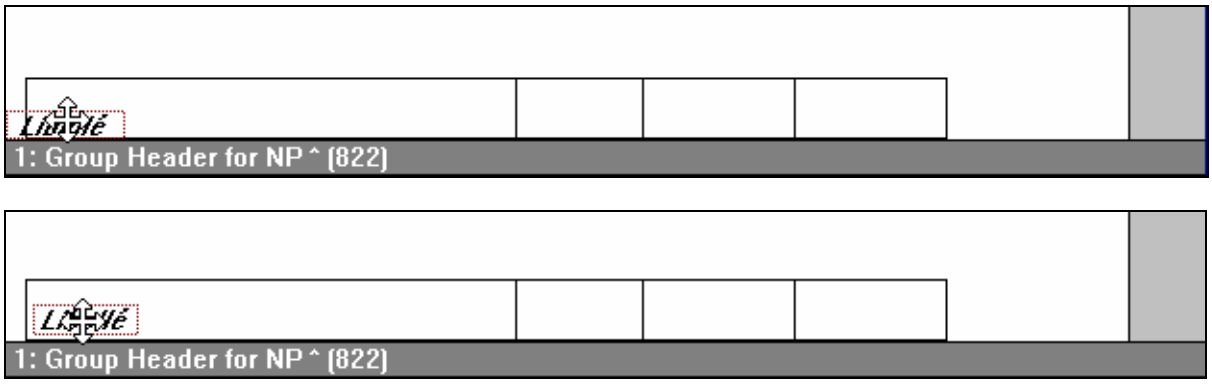
The font (Arial for example) should be chosen, as well as the Bold and Italic options, size 10, except for “Date of the transaction” which should be size 8 in order to remain within the frame containing this text.

These objects occupy the boxes formed in the rectangle by the vertical lines. Their positions and dimensions will be fixed using the mouse.

Configuring objects with the mouse

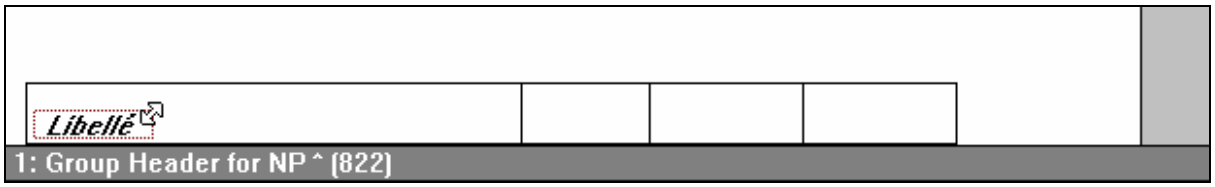
Movement

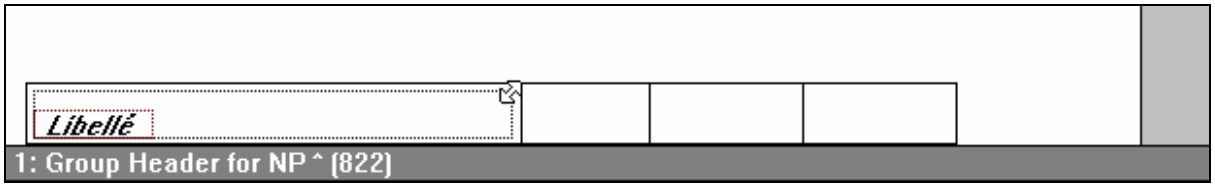
When the mouse pointer is on the object, it displays as an arrow pointing in four directions. Pressing the mouse button and moving this pointer allows you to move the object frame. In this way, we are able to place its bottom, left-hand corner about 1 mm from the left-hand edge of the bottom of the box containing the object.



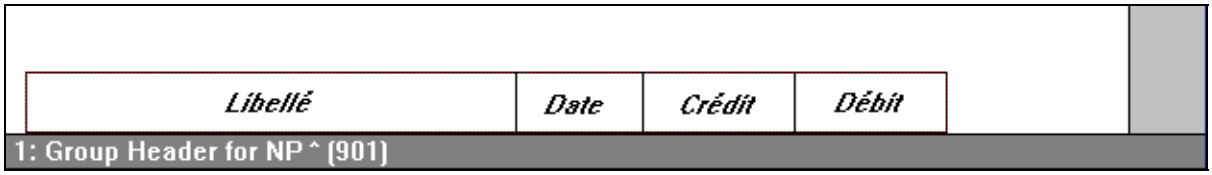
Changing the size

When the pointer is situated on the edge of the object, it changes into a double-headed arrow, the direction of which depends on the movements possible for the edge it is touching. Pressing the mouse button and moving this arrow allows you to increase or decrease the size of the rectangle surrounding the object. In this way, we are able to enlarge each object up to about 1 mm from the top, right-hand edges of the box containing it.





After doing this, the region should look as follows:



Inserting variable fields

Above the box created previously, we find two variable field *Text* type objects. One will be associated with the PREVIOUS variable (let's remind ourselves that this variable will contain "Previous balance" on the first sheet relating to an account, "Brought forward" on the other sheets). The other will be associated with the OLD variable, which will contain the initial balance or the balance brought forward depending on the circumstances.

Create a new *Text* object in the *Group Header for NP* region, then open its Info box in order to enter the following configuration:

- Disable the **Auto-size** option.
- X=0, Y=210, Width=320, Height=60
- In the *Kind* field, select **Field**. The next field becomes a Combo Box in which the list of variables in the dictionary is accessible. Select the PREVIOUS variable.

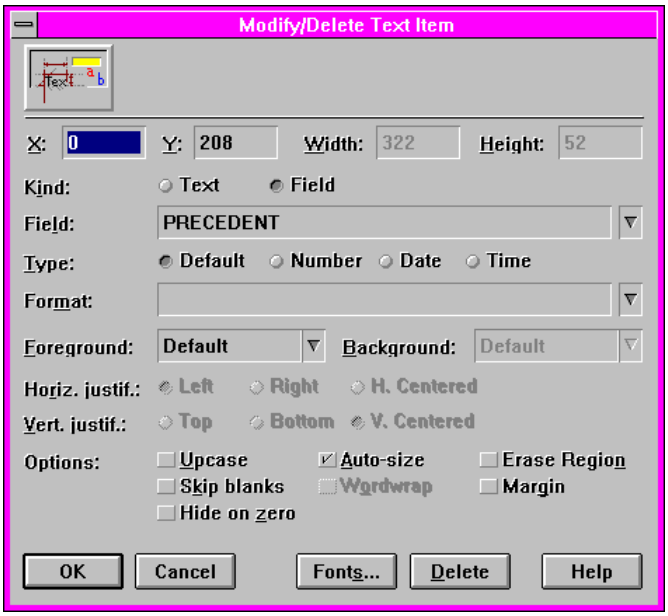
- In the *Horiz.justif.* field choose **Left**.
- In the *Vert.justif.* field choose **Bottom**.

Another *Text* object must be created with a variable field associated with OLD.

Its coordinates are: X=365, Y=210, Width=350, Height=60.

This object is associated with a number variable. For this reason, you must select **Number** in the *Type* field.

The contents of this object are justified **H.Centered** and **Bottom.** This object has a **Margin** option which draws a frame around the text.



Finishing the region

In order finish preparing the *Group Header for NP* region you still have to place:

- Three text items containing the:

  Account no:

  Page no.

  Statement date:

They occupy the left-hand edge of the page above the previous text items. They can be placed and sized using the mouse. Justification will be **Left** and **V.Centered.**

- There are seven objects associated with variables, which we will leave you to create and place in their approximate positions using the mouse. Their size will be left as **Auto-size.**

  The variables corresponding to these objects will be chosen from the dictionary. It's a question of:

  - ACCOUNT
  - NUM_P
  - DATE
  - NAME
  - STREET
  - CODE_P
  - TOWN

☞ For all the objects described above the table, the default font (Helvetica, size 10) is retained.

- A final text object is placed above the previous ones. It contains the static "Customer reference" string and its coordinates are:
  X=820, Y=660, Width=415, Height=55.

The font chosen here is "Courier", size 9. Justification parameters are left to the reader's own judgement.

Object alignment

The nine text type objects created above the table can be aligned without entering their coordinates in their respective Info boxes.

We are first going to position the three objects, "Account no.", "Page no." and "Statement date" with regular spacing between them. In order to do this:

- Select one of these objects (the top one for example).

- Pressing the [SHIFT] (CAPITALS) key, select each of the two other objects successively using the mouse.

- With the mouse, click on the  icon.

The “Page no.” object is placed equidistant from the two others, and the three objects are aligned on their left-hand side.

After that you need to align the three objects that appear on the same line. We are going to describe the procedure to follow for the first line and leave the reader to repeat the operation for the other two lines.

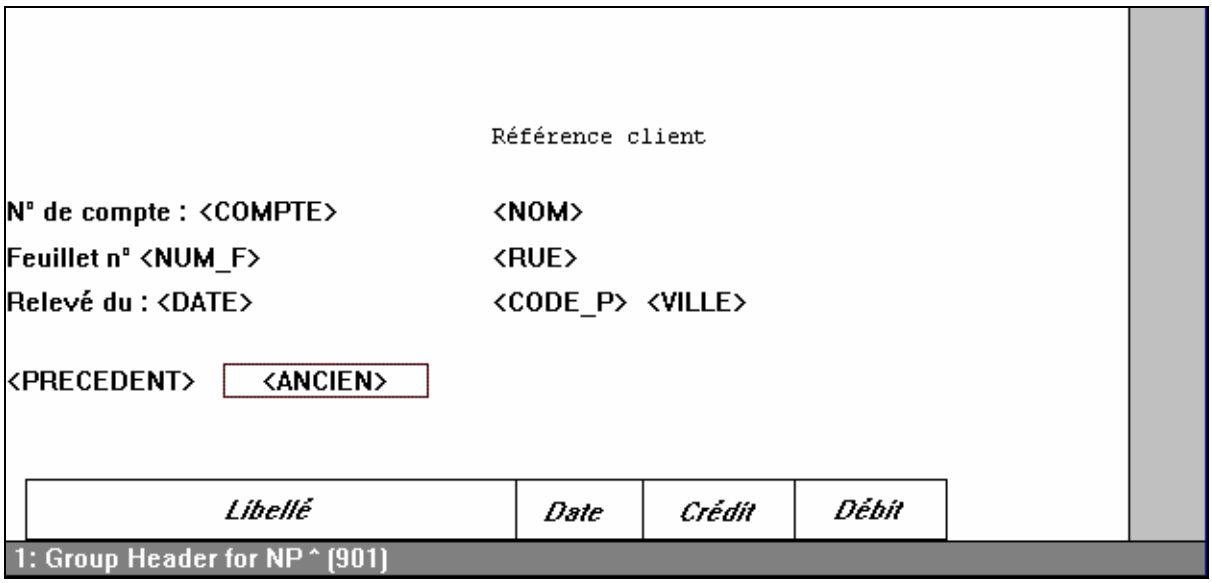
- Make sure that the object located the furthest to the left is in the lowest (or highest) position in the line. If this is not the case, use the mouse to raise (or lower) these two objects which are wrongly placed in the line.

- As indicated above, select the three objects sharing a line ([SHIFT] key + mouse selection).

- Enable the  (or ) icons.

The three objects are now aligned.

Here is an image of the *Group Header for NP* region after these operations:



The Record region

This region must have a minimum height of 90 tenths of a millimetre.

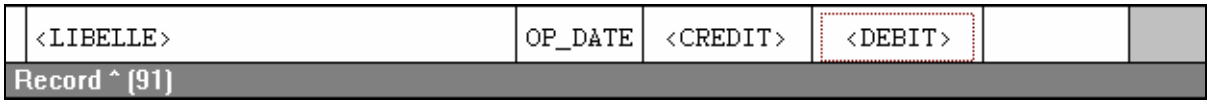
It is possible to increase the height in order to make placing the objects it contains easier. After doing this, its height may be reduced to the desired value by raising its banner using the mouse or by changing the **Height** field in its *Banner Info* box.

It contains:

- five vertical lines of height 90, placed at the x coordinates 35, 860, 1075, 1335 and 1590
- four text objects with a field associated respectively with the variables DESCRIPTION, TR_DATE, CREDIT and DEBIT. These objects can be placed and sized using the mouse.

The DESCRIPTION variable is left-justified, TR_DATE is centred, CREDIT and DEBIT are right-justified.

The *Record* region should looks as follows:



The Group Trailer region for NP

Inserting current objects

We will begin by placing the following using the same technique as for the preceding regions:

- A rectangular frame with coordinates:

  X = 35, Y = 130, Width = 1045, Height = 130

- A text item containing the string “Balance at”, with coordinates:

  X = 555, Y = 130, Width = 190, Height = 120

- A text item associated with the DATE variable with coordinates:

  X = 780, Y = 130, Width = 210, Height = 120

The other parameters of these text items are left to the choice of the reader.

Overlapping a rectangle with a text item

The aim of this operation is to obtain the balance at the end of the table on a white background in the credit or debit column as required, and a grayed rectangle in the other column.

To achieve this, two objects need to have the same coordinates:

X=1075, Y=130, Width=260, Height=130.

It's a question of:

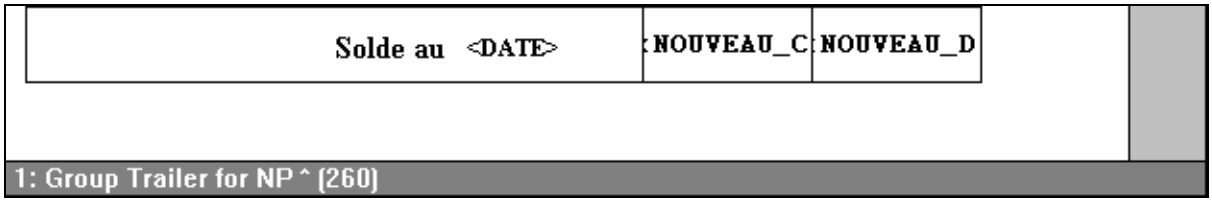
- a rectangle with a **Background** colour of: *Light Gray* with the option: **Erase Region**.
- a text object associated with the NEW_C, **Number** type variable, with the **Margin** and **Erase Region** options.

Similarly, we will create two other objects with coordinates of:

X=1335, Y=130, Width=260, Height=130.

It's a question of:

- a rectangle with a **Background** colour of: *Light Gray* with the option: **Erase Region**.
- a text object associated with the NEW_D, **Number** type variable, with the **Margin** and **Erase Region** options.



☞ Only the last object created can be selected. To reach the overlapped objects, use the  icon in order to move back the object which is overlapping the one that needs to be selected.

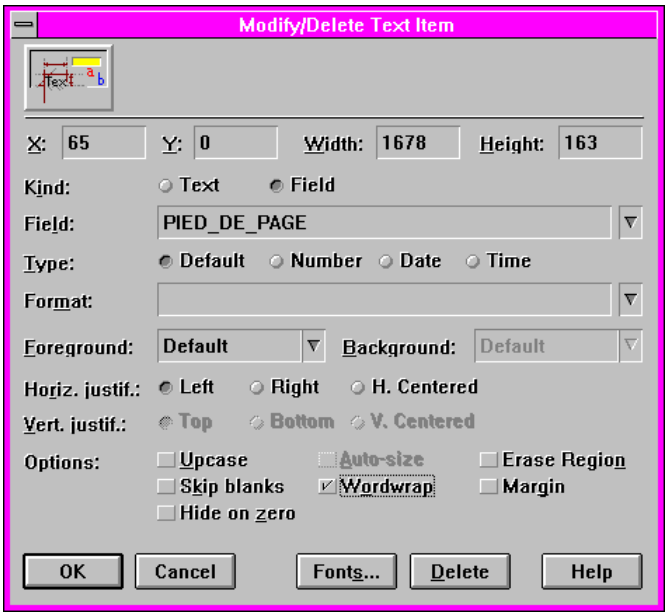
Don't forget that the large rectangle surrounding the end of the table also overlaps these objects. We therefore have three objects covering each other, each one being brought to the front each time the above icon is activated.

The Page Footer Region

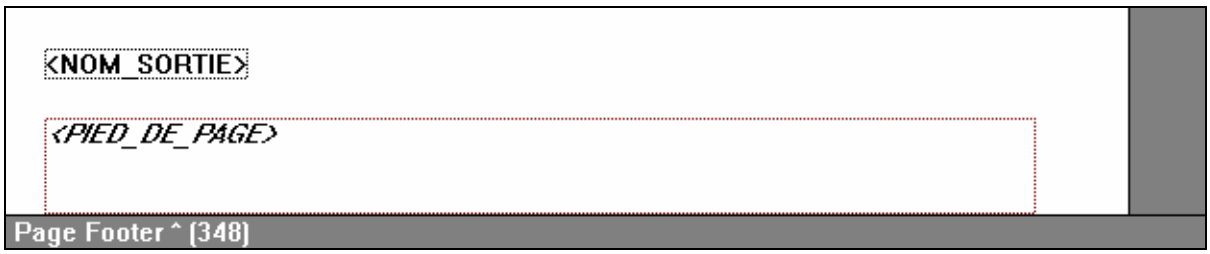
This region is very simple. It only contains two *Text* type objects, associated with the OUTPUT_NAME and PAGE_FOOTER variables.

PAGE_FOOTER must take up the width of the page and be of sufficient height to contain a message which could be several lines in length. It is necessary to **disable the Auto-size option** and to tick **Wordwrap**.

Here is the Info box for the last object described:



Here is the Page Footer region after insertion of the two objects specified:



The test file

Introduction

A test file consists of a series of blocks of data which will be read by NS-Report during the test phase.

Each block of data is formed of lines in which a value is associated with a variable.

At the start of the page, the *Page Header* region is set up, then the *Group Header* regions, then the *Record* region. The fields are assigned with the current contents of the variable respectively associated with them.

On each new data block, a new occurrence of the *Record* region is produced.

If a control variable changes, the relevant *Group Trailer* regions are generated.

If a page break occurs, all the *Group Trailer* regions are produced, then the page footer. The next page is immediately initialized with the current values of the Header regions' variables.

☞ Any variable that is not initialized will be expressed as an empty string.

☞ A variable keeps its value until the next assignment (even in the case of a page break).

☞ In order to prevent a variable being displayed, you just need to assign an empty string to it.

The BANK.DAT file

From the Report window displaying the BANK.DAT file, it is possible to create the test data file. In order to do this:

- Select the File/Open menu. A box *Open Report* is displayed.
- In this box, enter the name of the test file: BANK.DAT. A message "File BANK.DAT does not exist. Do you want to create it?" appears.
- Select the **Yes** button.

An empty Data window is then displayed, the title of which is BANK.DAT.

Below are the contents of the BANK.DAT file, attached to this example.

☞ All the lines beginning with the ‘;’ character are comment lines.

```
; *** Initialization and first data block
;
NP=0
PAGE_FOOTER=Message common to all customers, appearing at the bottom of their
bank statement.
ACCOUNT=7410852963
NAME=Mr AUBIN Jean-Paul
DATE=10/12/93
NUM_P=1
PREVIOUS=Previous balance:
OLD=Credit 18704.93
STREET=34 Av. du Gal De Gaulle
CODE_P=45000
TOWN=Orléans
;
; Line 1
DESCRIPTION=Cheque paid no. 321456
TR_DATE=30/11
CREDIT=
DEBIT=1214.29
; *** After these lines, the header is built and
; *** a first record is placed in the table.

; *** Second data block
; Line 2
DESCRIPTION=Payment T.P. Loiret
TR_DATE=29/11
CREDIT=
DEBIT=2040.00

; *** Third data block
; Line 3 empty
DESCRIPTION=---
TR_DATE=
CREDIT=
DEBIT=

; *** Fourth data block
; Line 4 empty
ACCOUNT=7410852963
;

; *** Fifth line empty and end of table, therefore
; *** assignment of new balance values.
; *** The page footer message was initialized right at the beginning
; *** of the BANK.DAT file and will remain valid until the end
; *** of the test or until a new assignment of the
; *** PAGE_FOOTER variable.
; *** On the other hand, the OUTPUT-NAME variable must be initialized
; *** each time the table is exited.
;
; Line 5 empty
NEW_C=15450.64
OUTPUT_NAME=Mr AUBIN

;
; *** In the following lines, the NP variable changes
; *** value. So, we start a new page with a
; *** new customer. The relevant variables are changed.
; New page
```

```
NP=1
;
; New customer
NAME=Mr ROBERT François
ACCOUNT=3216546250
DATE=10/12/93
NUM_P=1
OLD=Debit 326.52
STREET=7 rue Jeanne D'Arc
CODE_P=45000
TOWN=Orléans
;
; Line 1
DESCRIPTION=Cheque deposited no. 159870
TR_DATE=23/11
CREDIT=9523.54
DEBIT=

; Line 2
DESCRIPTION=Cheque paid no. 045963
TR_DATE=29/11
CREDIT=
DEBIT=614.50

; Line 3
DESCRIPTION=Payment C.C.R.A.
TR_DATE=30/11
CREDIT=
DEBIT=542.28

; Line 4
DESCRIPTION=Cheque paid no. 045961
TR_DATE=01/12
CREDIT=
DEBIT=124.50

;
; *** The table is going to have its last line used,
; *** it must be exited, therefore.
; *** The exit variables are updated
;
; Line 5
DESCRIPTION=Cheque paid no. 045964
TR_DATE=01/12
CREDIT=
DEBIT=641.55
NEW_C=7274.19
OUTPUT_NAME=Mr ROBERT

;
; *** The NP changes its value again, triggering a
; *** new page break. As the account remains the same, the
; *** PREVIOUS variable receives the string "Carried forward".
; New page
NP=2
;
; Line 1
PREVIOUS=Brought forward :
OLD=7274.19
NUM_P=2
DESCRIPTION=Cheque paid no. 045966
TR_DATE=02/12
CREDIT=
DEBIT=4610.00
```

```
; Line 2
DESCRIPTION=Cheque paid no. 045967
TR_DATE=03/12
CREDIT=
DEBIT=3041.07

; Line 3 empty
DESCRIPTION=---
TR_DATE=
DEBIT=

; Line 4 empty
TR_DATE=


; *** These lines fill the table.
; *** As it is the last record in this
; *** test file, a table exit is produced
; *** in order to finish the page.
;
; Line 5 empty
NEW_C=
; This assignment empties the variable of its previous content
; and makes it invisible.
NEW_D=376.88
```

Writing the data file

As the current test file is saved automatically each time it is displayed, saving it manually is not compulsory. However, it should be saved in some circumstances, for security reasons.

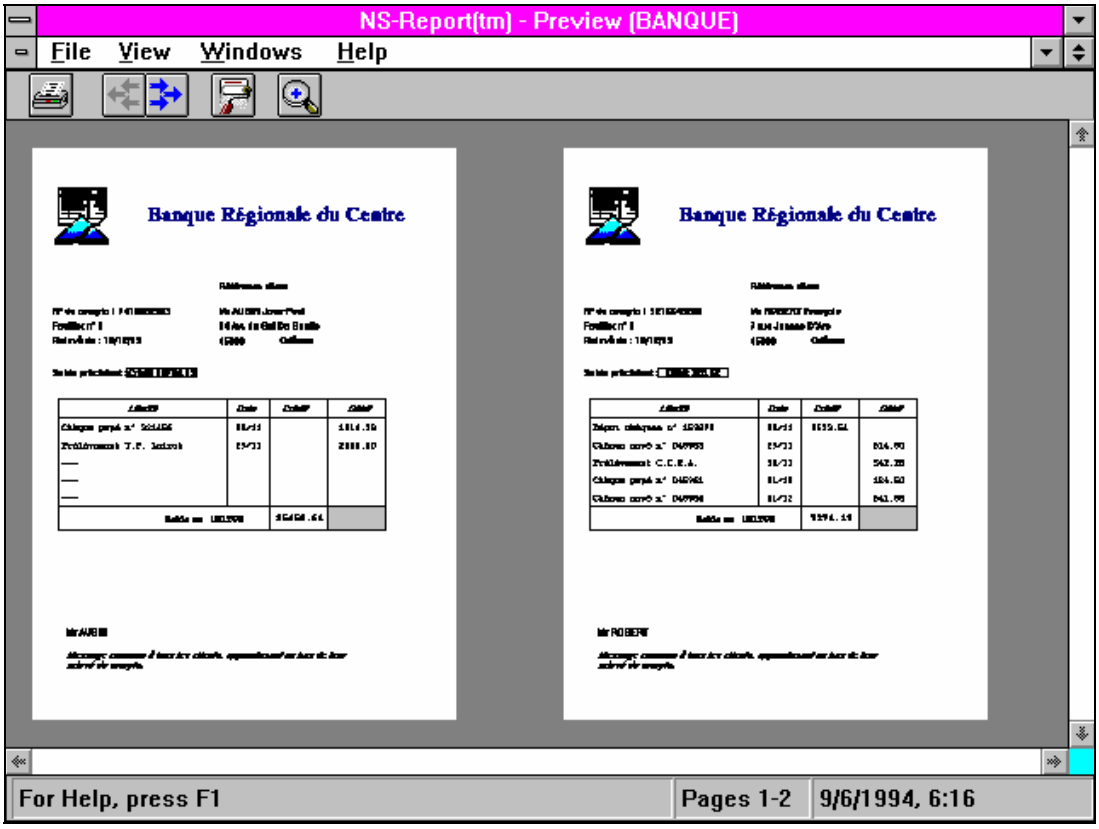
The File/Save menu in the Data window is used for saving the file.

☞ In order to return to the BANK.REP file editing window, use the Window menu and select this name from the list of open windows. This method can be used at any time in order to move from one window to another.

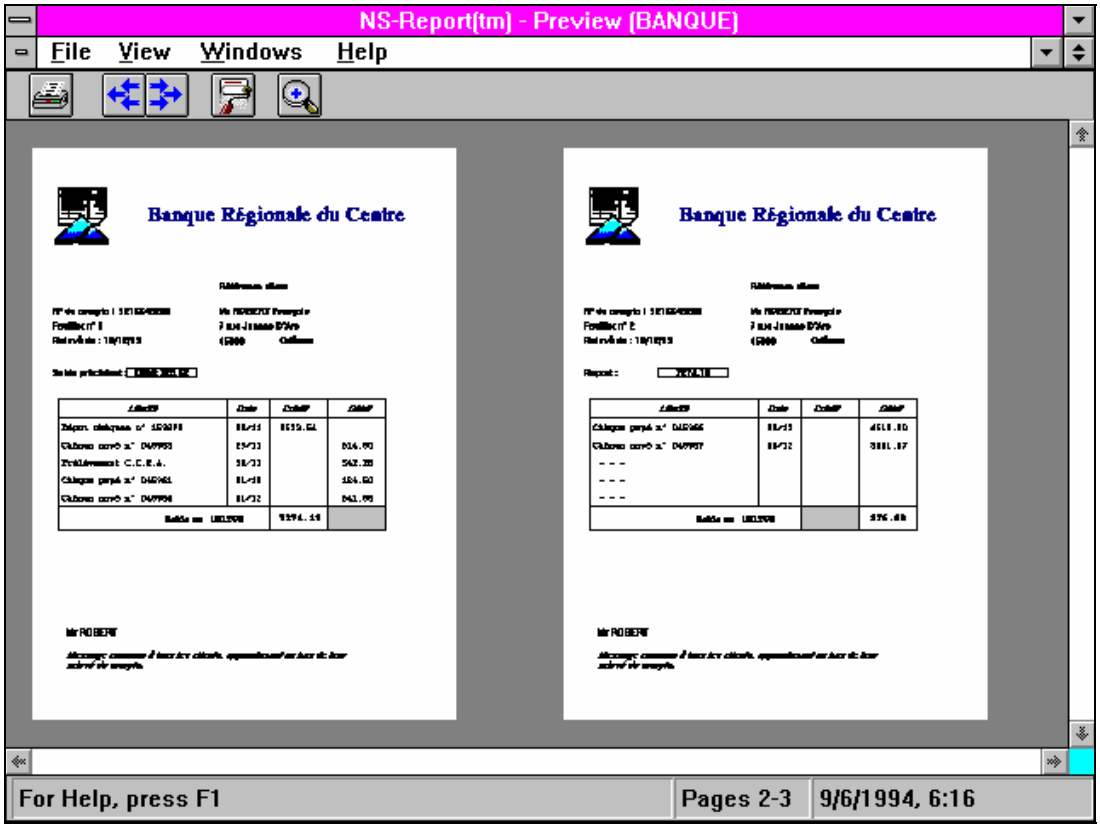
Display

The Preview/Display menu in the Report window launches a representation of the BANK.REP file, taking BANK.DAT as the default test file.

The *Preview(BANK)* window shows the first two pages produced by this test, in a smaller format.



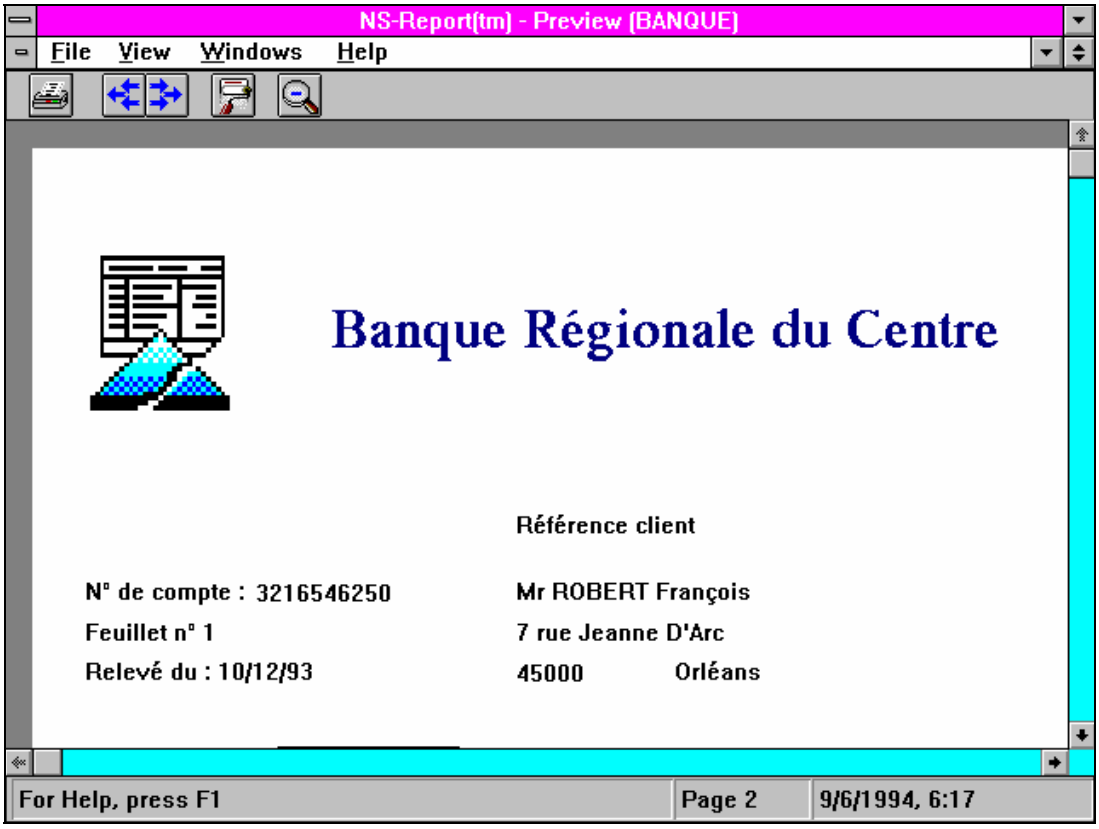
Selecting the  icon or the View/Next Page menu or pressing the [Ctrl] + [+] keys displays pages 2 and 3 of the report.



At the bottom of the table, we can see the effect produced by the Rectangle and Text objects superimposed, the one upon the other.

- If it's a credit balance (Page 2, the NEW_C variable is not empty and its content is displayed on a white background.
- The NEW_D variable is thus empty and it's the gray rectangle that is visible to the right.
- If it's a debit balance (Page 3), it's the NEW_D variable that is visible, and the gray rectangle appears to the left, in place of the credit balance.

Selecting the  icon or the View/Zoom in menu displays page 2 in large format.



The scroll bars allow the whole page to be displayed.

Selecting the  icon or Zoom out from the View menu displays pages 2 and 3 in small format.

Selecting the  icon or Previous Page from the View menu or pressing the [Ctrl] + [-] keys displays pages 1 and 2.

Printing

Printing is accessible from the Preview window. The Preview/Display menu must be active and an image on the screen of the report in a Preview window.

The File/Printer setup menu … opens a box which lets you select and configure the printer you want to use to print the report.

Printing is started by selecting the File/Print menu or by clicking on the  icon. The *Print* window that is displayed offers the option of printing all the document or a given number of pages.

☞ On printing, the superimposition effects may be different from those displayed on the screen depending on the printer driver being used.

Appendix A Limitations

This appendix introduces the limitations which may appear when NS-Report is being used.

This information is grouped by theme.

This chapter explains

- The limitations of NS-Report by theme : files, resources, pages, regions, …

Contents

Files

- Size of a Report file (.REP): no limit, but limited to 255 characters in memory per line.
- Size of a Data file (.DAT): 65,000 characters.

Resources

- Number of open windows: under Windows, limited by the system resources available.

- Display:

  May be impossible

  - if the space in memory is insufficient (the space required depends on the size of the page).

  - if the amount of data to be displayed is too large and cannot be held in the memory.

Pages

- Maximum size: limited by the available memory space and by the formats accepted by the printer. Standard formats (A4, A5, letter, B5) are strongly advised.

- Margin size:

  - The width of the left and right margins must be less than a third of the width of the page.

  - The height of the top and bottom margins must be less than a third of the height of the page.

  - The sum of the left + right margins must be less than two thirds of the width of the page.

  - The sum of the top + bottom margins must be less than two thirds of the height of the page.

Regions

- Height: The total height of the basic regions (Page Header + Record + Page Footer or Page Header + Summary + Page Footer) must be less that the page height, taking account of the top and bottom margins.

Objects

- Number of objects in a Report document: The maximum number of objects that can be contained in a Report file is limited by its size.
- Maximum size of a Text object: 200 characters.
- Maximum size of a Bitmap object:
  - printing via NS-Report is limited to 100 x 100 pixels.
  - maximum size is limited to 64Kb.

Dictionary

- Maximum number of variables in the dictionary: 128.
- Maximum number of characters in a variable name: 31.

Clipboard

- Maximum number of copiable characters: 65,000.

Appendix B Error messages

This appendix introduces the error messages which may appear when NS-Report is being used.

These messages are grouped by theme.

This chapter explains

- The error messages of NS-Report by theme : files, resources, pages, regions, …

Contents

Files

```
Report xxxxx not a valid data file
```

Cause: Attempt to open a Report file as a test file.

Solution: Only give the names of test files when trying to open that type of file.

```
Report xxxx does not exist
```

Cause: Attempt to open a file that does not exist.

Solution: Either choose the name of an existing file or accept its creation.

```
Cannot create file xxx!
```

Cause: Not possible to create the file requested.

Solution: Check that the path is correct, that there is space available on the hard disk or on the network, that you have write access to the partition you have specified.

```
Cannot write on file xxx!
```

Cause: Not possible to write to the file specified.

Solution: Check that the file is not write protected, that there is sufficient space remaining on the disk or on the network, that you have write access to the partition you have specified.

```
Cannot load report file xxx!
```

Cause: Not possible to load the Report specified.

Solution: Check that the file is not “read only” outside NS-Report. If that is the case, change its attributes outside NS-Report then try to open it again. Otherwise close several files that may already be open. There is no solution if this message was preceded by an error message indicating a syntax error in the file. In this case it is no longer being recognized as a Report file. It may have been changed outside NS-Report.

```
Cannot save text file xxx!
```

Cause: Not possible to save the test file specified.

Solution: Check that there is sufficient space on the disk or on the network and that you have write access to the partition you have specified.

```
Report xxx already loaded!
Text xxx already loaded!
```

Cause: Refusal to load a file that is already open.

Solution: None. If the file specified is really the one you want, make the window that contains the file the active window in order to display it. Otherwise change the name of the file to be opened.

```
Name already used by a loaded report!
```

Cause: Attempt to save a Report file under the name of another Report file that is also open.

Solution: Depending on what you want to do: close the other open Report file in order to be able to overwrite its contents by saving the Report file. Otherwise specify another name to save it by.

```
Failed to open file xxxx
```

Cause: Not possible to open the file specified.

Solution: Check if the file name is valid.

```
Syntax error line xx
```

Cause: Error in the format of the Report file being read. The message indicates in which line of the file the syntax error has been detected.

Solution: Avoid changing Report files using another text editor. However, if you must, first backup the original file so that you can return to it if the file you have changed can no longer be read by NS-Report.

Objects

`Width cannot be less than xxx`

Cause: The width of the current object specified in its Info Box cannot be less than that indicated.

Solution: For the width of an object, specify a value that is at least equal to the minimum that is acceptable.

`Height cannot be less than xxx`

Cause: The height of the current object specified in its Info Box cannot be less than that indicated.

Solution: For the height of an object, specify a value that is at least equal to the minimum that is acceptable.

`Text too long to fit on page!`

Cause: It is not possible to fit all the text specified in the Text object's Info Box into the region.

Solution: Move the text by specifying a smaller value in the X field in its Info box, or un-tick the Auto-size option in the Info Box and tick the Word-wrap option then increase the height of the object.

`Object must fit in banner!`

Cause: The size of the object specified in its Info box is too large to fit in the **region.**

Solution: Give lower values for the height or width of the object depending on which has been increased. Possibly change the position of the object if it is placed too far to the right in the region.

`Banner too small to contain object!`

Cause: The height of the region is too small for the object to be inserted into it.

Solution: Increase the height of the region in order to contain the object. If need be, subsequently resize the object to its final dimensions then decrease the height of the region.

```
Bitmap cannot exceed nn x nn
```

Cause: It's not possible to print a bitmap, the size of which is greater than the dimensions indicated.

Solution: None. Edit and change the bitmap outside NS-Report.

```
No items selected!
```

Cause: An action has been attempted while no object is selected.

Solution: Select at least one object before carrying out the action.

```
Selection too big!
```

Cause: It's not possible to copy to the clipboard because the overall size of the items selected exceeds 65,000 bytes.

Solution: Reduce the number of items to be copied to the clipboard in one go.

Regions

`No banner selected!`

Cause: No region is active during a request to paste content from the clipboard.

Solution: Select a region before trying to paste.

`Group name already defined!`

Cause: It's not possible to create a group of regions using the name of a group that already exists.

Solution: Rename the group to be created.

`Group name not valid for default banner!`

Cause: Attempt to rename a basic report region (Header, Record, Summary).

Solution: Only regions other than basic regions may be renamed by specifying a new name in the Group field of the region's Info box then clicking on the OK button. Click on the Insert button instead of OK in this same box if a group of regions is to be created.

`New Page option cannot be set for Page Header & Footer!`

Cause: New Page on Data Break option cannot be set for the basic Page Header or Page Footer regions.

Solution: Untick the New Page on Data Break option in the region's Info box.

`Total banner height definition exceeds page height!`

Cause: It's not possible to specify in a region's Info box a height meaning that the total height for the basic regions is greater than the page height.

Solution: Specify a smaller height for the region, possibly reduce the height of another basic region so that you can increase the height of the region.

```
Banner height cannot be less than xxx
```

Cause: It's not possible to specify in a region's Info box a height that is too small to contain all the objects in it.

Solution: As a minimum, specify the value indicated in the error message. This value corresponds to the ordinate of the top of the object closest to the top of the region. Another alternative is to return to the Report document in order to move the object lower, then to re-specify the desired height in the Info box.

Report format

`Left (Right) margin greater than half the page width`

Cause: It's not possible to specify in the Report Info box a left (right) margin greater than half the width of the page.

Solution: Specify a margin with a width smaller than the permitted maximum.

`Left + Right margin greater than 2/3 of the page width`

Cause: It's not possible to specify in the Report Info box a left and right margin the sum of which exceeds 2/3 the width of the page.

Solution: Specify margins with a value smaller than the permitted maximum.

`Top (Bottom) margin greater than half the page height`

Cause: It's not possible to specify in the Report Info box a top (bottom) margin greater than half the height of the page.

Solution: Specify a margin with a value smaller than the permitted maximum.

`Top + Bottom margin greater than 2/3 of the page height`

Cause: It's not possible to specify in the Report Info box a top and bottom margin the sum of which exceeds 2/3 the height of the page.

Solution: Specify margins the sum of the values of which are smaller than the permitted maximum.

`Width minus Right and Left margins too small`

Cause: It's not possible to specify values for the left and right margins meaning that the width of the report is too small to contain all the objects already created.

Solution: Give lower values to the margins or return to the Report document in order to move the objects which can no longer be contained in the report once the new values have been assigned to the margins.

```
Height minus Top and Bottom margins too small
```

Cause: It’s not possible to specify values for the top and bottom margins meaning that the height of the report is too small to contain all the objects already created.

Solution: Give lower values to the margins or return to the Report document in order to move the objects which can no longer be contained in the report once the new values have been assigned to the margins.

Clipboard

```
Clipboard empty!
```

Cause: Nothing to paste from the clipboard

Solution: First copy an item to the clipboard.

```
Invalid clipboard!
```

Cause: An attempt to paste text copied from a test file or a file outside NS-Report into a Report file.

Solution: None. The operation is forbidden.

Dictionary

```
xxx too long to insert in dictionary!
```

Cause: The name of a variable exceeds 31 characters.

Solution: Give the variable to be inserted into the dictionary a shorter name.

```
Column xxx already exists!
```

Cause: It's not possible to insert a variable into the dictionary, the name of which is already there.

Solution: Change the name of the variable to be inserted.

```
Too many columns defined!
```

Cause: The maximum (128) number of variables specified in the dictionary has been reached. No new variable can be inserted.

Solution: None, other than deleting any unused variables from the dictionary.

Test file

```
Pattern not found!
```

Cause: It’s not possible to find the string in the file.

Solution: None, however, check that the string indicated is really the one you want. It’s always possible you made a typing error!

Printing

```
Illegal range definition!
```

Cause: The page numbers to be printed are not valid. The number of the first page to be printed must be less than the number of the last page to be printed.

Solution: Re-specify the first and last numbers of the pages to be printed.

```
Cannot print!
```

Cause: It's not possible to print to the printer currently selected in Printer setup.

Solution: Check that the printer is working and is connected.