CONTENTS

1. THE FRAMES

The operating mechanism of Logoview is closely connected with the graphic frames that provide a schematic view of the system and all the components that need to be created. Through dialog with the outside world Logoview acquires the data that enables it to display on the monitor system performance as a graphic representation using the frames as a background. Exploitation of Logoview operating efficiency therefore depends on frame design. Once the key element around which the whole construction revolves and application functions have been identified we shall explain how they are organized and the differences between the different types of frames.

1.1 WHAT ARE THE FRAMES?

The frames are basically screens with objects above them that interact with the operator. A distinction should therefore be made between a screen and a frame. However, such a distinction could create confusion. From now on the two terms will therefore be used without making any distinction between them. This lumping together of the two terms does not create any type of problem for the purposes of this training manual.
There are many different types of frame in order to ensure optimum solutions, whatever the problem. A distinction is made between frames in formal terms: ***Bitmap*** frames, ***Dialog*** frames, ***Transparent*** frames, ***Vectorial*** frames and ***Opaque Colored*** frames.

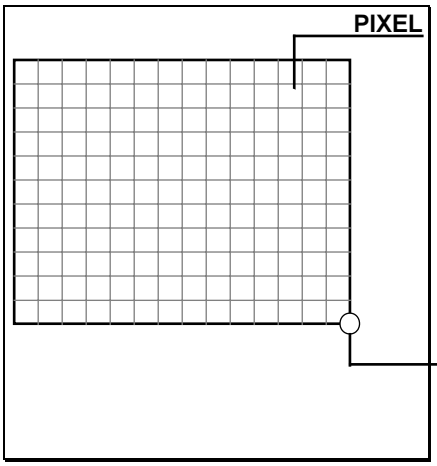
1.1.1 Bitmap frames

Logoview has been designed for optimum management of bitmap files. A bitmap image consists of a series of numbers that describe the image on the screen. For example, supposing that a sheet of paper is divided into minuscule elements of 1/16 of a square centimeter. The sheet is therefore said to have a resolution of 16 elements (points) per centimeter. The columns of the points are numbered from 1 to 72 to the right and from 1 to 48 from top to bottom.
Element number 440 is therefore identified as the intersection of column 8 with line 7. Element 440 therefore has the coordinates 8, 7.

NOTE. Whenever coordinates are written or read, if there are no explicit changes the first number is always the coordinate recorded on the x axis whilst the 'Y' axis is the axis of the ordinates. For further explanations, see any book on Cartesian geometry.

Each element can be activated by assigning it the value 1 or it can be deactivated by assigning it the value 0. If any element of the sheet of paper is assigned the value 1 or 0 an image can be described on the page. In this way we have described a figure made up of points of one bit (0 or 1). By looking at the figure on the sheet we can see a map made up of bits: the black ones are 1 and the white or empty ones are 0: we in fact have a bitmap.
When Logoview reads a bitmap from the disk it is stored in device-dependent format. Such a format depends on the type of graphic resolution and the number of colors displayed. It enables the bitmap to be used quickly because it need not suffer further transformations. We can therefore say that the form of the bitmap stored in the memory is linked to the type of graphics board being used. It therefore depends on the type of device: it is device-dependent. To understand exactly what a bitmap is think of a mosaic. The number of colors depends on the color of the mosaics that you have. If you have 16 types of mosaics

you will make a mosaic with 16 colors; if you have 256 types of mosaic you can make a mosaic with 256 colors, etc. The level of detail in the image that you wish to create will depend on the size of the mosaic pieces. The smaller the mosaics that are used, the finer the details can be. To take this concept one further, the mosaic pieces are our bitmap whilst the mosaic pieces are the tiny points that make up the image that is colloquially known as pixel.



Bitmap images can be generated by different systems. The easiest system is to use your favorite editor (drawing program) or G-PAINT. As there is no standardization of graphic formats each drawing program uses its own format. Logoview can read the most commonly used programs because the field has been reduced to the four or five most efficient formats. For stranger, unsupported formats contact your dealer to find out if a program exists that converts the file generated by your editor into one of the formats that Logoview is able to read. These formats are recognized:

☞ **SCR**: This is a format generated by GOST-PAINT (G-PAINT). The format has been maintained to ensure that it is compatible with older versions of Logoview. It can be loaded very quickly but the compression of the images is not particularly efficient. It does not allow images to be loaded that have a number of colors that is different from the graphic mode used but different resolutions of the same color can be used. 24-bit images cannot be saved.

☞ **BMP**: This is the format generated by Paintbrush in a Windows environment. The format is not very suitable for compression but for users who decide to use the -WINDOWS editor for creating bitmaps it is one of the compulsory formats.

☞ **GIF**: This format saves a great deal of space on the disk. It uses LZW compression, which provides excellent compression of images without any loss of detail. On the other hand, because of the amount of work required to decompress the images, loading is very slow. This format again does not allow 24-bit images to be managed.

☞ **PCX**: This is one of the oldest file formats, dating back to the time when images were still monochrome. Compression is similar to that used in SCR-type files but it can handle 24-bit images. It is one of the forms that is generated by Paintbrush.

☞ **CUT**: Another old type of format that is still used because it is generated by one of the most frequently used graphic editors in existence: Doctor Halo. In this case again, as for the PCX file compression is mediocre. However, it does have one special feature. The colors file is generated separately with the extension PAL. They must therefore always be moved together. Also in this case it does not seem to be possible to manage 24-bit files. We also advise against using it because it seems that the new versions of the software from which it derives manage some of the new formats that are much easier to manage and can be more fully compressed.

☞ **TIF**: This is the format that is most widely used at the moment. It is generated by all the graphic editors above a certain level. Like GI it uses an LZW-type compression algorithm. Nonetheless, unlike this one it enables 24-bit images to be handled. This format is also very slow in reading and writing.

☞ **TGA**: This format is used exclusively for 24-bit images. It is generated by editors that are used in a broadcast field. The images are not compressed and therefore take up a lot of space on the disk. If these types of image are used it is therefore advisable to convert them into TIF or PCX beforehand.

1.1.2 Dialog Frames

They are not available in the current version.

1.1.3 Database masks

The database masks enable the contents of a database to be displayed very easily. Logoview enables masks created by the Titano program to be used. Within the applications they are identical to the other types of frame described in this chapter.
However, there are some small differences:

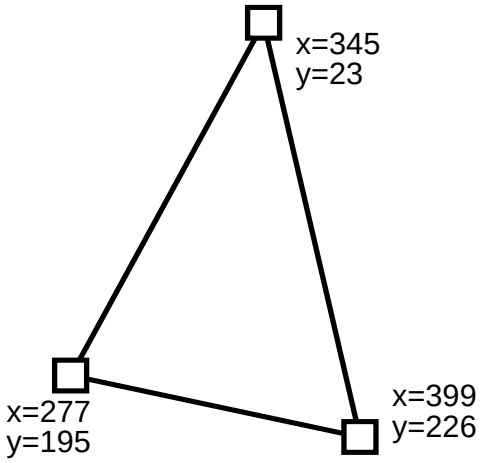
- the fields inside the page display the database contents directly
- it is not possible to use event instructions to draw inside the masks
- it is not possible to position Logoview animations inside the masks

The database masks must be created or modified by Titano; after entering them in Logoview they can be opened as normal screens or by means of the instruction DB_OPENVIEW. This ensures greater control of the database opening methods.
For further details of use, read the chapter on Logoview operations in the Titano manual.

1.1.4 Vector Frames

A vector frame is any type of frame that is generated by vector graphics programs. Vector graphics are graphics that are object-oriented. In this case, the images are saved in the form of a list of instructions that describe how the image must be plotted. These instructions are always represented by numbers in a computer. A list of instructions is therefore a mathematical description of the drawing that must be made. The drawing can consist of a set of lines, circles, rectangles, etc. Objects can also be defined as a set of other objects. Let us suppose that you have to draw a pyramid with a square base. This will be made up of the triangle that forms the base, the first object, and then the lines will be represented by 4 isosceles triangles. As the triangle is not normally an object, we normally make up the triangular object from three line objects. In other words after defining and naming a new one, the triangle, the pyramid can be made up of four of these new items. It therefore follows that a complex drawing is layered like an onion, with one layer covering the next until the core of the onion is reached, which is a single element.

Each object in the image therefore has its own set of graphics primitives. An object can therefore be enlarged, made smaller, capped, moved or modified without any influence on other objects that make up the image. In addition, when changing the size of an object there is no loss of resolution and the lines are more uniform than those obtained with bitmap graphics. As Logoview uses only bitmap images internally, when a different type of image is loaded it is converted into a suitable format. In this way it is possible to reproduce very complicated images without loss of definition even if Logoview alters dimensions drastically. When a vector frame is used it is read and then changed into a device-dependent bitmap with background color and dimensions defined by the user during configuration. Logoview can read two types of vector format: the slide format of AUTOCAD (SLD) and the Windows materiel format (WMF). A brief description of these two file forms follows.



☞ **SLD:** This type of file is generated by the AUTOCAD program. It is not the native file. In other words it is not the file that is normally used by the program for saving the drawings. It is in fact a file that stops the drawing from being framed. In fact, it is a portion of the whole drawing. This portion may also include the entire drawing. It is determined by the commands that are available from the program that has to generate the file. The decision to read this tip of file rather than the standard DXF format depends on the fact that the SLD format in the 12 AUTOCAD editions has never been modified whereas each edition of the DXF file as been extended and revised. This would have obliged us to update Logoview each time. For detailed instructions on how to generate SLD (slide) files see the documentation accompanying the AUTOCAD packet.

☞ **WMF:** is the standard Windows vector forma. It is used by nearly all vector graphics programs that run in this environment, even those that have their own proprietary format. This format is used to import drawings generated by CORELDRAW! or Mircrografx DRAW. Again in this case, for further details consult the documentation supplied with your drawing software.

1.1.5 Opaque Colored Frames

The technical terminology of Logoview defines an opaque frame as a frame that is completely empty. When a bitmap or vector file is used Logoview loads the pre-defined figure that it has read from the disk into its memory. On the other hand, when an opaque frame is used, Logoview does not read any file from the disk but on the basis of the configurations set by the user (we will see how later on) it creates the bitmap in its memory by giving it the correct dimensions and coloring it with the selected background color. This uniform background can be used as if it were a normal frame.

1.1.6 Line Trends

This section is not yet available: it will be available in a Logoview version that will be appearing shortly.
For the list of Line Trends open the window "**Configuring Line** T**rends**", by activating the menu item "**View**" and then choosing the option "**Line trends**" or clicking with the left-hand key of the mouse on  .

1.2 THE PURPOSE OF THE FRAMES

To sum up: there are different types of frame: each type of frame can more or less perform the tasks assigned to the frames. These tasks can be divided into three categories: layouts, menus and dialogs. The frames assigned to layouts are the work bases for each application. All the other types of frame are used as accessories of the first frames. Vector and bitmap frames are created off-line from the program by different editors and are then loaded by Logoview. They can be used as a background for their own applications. In addition, as Logoview supports all the formats seen previously it enables you to achieve all the resolutions permitted by the graphic drivers of Windows. In addition, it can manipulate images with any number of colors, starting from 16 colors of the standard VGA to the 16 million colors of a TARGA/ILLUMINATOR card.

It has also successfully bypassed the problem of conversion of images between different palettes. It is in fact possible to manage images even if the number of colors displayed by the video card is less than the number of colors that make up the image. Thanks to a sophisticated algorithm based on the Floyd-Stenburg theory Logoview dithers the image so that it can also be displayed on graphic systems of modest size.

However, this also brings about two disadvantages. The first is that converting the Logoview image requires extra loading time that is directly proportional to the size of the image that needs to be converted. The second, more serious, problem is that the colors are not pure but consist of pixel screens of different colors. Unfortunately, this also influences some operations and jeopardizes results.

It is also necessary to know how to make use of such a rich variety of graphic formats. As you probably know, the main purpose of a process supervision or control program is to supply the operator with data. The data represents the situation of the system that interfaces with the computer.

At the current stage of technology the supervision programs enable data to be shown in graphic form. In order to display these data the programmer needs forms that will represent these data In a Logoview environment these forms are represented by interactive fields, trends, animations, etc.

In order to position all these elements on the video Logoview provides frames. The frames are used as a base for all the objects that make up the application program. Logoview frames are the fundamental basis of each application package.

1.3 COLOURS

1.3.1 The Palette

Each frame, of whatever type, has its palette. The palette comprises all the colors used for that frame.
Each frame has a palette that may be different from any other. A frame can be drawn on using only the colors of its palette. Each palette is made up of 256 colors. It must be remembered that a color that is available in one frame may not be available for another.

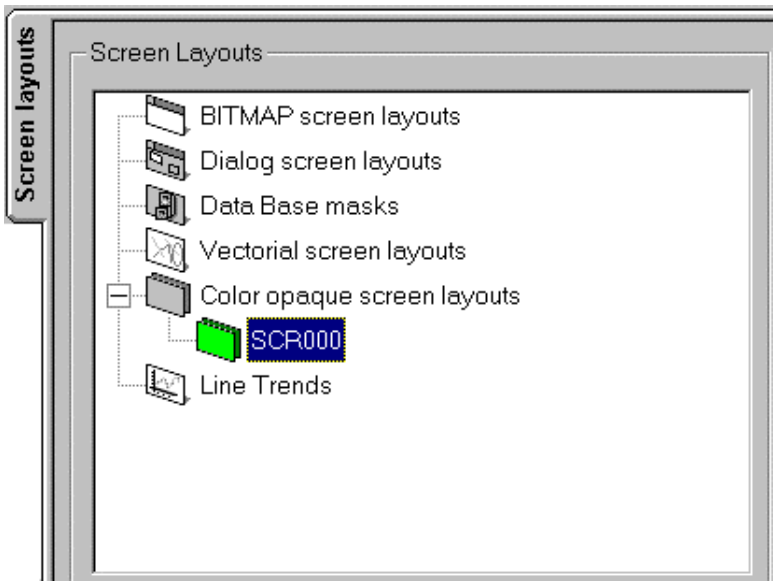
NOTE. As far as possible use all the frames with the same palette. This is because different palettes may not contain the same colors, so a color that is available in one frame may not be available in another.

1.3.2 The tables of colors

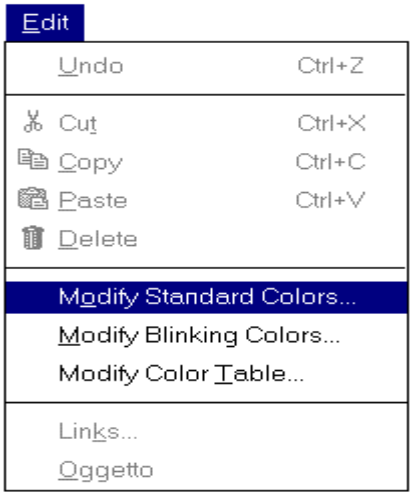
Logoview provides different tables for configuring all the tips of color that are required for an application. These can then be used by an event with the relevant instructions. As we have said, the colors that are available for a frame are connected to their palettes. A color that has been configured on one frame may not be available for another. The color tables may therefore vary from one frame to the next. Logoview always carries out a 'best match' between the color configured in a table and those available in the frame palette. The best match criterion consists in Logoview choosing the color from the palette that most closely matches the color configured in the table, whatever that might be. This applies for all Logoview color configurations.

1.3.2.1 *Standard Colors*

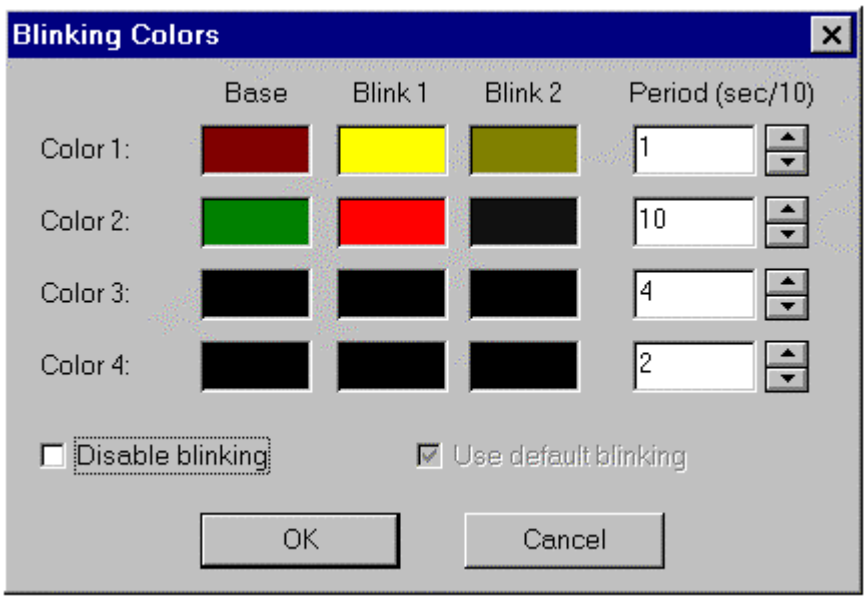
The table of standard colors is a table containing 16 colors that can be used from an event in all graphic instructions. The table begins with the color 0 and finishes with the color 15.
To define the standard colors open the ***Frames Editor*** by clicking twice from the ***Frames*** section of the ***Basic settings*** window on any of the frames in the application.



Next, configure the Standard Colors table, which applies to all the frames of the application. To configure, select ***Modify Standard Colors*** from the ***Edit*** menu.



The ***Standard event colors*** will be displayed.

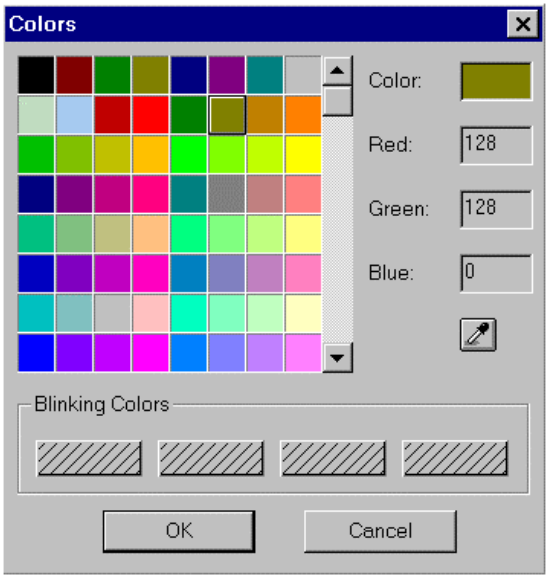


From this window 16 colors can be configured for the drawing instructions for a frame. The number-color matches are shown in the figure.

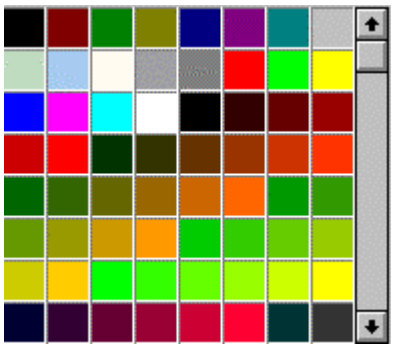
NOTE. It is also possible to the 16 standard Windows colors. Those colors are mapped with numbers from 16 to 31.

To use a color defined in this table it will be sufficient to specify the corresponding number in the graphic instructions.

To modify a color, position the cursor of the mouse on the box that represents it and press the left-hand key. The ***Colors*** window will be displayed.



From this window, the selected color can be modified.

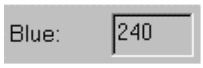


This box shows all the available colors. To select a color, place the cursor of the mouse above the rectangle that represents it and press the left-hand key.
To display all the available colors, use the slider.
The selected color is highlighted.

This box shows the currently selected color.

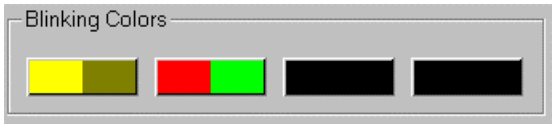
This box shows the shade of red present in the selected color. The value cannot be modified but is set each time that a new color is selected.

This box shows the shade of green of the selected color. The value cannot be modified but is set each time that a new color is selected.



This box shows the shade of blue of the selected color. The value cannot be modified but is set each time that a new color is selected.

This button enables a color to be selected that is similar to the one on the screen. Once the cursor is pressed it will take on the form of a cross: place the cross on the color that interests you, even outside the window and press the left-hand key. The color will be selected that is most similar to the one that has been selected by the cross.



In this window a blinking color can be selected as the standard color. In this window a blinking color is represented as a two-colored rectangle. These are the colors that alternate during blinking. If one of the four blinking rectangles is selected it the basic blinking color will be shown on the colors list. On the other hand, if a color is selected from the list that is the base for blinking, the rectangle containing the two colors between which blinking will occur will be highlighted.

A box with the shape  *shows that blinking has not been defined and cannot therefore be selected.*

This button confirms the choices made in this window if the color is update.

If this color is not updated the button cancels the choices made in the window.

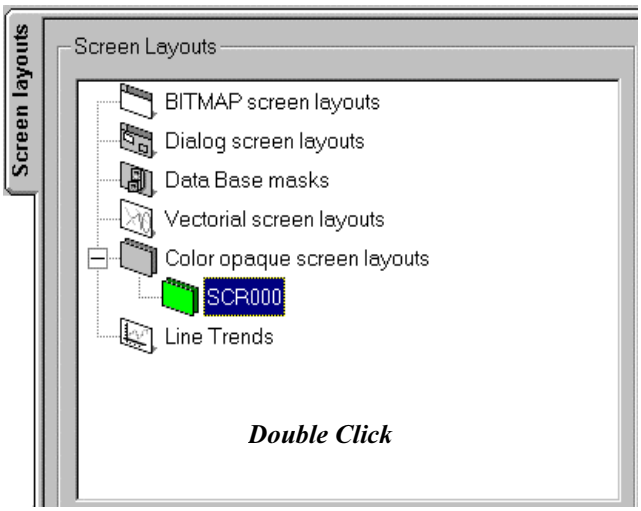
The colors set in the ***Standard event colors*** window are the colors that are available in all the frames of the application just by indicating the matching number in the graphic instructions.
As seen previously, not all the frames have the same palette. A color that is available in one frame may not be available for another one. The criterion that Logoview uses is 'best match', as described in the previous paragraph.
The colors defined here may not therefore be the same for each box.

1.3.2.2 *Blinking colors*

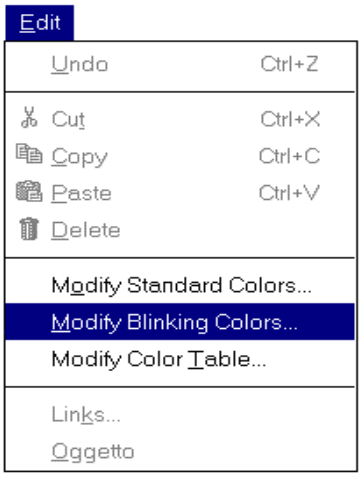
Logoview enables special types of color to be managed: the blinking colors are colors that do not remain fixed in the frame but switch from one color to the other in order to simulate blinking.
The blinking colors are defined on a base color. This is the base color that is made to flash and on another two colors that are the colors used to create the blinking effect.
For example, if green is used as a base color and red and yellow are sued as blinking colors each time green will be shown in the frame. Blinking, on the other hand, will be shown to be a color between red and yellow. As can be imagined the base color is only a reference color, in place of which the two alternate colors will be shown after a certain period of time. Normally, unusual colors are chosen for blinking which are not used for other purposes in the application.
Logoview provides four blinking colors. Each box can have local blinking colors. However, it is possible to set default blinking colors. The default colors are colors that can e used by all the frames.
For each box it is possible to decide whether to use the default colors or the local colors. The local blinking colors are available only for that frame. They are therefore set individually for each frame. Each frame could even have four different local blinking colors. normally however, the flashes are standard: the default colors are mainly used for all the frames. As an initial setup all the frames use the default colors. It is the developer's task to access the frames that he wishes to change using the procedures illustrated in the paragraphs below.

1.3.2.2.1 Blinking default colors

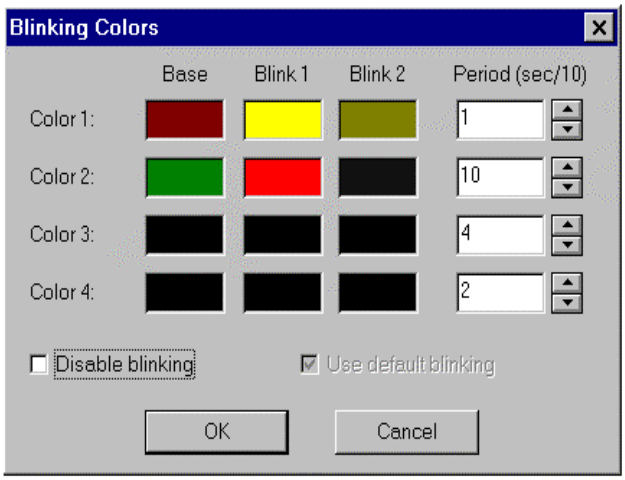
To define the blinking colors open the ***Frames editor*** by clicking twice from the ***Frames*** section of the window ***Base settings*** on any frame in the application.



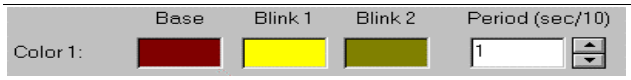
The default language colors can be defined by selecting the item ***Modify Blinking Colors*** from the ***Edit*** menu



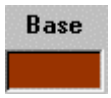
This action displays the window ***Blinking colors***



where it is possible to set the four blinking default colors.



The four lines in the window are the four default colors. Each line has four characteristics that are configured according to requirements.

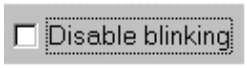


This box is the base color, i.e. the color that will flash. To set a color, place the mouse cursor on the colored box and press the left-hand key. The Colors window described in paragraph … will appear. From this window the color can be selected that can be used as a blinking base.

This box is the first blinking color, i.e. one of the two colors between which the base color will flash. To set the color, place the mouse cursor on the colored box and press the left-hand key. The Colors window shown in the paragraph will be displayed. From this window the first blinking color can be selected.

This box is the second blinking color, i.e. one of the two colors between which the base color will flash. To set the color, place the mouse cursor on the colored box and pr4ess the left-hand key. The Colors window shown in paragraph ... will be displayed. From this window the second blinking color can be selected.

In this box the time interval (in tenths of a second) is set at which the base color should flash. The number can be set in two ways: place the mouse inside the box and press the left-hand key. This action activates the keyboard: key in the required value. Alternatively, decrease or increase the value by decreasing or increasing the height of the small slider.



If this option is activated it disables all the defined blinking colors in this window. To activate the option, position the cursor of the mouse inside the white box and press the left-hand key: a cross will appear. To deactivate the option, position the mouse cursor on the cross and press the left-hand key.

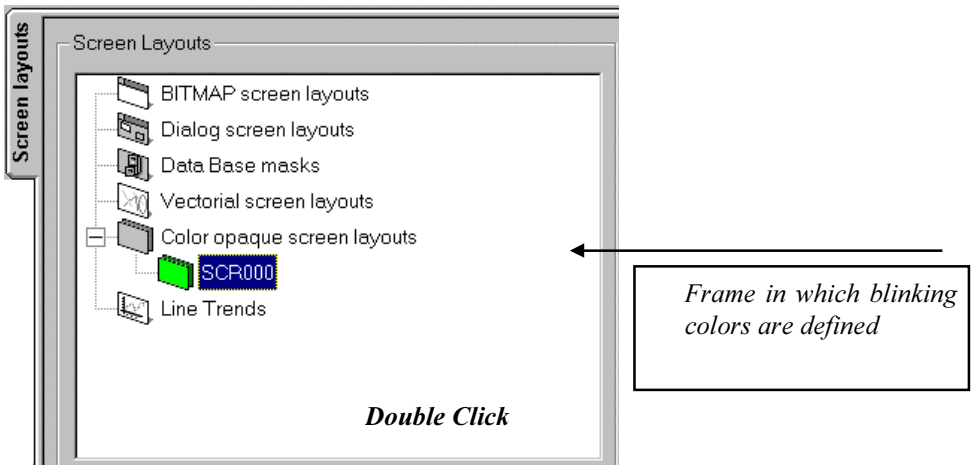
This option is not used to configure default colors. It is always inactive.

This button cancels all operations carried out in this window and restores the previous default colors configuration.

This button confirms all the operations carried out within this window by modifying the configuration of the default colors.

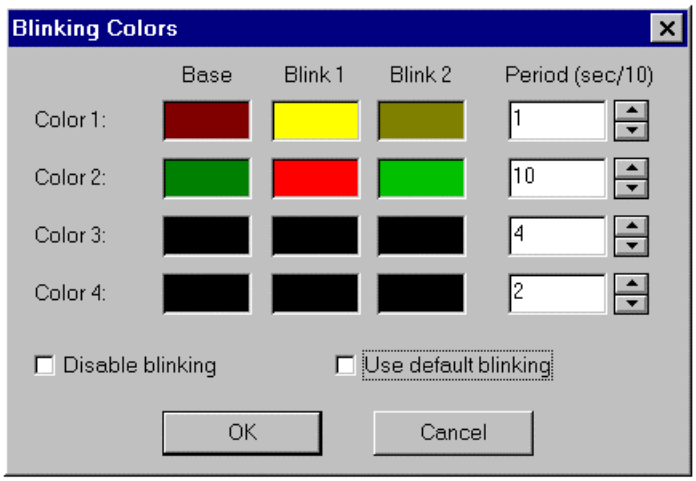
1.3.2.2.2 Local blinking colors

As mentioned in paragraph ..., in addition to all the default colors the blinking colors can be defined that are to be used in a single frame. To define the local blinking colors position the cursor of the mouse on the box in question, which is located in the ***Box*** section of the ***Base settings*** window and click twice.

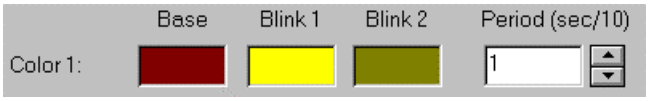


This action displays the ***Frames editor*** described in the chapter 7.3 on page . Position the cursor of the mouse on the button  on the toolbar of the editor and press the left-hand key.

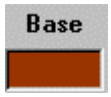
This action shows the window ***Blinking colors*** in which it is possible to select the blinking colors for use in the frame.



The default colors are used for the initial setup, which has been defined in paragraph 1.3.2.2.1.



The four lines in the window are the four default colors. Each line has four characteristics that must be configured according to requirements.



This box is the base color: in other words, it is the color that will flash. To set a color place the cursor of the mouse on the colored box and press the left-hand key. The Colors window shown in paragraph .... will be displayed, from which the blinking base color can be selected.

This box is the first blinking color, i.e. one of the two colors between which the base color will flash. To set the color, place the mouse cursor on the colored box and press the left-hand key. The Colors window shown in paragraph ... will be displayed. From this window the first blinking color can be selected.

This box is the second blinking color, i.e. one of the two colors between which the base color will flash. To set the color, place the mouse cursor on the colored box and pr4ess the left-hand key. The Colors window shown in paragraph ... will be displayed. From this window the second blinking color can be selected.

In this box the time interval (in tenths of a second) is set at which the base color should flash. The number can be set in two ways: place the mouse inside the box and press the left-hand key. This action activates the keyboard: key in the required value. Alternatively, decrease or increase the value by decreasing or increasing the height of the small slider.

If this option is activated it disables all the defined blinking colors in this window. To activate the option, position the cursor of the mouse inside the white box and press the left-hand key: a cross will appear. To deactivate the option, position the mouse cursor on the cross and press the left-hand key.

This option restores all the blinking default colors of this frame, as illustrated in paragraph 1.3.2.2.1. The initial setup option is active inasmuch as at the beginning all the frames use the default colors. When a color is modified the option is automatically removed from Logoview. To activate the option, position the cursor of the mouse inside the white box and press the left-hand key: a cross will appear. To deactivate the option, , position the mouse cursor on the cross and press the left-hand key.

This button cancels all operations carried out in this window and restores the previous default colors configuration.

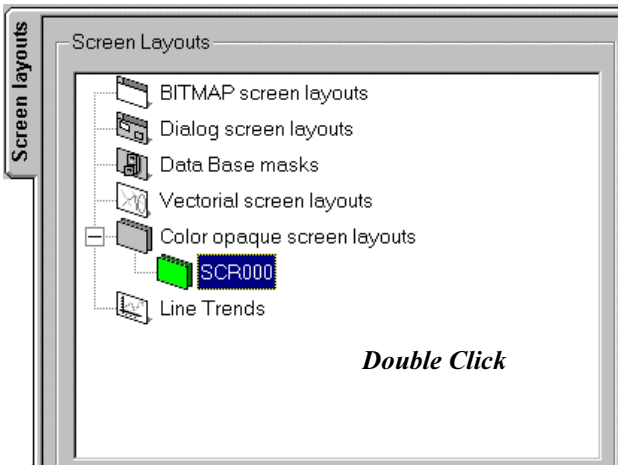
This button confirms all the operations carried out within this window by modifying the configuration of the default colors.

1.3.2.3 *Colors table*

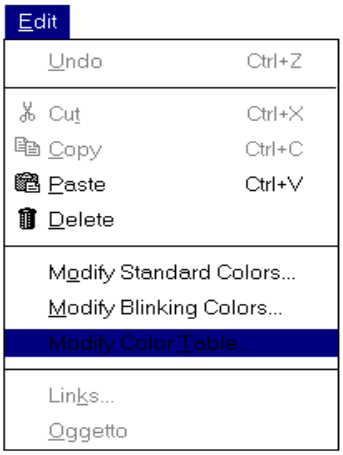
The last table provided by Logoview is the Colors Table. This table enables up to 256 different tables to be defined, which can be assigned to interactive fields (Capitolo **Errore. L'origine riferimento non è stata trovata.** a pag. **Errore. Il segnalibro non è definito.**) or color animations. (Chapter **Errore. L'origine riferimento non è stata trovata.** a pag. **Errore. Il segnalibro non è definito.**).
Here again, there are two tables: a default table that can be used by all the frames and a local one for each frame, which can be configured to suit individual requirements. A frame can access the default colors or its local colors. As an initial setup all the frames use the default colors. It is the developer's task to access the frames that he wishes to change using the procedures illustrated in the paragraphs below.

1.3.2.3.1 Default colors table

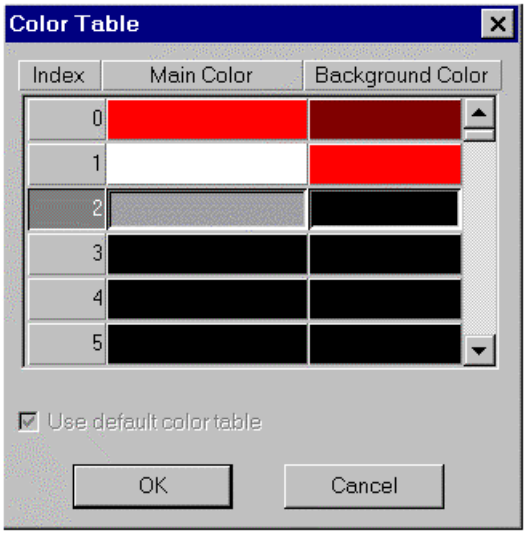
To define the standard colors open the ***Frames Editor*** by clicking twice from the ***Frames*** section of the ***Basic settings*** window on any of the frames in the application.



Next, configure the Standard Colors table, which applies to all the frames of the application. To configure, select ***Modify Colors Table*** from the ***Edit*** menu.



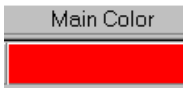
The ***Colors Table*** will be displayed.



If possible, configure all 256 available

Each line represents a color that can be configured. 256 lines are current that can be numbered from 0 to 255. Apart from the main color, the background color that will be used to fill in the field must also be configured.
To display all the list, use the slider. Before modifying a color select the corresponding line. This can be obtained by positioning the cursor or the mouse on it and pressing the left-hand key. The selected line will be highlighted in gray.

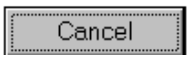
This box displays the number of the color that corresponds to the line. This number is therefore the index in the table. This index will be used by Logoview to select the color when the color table is used in the interactive fields or in the color animations.



This box is the color that can be used to draw the contents in the interactive fields or color animations. To set a color, position the cursor of the mouse inside the colored box and press the left-hand key. The Colors window described on page 8 will be displayed, from which the required color can be selected.

This box shows the color that will be used as a background to the main color. The same color as the main color should not be used because it would be impossible to distinguish the contents from an interactive field. To set a color, position the mouse cursor on the colored box and press the left-hand key. The Colors window described in paragraph … will be displayed, from which the required color can be selected.

This option is not used in the configuration of default colors. It is therefore always inactive.

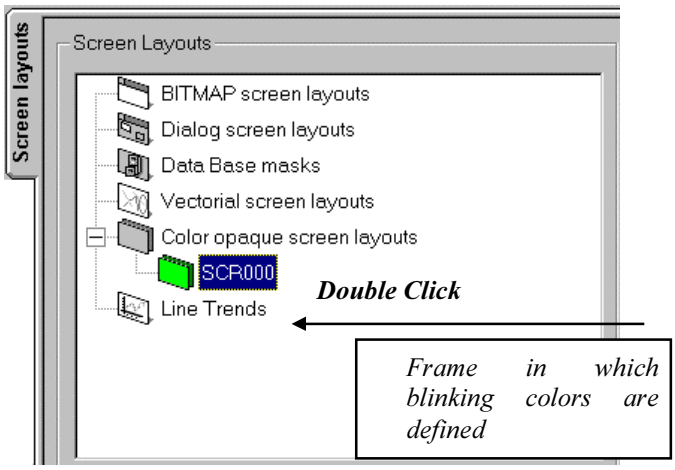


This button deletes all the operations carried out in this window and restores the previous Colors Table configuration.

This button confirms all the operations carried out in this window and modifies the configuration of the colors table.

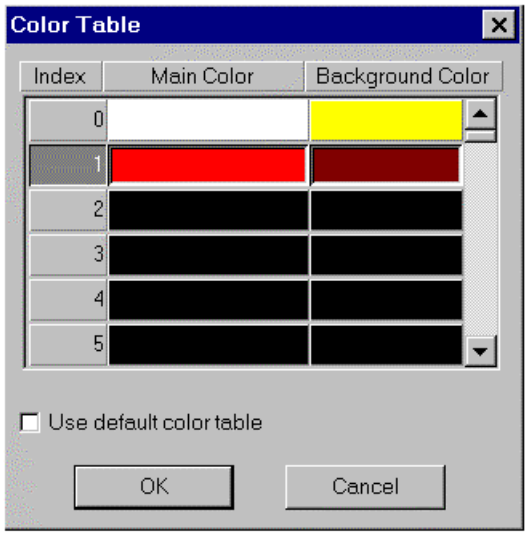
1.3.2.3.2 Local colors table

As mentioned in paragraph ..., in addition to the default colors table, a colors table can be defined for an individual frame. To define the local colors table the cursor of the mouse must be positioned on the frame in ***Frame*** section of the ***Base settings*** window and click twice.



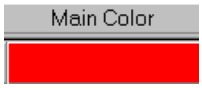
This action displays the window of the ***Frames editor*** described in the chapter 7.3. Place the cursor of the mouse on the button on the editor toolbar and press the left-hand key.

This action displays the ***Colors table*** from which the colors table can be selected that is to be used in the table.



Each line represents a color that can be configured. 256 lines are current that can be numbered from 0 to 255. Apart from the main color, the background color that will be used to fill in the field must also be configured.
To display all the list, use the slider. Before modifying a color select the corresponding line. This can be obtained by positioning the cursor or the mouse on it and pressing the left-hand key. The selected line will be highlighted in gray.

This box displays the number of the color that corresponds to the line. This number is therefore the index in the table. This index will be used by Logoview to select the color when the color table is used in the interactive fields or in the color animations.



This box is the color that can be used to draw the contents in the interactive fields or color animations. To set a color, position the cursor of the mouse inside the colored box and press the left-hand key. The Colors window described on page 8 will be displayed, from which the required color can be selected.

This box shows the color that will be used as a background to the main color. The same color as the main color should not be used because it would be impossible to distinguish the contents from an interactive field. To set a color, position the mouse cursor on the colored box and press the left-hand key. The Colors window described in paragraph … will be displayed, from which the required color can be selected.

This option is not used in the configuration of default colors. It is therefore always inactive.

This button deletes all the operations carried out in this window and restores the previous Colors Table configuration.

This button confirms all the operations carried out in this window and modifies the configuration of the colors table.

1.3.3 Using the colors

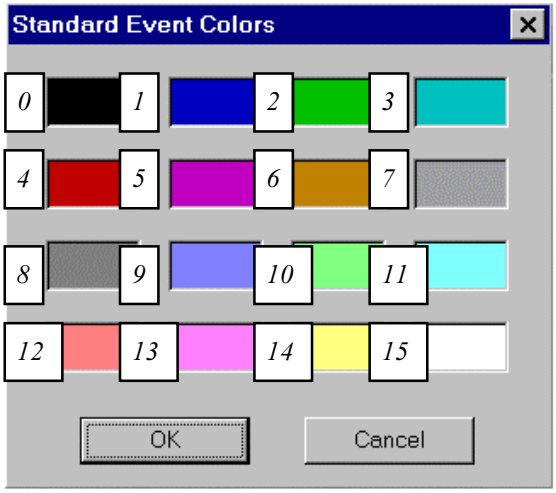
The graphic instructions enable drawings to be made on the frames. Usually, the graphic instructions also accept a color as a parameter. This is the color with which the graphic instruction is drawn on the frame. For example, the instruction ***BOX*** draws a rectangle of a certain color on currently loaded frame. This instruction accepts five parameters. The first four are the coordinates of the rectangle and the fifth is the color of the rectangle itself.

BOX x1,y1,x2,y2, ***color***

The ***color*** parameter can be expressed in three ways. There are therefore three different ways of expressing the color in Logoview, which are shown in the following paragraphs.

1.3.3.1 *Color number*

The first method of specifying a color in a graphic instruction is to indicate the number of the color within the table shown in the window ***Standard event colors.***



The matching numbers are shown in the figure. The color numbers 0 to 15 are therefore available and correspond to the colors defined in this window. As we have said, these colors meet the 'best match' requirement. They may vary from one frame to another, depending on the palette. 16 additional colors can also be used (numbered 16 to 31), which correspond to the standard Windows colors.
In the color parameter of a graphic instruction it is the first way to indicate the color and then to specify the number from 0 to 31.

1.3.3.2 *RGB macro*

It is also possible to specify the color via the ***RGB*** macro. This is positioned in the color parameter of a graphic instruction.
For example, the instruction ***BOX*** is written like this:

BOX x1,y1,x2,y2, ***RGB (g_red, g_green, g_blue)***

The macro accepts three parameters that are shades of red, green and blue of the color that is to be used. The macro will not necessarily provide the exact color from the three parameters but will provide the best match. The most similar color in the pallet of 256 colors in the frame is chosen.

1.3.3.3 *RGBA Macro*

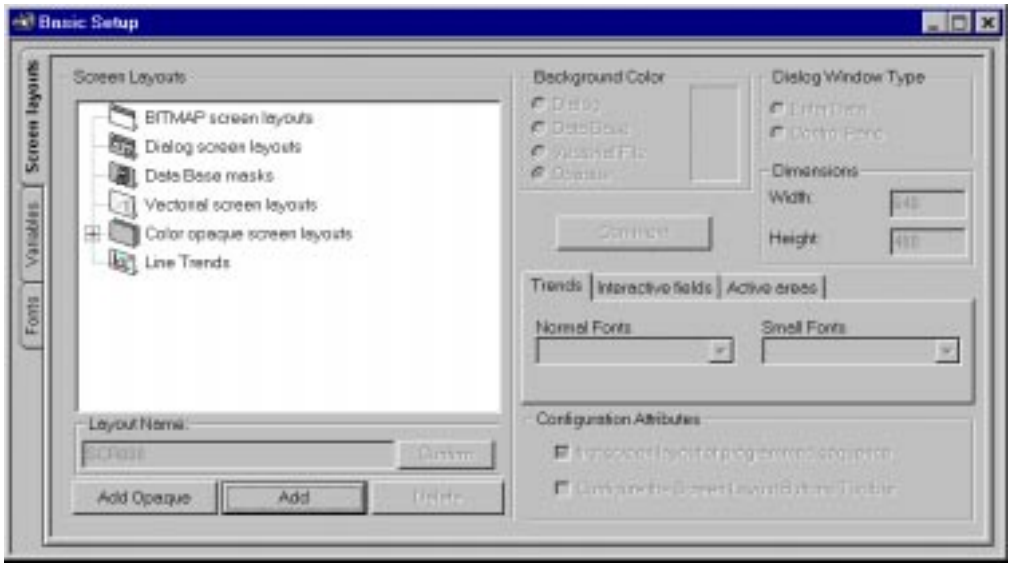
The ***RGBA*** macro can also be used. The only difference is that the color is simulated though the technique of dithering. The color will be exactly what is indicated by the macro parameters, but it will not be a pure color. The colors obtained by dithering consists of pixel screens of different colors. Unfortunately, this effects some graphics operations and affects the results. Great caution must exercised when using colors defined with this macro.

2. The animated objects on the layout

The ***LOGOVIEW NT*** operating mechanism is closely connected to the frames. These give a schematic representation of the system that is to be created and of all its components. Through the different types of ***LOGOVIEW NT*** connection it acquires data that provide a graphic display of system performance on the monitor. The top performance of ***LOGOVIEW NT*** depends on the design and planning of the frames.
To define and analyze the frames design methodology screens can be defined that contain objects inserted by the developer that interact with the operators. Finally, inside the frames selection area a list appears that is divided into 'screens'. From this point the two terms *'frames'* and *'screens'* can be used indifferently because they both have the same meaning.
After using the *Wizard* instrument to configure in the development environment all the application aspects that are to be used and after saving the application settings in the directory ***LOGOVIEW NT*** transfers the user to the area containing the list of frames and the editors in order to create the layouts in order to work directly with the screens that schematically represent the system and all its components.
LOGOVIEW NT is positioned on the window of the dialogue *"Basic settings"*.
The window is positioned directly on the list of screens that can be used to design the layouts in which to insert the objects that the developer requires to represent the system.
Many types of screens exist. This guarantees an optimum solution whatever the developer's problem is.
There is therefore a difference in frames from the formal point of view: ***Bitmap*** screens, ***Dialog*** frames, ***Transparent*** frames, ***Vector*** frames **and Opaque Colored** screens**.**
In this chapter we shall treat the **Opaque Colored** screens in detail.

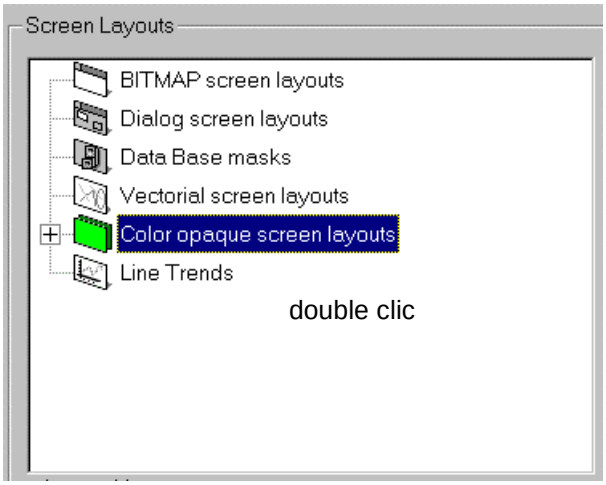
2.1 Opaque Colored Screens 

LOGOVIEW NT defines an opaque colored screen as a frame without an assigned bitmap. When a frame is used ***LOGOVIEW NT*** does not read any file from the disk but on the basis of the configurations set by the user creates the bitmap in the memory, giving it the correct dimensions and coloring it with the selected background color. It is possible to work on this uniform background as if it were a normal drawing board. The screens for designing the layout are the bases for each application.
Below, we can see a detailed description of the different areas and their use of the window *"Basic settings"* in which the opaque colored screens are configured.
To make explanations easier, the term 'layout' will be used to define the design of the different *screens.*

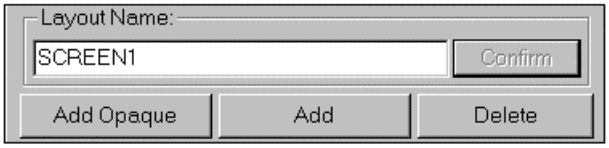


The dialog window is divided into different areas in which the options can be inserted that are required for configuring the system.

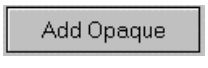
As we have already said, the program is positioned directly on the *"Frames list"*.



To configure a screen open ***Screens editor*** by selecting it from the list "*Opaque colored* screens" in the area ***"Frames list"*** by clicking twice with the mouse
A screen must now be entered in the list in order to configure it.



An empty opaque screen is inserted by the button



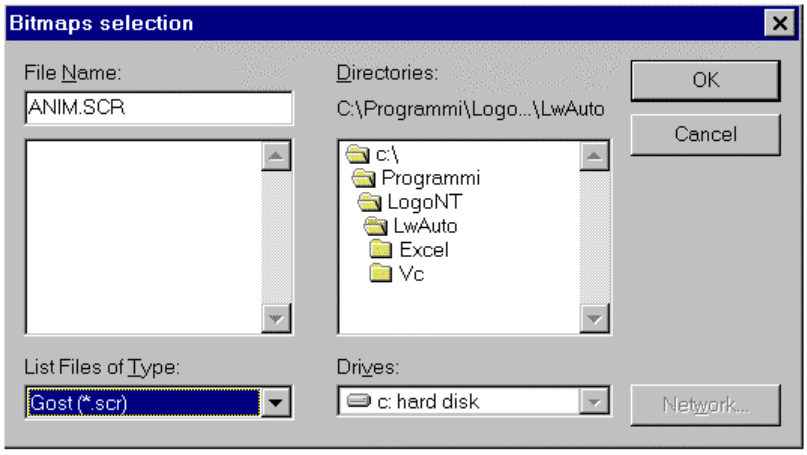
It will be displayed on the video in the area *"Frames list"*:

After inserting a frame inside the list select it with the mouse to assign the screen a name that is different from the default name: key in the name in the box "*Name of layout"* and

then press 'Confirm' to enter the keyed-in name, which will appear inside the *"Frames list" window.*
It is not possible to assign the same name two different layouts. If a name has to be entered that is already current in the list, ***LOGOVIEW NT*** warns the reader by means of a warning box.:

If the command is selected, 

a dialog window opens in which a series of ***LOGOVIEW NT*** configurations can be entered inside the Frames list.



The bitmaps selection is inserted automatically into the type of frame depending on the extension assigned for correct use.

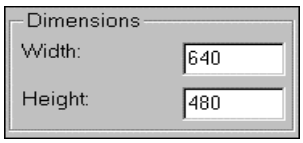
The command 

is activated after a screen from the Frames list has been selected and highlighted. If the command is activated the selected screen will be eliminated from the video but will remain stored on the disk so that it can be reused.

The screen can now be configured by assigning it the characteristics that the developer intends to use for the application.
The first configurations can be selected from other areas of the "*Basic settings"* dialog window.

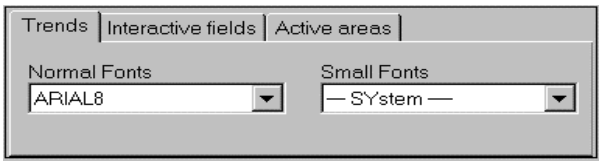
2.1.1 Dimensions

Inside the *"Dimensions"* area in the boxes *"Height"* and "*Width"* the pixel measurements of the dimensions can be entered that the developer wishes to assign to the opaque colored screen. The system assigns the measurements in the "*Preferences*" window or the *"Options"* menu of the toolbar by mistake. To modify them it is sufficient to use the cursor of the mouse to select the boxes into which the new data should be inserted.

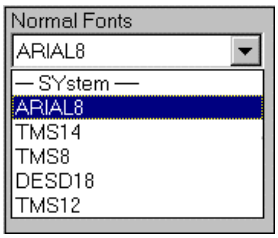


2.1.2 Font

Inside the dedicated area different writing fonts can be assigned to different development areas inside the frames. The different fonts can be selected from the list of those defined previously in the "*Font"* of the *"Basic settings"* dialog window (see Chapter 3, page 28).



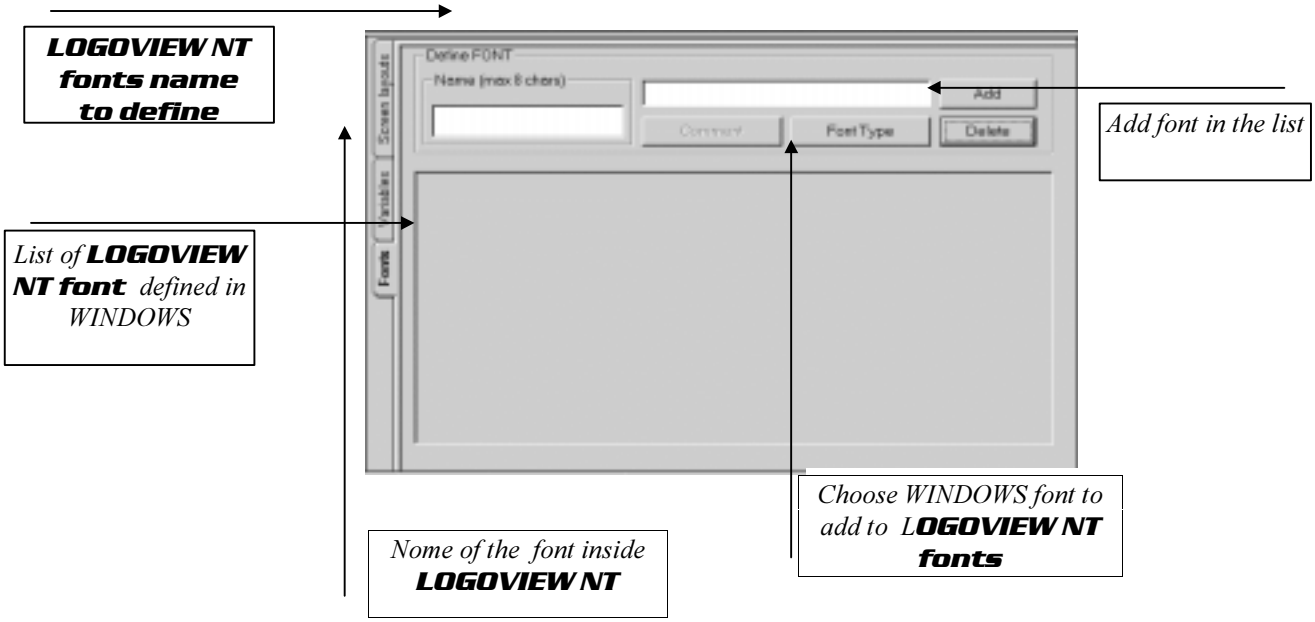
To select the required font just open the cascade list containing all the available fonts.



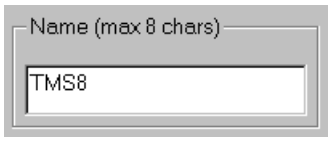
For the areas "Trend" and "interactive fields" Normal fonts and Small fonts can be chosen whilst for 'Active areas' only Normal fonts can be selected.

3. *How to configure the Fonts*

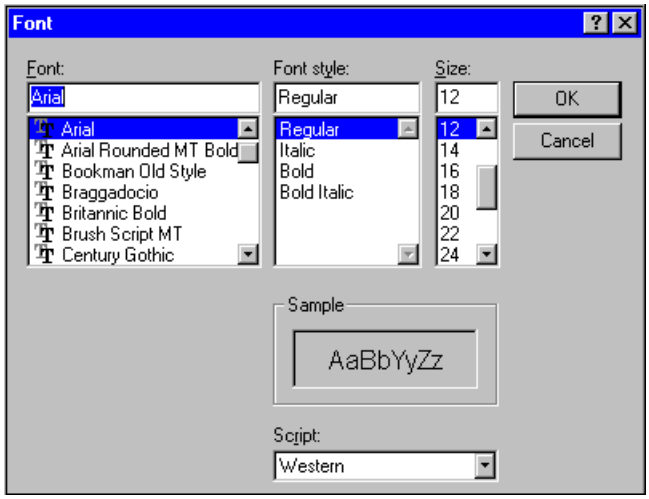
In ***LOGOVIEW NT*** all the fonts can be used that have been installed in the WINDOWS operating system. Nevertheless, ***LOGOVIEW NT*** fonts are not used directly. The new fonts have to be defined inside the dialog window *'Basic settings',* named and then used in the instructions made available by an event.
We shall from now on call these defined fonts LOGOVIEW fonts to distinguish them from the fonts of the operating system, which we shall call WINDOWS fonts.
This stratagem was introduced to maintain compatibility with previous versions of ***LOGOVIEW NT***.
A LOGOVIEW font has certain fixed WINDOWS characteristics such as dimension, shading, font style, etc.
Once the LOGOVIEW font has been defined, it will have a name and this will be the name with which it will be selected from all the instructions that use it.
To define one or more fonts call up the section "Fonts" in the *"Basic settings"* window.



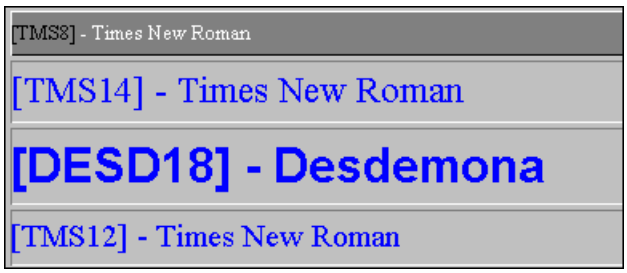
This window enables all WINDOWS fonts to be associated with LOGOVIEW fonts. After creating the association whenever the font needs to be used, it is sufficient to refer to it by its set name.
Key in the name of the LOGOVIEW font that you wish to define inside the



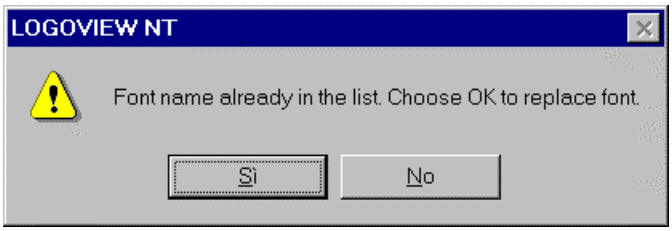
'Name' box. Then use the command *'Font type'* to select the WINDOWS font type with the characteristics required inside the dialog window that opens.



Next, activate the command *'Add'* and the selected font with the assigned characteristics will be entered into the list of LOGOVIEW fonts that are available for the applications.



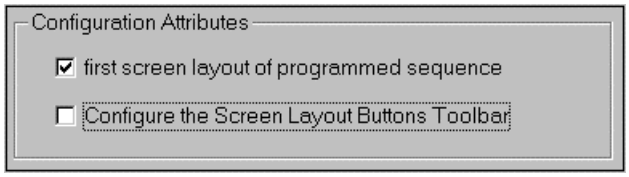
If a font that already exists is inserted between the LOGOVIEW fonts the system will alert the developer by displaying an error window.



The command *"Eliminates"* activates the possibility of removing the selecting LOGOVIEW font from the list. The removed font will not be deleted permanently but will remain stored in the system memory and can be retrieved.
In fact, after deleting a font, if the command *'Add'* is activated the deleted font will be added to the list of LOGOVIEW fonts.

3.1.1 Configuration characteristics

In this area of the *"Basic settings"* dialogue window the characteristics of the layouts can be configured before the different options are inserted into the layouts.



3.1.1.1 *First screen of sequence.*

The first screen of the sequence is the one that is loaded when the application is started up. To set the first screen, it is sufficient to select it from the list and to then activate the option.
The first screen of the sequence in the list is shown with a different icon and a number 1.

4. *Toolbar outside frame*

The second option that is available is mainly used to solve problems of saturation in the layout configuration.
There are two main ways of connecting frames. The first, traditional, method consists of positioning buttons on the layouts that call up other layouts directly.

However, it is often difficult to position buttons on the screens because the screen may already be saturated with objects. To solve this problem, ***LOGOVIEW NT***, also enables buttons to be positioned on a toolbar outside the layout in the top part of the window that will count it. To create this toolbar select the screen from the frames list and then activate this option

If this option is activated, after the editor is opened on the screen concerned a non-configured toolbar will open at the top of the window:

The buttons of this toolbar can be configured one at a time by a menu that is displayed by clicking the with the mouse on it.

If the option *Separation space* is activated during runtime the set button will separate the two command icons configured in the layout. 

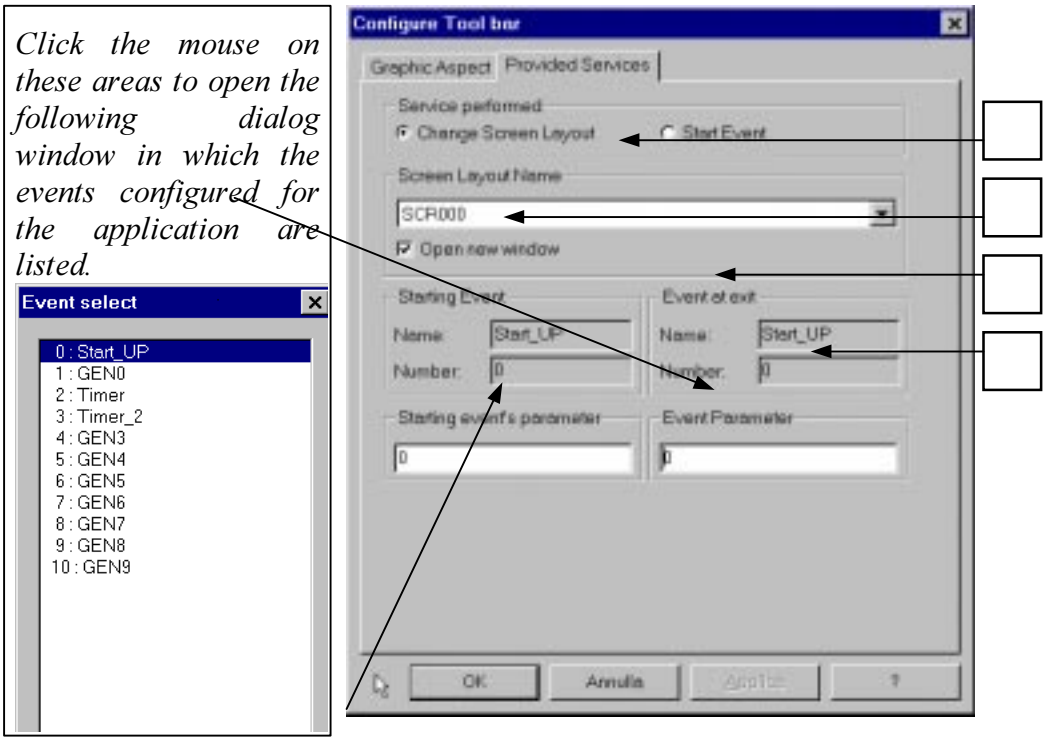
If the *Configuration* command is activated the configuration windows opens that enables a layout to be loaded if the button is pressed or if an event is run.
This enables the sequence of frames that make up the ***LOGOVIEW NT*** to be rapidly constructed.
The configuration section consists of two sections: one section enables button appearance to be configured: icon, name, etc.
The other section configures the assigned logic action: change frame or run event.

.

4.1.1.1.1 logic configuration section

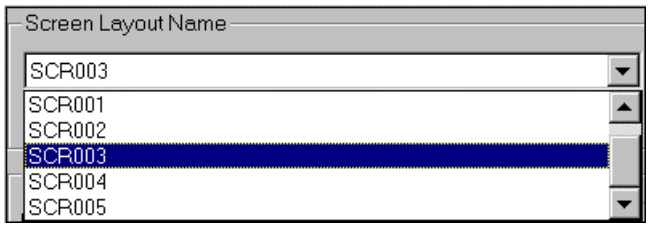
In the part dedicated to the logic configuration there are the following options.

1- *Action assigned to button*
Change frame: if this option is selected when the button is activated during the application a new layout will be loaded. The layout must be selected inside the *Frame Node* area.

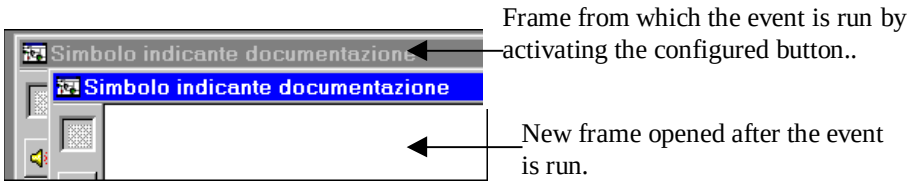


Run event: if this option is selected when the button is activated an event that is different from the application will be run in the application.

2- *Frame* node:
If this option is selected a cascade menu is opened from which the frame node that one wishes to open can be selected by activating the button in the application.



Open a new window with the frame: if this option is activated when the button is pressed by the operator a new window referring to the command will appear on the video that contains all the graphic objects that were entered during the development phase.
On the other hand, if the command is not activated, the run event is positioned inside the already-opened window.

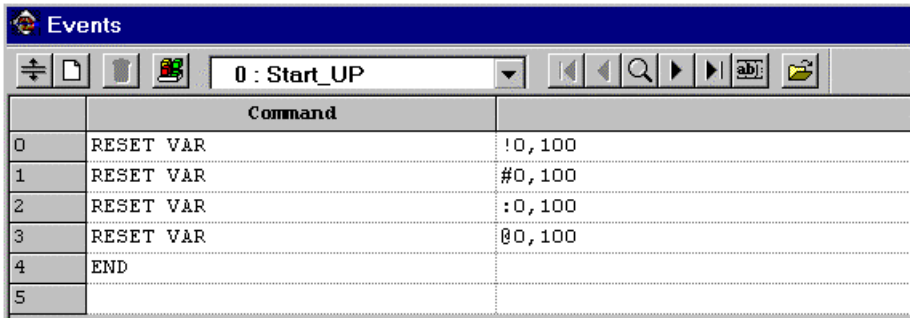


3- *Run event / Event at exit / Parameter for event and for exit:*

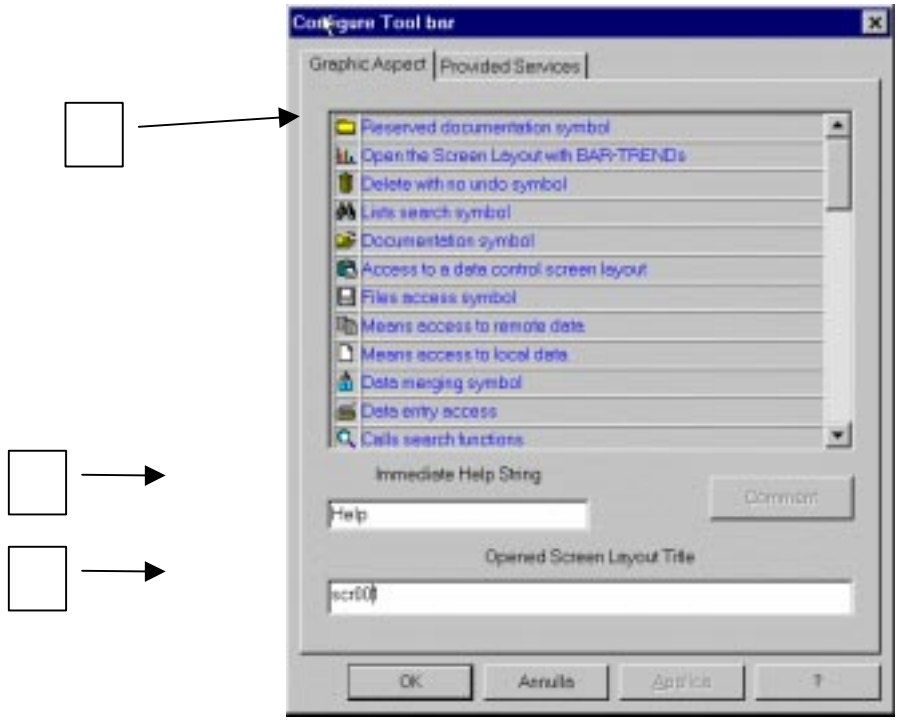
If the change of a frame when the button is activated in the application layout has been set in the configuration the command of the event must be set in these boxes that you wish to run and the event with which you wish exit by entering numbers and parameters.

If an event has been configured to run when the button is pressed only the configuration of the event to be run will be available in this box. To select the events place the cursor of the mouse on the box referring to the name of the event and press the left-hand key of the mouse. A cascade menu will open from which the type of event can be chosen.

The parameters that determine event behavior are keyed in when the instructions are compiled during event creation.

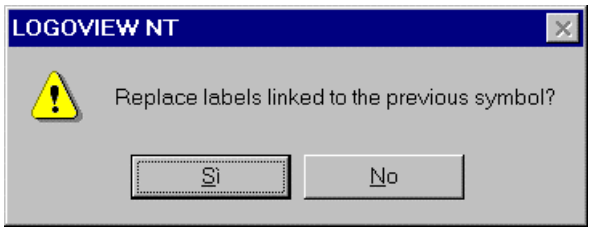


4.1.1.1.2 Appearance configuration section



1- *Commands and symbols list:* this list can be consulted from the *List of symbols and commands*: within this list, which can be consulted by a lateral scroll bar, there is a

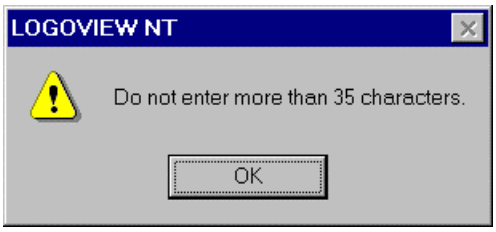
series of symbols and commands that are associated to the event that is to be run or to the frame that is to be opened by the instruments toolbar. To substitute a symbol already assigned to a button, select one of these symbols to open a warning window in which confirmation of the assignment to the command is requested.



2- After configuring the logic and the command appearance parts during the application each toolbar will correspond to an event.

3- *On-line help string*: within this box the help string will be displayed that appears in the status bar whilst the application is run when the cursor of the mouse is placed on the button.

Inside the box the caption will appear automatically next to the symbol selected from the window. But it can be modified and a customized string can be keyed in by the developer.
35-character keys can be keyed in and this warning window appears.



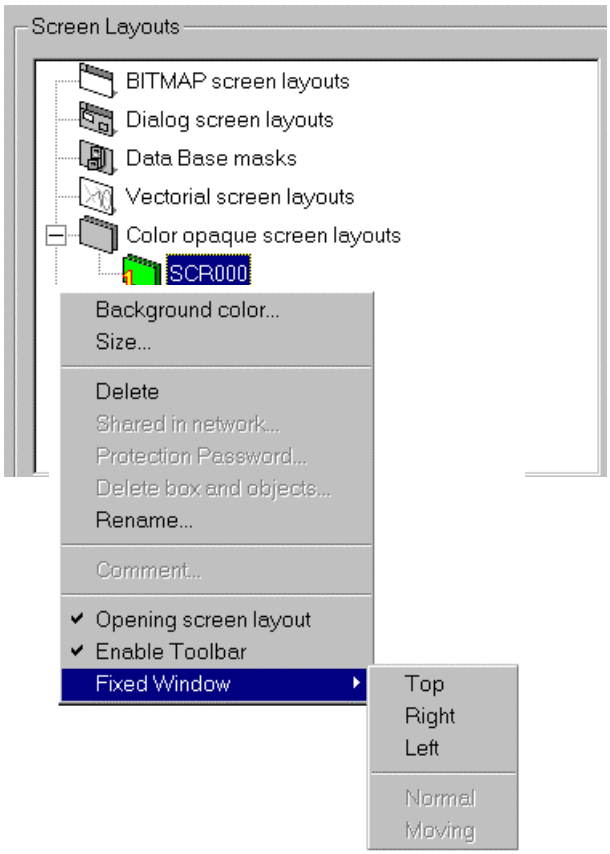
3- *Frame title open*: within this box the title is displayed that appears in the heading of the open frame when the button is activated that has been configured during runtime.
Inside the box the caption appears automatically next to the symbol selected from the window, but this caption can be modified and a string can be keyed in that is customized by the developer.
After configuring all the buttons required by the toolbar for use on the layout, the following layout display will be shown:

The empty spaces have been configured with the command 

During the application phase the toolbar will take on this appearance:

4.2 Configuration using right-hand key of mouse

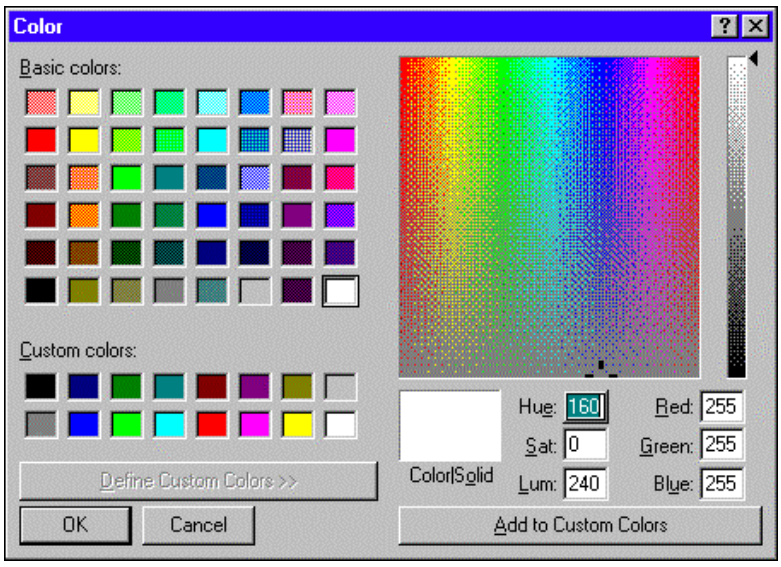
Position the mouse cursor in the icon showing a screen inside the *"Frames list"* area and press the right-hand key of the mouse to open a menu that enables the first configurations to be assigned that are required for designing the layout.



The menu contains a series of options, each one of which we shall now describe.

4.2.1 Background color

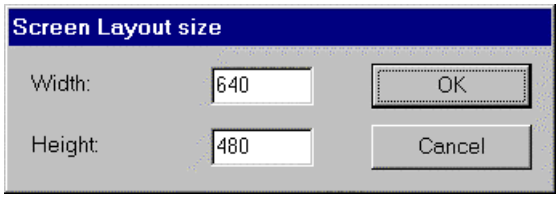
Selecting this command enables us to change the background color of the opaque colored screen on which we wish to design a layout.
If the command is activated, a 'Color' dialogue window opens from which a color can be selected.



After selecting the color from among all those that are current in the palette press the key *"OK"*. The color that is selected in this way is displayed in the area *"Background color'* of the window *'Basic settings'.*

4.2.2 Dimensions

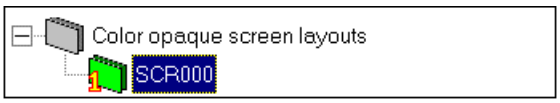
If this command is selected the measurements in pixel of the dimensions that the developer wishes to assign to the opaque colored screen can be entered.
To activate this command open the dialog window of *'Layout dimensions'*, inside which the new measurements can be inserted in the boxes *'Width'* and *'Height'*.



The system's default values are the measurements in the *'Preferences'* window of the *'Options'* menu of the instruments bar.

4.2.3 Remove

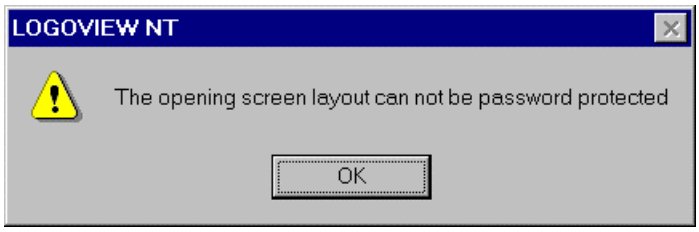
Select this command to activate the possibility of removing the selected screen from the Frames list. The removed screen will not be permanently deleted but will remain in the system memory and can be retrieved. The file in the memory on the disk will have the name assigned to the screen with the extension 'GMB'.



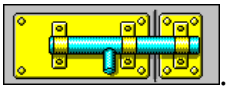
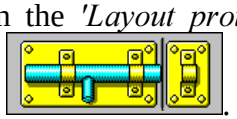
In the example, the file in the memory will be SCR000.GMB

4.2.4 Protection password

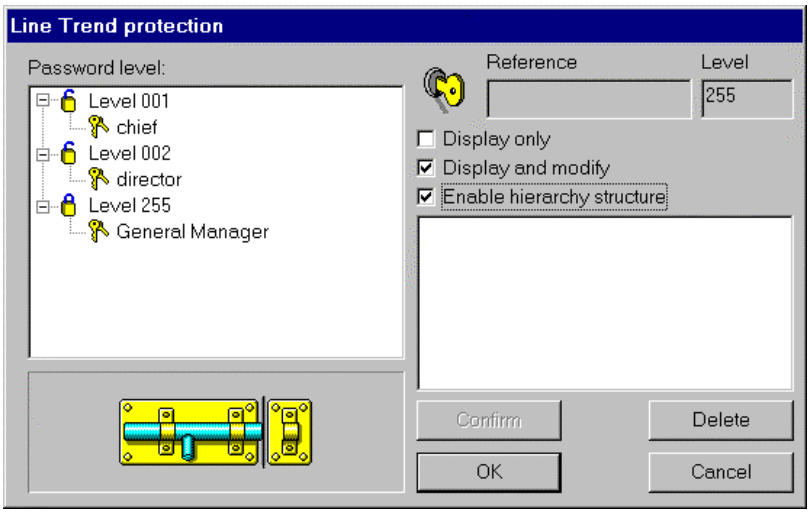
Select this command to assign a protection password to the screen in which a layout for the application is to be planned. Protection of the frames is important for helping to prevent unauthorized persons from modifying, the system, causing system errors or obtaining displays of the system. In order to prevent unauthorized users from obtaining displays and modifying the applications, ***LOGOVIEW NT*** provides different levels of protection that can be incorporated into the layout design. Activate a command to open the dialog window *'Layout protection*'. This is divided into different areas in which the different layers of protection are displayed together with the users who can use them.
Before explaining this command in detail we should remind the developer that the lists contained in the window areas were previously compiled in accordance with the wishes of the people in charge of the future application. Without this step in the window in question no list of the user and protection levels would appear and it would therefore not be possible to activate the protection of the screen on which a layout is being designed.
For a fuller explanation of the compilation of the lists of users and levels of protection, see the relevant chapter of User Guide 2.
We can now explain the command. It must be pointed out that ***LOGOVIEW NT*** does not allow a protection password to be applied to the *"Opening screen'* of the application system. Click the cursor of the mouse onto the icon in the frames list  to open a warning window:



Select from the list the icon of the screen that is to be protected. If the screen on which you wish to work has already been protected the icon that represents it in the list will be identified by the *'keys'* 

and if the command inside the dialog window is activated the logo of the bolt is drawn back  .
On the other hand, if the screen is not protected, when the *'Layout protection'* dialog window opens the bolt of the bolt logo will be drawn back  .

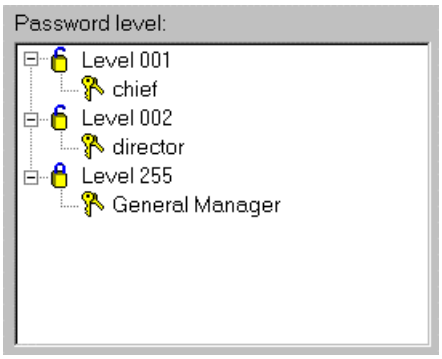
At this point the users and the levels of protection for the layout can be entered.



A protection password can be applied in two different ways to the screen that is being designed. The first type depends directly on the user's personal password and the second is a hierarchical protection that depends on the previously compiled list.

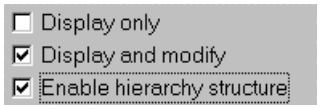
5. *Protection directly by password*

Within the area *"Password levels'* of the dialog window a list appears listing levels with numbers ranging from 001 and 255. Within each level different users with different functions and personal passwords. To display users click twice on the relevant level in order to open the list.



Click with the mouse on the selected user of the open level. This level is highlighted and displayed in the reference area assigned to the protection level:

; after this step the user is assigned access rights to the layout by selecting them from the options list by means of the mouse. The chosen options are highlighted by a tick (√) :



After carrying out all the steps correctly and pressing 

list the selected user in the list by means of the same procedure as for all the other users up to a maximum number of 10.

During the application runtime the users on the list will have access to the protected layout only if they insert their password and can intervene or obtain a display of the screen on the video only after being assigned access rights by the developer during the design stage.

6. *Protection by means of a hierarchical structure*

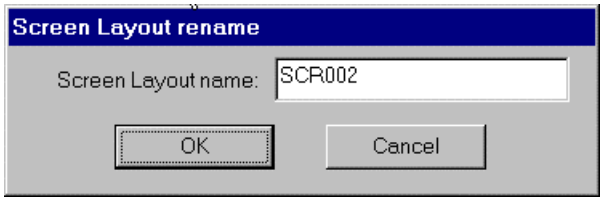
By assigning the levels and passwords to the different users during the design phase a hierarchical choice is already expressed: if the levels are increased (from 0 to 255) user privileges are increased. To take a simple example, this means that the line operator will possess LEVEL 0 whilst a plant manager will possess LEVEL 255.
Having said this, let us look at a simple explanation of the option *"Enable Hierarchical Structure'.*

This command deletes the display of the users on the list of users with access to the screen and privileges assigned by the developer. At this point it is necessary to select a level from the list of the *'Password levels'*. This will be displayed without reference to the user.

If this command is confirmed, during the application phase all the listed users who are authorized to obtain displays and modify the screen from LEVEL 20 and above will be able to obtain a display whilst the users at a lower level will not be so authorized, regardless of their previous authorization ranking.

6.1.1 Rename

Select this command to activate the possibility of renaming the opaque colored screen by means of a dialogue window *'Change name of layout'* within which to key in the anew name for the layout.



When the window opens to replace the name of the screen click with the mouse on *'Layout* name' and then delete the old name and key in the new one.

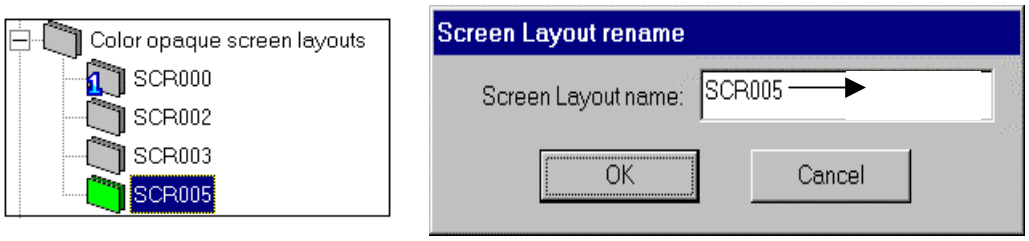
If a name of a screen that is already current in the list is inserted into the box a window opens that warns of the error.

LOGOVIEW NT automatically checks the layout file inside the directory in which it has been stored to check that layouts with the same name have not been already created and then removed.
As we have seen in the chapter *"Remove* *"* on page 17, any layouts that were designed and then removed from the list are not permanently deleted from the memory but are only put on one side subsequent use.
Whilst a layout is being renamed if name that is already being used is assigned to another file ***LOGOVIEW NT*** uses the warning windows to make different choices for the layout design.

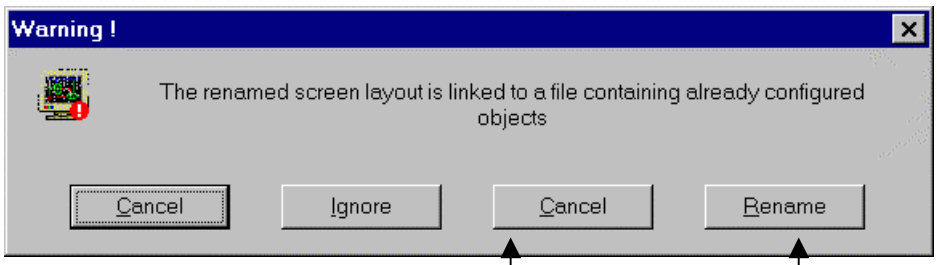
Below, some examples show what may happen and which solutions are available to the developer for accessing the application.

7. *Example of renaming a layout*

Select the layout that you wish to rename from the list of opaque colored screens.



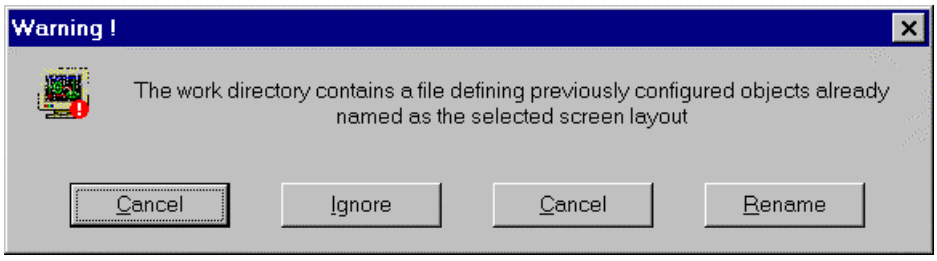
After keying in the new name to assign to the file (for example, PIPPO) press *"OK"*. At this point if there is already a file in the memory different choices can be made by means of the warning windows. If there are objects within the file that are configured for other applications, open the other warning window.



Select *"Delete"* to rename the frame and the objects contained in the file in the directory will be deleted.

Select *"Rename"* to rename the screen and enter the objects.

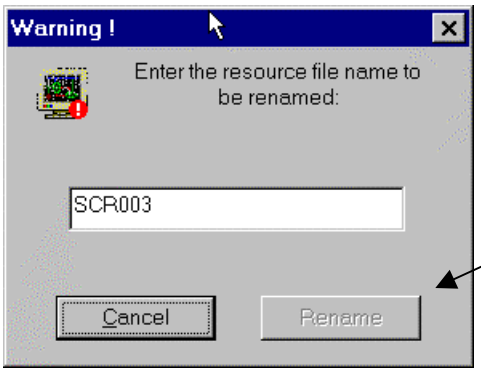
If the command is Ignore selected the frame is renamed by ignoring the objects contained in the assigned file.
On the other hand, if inside the work directory there is a file with objects that have the same name, a new warning window opens.



At this point, if the command is selected, Ignore the frame is renamed by entering the objects present in the file contained in the directory.

If this command is Cancel selected the frame is renamed by deleting all the objects contained in the file in the directory.

If this command is Rename selected the file contained in the directory can be renamed by a window whilst the frame is renamed with the required name.



WARNING
A file cannot be renamed by giving it a name that already exists in the directory

The Rename button does not

The Cancel command enables already activated options to be deleted from any window and enables the user to return to the original version in the frames arrangement.

7.1.1 Opening layout

This command assigns the first screen of the sequence to the start of the application being run. To set the first screen, select it from the list and then activate the option. For more detailed explanations, see the chapter on page 8.

7.1.2 Enables toolbar

This command enables buttons to be positioned on a toolbar located outside the screen in the top art of the window that will contain it. For more detailed explanations see page 8 of the chapter *'Configuration characteristics'* on page 8. *Configuration characteristics* on page 30.

7.1.3 Fixed window

The cascade is opened by this command and enables characteristics to be assigned to the screen that make it a fixed window within the application during the runtime. Via the commands within the menu the screen becomes a toolbar.

- *Top - To right - To left:*

Position of toolbar in layout whilst the application is running.

After one of these options has been selected the icon corresponding to the screen on the list will be displayed as follows: 

- *Mobile:*

After one of these options has been selected the icon corresponding to the screen on the list will be displayed as follows: 

- *Normal:*

if this command is selected the toolbar characteristics are deactivated and the layout returns to the normal screen into which the graphic objects can be entered.

When a screen is designed, it is configured to be used during runtime was a toolbar but there are some constraints that must be borne in mind.

For example, on this type of screen it is not possible to position:

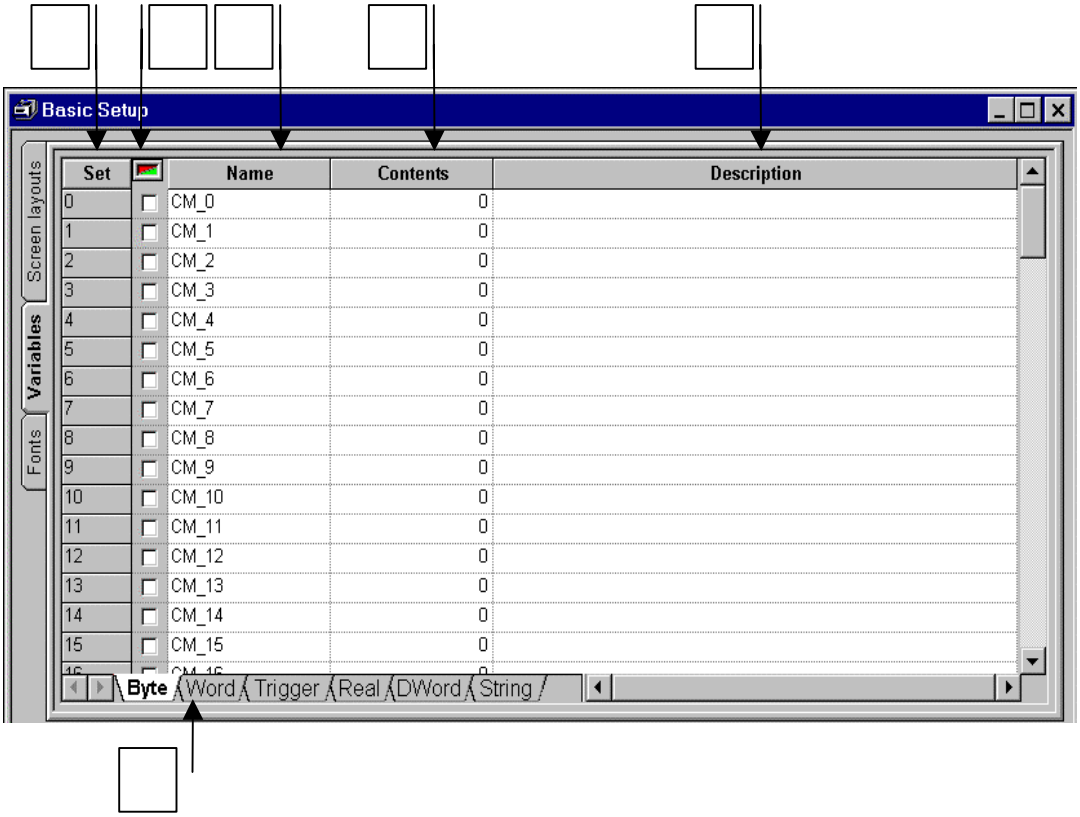
Animatio
ns
OLE
objects

Multimed
ia objects
Popoup
objects
Graphics

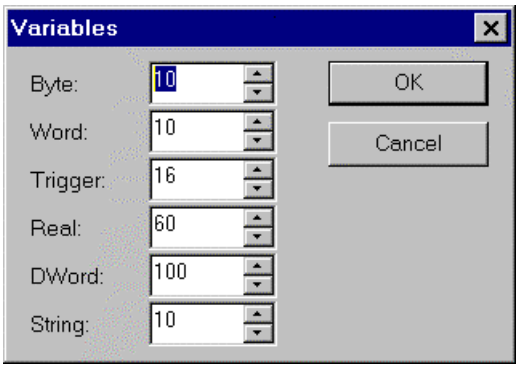
Note that during runtime in all these cases the required effect will not be displayed but completely ignored by Logoview.
In the same way, Logoview does not allow drawing from an event and so the graphic instructions (including those of the Load Area) are completely ignored and give no visible result during runtime.

7.2 Configuration of variables

LOGOVIEW NT can manage 6 different types of variable. The variables within the application can be used for different purposes: defining parameters, use in events, programming support. These variables can be defined and configured in the *'Variables'* section of the window *'Basic settings'*.



1- *Set* **Set** : if this command is selected the number and type of variables can be defined that are required for the application. Click on the button with the cursor of the mouse and a window will open in which to enter the data required for defining the variables.

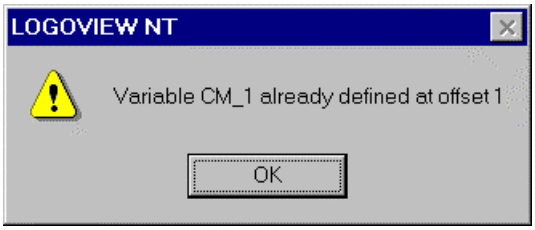


For each type of variable the quantities can be selected that are required by keying in the number in the box next to the definition.

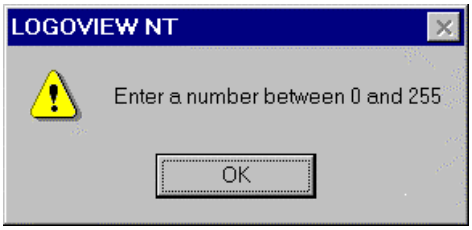
After entering the necessary quantities in side the dialog window *"Basic settings"* , as many configurations will appear for each type of variable as there are values in this part.
Next to each variable a progressive number appears that can be used as a reference when configurations must be made inside the layout.

2- *Red/green button*  : this button indicates whether the variable is available for runtime setting. Within the check-box of the selected variable the color green will appear if it is available or the color red if the variable cannot be used.

3- *Name*: this list displays the name of the variable. To define a name, the cursor of the mouse must be placed on the box of the variable and be activated by the left-hand key. Next, key in the entry. Up to 31 characters can be keyed in.
It is not possible to assign the same two names to two variables of the same type. If an incorrect entry is made ***LOGOVIEW NT*** warns that an error has been made by means of a dialog window.



4- *Value*: this list displays the value of the variable. The value entered in these boxes is the value that is current when the dialog window is accessed. For each type of variable given values can be entered. If an incorrect entry is made ***LOGOVIEW NT*** draws attention to the error by means of a dialog window.

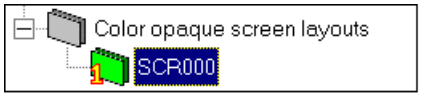


5- *Description:* in this window the information description is displayed that is assigned by the developer to the variable. These descriptions are important during the variable use phase because they specify the function inside the application.

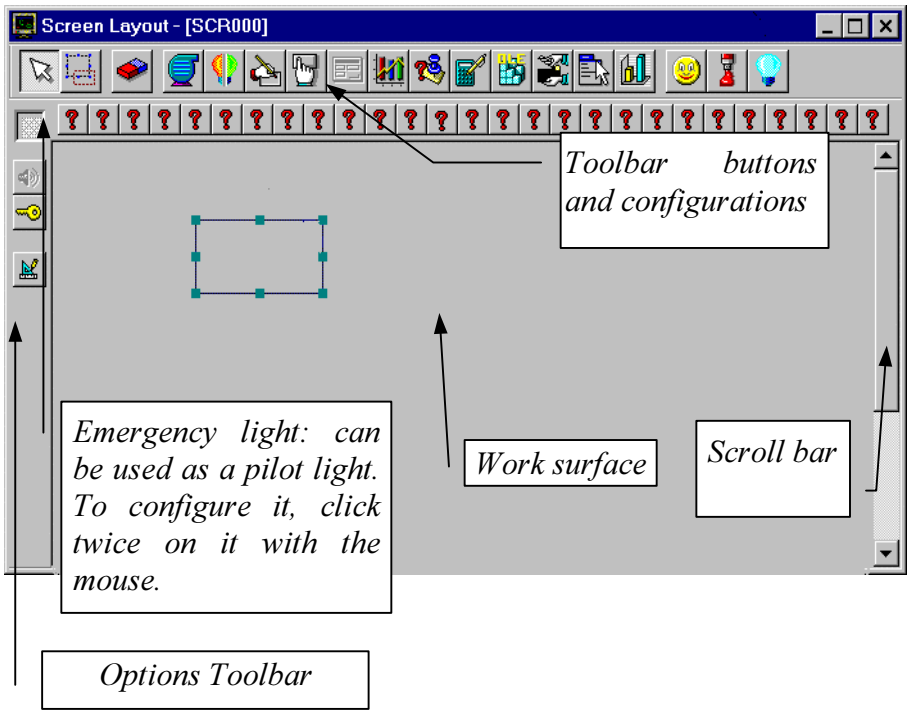
6- *List of the variable type*: in this list all the 6 available and useable types of variable are displayed. To select the type of variable that is to be configured position the cursor of the mouse on the name and click. The list of corresponding variables will appear on the video.

7.3 Layout editor

After configuring *"Setup"*, general characteristics, preferences and protection password for the opaque colored screen in the dialog window the developer can finally enter inside the editor. The editor enables all the objects to be positioned in the layout that the developer requires for interacting with the application system.
To open the layout editor, just click twice on the corresponding icon in the list of "Opaque colored screens" in the *"Layouts list"* section.



At this point, the editor will open, inside which the selected layout can be configured.



For layout configuration the editor comprises a work surface with the background color selected by the developer, a main toolbar consisting of a series of commands for positioning the buttons for the different options, a side toolbar with the command for editor controls and for assigning the protection passwords and of an emergency light that ***LOGOVIEW NT*** can use as a pilot light if it is configured by being selected with the mouse.
The complete range of use and manner of configuration of the different icons of the toolbar in the editor are fully and individually explained below.

Toolbar containing the icons for the commands of the "Vectorial Objects" menu.

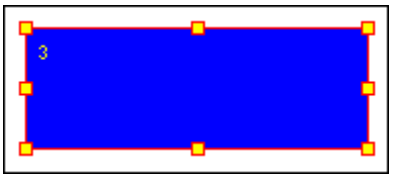
7.3.1 Selecting, moving and size changing 

Select this icon to select a box inside the Opaque Colored Screen. If the mousse cursor is placed on the screen it will take on the form of an arrow. To activate the box, place the cursor on the required one and press the press the left-hand mouse key. The selected box will be highlighted by the handles around the edge, which also enable its size to be changed and enable it to be moved to a different position in the screen.
The colors of the lines around the box, the handles and the edge of the handles of the selected box are set during the application's initial setting phase.

The same operations can also be carried out by means of multiple selection. For the multiple selection, just keep the key SHIFT pressed when the mouse is positioned on the new box. In this way the new box is added to those that have already been selected.

7.3.2 Load reference box 

Select this icon to draw a new reference box inside the open Opaque Colored Screen. When the mouse cursor is placed on the layout it will take on this form:  .
Press the left-hand mouse key on the screen to obtain a display of a box of the pre-set size, which is highlighted by the handles around the edge, with an internal number that starts at 0 and increases for each new box that is drawn. If 3 boxes have already been loaded into the layout, the last one to be loaded will have the number '2'. All the objects that are positioned in the layout are loaded into a reference box. Once the box has been positioned, its size can be changed and it can be moved as required by its perimeter handles.



7.3.3 Delete objects 

Select this icon to enable one or all the objects and options to be deleted that have been loaded into the box inside the opaque colored screen.
If this command is activated a dialog window opens that lists all the objects and options that can be entered into the box.

The window options in bold are inserted into the selected box and are activated by the handles on the perimeter.

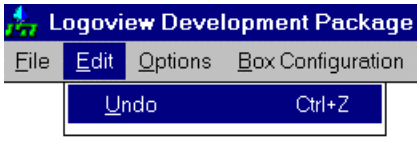
To delete just one object inside the box, click on the circle with the mouse cursor.

To eliminate all the objects and options in the box, select the command *"All"* .

The box that is inserted in the screen can also be eliminated directly by selecting the command *"Delete box"* .

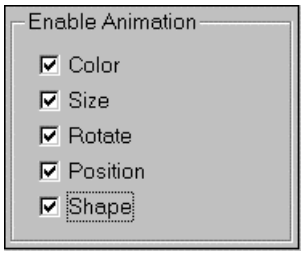
After selecting the objects to be deleted, press *"OK"*.

If, after deleting the objects or the box, you realize that you have made a mistake and wish to undo the operation, immediately press *"Undo"* from the *EDIT* menu on the toolbar.



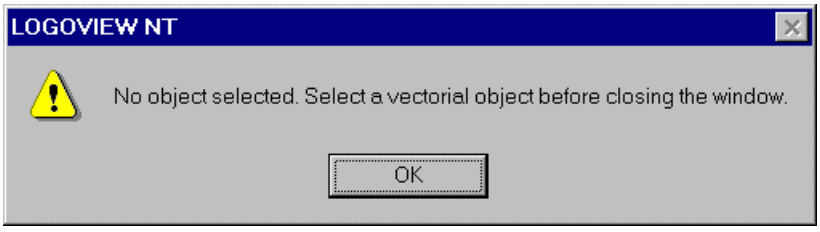
7.3.4 Vectorial objects 

Select this object to load a vectorial object that is stored in a dedicated library inside the box.
The vectorial objects are graphic objects that are linked to variables and which are widely used in ***LOGOVIEW NT*** applications.
Typical examples of vectorial objects are the symbols used to indicate the machine current in the system: the symbols for motors, valves, etc. A library of vectorial objects can be created by the program *Flash Draw* (can be purchased separately).
The vectorial object can always be displayed in the application or else it can be displayed only if there is a variation in the value of one of the variables that has been selected from the menu of the applications set for the application.
If this command is activated a dialog window opens in which it is possible to load and configure a vectorial object in the box.
The window is divided into different sections from which the files of the vectorial objects and the options are selected.

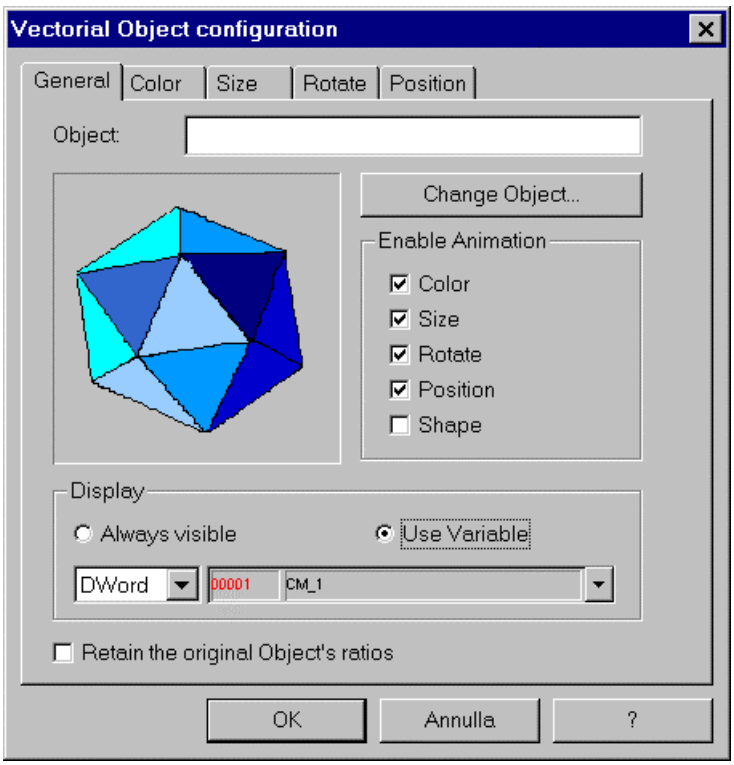


The sections of the window in which the object characteristics are configured by placing a check in the box next to the required characteristic.

It is not possible to transfer from the general section to the object characterization sections without first selecting a vectorial object. If the developer tries to activate one of these sections before loading a ***LOGOVIEW NT*** object this fault message occurs:



7.3.4.1 *General section*

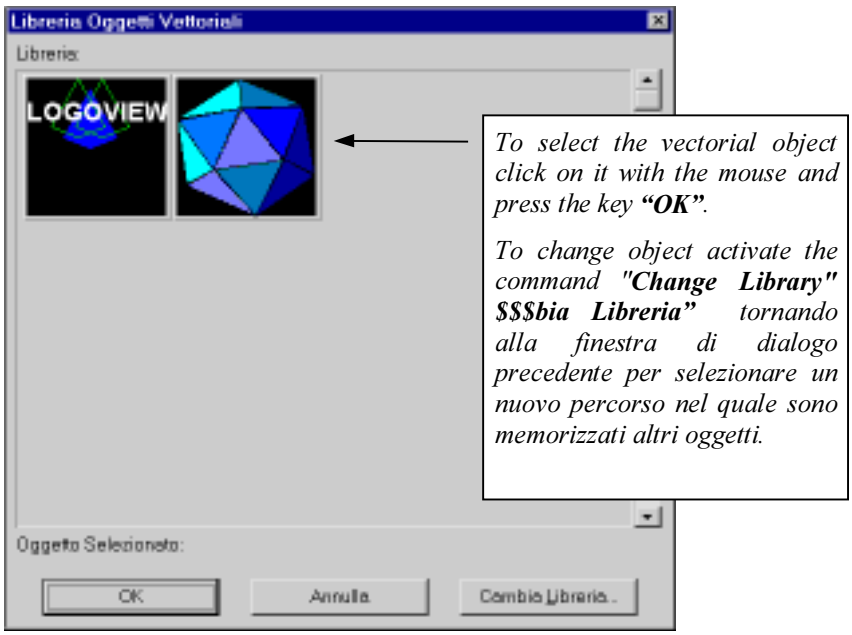


The window section is subdivided into different areas in which the files of the vectorial objects and the options can be configured.

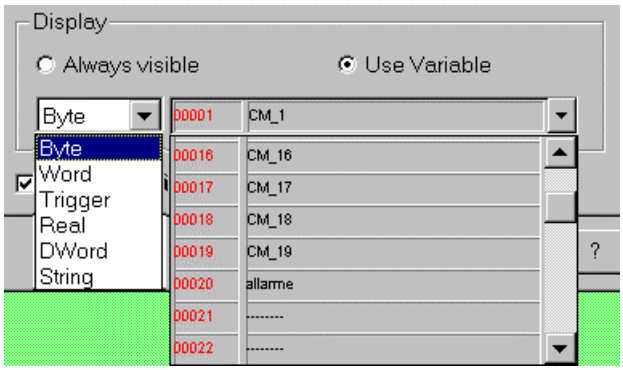
Object: key in the name to be assigned to the vectorial object inside the application.

Change object: select this command to access the dialog window *"Open vectorial objects library",* from which to select the pathway in which the vectorial objects are stored.
This command is inactive when the *Form* section of the configuration window is selected (see page 76).

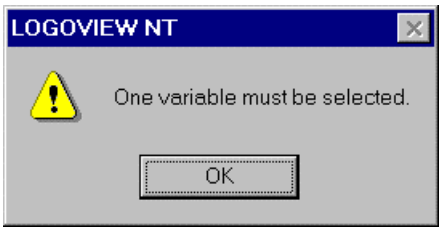
Select the pathway and the stored object. This will be loaded into the library of the vectorial window:



Display: select the option *"Always visible"* to ensure that the vectorial object is always visible inside the application.
Activate the option *"Use Variable"* to display the vectorial object only when the value of the selected variable is not zero. To activate this command, select a variable from the cascade list.



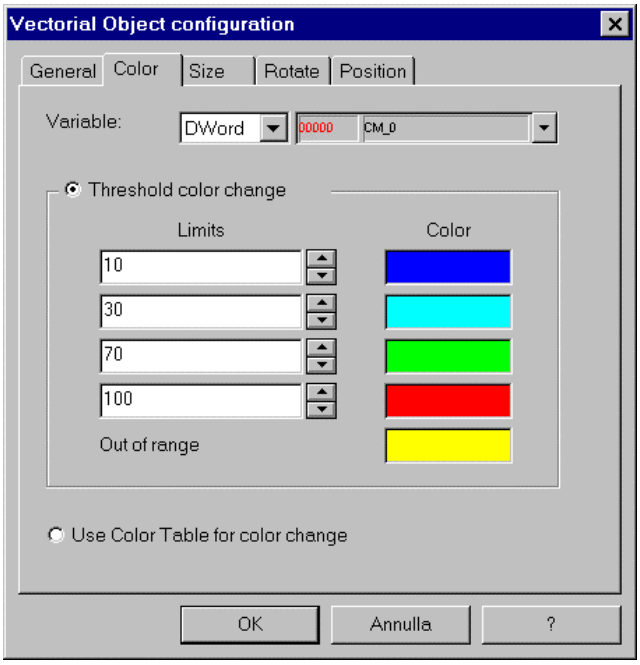
If the developer forgets to select a variable, before the subsequent sections of the ***LOGOVIEW NT*** window are displayed ***LOGOVIEW NT*** displays an error window.



Maintain proportions of original object: if this object is activated the object must be the same size as those of the original inside the application.

Enable animations: this area of the window contains 3 options by means of which the other window sections are activated for accessing the configurations of animations of the vectorial objects.

7.3.4.2 *Color section*



The window section is subdivided into different areas from which the options can be selected.

Variable : from the menu select the variable whose variations must activate the animation of the vectorial object.
To select a variable, click on the cascade menu with the mouse to open it.
It is not possible to change the window section without first selected a variable.

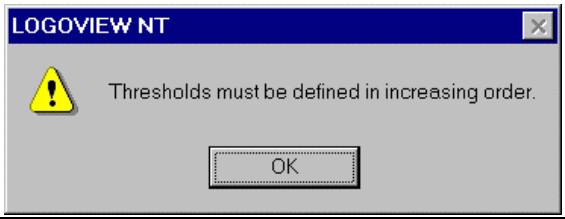
Color change with thresholds: activate this command to make the animation change color when the vague of the selected variable changes by assigning threshold limits to the different colors.
To change the color displayed in the box click on the color to be replaced with the mouse and press the left-hand mouse key. The dialog window *'Colors"* will open, from which the required color can be selected.

The change of the animation color applies to only one specific color of the object, which was selected when the vectorial object was created.

Example of color variation of an animation

In the *"Limits"* boxes the developer must key in the values that change the color inside the application when they are reached.

The limits values must be entered inside the boxes in ascending order. If an incorrect value is keyed in, ***LOGOVIEW NT*** displays an error message.

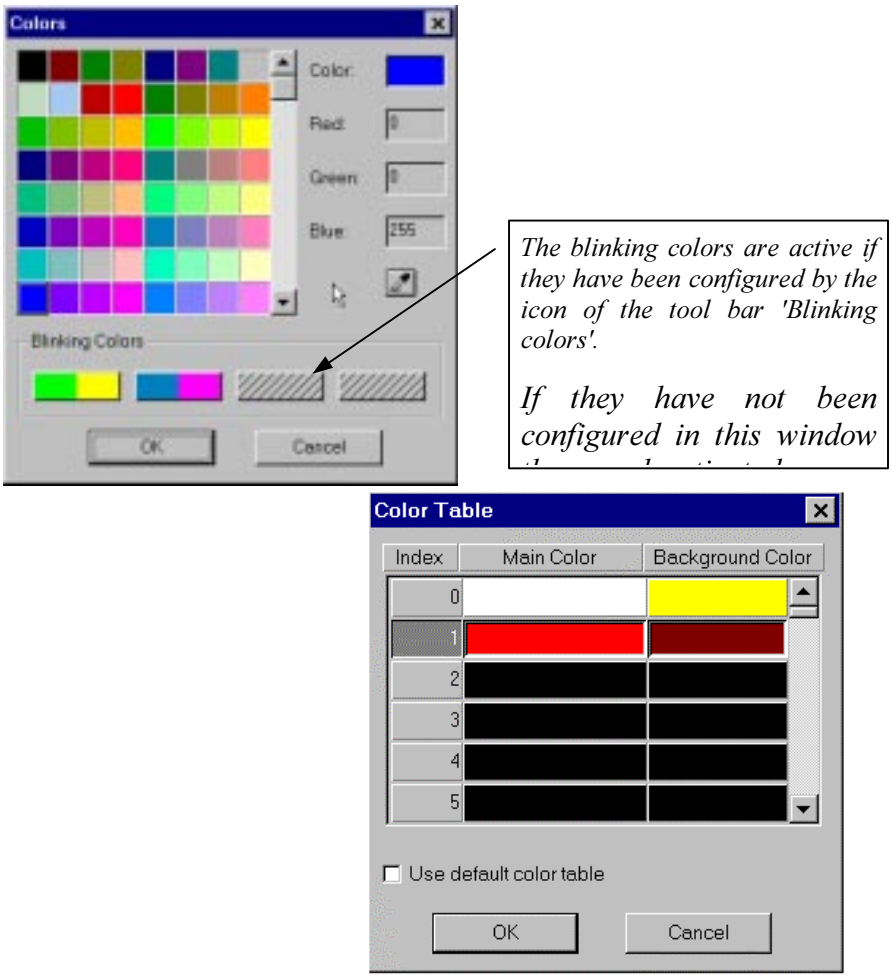


From the *"Color"* boxes the developer selects the colors that are assigned to the vectorial object during the application when the variable value is reached.

The variation in animation color is reached only when the variable's set limit value is reached. Until the variable reaches the value assigned to the first *"Limits"* box, the animation will use the color entered into the corresponding box.

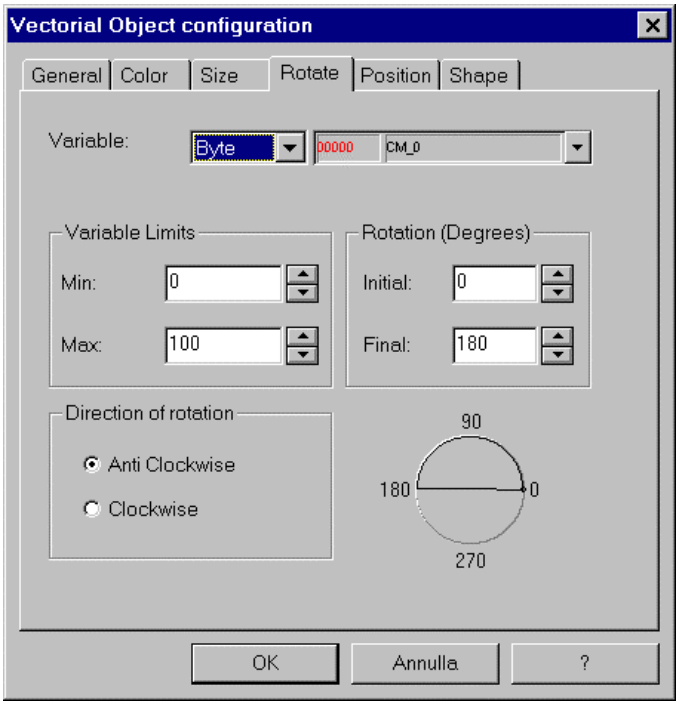
Color change with table: when this command is activated, the colors used for the variation are those selected from the color table of the screen in which the user is working.

They are activated by the icon  of the *"Colors table"* toolbar.
(See page 9)



The variable selected for variation in the color of the animation are used as an index in the color table: if it contains the value 10 the color with index 10 will be used for the animation.
It must also be remembered that the vectorial animation will use only the color displayed as a "*Main color*".

7.3.4.3 *Rotation section*



The window section is subdivided into different areas from which the options can be selected.

Variable: select the type of variable to activate vectorial object animation. To select the variable, use the mouse cursor to open the cascade menu. The window section cannot be changed until a variable has been selected.

Variable Limits: enter the minimum and maximum limit values of the selected variable on the basis of the direction in which it must rotate.

Angle degrees: enter the value of the degrees of rotation of the vectorial object. At the bottom the angle of the arc that the vectorial object will describe during the application will be displayed.

Rotation direction: select the clockwise or anticlockwise direction that the image will take in the application.

Example of rotation variation of an animation

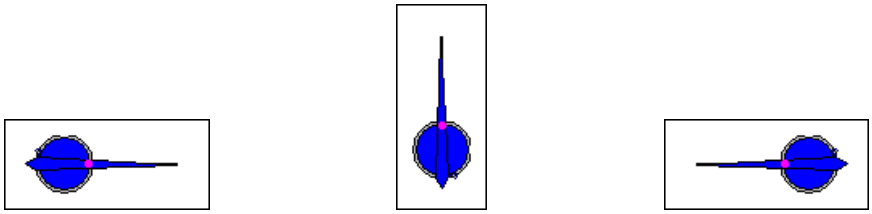
After loading all the required data into the different sections of the "*Rotation*" window the actual rotation of the vectorial object during runtime can be seen.

Load the minimum and maximum values inside the *"Variable limits"* area. These are the set limits to variations in object rotation.

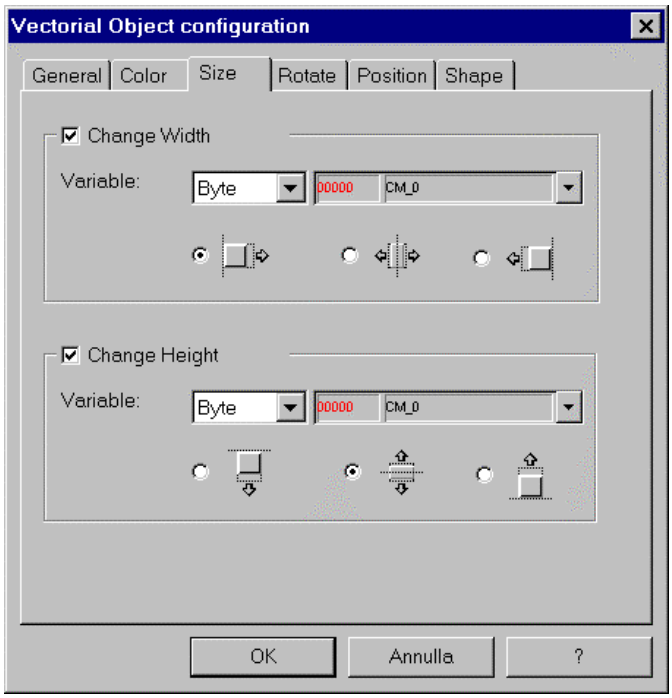
Inside the "*Angles in degrees"* area, an initial and final rotation value are set for the object during runtime.

These values are linked together inasmuch as object rotation will be proportional to the variable value and the degrees of the arc that it has to describe.

Variable limit: minimum Angle degrees: initial	Variable limit: half-way Angle degrees: half-way	Variable limit: maximum Angle degrees: final



7.3.4.4 *Size section*



The window section is subdivided into different areas from which the options can be selected.

Change Width: select the variable type to activate the animation of the vectorial object and the width that you wish to apply to the vectorial object.

Change Height: select the variable type to activate vectorial object animation and height.

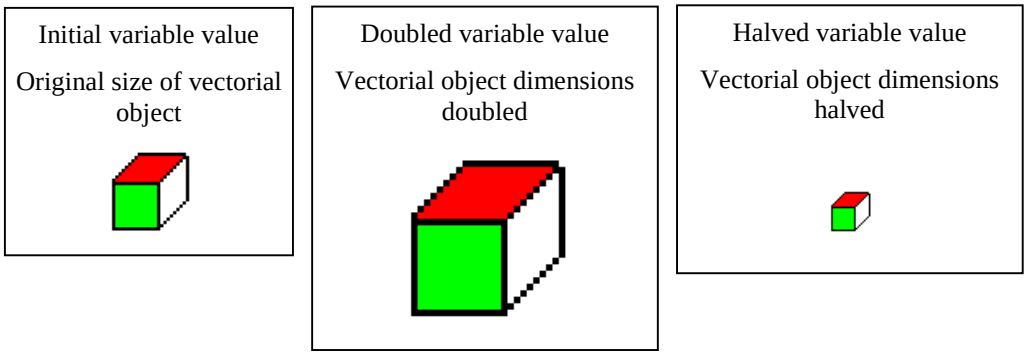
If the command "*Keep size of original vectorial object"* is activated in the "*General"* window (see Chapter **Errore. L'origine riferimento non è stata trovata.**) the vectorial object inside the application cannot be given a different size and this part of the configuration is deactivated.

Example of varying animation sizes

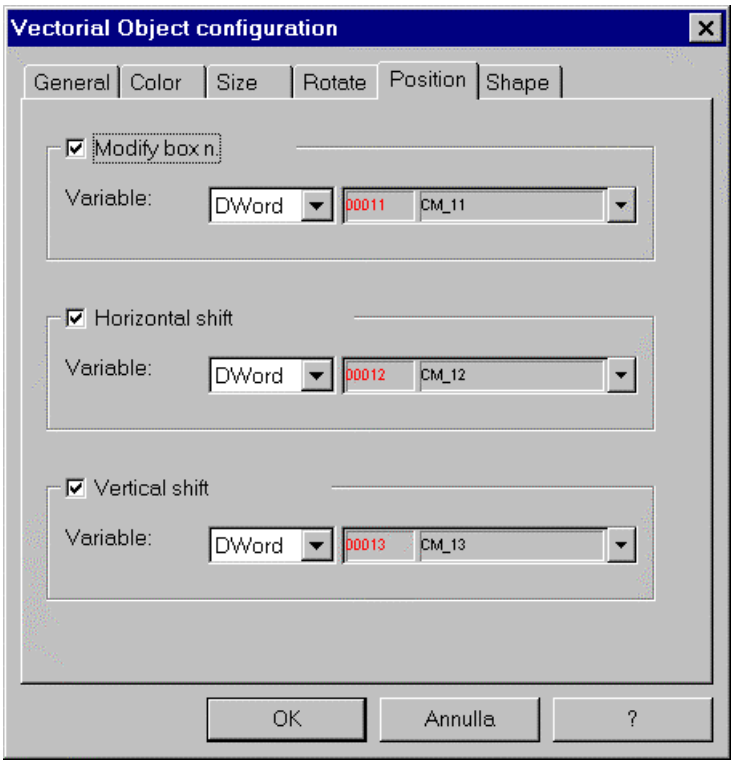
During runtime the vectorial object animation can also display a variation in the sizes of the vectorial object.

Both vectorial object height and width can be changed through variation of the value of the variable selected from the *"Sizes"* window.

The proportions are modified in proportion to a fixed parameter assigned by ***LOGOVIEW NT***. The value 100 is assigned to the original sizes of the vectorial object. If the variable value doubles, during runtime the animation will display the object with sizes that are twice those of the original vectorial object. On the other hand, the variable reaches a value that is half that of the initial value, during runtime the application will show a vectorial object that is half the size of the original one.



7.3.4.5 *Position section*



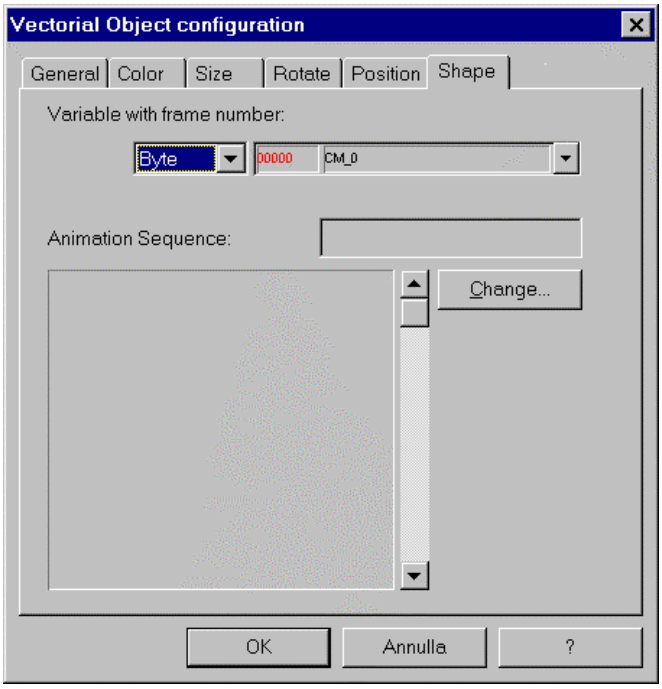
The window is divided into different areas from which the options to be applied can be selected.

Box number modification: select the variable type that must activate position variation inside the vectorial object box.
Whenever the value of the selected variable changes, the vectorial object will change position from one box to another inside the layout.
The boxes must be configured in the layout by the developer so that the image can have some references.

Horizontal shift: select the variable type to activate the horizontal position of the vectorial object inside the layout.
Whenever the value of the selected variable changes the vectorial object will change horizontal position by the number of pixels configured in the event assigned to the variable.

Vertical shift: select the variable type to change the vertical position of the vectorial object inside the layout.
Whenever the value of the selected variable changes the vectorial object will change vertical position by the number of pixels configured in the event assigned to the variable.

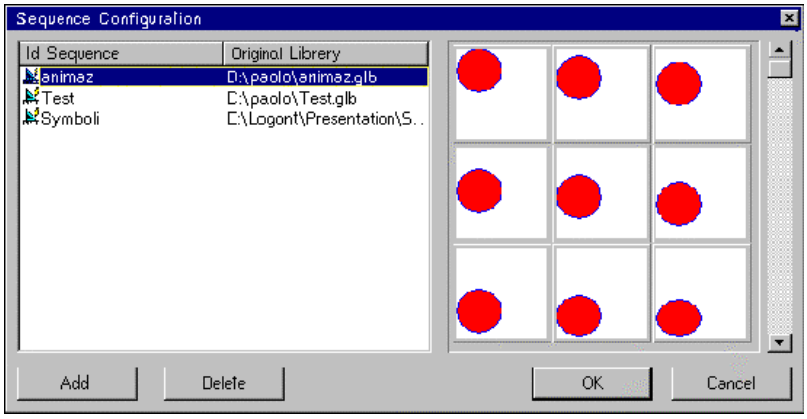
7.3.4.6 *Form section*



The window section is divided into different areas from which the application options can be selected.

Variable with frame number: select the variable type that must have frame number as an instruction that enables the vectorial object to take on the different forms that make it up by means of the Flash Draw software.
The selected variable must cause a variation to the form of the vectorial object inside the layout.

Animation sequence: the text box at the side and in the display area shows the name and composition of the library of vectorial objects that must be used in the layout.
To change the library of images activate the command *Change*. This opens the search window *Sequence configuration.*

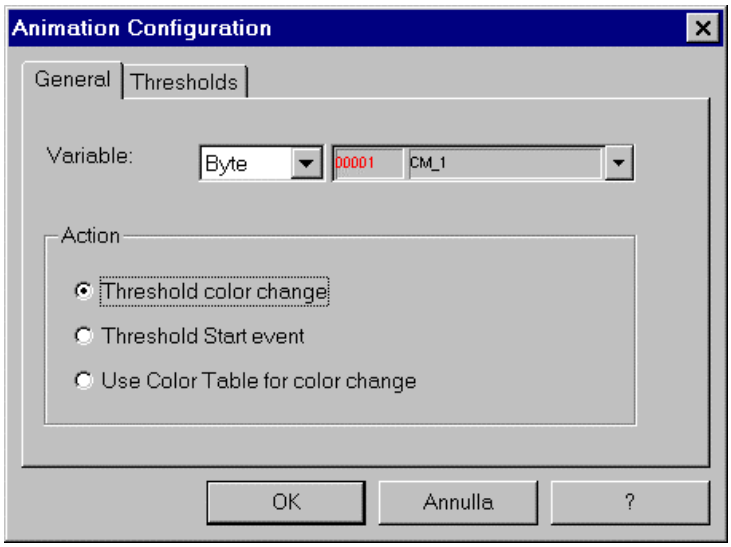


The search window enables a new library to be selected from the list or a new one to be selected by means of another pathway by activated the command *Add.* If the command is activated the dialog window *Open Vectorial Objects Library* opens (see page 126). From this window the library pathway can be selected that one wishes to display.

7.3.5 Color animations 

Select this icon to create a color animation within the box. A *'Color animation'* consists of differing alternating colors that vary according to the value of a variable. The animation is often used as a pilot light: each color of the pilot light represents an operating status of the machine to which it is assigned.
When this command is activated a dialog window opens from which the options are selected for configuring the color animations of the images within the application.
The dialogue window is divided into two sections: a general section and one that changes according to the options selected in the general part.

7.3.5.1 *General*



Variable: from the cascade menu select the type of variable that has to activate a given animation.

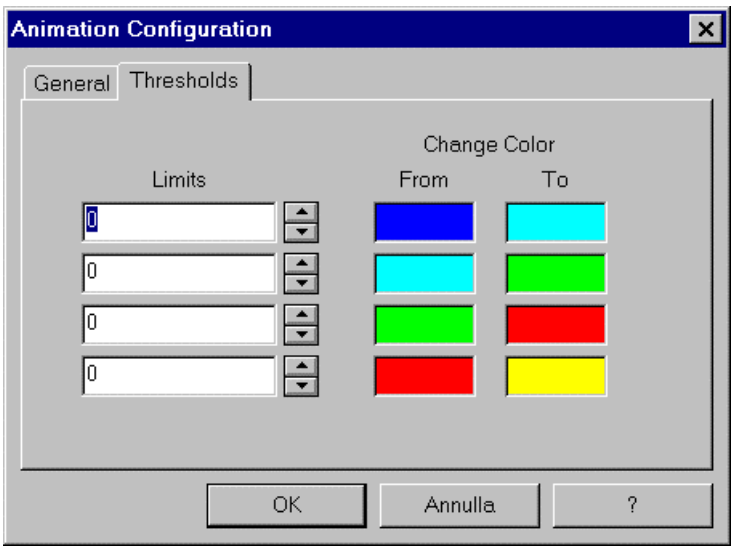
Action: select the type of action that you wish to configure for the image in the color animation inside the application. The list comprises 3 different options, which we will analyze below.

7.3.5.2 *Changing color using color table*

If this command is selected animation will cause the image to change color after the selected variable has changed.
The colors used have been selected from the color tables and cannot be substituted by others.

7.3.5.3 *Changing color using thresholds*

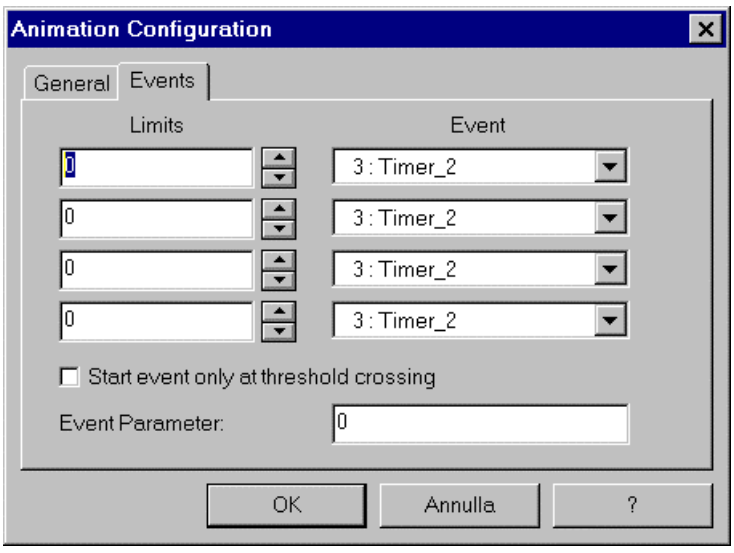
Select this option to access a dialog window from which to select the threshold limits and the colors that the image in the application must take on if the threshold limits change.



Limits: enter the limit values of the variable selected so that the animation color will change when the value changes.
Change color: in the boxes *"From" "To"* select the colors that the image animation must take on when the variable's value changes.
To change the color displayed in the box place click on the color that you wish to change and press the left-hand mouse key twice.
The dialog window *"Colors"* will appear from which to select the required color.

7.3.5.4 *Running event with thresholds*

Select this option to access a dialog window in which to configure the threshold limits and the event that you wish to run in the application when the variable changes. Each threshold triggers a different event.



Limits: in the box key in the limit values that will trigger the selected event if they are exceeded.

Event: select the events from the displayed boxes that must be triggered if the limit values entered in the boxes are exceeded.

Run events only if the thresholds are exceeded: if this command is selected the selected event will be run only if the value is exceeded that has been entered in the threshold limits boxes.
If the command is not activated the event will be run after every variation of the variable that has been selected within the application.

Event parameter: in this case the parameter must be keyed in that determines the behavior of the event. The parameters are entered when the instructions are formulated during event creation.

7.3.6 Interactive fields 

Select this icon to define an interactive field inside the box. This type of field enables an interactive field to be defined inside the box. The variable assigned to the interactive field can be displayed with different colors, according to its value. In addition, if the developer deems it to be necessary, the operator can modify the variable whilst the application is being run.
As the aim of a monitoring application, as we have made clear, is to collect database and present them to the user, it is fundamentally important to represent numeric data that do not represent status or position but quantities. Data entries and modifications by the operator are closely linked to this aspect. We must add that it might be necessary to present data with different colors or fonts and to check input data so that the operator does not make incorrect data entries. These instruments are called 'interactive fields' in ***LOGOVIEW NT.*** They have certain special characteristics:

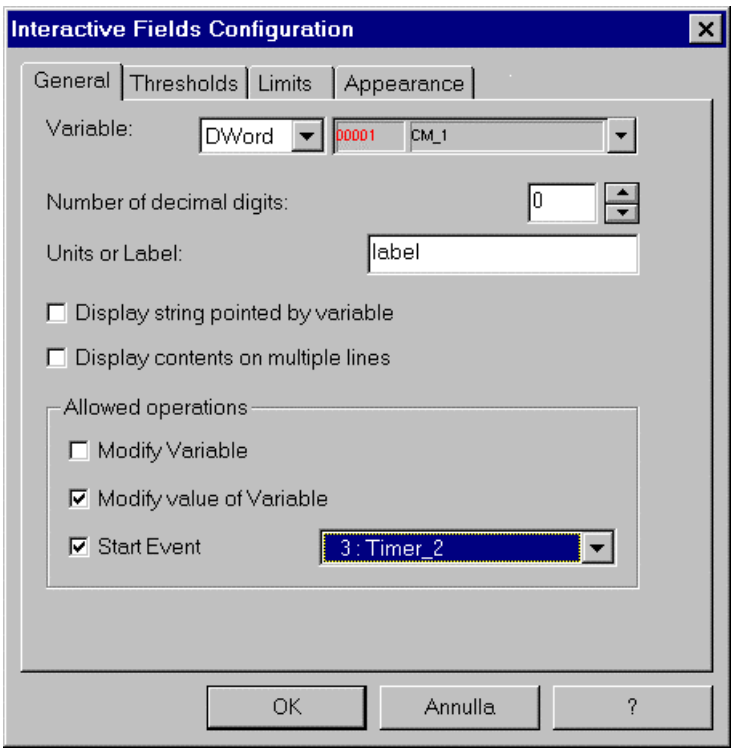
Immediate configuration. They can be easily configured without events being used by being directly assigned to the variables.

Automatic refresh. Immediate up date of the value displayed to the operator.

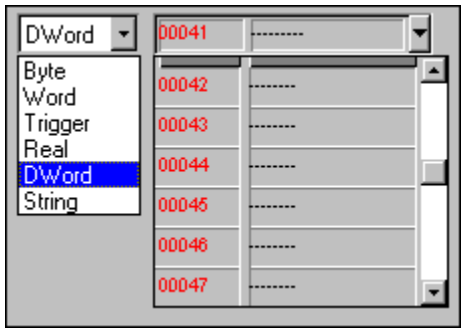
Flashing. Assignment of colors that show the field values, and using flashing colors for off-scale values.
To configure the variable display a dialog window opens that is divided into different sections that contain different options in order to optimize the interactive field.

7.3.6.1 *General*

Inside the *"General"* part of the dialog window the main characteristics of the variable must be entered whose characteristics need to be displayed whilst the application is running.



Variable: use the mouse to select from the cascade menu the variable type that you wish to display in the application layout.



Number of digits to the right of the decimal point: key in the number of digits that should be displayed after the decimal point in the current layout box. E.g. if 3 - is keyed in we obtain the display 23.000.

Unit of measurement or caption: key in a caption or unit of measurement that will be displayed in the layout box. To configure this caption display use the options in the dialog window *'Appearance'*.

Display string indexed by variable: if this option is activated the variable contents inside the application cannot be modified.
Activating this option also deactivates the next area of the dialog window from which *'Permitted operations'* are selected.
Configuring this option will display in the application layout box the contents of the string variable indexed with the variable number. For example, if we have entered in the interactive field the variable #Counter, which contains 10, when this option is activated in the interactive field instead of number 10 the contents of the string variable of offset 10 will be displayed.

Display contents over several lines: if this option is activated the caption will be displayed over several lines if it is long.

Permitted operations: if this part of the dialog window is configured the options can be activated that enable the variables to be modified directly by the application layout by modifying values and replacing them with those entered when the variables were created.
This area of the dialog window is not activated unless the option *'Display string indexed by variable'* has been activated first.

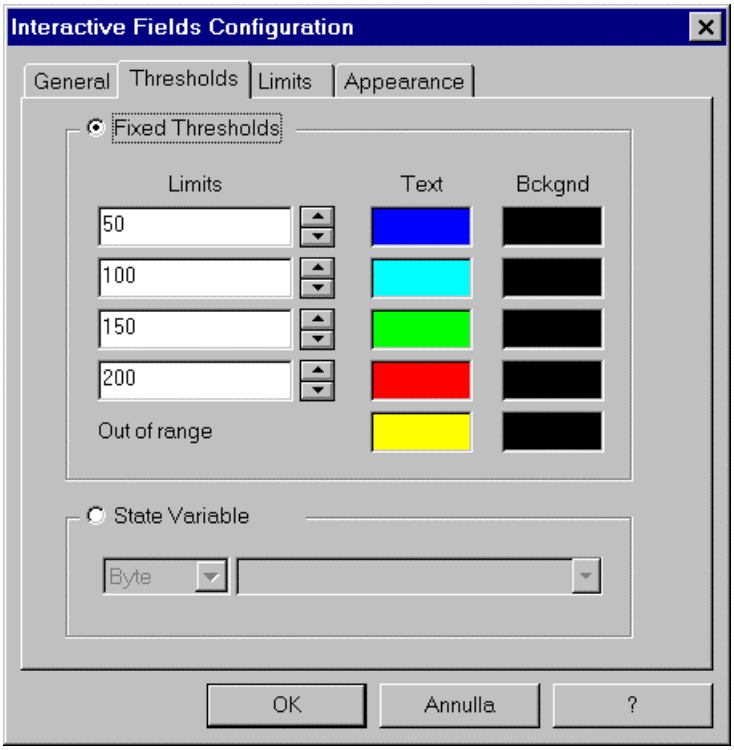
Modify variable: possibility of modifying the type of variable in the interactive field in the application layout.

Modify variable value: enables variable value to be modified. If this option is activated, the next option is activated at the same time.

Run event: activating this option enables the user to select the type of event that he wishes to run during the application.
Logoview gives this event a type of Dword that contains the offset of the variable assigned to the interactive field.

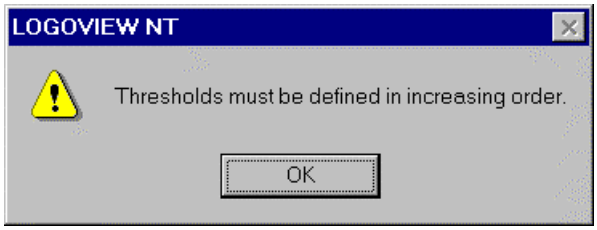
7.3.6.2 *Thresholds*

Inside this part of the dialog window the threshold limits can be configured and the variable selected for the interactive field. When the have been reached the colors displayed in the box change.



Constant thresholds: activating this option enables the user to enter the limit values, which, when reached, change the text display color and the background color inside the interactive field during the application.

Limits*:* in this box the limit values of the variable can be entered that cause the color of the text and background to change in the window of the interactive field. To enter the values use the mouse to click on the arrows at the side of the boxes or key the numbers directly into the boxes.
The threshold limit values must be set in ascending order. If an incorrect entry is made ***LOGOVIEW NT*** will inform the developer of the error by opening a warning window.



Text*:* inside these boxes the colors can be selected that the text must take on when variable value limits are exceeded inside the interactive field window during the application.

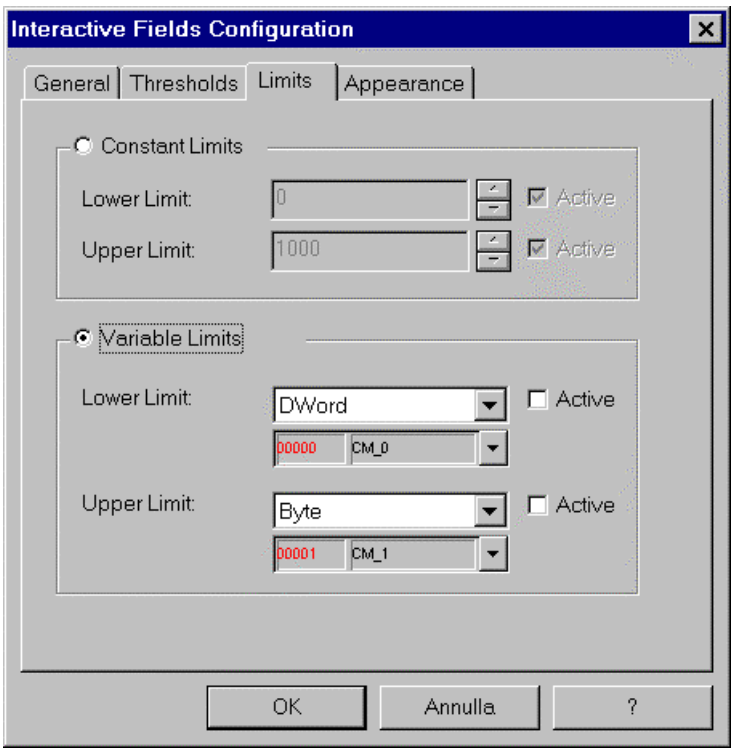
Background*:* the colors can be selected inside these boxes that the background of the interactive field must take on if the variable's limit values are exceed during the application.

To insert or replace the color inside these boxes place the mouse cursor on the box and click on it. The *'Colors'* dialog window will open from which the required color can be taken.

Variable state: select this option to select the type of variable from the cascade menu that should be displayed in the box. If this option is selected color limits and variations cannot be entered in *"Constant thresholds'* during runtime.

7.3.6.3 *Limits*

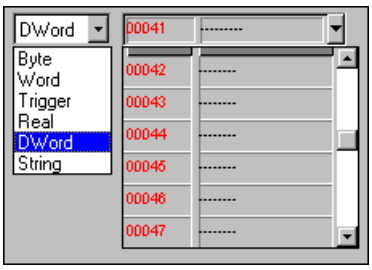
Inside this part of the dialog window the limits can be configured that must not be exceeded during runtime when the variable values are modified.



Constant limits: selecting this option enables the top and bottom limits to be entered that must not be exceeded during runtime if the variable values are modified.
Activate the command by ticking one of the boxes at the side. If during runtime the operator keys in values that are outside the set limits ***LOGOVIEW NT*** will generate an acoustic error alarm and will display the maximum value that can be used on the status line.

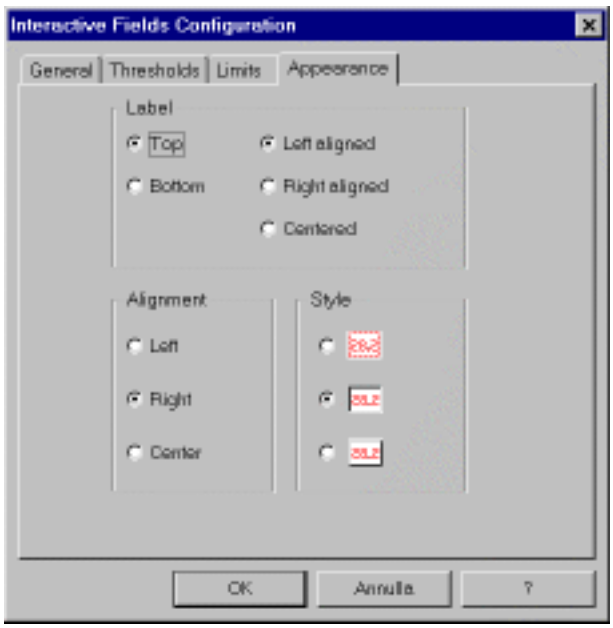
Number is too great. Insert a value <=1000

Limits with variable*:* select this option to display the top and bottom limits of the variables selected in this area from the cascade menu.
In this case the value cannot be modified by the operator.



7.3.6.4 *Appearance*

Within this part of the dialog window the characteristics and the positions of the text within the box during runtime can be configured.



Caption: within this part of the window the text position can be configured within the interactive field by means of a series of options that can be activated by the mouse cursor.

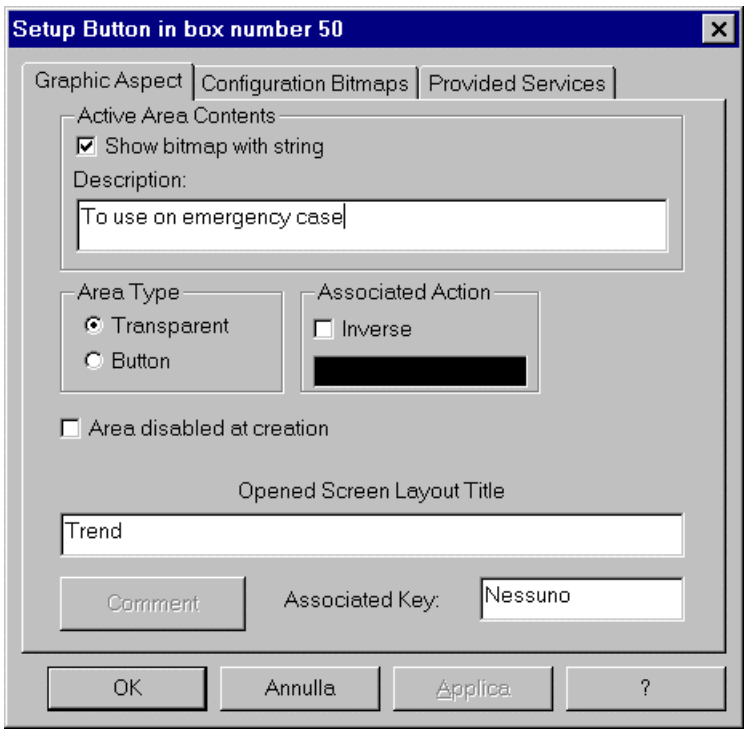
Alignment: within this part of the window the position of the text within the interactive field can be positioned.

Style*:* within this part of the window the style of the text within the interactive field can be selected.

7.3.7 Buttons 

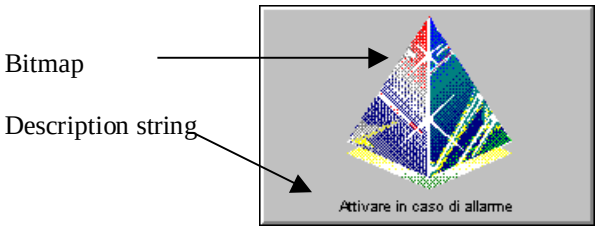
Selecting this icon enables a button to be defined inside the box. After the button is pressed an event can be run or another frame can be loaded.
When the command is activated a dialog window is opened through which the buttons on the layout of the application are configured.
The dialog window is subdivided into different sections into which the options for button configuration can be entered and activated.

7.3.7.1 *Graphic aspect*



The section of the window dedicated to configuration of the graphic aspect of the button is divided into different areas.

Contents of the active area: in the relevant box key in the literal description to be displayed on the button whilst the application is being run.
The area contains the option *Show bitmap together with the string:* if this option is activated the bitmap selected within the *Configuration bitmaps* section on page 74 will also be displayed



Deactivate this option within the bitmap configuration section in order to automatically delete the selected bitmaps.

Type of area: if the option *Transparent* is selected only the bitmap and string caption will appear in the box but the button will not be displayed.
If the *Button* option is selected the symbol of the button will appear in the box as well as the symbol and the string caption.

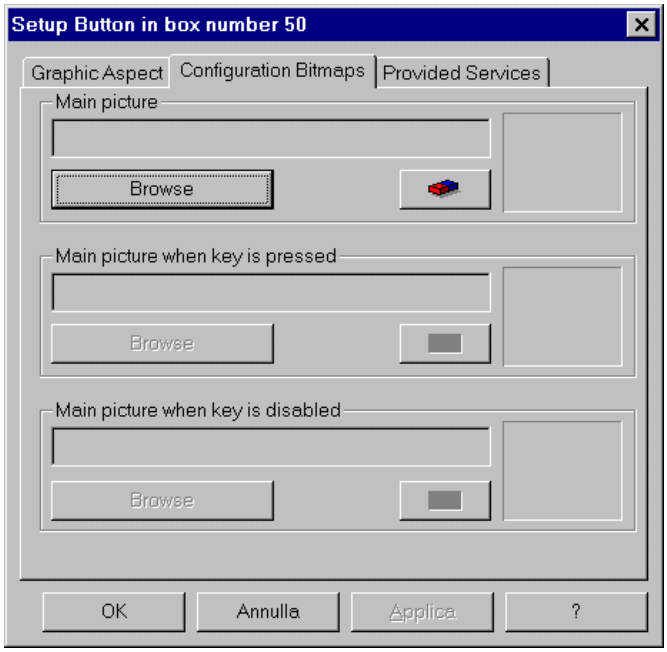
Associated action: if the *Inverse* option is selected, which is active only when the option *Transparent* is selected in the *Type of area*, when the button in the box is pressed during runtime it will display the color selected from the *Color box*. Press the left-hand key of the mouse twice on the color in the box to open a *Color* dialog window from which to select a color to be applied to the text that appears on the button.

Area disabled for creation: if this option is activated the button is deactivated whilst the application is being run.

Title of.. open: within this box a Help string can be keyed in that will appear inside the window's status line whilst the application is being run when the mouse is clicked on the button.

Associated key: within this box the keyboard command can be inserted that will activate the button in the application without any need to use the mouse.
To enter the associated key command click with the mouse on the box and then select the relative commands directly from the keyboard, e.g. by pressing CTRL+W.
If the keys are entered in the box whilst the application is being run the button will be automatically activated without there being any need to use the mouse.

7.3.7.2 *Configuration bitmaps*



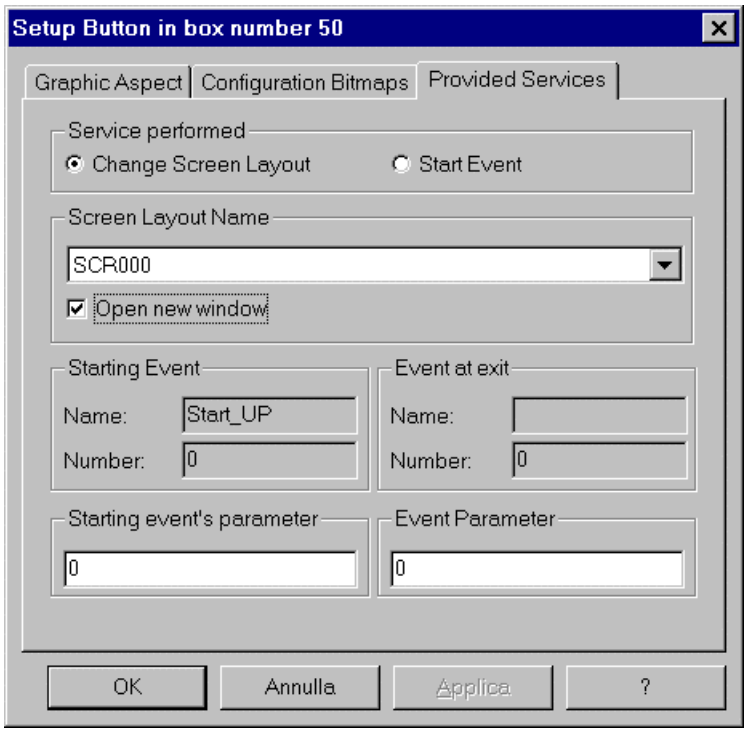
The window section dedicated to bitmap configuration is divided into different areas from which the bitmaps are selected that are to be assigned to the button.

Main picture: select the main bitmap from this area. This must be displayed on the button whilst the application is being run.
The command *Browse* opens the dialog window from which the required bitmap is selected. The bitmap is displayed in the appropriate space.

Inside the area the button  is the *Delete* command. If this command is activated the bitmap displayed in a given space is deleted. If the first bitmap is deleted all those that have been configured in the subsequent areas will also be automatically deactivated.
Main picture with button pressed: select the bitmap in this area that must be displayed on the button when it is activated whilst the application is being run. This configuration area is not active unless a bitmap is selected for the main picture.
Activate the command *Browse* to open the dialog window from which to select the required bitmap. The bitmap will be displayed in the appropriate space.
The *Delete* command within the area is identified by the button  . Activate this command to delete the bitmap displayed in the space.

Main picture with disabled button: select the bitmap in this area that must be displayed on the button when it is disabled whilst the application is being run. This configuration area is not active unless a bitmap is selected for the main picture.
Activate the command *Browse* to open the dialog window from which to select the required bitmap. The bitmap will be displayed in the appropriate space.
The *Delete* command within the area is identified by the button  . Activate this command to delete the bitmap displayed in the space.

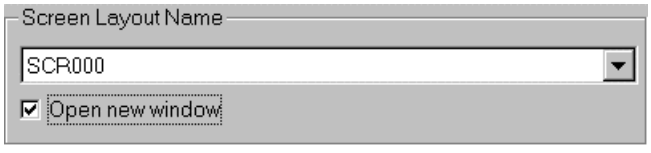
7.3.7.3 *Logic configuration*



The section of the window dedicated to logic configuration is divided into different areas from which the options are selected that are to be assigned to the button.

Action associated to the button: in this area select the actions assigned to activating the button whilst the application is being run.
Change screen layout: press the button in the application to select this option to load a new frame onto the screen.
Start event: press the button in the application to select this option and the event will be started that has been configured for the application.

Frame node: select this option to open a cascade menu from which to select the node of the frame that is to be opened by activating the button in the application.

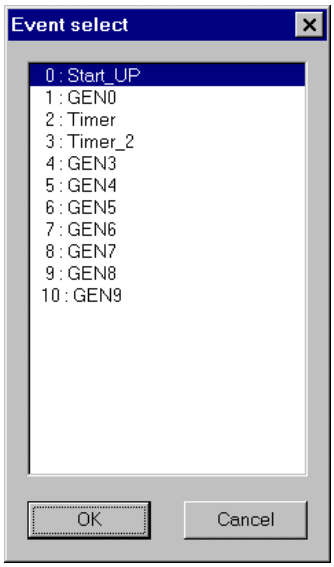


Any frame node that is opened from the list is a frame that has been configured for the application current inside the area *Frames list* of the *Base setups* window (see chapter 0).

Open a new window with the frame: if this option is activated when the button is activated whilst the application is running a new window will open on the videoscreen that contains the graphic objects entered in the new frame that has been loaded.

Starting event / event at exit / Event parameter, exit parameter: if a frame change has been configured for when the button is activated the name of the event that is to be run and the event to be exited must be set in these boxes by entering the event numbers and parameters. To select, use the window that contains the list of all the events configured for the application.
If an event has been configured to start when the button is activated only the configuration of the event to be run will be available in this box. Select the event from the window that contains the list of all the events configured for the application.
To select the events click with the mouse on the box containing the event name and press the left-hand side key. A cascade menu will open from which you can choose the type of event.
The parameters that are keyed in are those that are entered when the instructions are drawn up during the creation of the events.

Event selection window containing all the events configured for the current application.



Note that the buttons on the Logoview interface can be assigned to specific keys.

To move from one key to another of the active Logoview window it is sufficient to press Tab (this enables the user to move forward by one) or the combination Shift+Tab (this enables the user to move back by one). In this way it is also possible to activate the commands to which no key on the keyboard has been assigned.

To activate the highlighted button, use the space bar on the keyboard (this action is the equivalent of a click made with the left-hand key of the mouse). Pressing 'Enter' will not activate the highlighted button.

The Ctrl+F6 key combination enables the user to move from one active window to the next as long as there are at least two open on the Logoview desktop.

The combination of keys Ctrl+F7 enables the user to activate the display of the list of current Logoview alarms.

7.3.8 Trend 

If this icon is selected a Trend can be defined inside the box. In other words, a variable can be represented in a certain form. Trend is undoubtedly one of the most commonly used systems for displaying data sets. Trends can represent sets of homogenous data on the same scale. Three representations are possible: bar Trend, digital instrument or analog instrument.

These are histograms in which the length of each bar is a scale value. This Trend can be configured with the required thresholds and colors. Its main use is to represent current values as they are immediately updated.

This Trend is a valid alternative to the interactive field but it does not allow the operator to modify data. It consists of a digital display in which numbers are represented by LCD segments and it can display the value of each variable individually. This type of Trend can also be configured both for threshold and color management and is particularly suitable for showing current values.

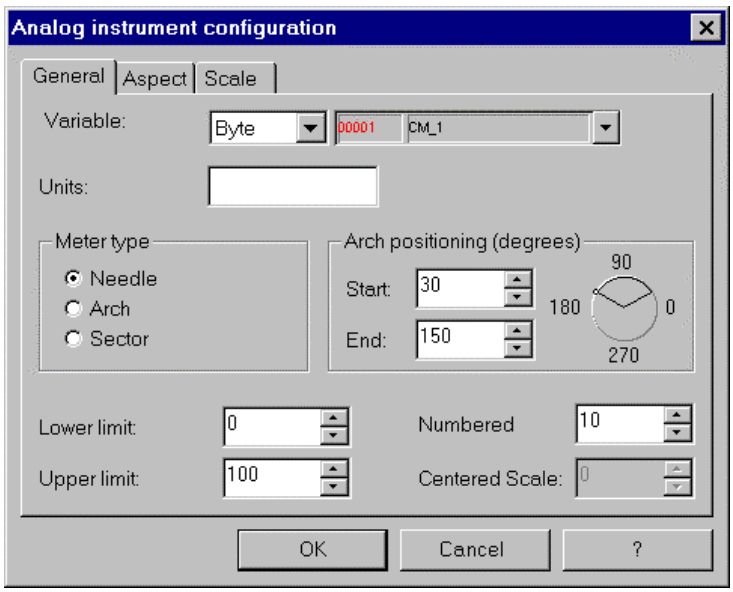
This Trend is the analog counterpart to the previous one and can show up to three different variables. This instrument is especially suitable for displaying interfaces with the operator on the videoscreen that are particularly realistic and which reproduce the instrument panels on the plant machines. This Trend is also used for a current representation of the variables to which it is assigned.

7.3.8.1 *BAR TRENDS*

If variables are displayed by means of the *Bar Trends* the display is configured in a window that is divided into different sections from which different options are selected.

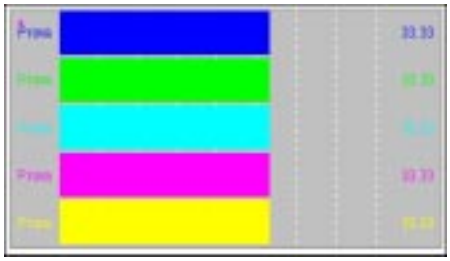
7.3.8.1.1 General Section

The first section of the window is the *General* section in which the configuration for displaying the bars of the graphics that make up the Bar Trend on the videoscreen is customized.

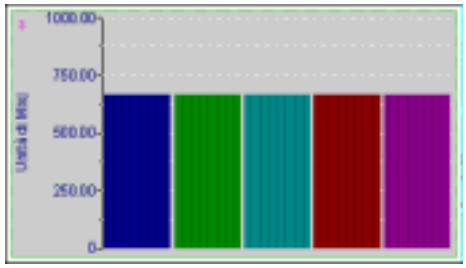

Analog instrument configuration
General
Aspect
Scale
Variable:
Byte
00001
CM_1
Units:
Meter type
Needle
Arch
Sector
Arch positioning (degrees)
Start:
30
End:
150
90
180
0
270
Lower limit:
0
Upper limit:
100
Numbered
10
Centered Scale:
0
OK
Cancel
?

Orientation: select the type of orientation that is to be assigned to the graph bars displayed in the box whilst the application is running.

HORIZONTAL ORIENTATION



VERTICAL ORIENTATION



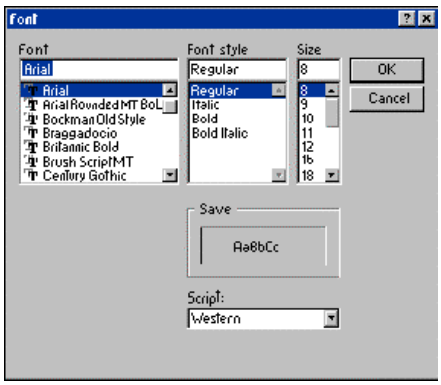
Graph background: in this box the background color of the graph is displayed. To change the color click on the box to open the *Color* dialog window (see page 12), from which the required color can be selected.

Trend background: in this box the color of the Trend background can be selected. This is the area in which the current values of the configured variables are displayed. To change the color click on the box to open the *Color* dialog window (see page 12), from which the required color can be selected.

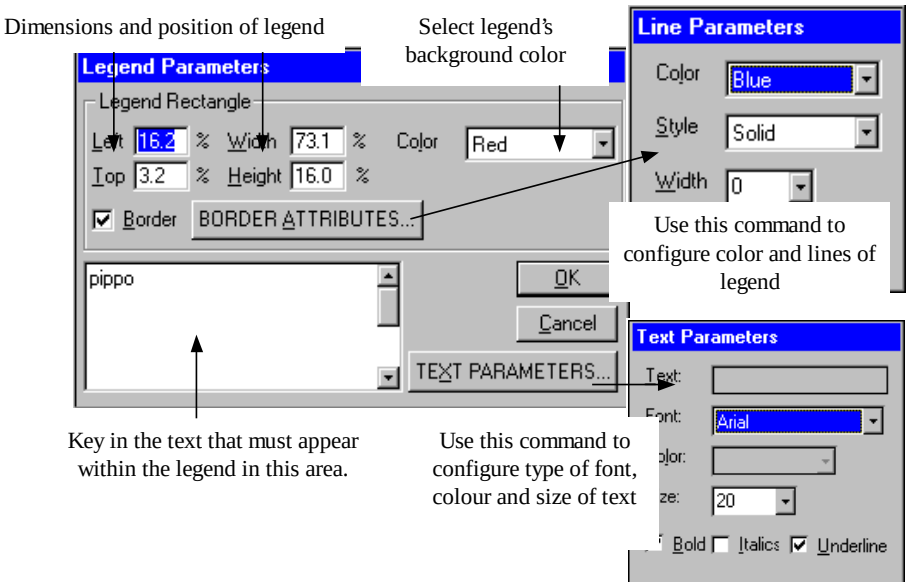
Do not display legend: if this option is activated, the legend, which shows variables, will not be displayed within Trend.

Legend Font...

If you wish to display the legend use the command to modify the type of character and style by means of the *Font* dialog window in which the characters are customized.



Whilst the application is being run the style and character of the legend can be modified and customized by opening a dialog window that is divided into different section

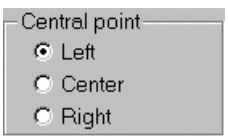


Current values: if the option *Do not display* is activated the current configured variables that make up the graph will not be displayed within Trend.
To display current values use the command to

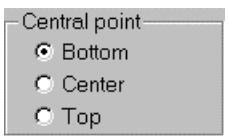
modify the type of character and style by means of the *Font* dialog window in which the characters can be customized (see page 28).
In the box *Number of digits to the right of the decimal point*' the number of dots must be entered that should be displayed after the decimal point in the current values.
Example: if 2 – is keyed in 2 decimal places will be displayed: 50.**00** .

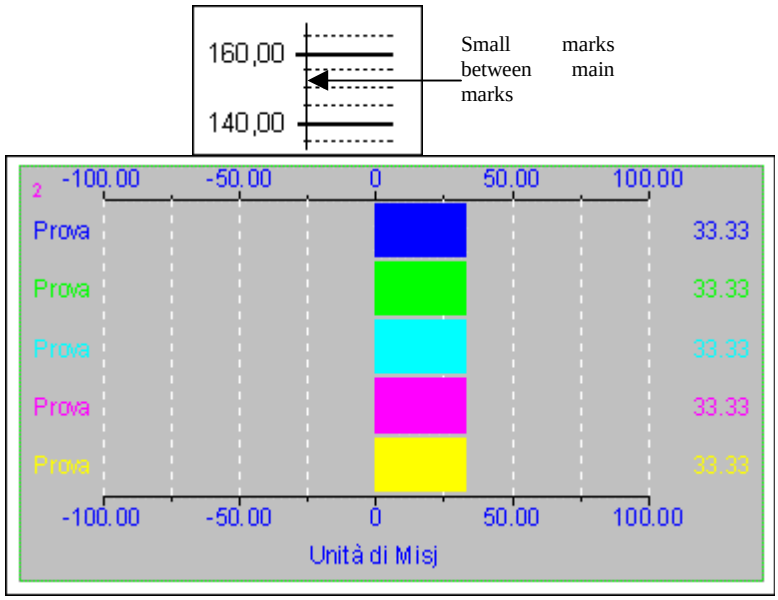
6- *Central point*: in this area of the window the point can be selected at which the Trend bar inside the graph should start.
The area varies according to the type of orientation selected:

Horizontal



Vertical



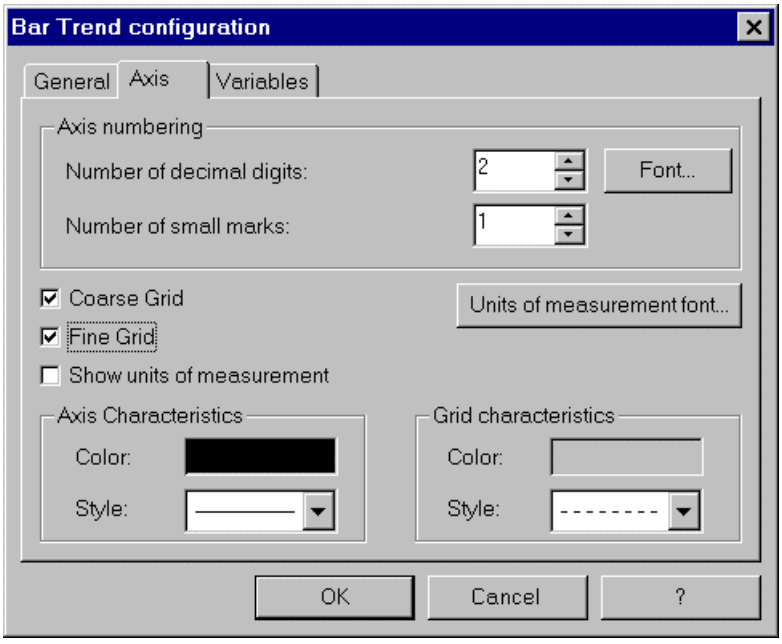


Display of Trend with:
HORIZONTAL ORIENTATION
CENTRAL POINT - IN THE CENTRE

7- *Scale*: select position of scale inside the Trend.
The scale can be positioned to the right, the left, on both sides or it need not be inserted.

7.3.8.1.2 Axis section

The second section of the dialog window is used to configure the coordinates of the axis of the values and the grid of the Trend graph.

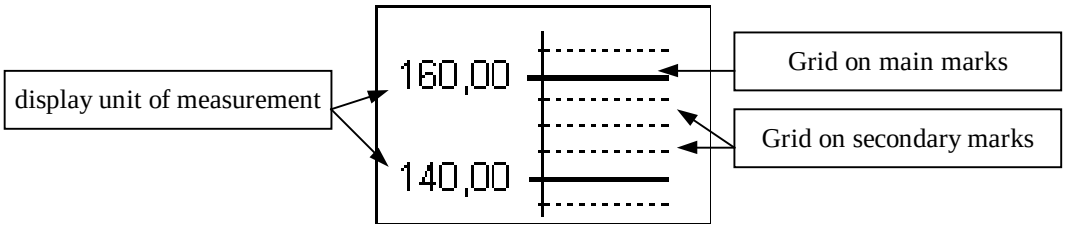


Axis numbering: three different options can be selected within this area:
No. of digits to the right of the decimal point: indicates the number of digits that must be displayed after the decimal point in the values assigned to the axis scale.

Example: if 2 - is keyed in 2 decimal places will be displayed: 50.**00** .

Number of small marks between two: indicates how many small marks need to be inserted inside the grid between the two main scale values.
Example: if 3 is keyed in -
Font : if the command is selected the type of character and style can be modified by the *Font* dialog window in which the characters are customized.

Grids: this series of commands enables the grid of the Trend graph to be customized. Tick the different options displayed within Trend, as shown in the figure.

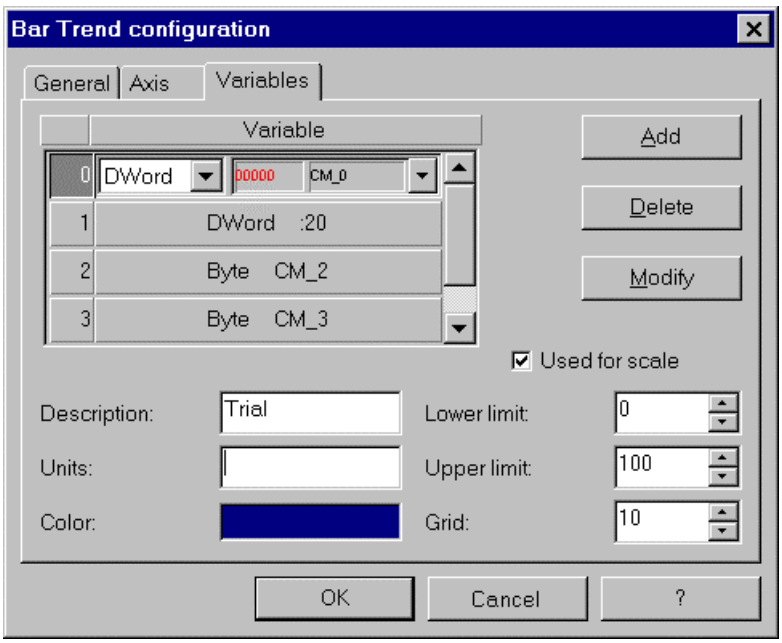


Axis characteristics: in this area there are two commands for configuring the Trend axis.
Color": select the box to open the Color dialog window (see page 12) from which to choose the color to assign to the axis.
Style : select the box to open a cascade list from which to choose the style of line to assign to the axis.

Grid characteristics: in this area there are two commands for configuring the Trend grid.
Color : select the box to open the *Color* dialog window (see page 12) from which to choose the color to assign to the grid
Style : select the box to open a cascade list from which to choose the style of line to assign to the grid
Font Unit of measurement: select this command to open the dialog window *Font* from which to modify the type of character and style of the axis unit of measurement.

7.3.8.1.3 Variables section

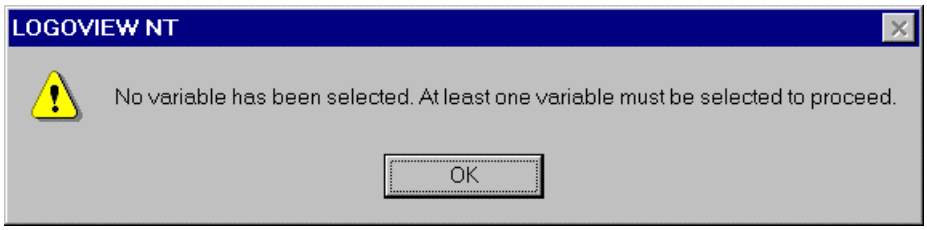
The third section of the dialog window is used to configure the coordinates of the variables that will make up the Trend.



Variable: this part of the window displays the variables configured for the Trend.
To add a variable select the command. The new variable is inserted into the list: click on it with the mouse in order to 

activate it and then use the available lists for the configuration.

To eliminate a variable select it from the window and then activate the command. If the command is activated although no variable has been selected a warning window displaying an error message will appear:



Description: key in the description into this box that will be displayed on the axis of the Trend 

values.

Unit of measurement: key in the unit of measurement into this box that will be displayed on the axis of the Trend values.

Color: this box displays the color of the Trend axis. If the box is selected the *Color* dialog window opens (see page 12) from which the color can be selected that is to be assigned to the axis value.

Grid: key in the value of the increase between the main marks in the Trend grid.

Used for the scale: use this option to select the variable whose values are displayed as a Trend scale.

Top limit: key in the highest value that you wish to have displayed on the Trend values axis. Activate the option *Used for scale* to obtain a display of the highest value for the Trend scale.

Bottom limit: key in the lowest value that you wish to have displayed on the Trend values axis. Activate the option *Used for scale* to obtain a display of the lowest value for the Trend scale.

Modify: select this command whenever the configuration of the options in this section of the dialog window has been modified. If this command is not activated the modifications will not be stored in the Trend.

7.3.8.2 *DIGITAL INSTRUMENT*

The variables are configured by the *Digital instrument* in a window divided into different sections from which different options can be selected.

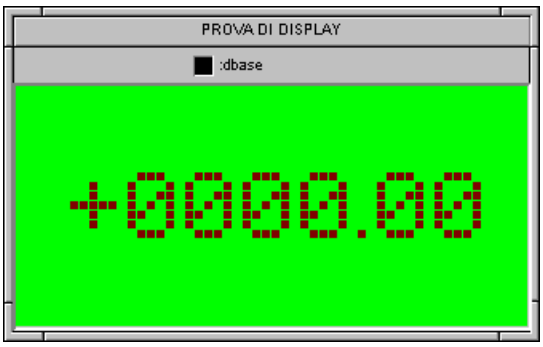
7.3.8.2.1 General characteristics section

The first section is dedicated to *General characteristics* and enables the configuration for the display of the digital instrument to be customized.

Description: key in the description of the variable configured for the digital instrument. Enter no more than 29 characters.

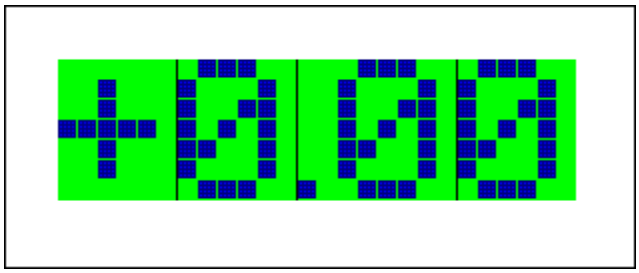
Drawing colors: in these two boxes the colors are displayed that ***LOGOVIEW NT*** uses as a border and background for the Trend when the options contained in the area dedicated to the graphic attributes are not activated. Select the boxes to open the *Color* dialog window, from which the color to assign to the display can be chosen.

Graphic attributes: these options can be used to select the characteristics to be assigned to the border of the digital instrument displayed on the screen: *Ornate border* or *raised border.*



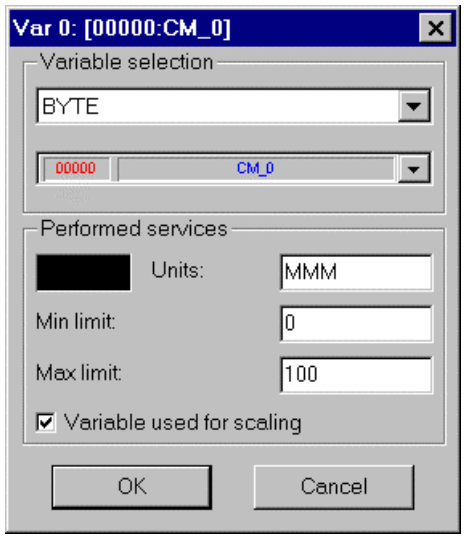
Display with *Ornate border* option selected.

Trend only: select this option to display on the screen only the value of the variable configured for the digital instrument.



7.3.8.2.1.1 *Configuration of variable*

Variable: select this command to open a dialog window from which to select and configure the variable monitored by the digital instrument.



Choice of variable: from the displayed lists displayed in these areas select the variable that you wish to monitor with the digital instrument.

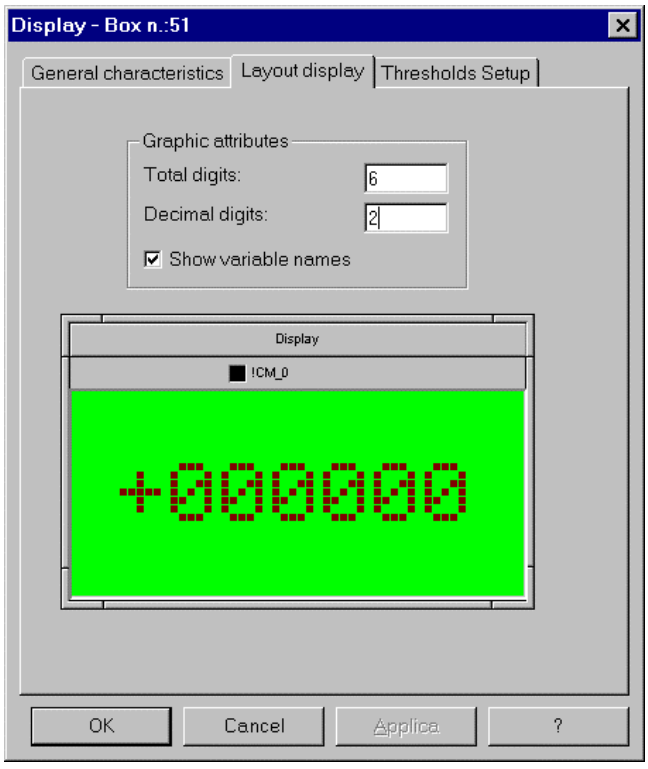
Logic configuration: enter the values required for configuration of the variable in this area of the window.
The following options can be assigned.

Color: select the required color by activating the relative box
Unit of measurement: digit the type of unit of measurement for the monitored variable.
Minimum and maximum limits: enter into the boxes the values for scale limits for the variation of the monitored variable

Variable used for the scale: activate this option to ensure that the monitored variable will be the one used for the scale of values if the command for managing the thresholds contained in the variables is activated in the window section *Thresholds setup* (see page **Errore. Il segnalibro non è definito.**).

7.3.8.2.2 Layout display section

The second section of the window is dedicated to the *"Layout DISPLAY"*, in which the display of the digital instrument on the videoscreen can be customized.



Graphic attributes: in this area of the window the number of digits must be entered that need to be displayed on the digital instrument.
Total digits: key in the number of digits that should be displayed inside the display.
Decimal digits: key in the number of decimal digits that should be displayed inside the display.

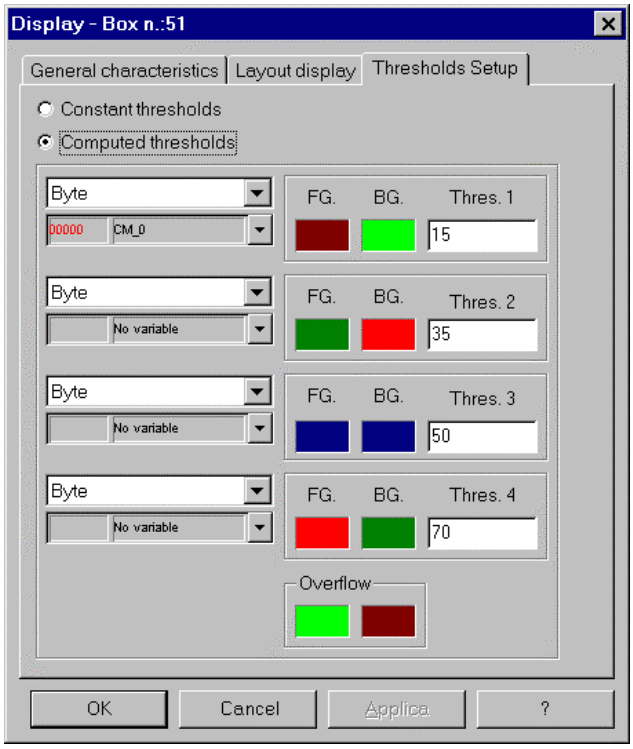
Show variable names: select this option to show the name and color selected for the monitored variable 

in the top part of the digital instrument.

Display: this window displays the digital instrument in its final form after all the configurations have been entered.

7.3.8.2.3 Thresholds setup section

The second window is *"Thresholds setup"*. The configuration of the thresholds of the variable to be monitored on the videoscreen of the digital instrument can be customized in this window.



Management of constant thresholds: select this option to enable manual entry of the threshold values in the different *Threshold* boxes. If a threshold is exceeded the value displayed in the digital instrument will change color. The color is assigned by clicking on the threshold boxes in the *'Color'* dialog window.
The colors of the variable values are entered in box FG. The color of the display background is entered in box BG. These areas are active only if the constant thresholds option is selected.

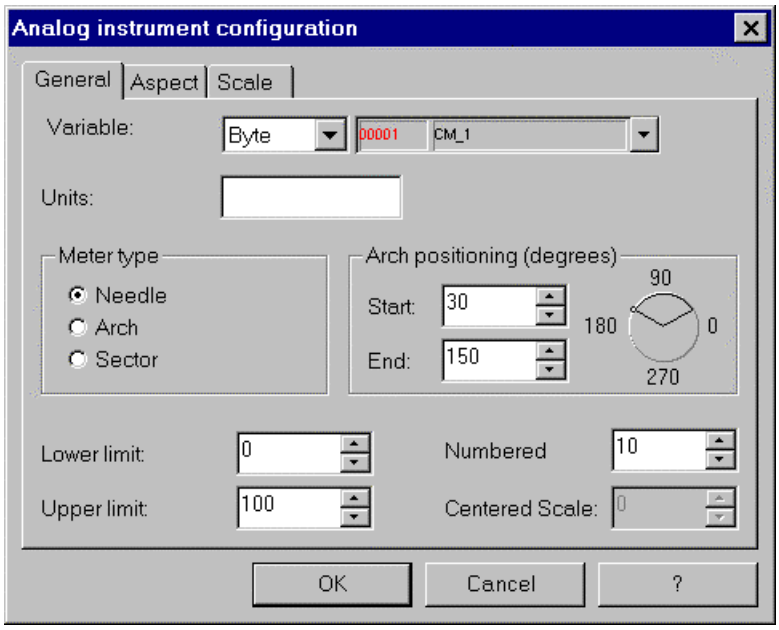
Management of thresholds contained in the variables: select this option to change the color of the value on the digital instrument in accordance with the variables selected from the relevant boxes. To assign the color, click on the threshold boxes by means of the *Color* dialog window.
Select the variables from the lists displayed in the different areas. These lists are active only when the option for managing the variables thresholds is selected.

7.3.8.3 *ANALOG INSTRUMENT*

The variables are configured for display by the *Analog instrument* in a window divided into different sections from which different options can be selected.

7.3.8.3.1 General section

The first section of the window is the *General* section in which the in which the analog instrument is configured for display on the videoscreen.

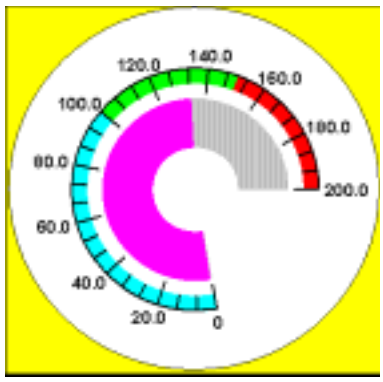


Variable: select this command to open a cascade menu from which to select and configure the variable monitored by the analog instrument.

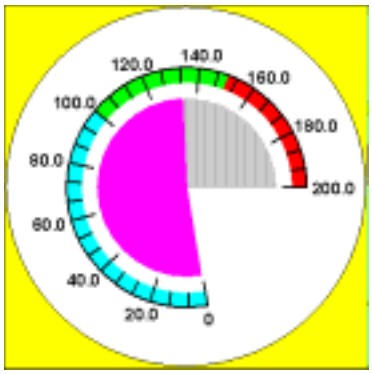
Unit of measurement: key in the type of unit of measurement of the monitored variable.

Meter type: select the type of analog instrument the you wish to have displayed for monitoring the variable.

NEEDLE instrument



ARC instrument



SECTOR instrument

These three figures show the three different types of analog instrument that can be selected.
The displays assign the same configuration characteristics to the digital instrument.

Arc position in degrees: within these boxes key in the value of the starting position of the value meter. The values must be expressed in degrees and positioning inside the instrument is anticlockwise. The value at the start of the meter position must therefore always be greater than the value at the end. The boxes also show the area that the meter will occupy inside the digital instrument.

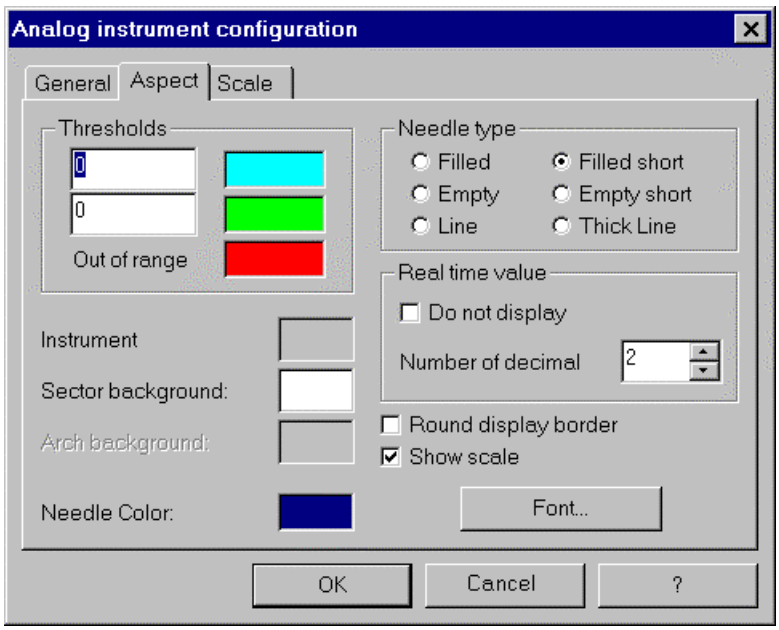
Limits: key in the minimum and maximum control values for the monitored variable in the relevant boxes.

Scale numbering: key in the value of the subdivision of the scale numbering in the analog instrument.

Scale center: key in the value of the center of the scale of the analog instrument. The scale center is active only with the arc and sector measuring meters.

7.3.8.3.2 Attributes section

The second section of the window is the *Attributes* section, in which attributes are configured for the analog instrument display.

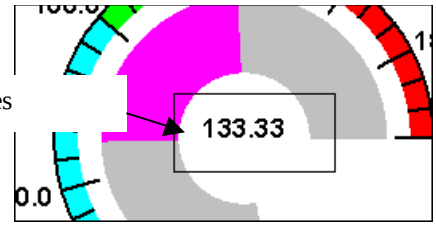

Analog instrument configuration
General
Aspect
Scale
Thresholds
0
0
Out of range
Needle type
Filled
Filled short
Empty
Empty short
Line
Thick Line
Real time value
Do not display
Number of decimal
2
Instrument
Sector background:
Arch background:
Round display border
Show scale
Needle Color:
Font...
OK
Cancel
?

Thresholds: key in the threshold values between which the corresponding meter values may vary in the analog instrument.
Select the color from the boxes in the *Color* dialog window.

Needle-type: select from this area the type of needle that you wish to show. These options are active only if a needle-type meter has been selected.

Current value: this area enables the display of the current value within the analog instrument to be deactivated. The current value corresponds to the actual value reached by the variable during monitoring.

Current value to two decimal places



The current value can be displayed by as many decimal digits as the decimal places that have been keyed in the box.

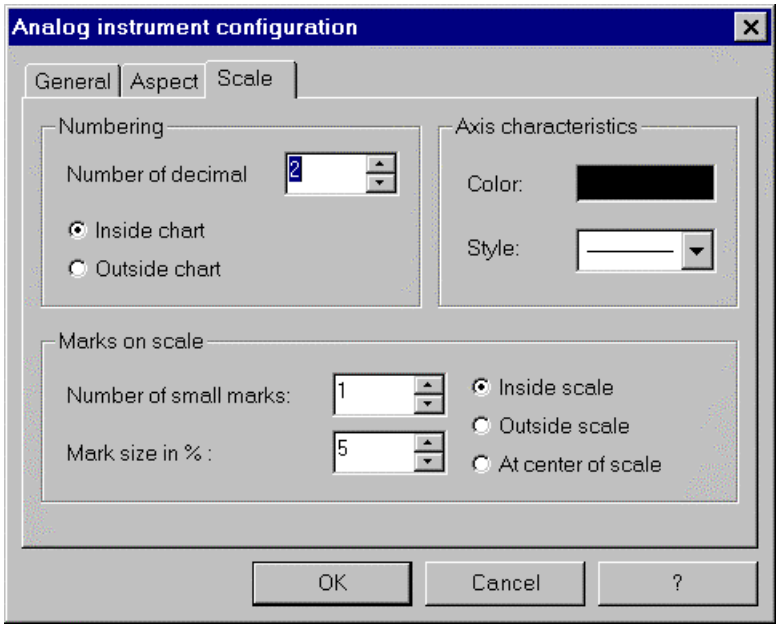
Edge of circular dial: if this option is activated the edge of the dial of the digital instrument is displayed on the videoscreen.

Display scale: if this option is activated on the videoscreen the scale of the dial the digital instrument is displayed.

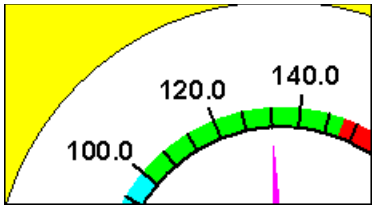
Backgrounds of instrument, dial, arc and indicator color: select the colors for the analog instrument, the dial and the type of meter selected from the boxes in the *Color* dialog window.

7.3.8.3.3 Scale section

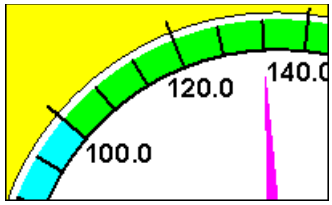
The third section of the window is the *Scale* section, in which the scale is configured for display in the analog instrument.



Numbering: key in the number of decimal digits that you wish to display in the numbering of the analog instrument.
Select whether to display the scale inside or outside the graph showing the values. This option is active only if a needle-type meter is activated.

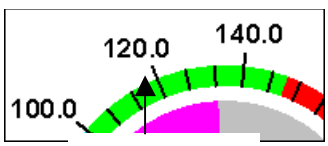


Outside graph

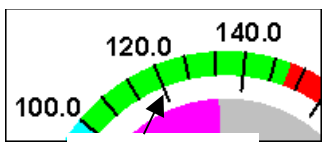


Inside graph

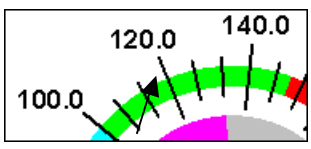
Axis characteristics: use the *Color* dialog window to assign the color of the axis and use the cascade menu to assign the type of style.
Marks on scale: within this area it is possible to assign the characteristics of the scale in the analog instrument.
Number of small marks: key in the number of small marks that you wish to display between the two main marks of the meter measuring scale.
Mark dimensions as %: use this box to show the percentage of small marks that are to be displayed on the measuring scale. A value between 5% and 10% should be used.
Position: select where the marks should be positioned on the measuring scale between the three available options: inside, outside and in the center of the scale.



Outside scale



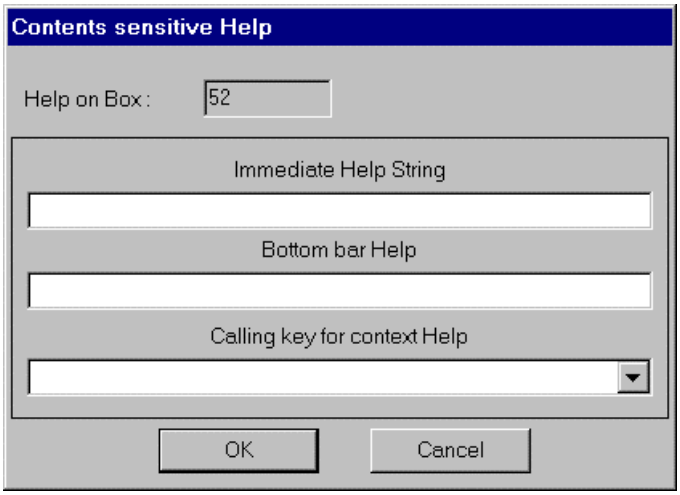
Inside scale



Center scale

7.3.9 Contents sensitive Help 

If this icon is selected *"Contents sensitive Help"* can be entered in the box. This *"Contents sensitive Help"* will enable the operator to access all the information on layout use that the developer has provided.
If this command is activated a dialog window opens in which a contents sensitive Help can be configured in the box that has been selected for assignment to the application.



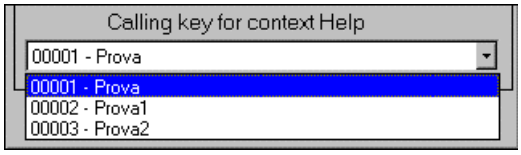
The window dedicated to the contents-sensitive Help is divided into different areas.

Help on box: indicates the number of the box to which the Help will be assigned inside the application.

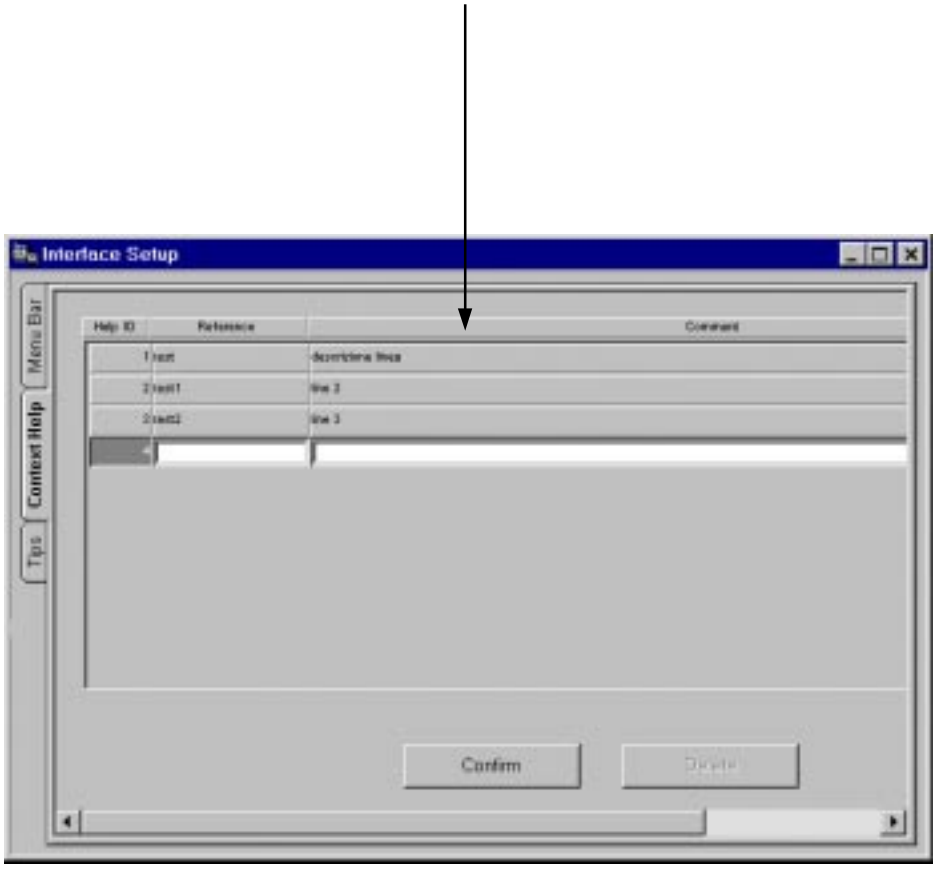
Immediate Help string: insert in this string the characters that will be displayed on the screen during the application when the mouse is clicked on the command assigned to the box.

Help line on bottom bar: insert the characters in this string that will be displayed on the status bar during runtime when the mouse is clicked on the command assigned to the box.

Calling key for context Help: click on the side arrow to select this option. A cascade menu will open containing the configurations entered during the development stage in the dialog window *Interface setting*. To open, run the command, *Dynamic menus*, which is found in the *View* menu



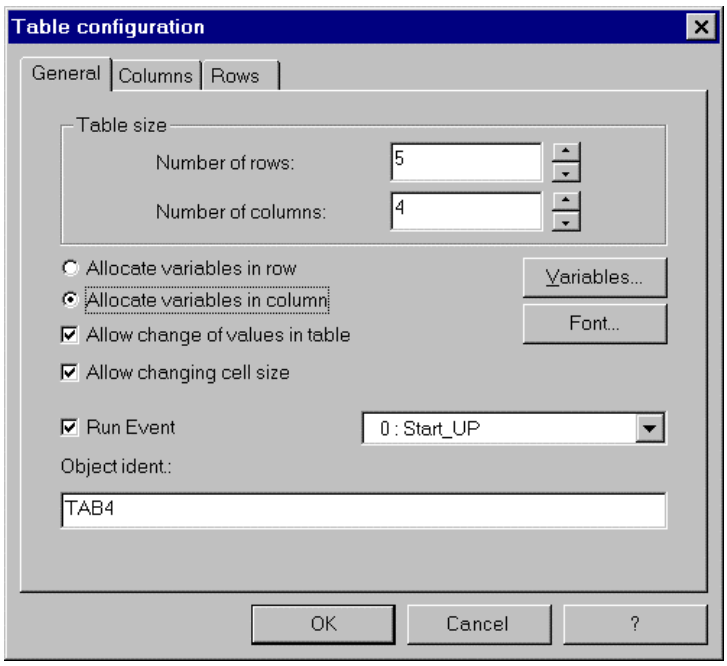
During runtime the Help box will show the phrase describing the selection made that is found in the *Comment* string that has been selected from the menu.


Interface Setup
Menu Bar
Context Help
Tips
Help ID
Reference
Comment
Confirm

7.3.10 Values tables 

Select this icon to insert a variables table inside the box. This table is very convenient if the operator wishes to see a certain number of variables in column form.
The table is made up of an editor that enables all the variables that make it up to be modified very flexibly.
The tables enable the information to be organised and to create display settings of the variables values.
Select the command to access a dialog window for configuration that is divided into different sections.

7.3.10.1 *General*



The section of the table that is dedicated to general table configuration is divided into different areas.
Table dimensions: insert the number of rows and columns that will make up the table into the two boxes *Rows* and *Columns*. This amount depends on the number of variables that one wishes to monitor.

Allocate variables for rows: activate this option in the next section of the dialog window in order to configure the rows. The value and as many variables can be indexed as the number of rows selected from the area *Table Dimensions.*

Allocate variables for columns: activate this option in the next section of the dialog window in order to configure the *Columns.* The value and as many variables can be indexed as the number of columns selected from the area *Table Dimensions.*

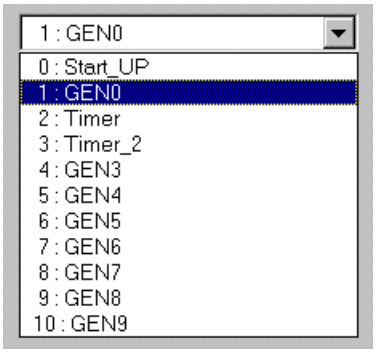
Enable value modification: select this option to enable modification of the values and the configuration of the table whilst the application is being run.

Activate or deactivate this option to activate configuration inside the *Columns* section of the dialog window (see page **Errore. Il segnalibro non è definito.** chapter **Errore. L'origine riferimento non è stata trovata.**).

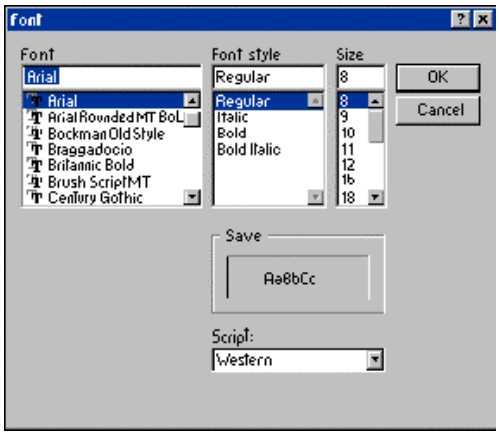
Enables cell dimensions to be modified: select this option to modify the dimensions of the table cells directly whilst the application is being run.

Run event: select this option to run an event whilst the application is being run.
Use the mouse to select the event from the cascade menu.
Select the event from the selection window that contains all the events that are configured for the current application.
Logoview gives this event a parameter that contains the row and column of the modified cell. The row is contained in LoWord and the column is contained in HiWord.
To extract the row and column values from the parameter the LoWord and HiWord functions can be used. With LoWord the row number is obtained and with HiWord the column number is obtained.

Object identifier: inside this box enter a name to assign to the box containing the table during runtime. There must be only one name because the name in the instructions of the applications must activate an action when the name is indicated.

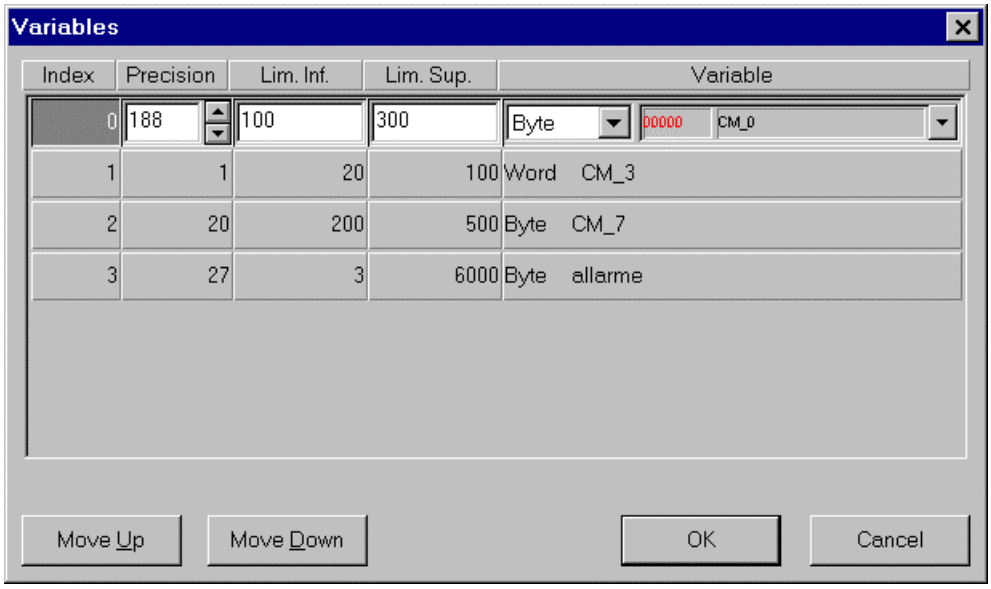


Font: select this command to open a window of the *Font* dialog from which to select the type of character that is to be used for the description entered in the table.



7.3.10.1.1 Variables

Select this command to open a dialog window in which to configure the variables for making up the table.



Inside the window as many variables can be configured as the number shown in the *Column* box if the table orders the variables in columns or else according to the number in the *Rows* box if the table orders the variables in rows. The dialog window is divided into different areas:

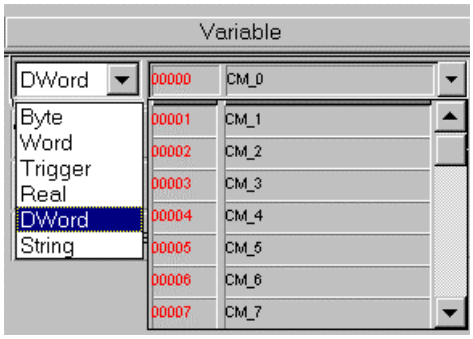
Index: this box displays the index number linked to the variable selected for table composition. This index is necessary for composing the table whilst the application is being run.

Precision: the precision value of the variable inside the table during monitoring whilst the application is being run must be inserted into this box.

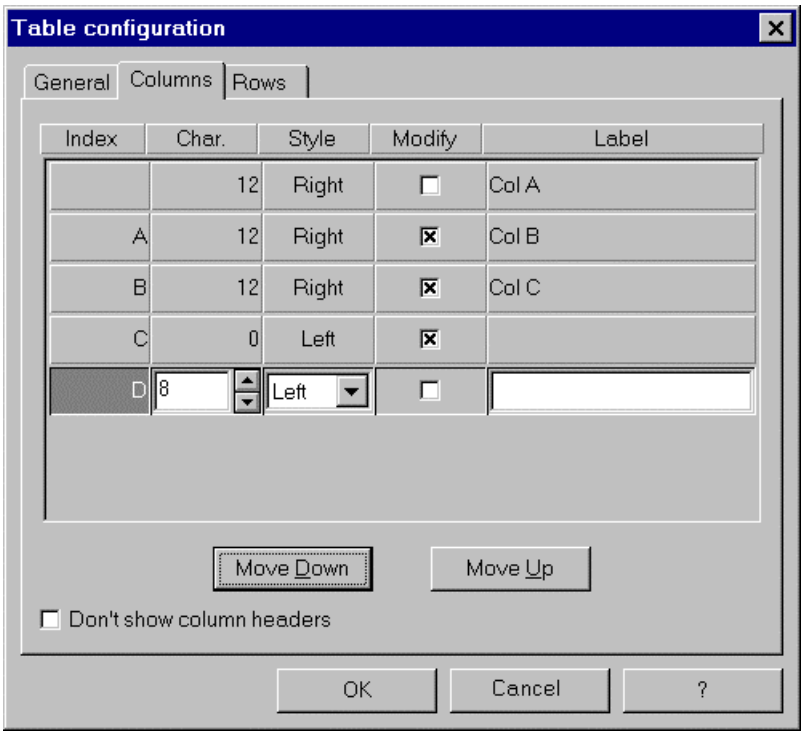
Bottom limit: enter the bottom value in this box that the variable must not exceed if it is displayed inside the table.

Top limit: enter the top value in this box that the variable must not exceed if it is displayed inside the table.

Variable: the developer must select the types of variable that he wishes to monitor from this table.

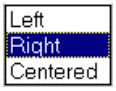


7.3.10.2 *Columns*



Within this section of the configuration table enter the text characteristics that make up the table columns.
Index: these tables display the positioning index inside the labels table of the columns. The label that corresponds to the first non-indexed box is the one that is positioned in the top left-hand side of the table and which indicates the contents of the table values.

Character width: these boxes insert the width of the box inside the table. This width depends on the number of characters that make up the label and the number of numbers that display the variable value during monitoring during runtime.

Style: three different alignments of the labels inside the table can be selected from this box. 

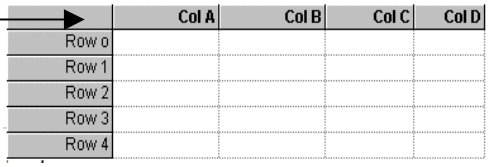
Modify: eliminate the check sign from the column box in order to deactivate the possibility of modification during application runtime even if the command *Allow modification of values* has been activated in the *General* section (see chapter 7.3.10.1).
On the other hand, if the command *Allow modification of values* has been deactivated in the *General* section check the box to enable modifications to be made to the column whilst the application is being run.

Label: enter the label inside this box that corresponds to the variable inside the table.

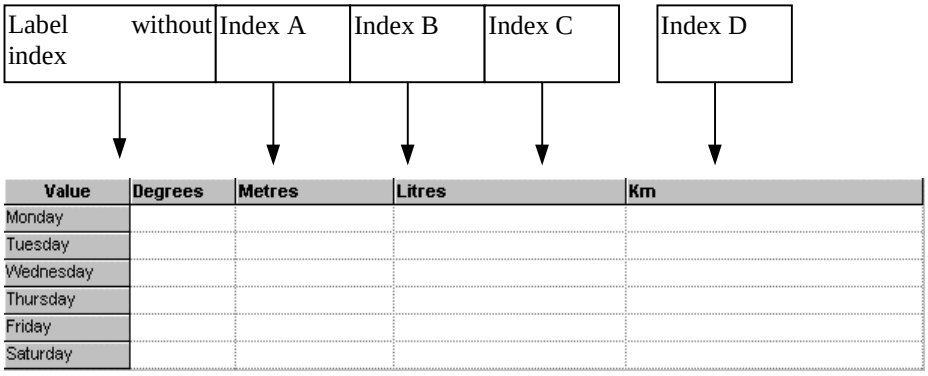
Move up - move down: these two commands can be used to move the labels around inside the window. To run the command select a label and then activate one of the two commands.

Don't show column headings: activate this option to disable display of column headings during runtime.

Column heading

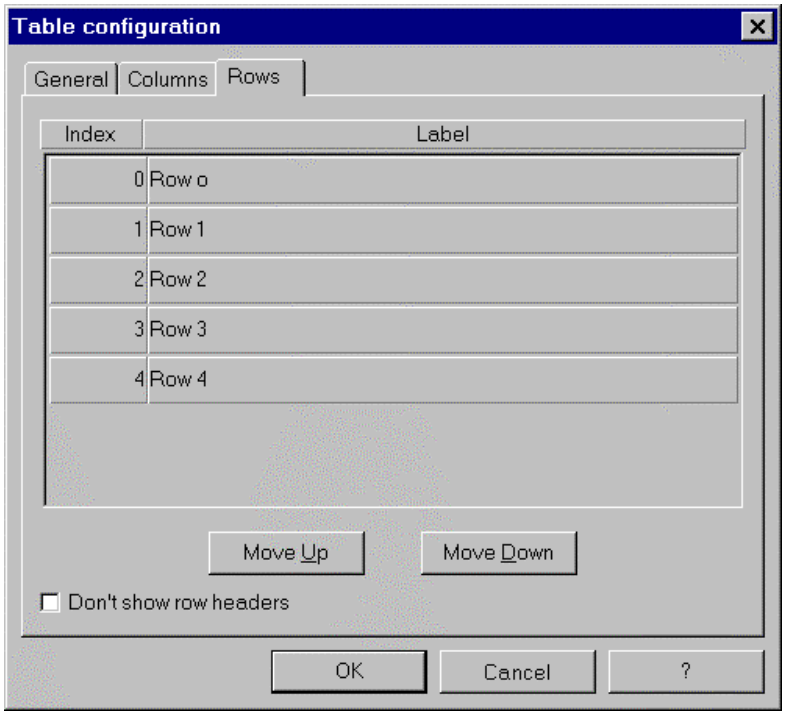


Example of table configuration during runtime



Boxes with characters of differing widths

7.3.10.3 *Rows*



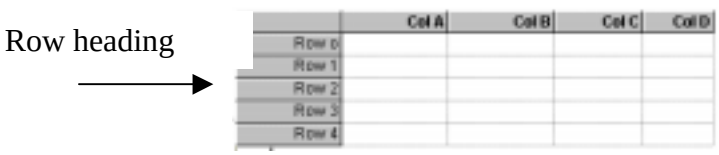
Enter the text characteristics in this section of the configuration window that must make up the table rows.

Index: the positioning numbers of the rows inside the table are indexed in these boxes.

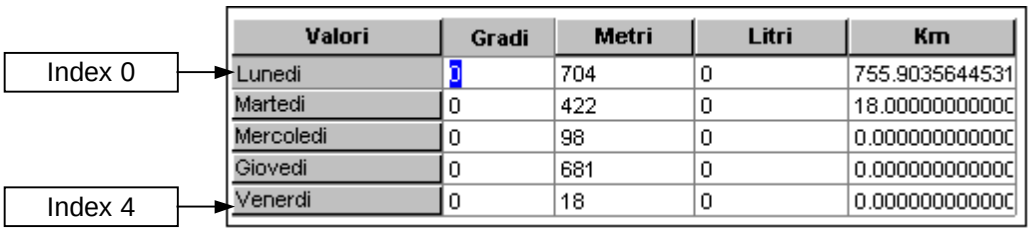
Label: enter the label inside this box that corresponds to the variable inside the table.

Move up - move down: use these two commands to rearrange the labels inside the window. To run these commands, select a label and then activate on of the two commands.

Don't show row headings: activate this option to disable row headings during runtime.



Example of table configuration during runtime

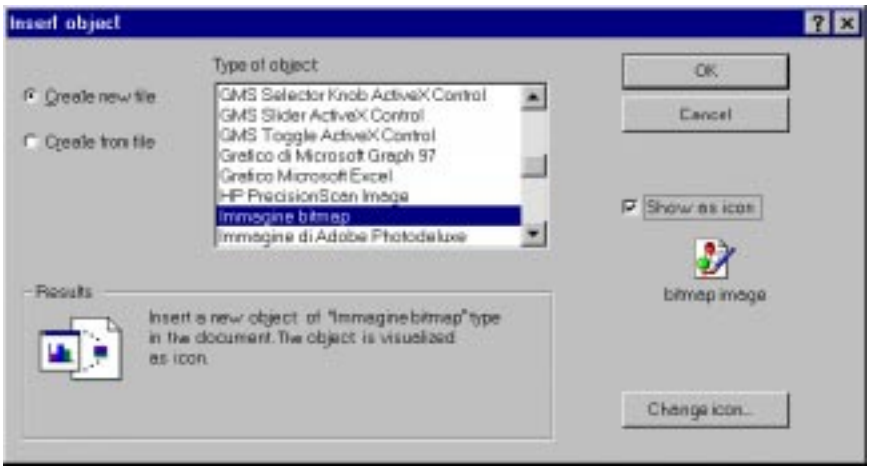


7.3.11 OLE objects 

Select this OLE object to insert an OLE object inside the box. This option is very useful if we wish to use applications that are not part of the packet such as *WORD* or *EXCEL* in a layout. This enables the developer to insert a file from another application in a ***LOGOVIEW NT*** screen in a completely transparent manner.
The command can be used both to incorporate and to connect a file of an other application inside the design.

Select *Connect* to link up to the imported file and to maintain the link between the two applications so that when the data in the original application are modified they are reflected inside the design. If it is not possible to establish a *Collection* with the original file the button will not be available for activation.

Select *Incorporate file* in the design to make it an integral part of the design. To modify it, click on it twice with the left-hand key of the mouse: the application in which it was created will open and the original picture of text of the file will be displayed. The modifications to the original application will also be carried over into the design. In this way there will be no contact with the original document.
Select this icon to open a dialog window that is normally used in the Windows area *Enter object* through which it is possible to insert the contents of a file into the design.
The window depends on the Windows packet loaded onto the hardware, so the commands could be arranged differently from those described below. However, the composition does not change because the commands remain unchanged.

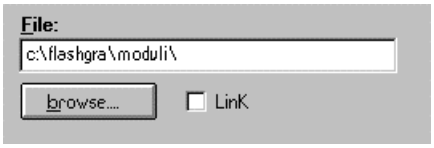


The window is subdivided into different areas into which the files are entered.

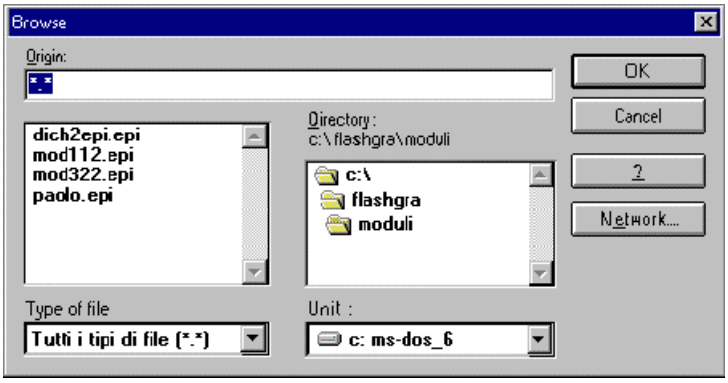
Type of object: displays a list that specifies the different forms into which the files of other applications can be inserted in our layout.

Create new file: use this command to insert a file into a layout that comes from another application without links that can be modified.

Create from file: use the command to insert the contents of a file into the layout in order to modify it by means of the application in which it has been created thanks to the connection between the two applications.
If this command is selected a command row will appear in the window from which to select a path for importing the file.



Activate the command *Connect* to create a link with the imported file so that when the data in the original application are modified they are reflected inside the design.
Select the command *Browse* to open the dialog window *Browse*. Select the file that you wish to incorporate into the design from this window.



The *Browse* window is a normal window that is used in the Windows area and which contains different options:

Origin: key in the name of the file if it is known.
Find file: select file from list.
Unit: select disk drive on which file is located.
Directory: select directory in which file is stored.
Type of file: select file format.
Network: select this command to access the network linked to our computer in order to select a file that may be stored in the pathway of another computer.

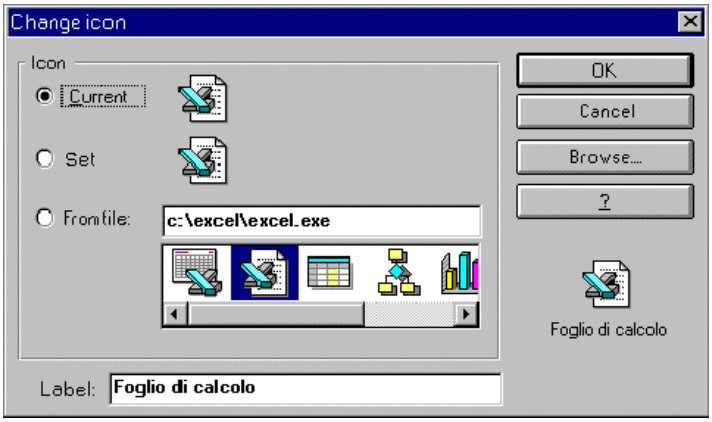
When continuing the configuration of the window for loading OLE images we find the following options:

Result: describes the selected object or file and shows the icon that is displayed on the worksheet when the object is inserted.

Show as icon: when this box is activated the objects inserted in the design are shown as icons.

Change icon: this command enables the icon to be modified that is displayed in the design when an object is inserted. This option is displayed only when the box *Show as icon* is activated.

Select the command *Show as icon* to open the dialog window *Change Icon* through which it is possible to accede to the pathway containing the icons that are to be inserted into the design.



The dialog window *Change icon* contains different options for selecting the icon to be inserted in the design.

Current: current icon assigned to file that will be displayed in the design.

Set: icon selected automatically within the pathway connected to the application from which the file is being imported.

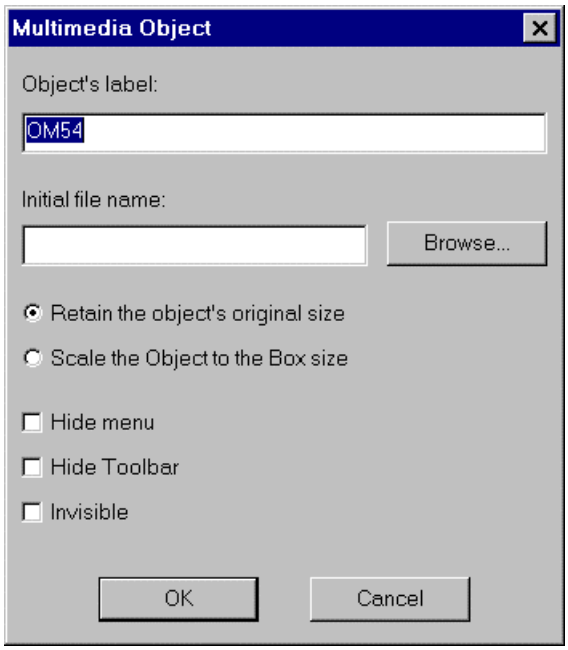
From file: icon to be inserted into the design can be changed by selecting the icon from the directory dedicated to the original application.

Label: description of type of file that is being inserted and that is being displayed under the icon inside the design. The description can be modified.

Browse: select this command to open a *Browse* dialog window.
Within the window the pathway can be selected of files containing the icons that are available for being incorporated into the design.

7.3.12 Multimedia objects 

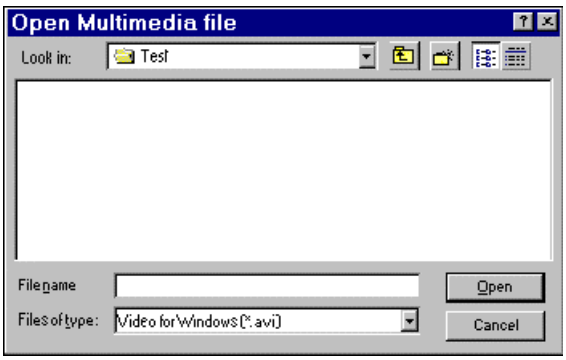
This icon enables any object with an MCI interface to be used within the box.
LOGOVIEW NT can therefore reproduce sounds, films, etc. For example, an image acquisition card enables ***LOGOVIEW NT*** to reproduce images acquired by a film camera on a screen.
If this command is selected the dialog window is opened through which the multimedia objects can be configured that are to be assigned to the application.



Object identifier: insert a text inside this box that identifies the multimedia object within the application.

Name of initial file: Within this box the path of the multimedia file is highlighted that is activated within the application. Key in the path in this box if it is known or else select it by activating the command *Browse.*

Browse: activate this command to select the multimedia file path that you wish to activate for the application. If this command is selected a dialog window opens *Open multimedia file* into which the file preferences are inserted:

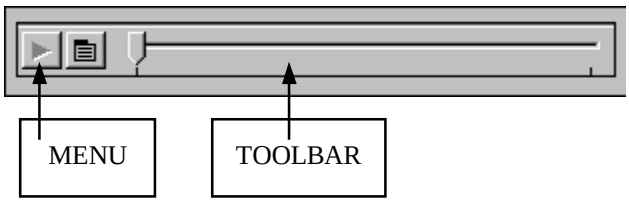


Maintains the original file dimensions: if this option is activated the multimedia object will maintain its original dimensions in the application regardless of the dimensions assigned to the box in which it is inserted.

Adapts the object to box dimensions: if this option is activated the multimedia object will adapt its dimensions to those assigned to the box into which it is inserted.

Without the menu: if this option of the window containing the multimedia object is activated during run time the window will not contain the control commands menu.

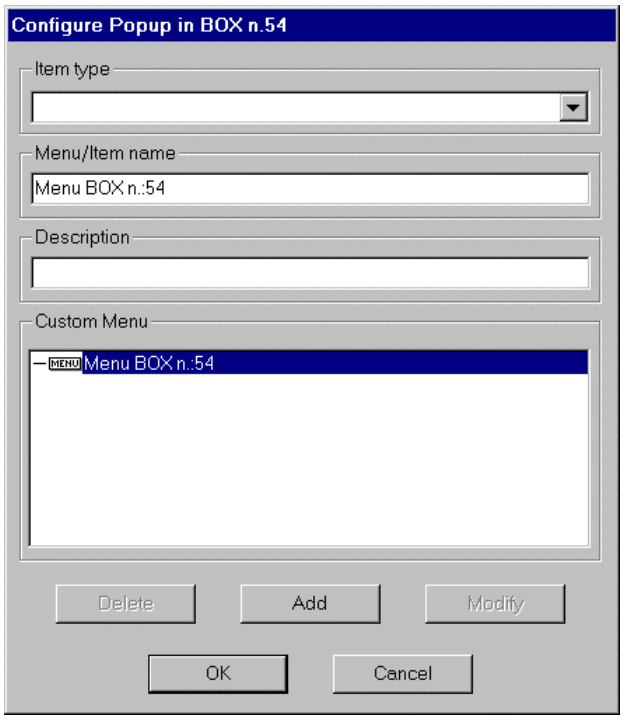
Without toolbar: if this option of the window containing the multimedia object is activated during run time the window will not contain the control commands
tool bar.



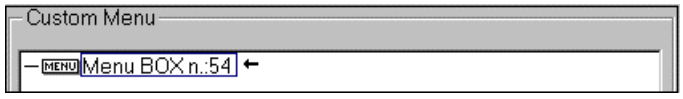
Not shown visible : if this option is activated during runtime the window of the multimedia object will not be displayed. It is useful to activate this option when sounds need to be reproduced within the application without displaying any film.

7.3.13 Popup menu 

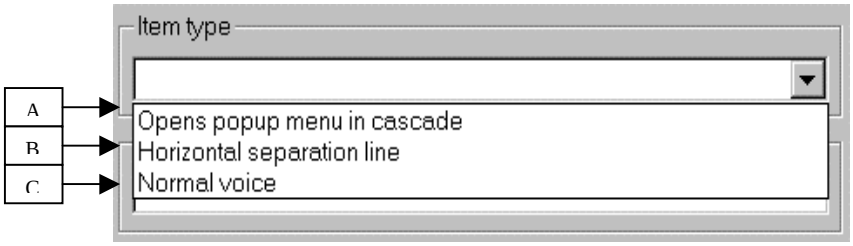
Select this icon to insert a *Popup menu* inside the box. To activate, press the right-hand key of the mouse inside the box whilst the application is being run. This menu can contain commands that are configured according to the requirements of the developer such as running events, changing frames or inserting Help menus inside the layout boxes.
Configuring a menu is very useful to the developer when many commands have already been inserted inside a screen so that the display is full-up during runtime.
For example, *'Popup menu'* can be used to configure the starts of events or emergency frame changes or limited use frame changes without filling-up the screen.
Select this command to open a dialog window from which a series of options can be selected for compiling popups.

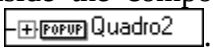


When the window inside *User menu composition* opens the number of the layout box is displayed in which the popup is being configured and displayed.



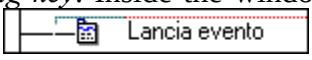
Item type: in this cascade menu the type of popup element can be selected for display in the application.
Three different configurations are available.



Opens popup menu in cascade
This option enables a menu to be inserted inside the popup that consists of different commands that can be selected from the display of another superimposed menu. After the command has been selected, inside the box key in *"Name of menu\name of item'* to provide the name to be given to the menu. Inside the composition space of the window the configured option will be displayed thus 

.
In the active application inside the layout box the menu will display the name entered in the box *"Name of menu\name of item'* and another superimposed menu that is identified by an arrow sign.
To insert commands inside the superimposed menu use the other options.

b- Horizontal separation line:
This option enables a separation line to be inserted inside the menu that consists of several different items and commands. The separation line can also be inserted inside the superimposed menus.
Inside the window's composition space the configured option will be displayed thus 

c- Normal voice :
This option enables a single command to be inserted inside the menu or a series of commands to be inserted in the superimposed menu. After selecting the command, key in the name of the command inside the box *"Name of menu\name of item'* and key in the command description in the box *Descriptive string key*. Inside the window's composition space the configured option will be displayed thus 

Select this option to configure the command that activates another event:
click the left-hand key of the mouse on the item selected inside the composition window
a new dialog window will open in which the required event can be configured.

The part dedicated to logic configuration contains the following options:
Action assigned to the button:
Frame change: select this option to load a new screen onto the video when the button is pressed in the application

Run event: select this option to run a different application event when the button is pressed in the application.

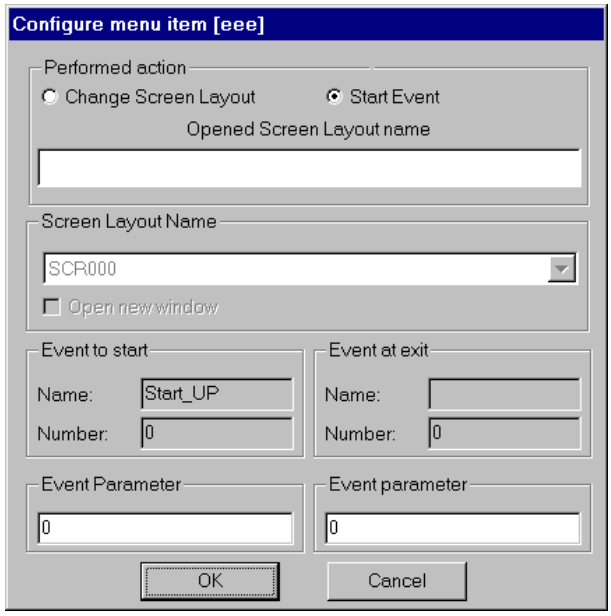
Frame title open: in this box key in the name of the frame that is to be opened when the command is activated.

4- *Frame node*:
Select this option to open a cascade menu from which to select the frame node that is to be opened when the button is pressed in the application.

Opens a new window with the frame: activate this option to open a new window with the frame when the operator presses the button during runtime. A new command window

will be displayed on the videoscreen that contains the graphic objects entered during the development phase.

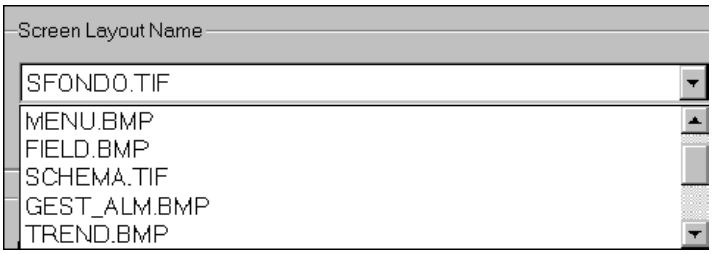
Start event / event at exit / Parameter for event and exit:
if the screen is configured to change when the button is pressed in the application the screen of the event that is to be started must be entered in these boxes as well as the exit event by setting the numbers and parameters of the application.
If the event is configured to start when the button is pressed only the configuration of the start event will be available in these boxes.
To select the events click with the mouse on the *Name* box and press the left-hand key of the mouse. This opens a cascade menu from which the event type can be selected.



The section of the window dedicated to configuring the event is divided into different areas:

Action assigned to button: select the actions that will be triggered when the button is pressed during runtime.
Change screen: if this option is selected a new screen will be loaded onto the screen when the button is pressed in the application.
Start event: if this option is selected an event that has been configured for the application will be started when the button is pressed in the application.

Frame node: select this option to open a cascade menu from which to select the frame node that is to be opened when the button is pressed in the application.



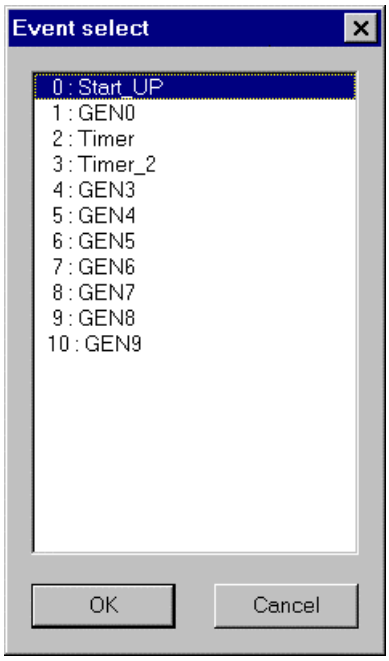
Opens new window with frame: if this option is activated when the button is pressed during runtime a new window will appear on the videoscreen containing the graph objects that have been entered in the new loaded frame.

Start event / event at exit / Parameter for event and exit: if the screen has been configured to change when the button is pressed set the name of the event that is to be started and the exist event in these boxes by entering the numbers and parameters of the events. To select, use the window that contains the list of all the events configured for the application.

If an event has been configured to start when the button is pressed only the configuration of the start event will be available in this box. The selection is made from the window that contains the list of all the events configured for the application.

To select the event click on the name of the event with the left-hand key of the mouse. A cascade menu will then open from which to choose the type of event.
The parameters that determine the behaviour of the events were set when instructions were compiled during event creation.

Event selection window containing all the events configured for the

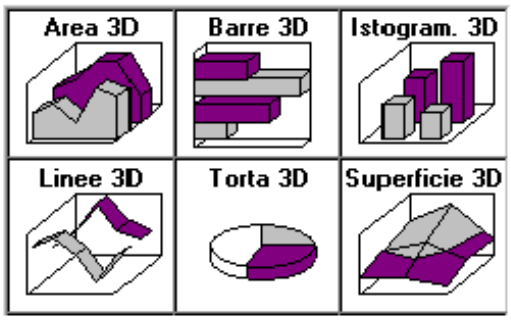


7.3.14 Graphs 

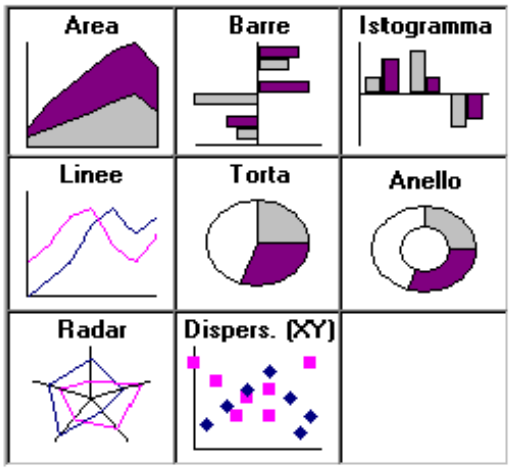
Select this icon to insert a graph inside the box. The graph is plotted by an editor that enables all the variables that make it up to be configured very flexibly.
LOGOVIEW NT is a powerful instrument for creating graphs. This instrument enables both two and three dimensional graphs to be created. These graphs are not suitable for displaying current values as it takes a long time to update them.

These graphs can be updated by instructions that can be called up by the applications.
A graph displays the variables data in the different boxes. The data assigned to the variables are used and automatically displayed in the graphs in the form of coordinates that are represented histograms. The graphs display the values of the variables in a more interesting and agreeable way and make them easier to read and assess. They also facilitate analysis and comparison of data.
Within each graph the data can be displayed in different forms (e.g. rows, columns, points, etc.). Once a chart has been displayed its appearance can be improved and certain information can be highlighted by adding items such as data labels, titles, a text, trend lines, error bars and a grid. Most of the items of a graph can be shifted and re-dimensioned. It is also possible to format these elements by using motifs, colors, alignments, character types and other formatting attributes.
For more detailed information on creating and developing graphs see Microsoft-Graph on-line guide.

Let us now look at configuration of the graph that is to be used during the application.
The arrangement of the graph data on the application layout depends on the configuration of the dialog window.



Per ogni tipo di grafico è possibile impostare disposizioni assi, scale di riferimento, colori ecc. secondo le proprie esigenze.

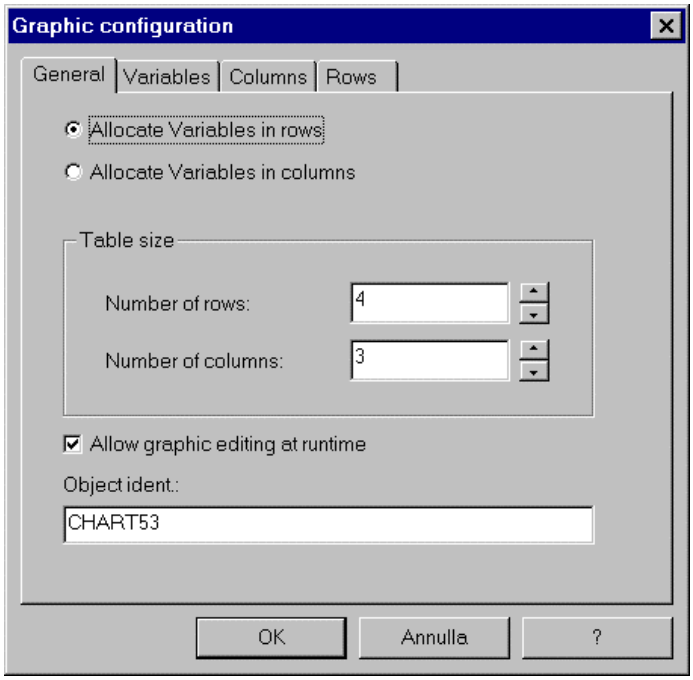


3D area 3D block diagram 3D histogram
3D lines 3D pie chart 3D surface
area
bars
histogram
lines
pie chart
ring
radar

distribution (XY)
For each type of graph axes, reference scales, colors, etc. can be customized.

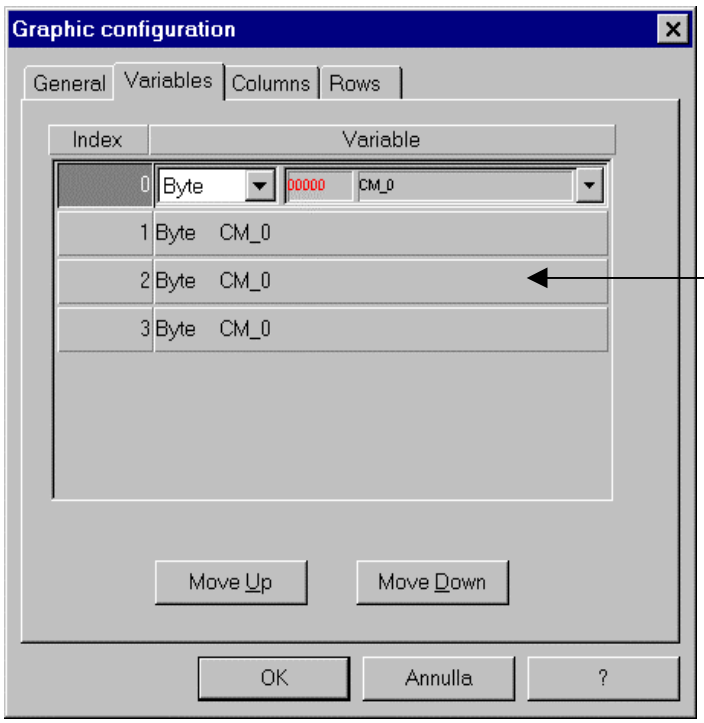
Remember that that the display of a graph composition inside the box during screen configuration will not be the graph the real data assigned to the real variables but a default graph that is stored in the program.
Below, there is an example of how to create a graph with dialog windows and explanations for modifications during runtime.
Select the command to open the dialog window. This is divided into different sections that are used to configure the formation of a graph to display on the application layout.

7.3.14.1 *General*



In the first section of the dialog window enter the configurations of the rows and columns that will make up the graph. The graph can then be modified directly by the application an the name identifying the graphic can be entered.
The variables can be allocated in *Rows* or by *Columns*, depending on which data one wishes to display and on how one wishes to display them in the graph.

Allocate variables in rows: use this option in the next page of the dialog window to configure the *Variables*. As many values can be indexed as the number of rows that have been selected from the *Table dimensions* area.



If the number 4 is written in the *Rows* box 4 variables can be selected from this section of the window for formatting the graph.

Allocate variables in columns: activate this option on the next page of the dialog window to configure the *Variables.* In this case it is possible to index the values of as many variables as the number of columns selected from the *Table Dimensions* area.

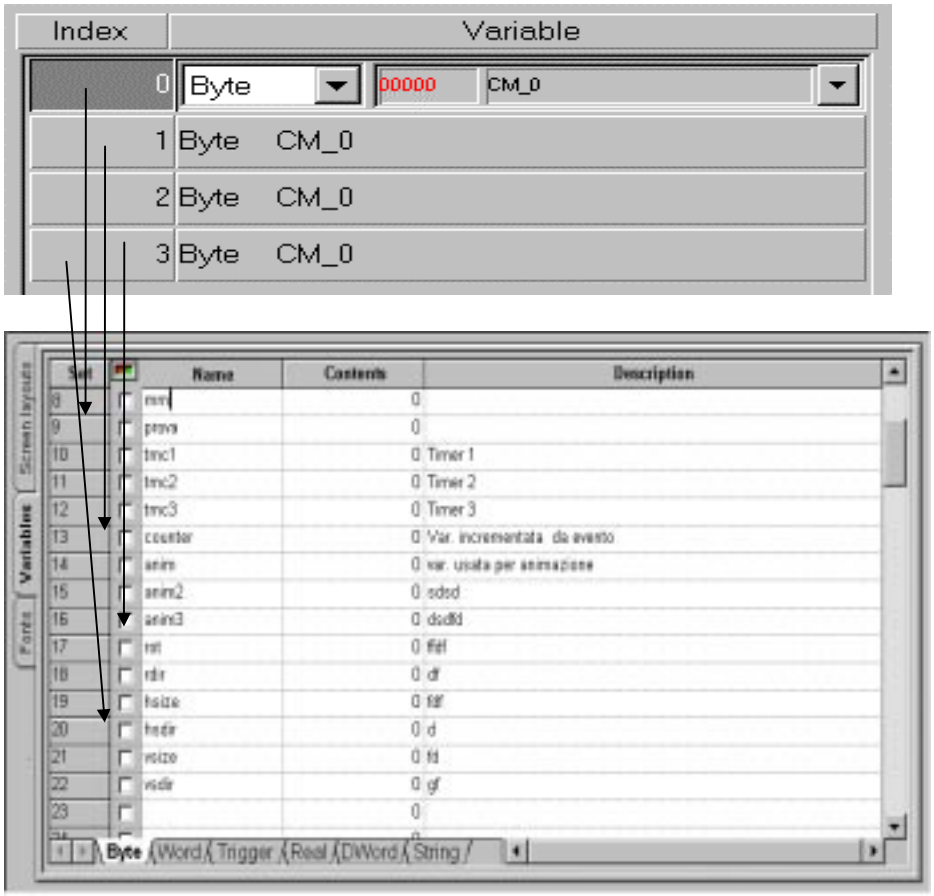
Table dimensions: in the *Rows* and *Columns* box insert the number of rows and columns that the graph should maintain. This quantity depends on the number of variables that are to be monitored.

Allow graphic editing at runtime: select this option to allow graphic editing whilst the application is being run.

Object identifier: enter a name inside this box that will be assigned to the box that will appear on the screen during runtime. The name must be a single name because in the application instructions an action will be activated when it is indicated.
We have seen how the main window is configured to create a graph. Let us now see how the values of the variables are displayed that are captured by the editor to create the graph according to the configuration.

Example:
set 4 rows and 3 columns on the general page
- set variables in rows

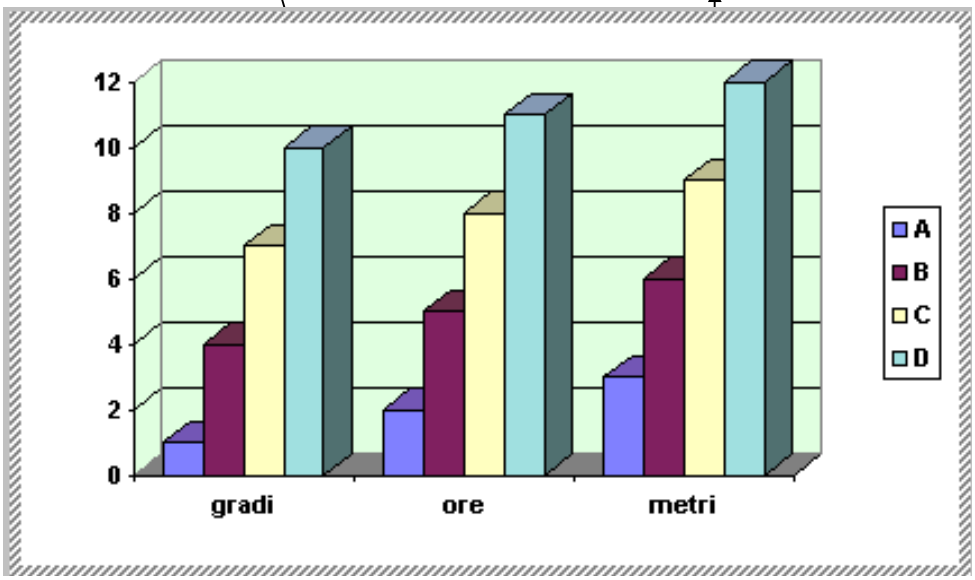
configure variables in *Variables* window



The configured graph that is displayed will comprise the following data between the X and Y axes.

'DEGREES COLUMNS
Value 1 = variable 8
Value 2 = variable 11
Value 3 = variable 14
Value 4 = variable 17

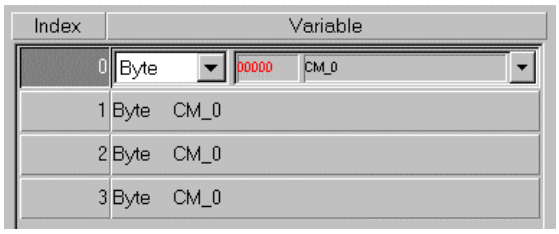
METERS COLUMNS
Value 1 = variable 10
Value 2 = variable 13
Value 3 = variable 16
Value 4 = variable 19



degrees **hours** **meters**

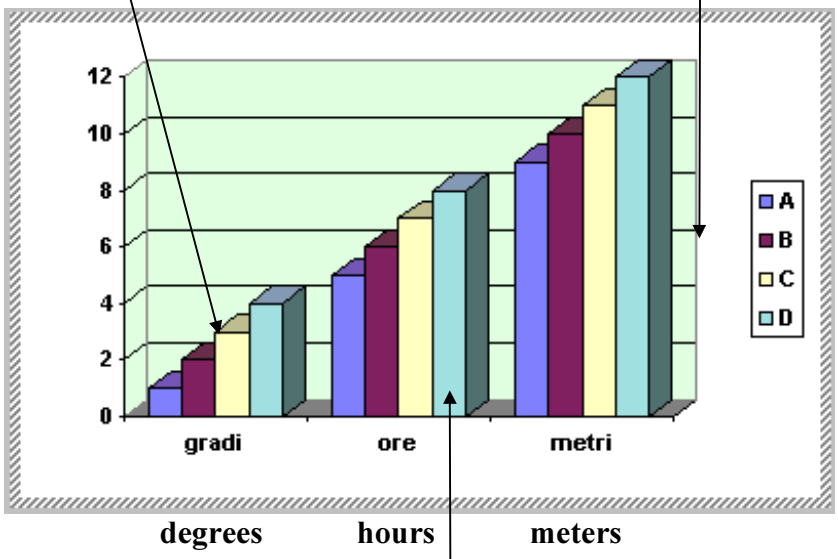
'HOURS' COLUMNS
Value 1 = variable 9
Value 2 = variable 12
Value 3 = variable 15
Value 4 = variable 18

Example:
set 4 rows and 3 columns on the general page
set variables in columns
configure variables in *Variables* window



'DEGREES COLUMNS
Value 1 = variable 8
Value 2 = variable 9
Value 3 = variable 10
Value 4 = variable 11

METERS COLUMNS
Value 1 = variable 16
Value 2 = variable 17
Value 3 = variable 18
Value 4 = variable 19



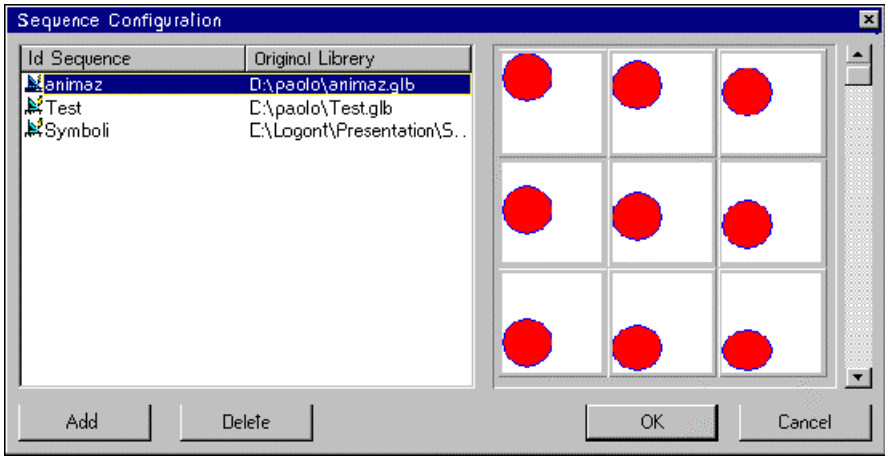
'HOURS' COLUMN
Value 1° = variable 12
Value 2 = variable 13
Value 3 = variable 14
Value 4 = variable 15

7.3.14.2 *Columns and rows*

In these sections the names of the variables can be assigned that will be displayed in the graph in the application to enable the data to be better identified.
To make the entry click on the *Label* space to the side of the variables index and enter the required name.

7.3.15 Animation sequences 

Select this icon to display a library of vectorial images that are created by Flash Draw and which can be used inside the configuration of the vectorial objects. Activate the command to open a dialog window from which to select the image library to use for the vectorial objects.

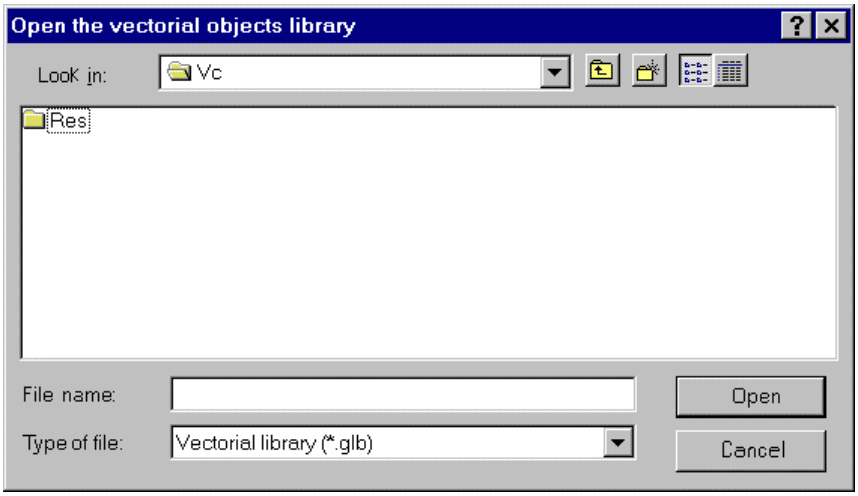


The window consists of two different areas and a series of commands that are used to select image libraries.

The left-hand side of the window shows all the pathways of the different libraries added to the list by means of the *Add* command.
The left-hand side of the window shows the images inside the selected library. The number of images in the library may be greater than the display area. In order to obtain a display, move along the lateral scroll bar.

7.3.15.1 *Add*

Use the command *Add* to open the search window *Open the vectorial objects library* and select the pathway of the library that you wish to display.



7.3.15.1.1 How to open a new library

Select the command Add to display the dialog window *Open the vectorial objects library*

Select the Look in **Unit** in which the library is stored that is to be loaded.

Select the **Directory** that you wish to open.

- The box **File Name** displays the names of all the libraries contained in the Directory that correspond to the type selected in the *Files of Type* box. The extension of vectorial libraries is .GLB .

To display a library with a different extension, select it from the *Files of Type* box. The selection box is a curtain type: click with the mouse on the side arrow key.

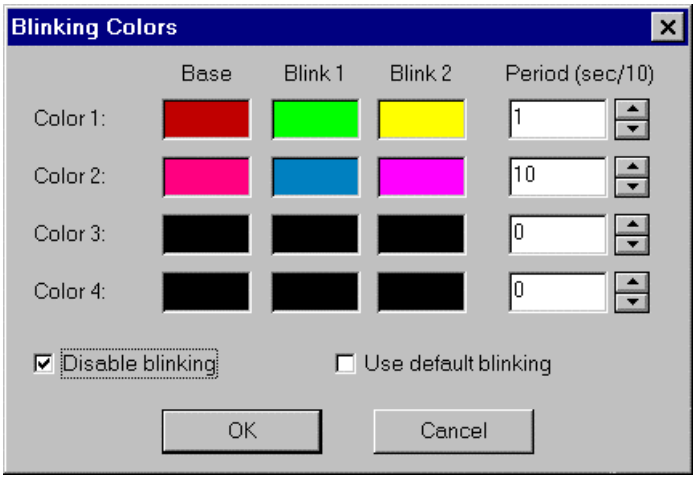
Select the library that is to be loaded by clicking twice on the name in the *File name* box or highlighting the name and clicking on the *Open* key.

7.3.15.2 *Eliminate*

Select the *Eliminate* to remove the library selected in the left-hand side of the search window so that it can no longer be used.

7.3.16 Local blinking table 

Select this command to define the special blinking colors for the screen. These colors are a special version for the single screen of the default blinking colors. ***LOGOVIEW NT*** enables special types of color to be managed: the blinking colors do not maintain the same color on the screen but take on two different colors in succession: they simulate blinking colors.
The blinking colors are defined by a base color that is the reference color that will be made to blink and by other two colors that are the colors between which blinking will alternate. For example, the base color is green and the blinking colors are red and yellow: each times a blink between red and yellow will be displayed on the screen rather than the actual green. The base color is therefore only a reference color in place of which the two alternating colors will be displayed after a certain amount of time has elapsed. Usually, unusually colors are chosen for blinking that are not used for other purposes in the application.
LOGOVIEW NT provokes four blinking colors. Each screen may have its own default blinking colors. The default colors can be used by all frames.
For each screen default colors or local colors can be used. The local default colors are available only for that screen. They are therefore set individually for each screen. Theoretically there could be four different local blinking colors. However, usually the default colors are used for all screens.
For the initial setting all the frames use the default colors. It is the developer's task to click on the relevant frame and change them. Use the procedures described below.
Configure the dialog window *Blinking colors* to define the local blinking colors.



Inside the dialog window 4 blinking colors can be configured by entered the required data in the different boxes:

Base: box in which the base reference color for blinking is defined

Blink 1: box in which the first blinking color is inserted

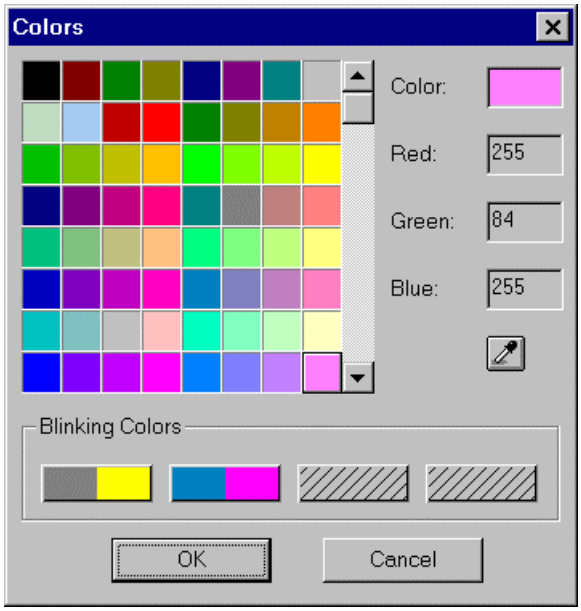
Blink 2: box in which the second blinking color is inserted

Period: duration in tenths of a second of blinking of two colors

Disable blinking: click on this option with the mouse to disable blinking in the screen being designed. There will then be no blinking when the color is inserted into the base layout.

Use default blinking: click on this option with the mouse and the screen being designed will use the colors selected in the window *'Blinking colors'* for default blinking, which is configured by the command **Modify Blinking Colors** in the **Edit** menu.

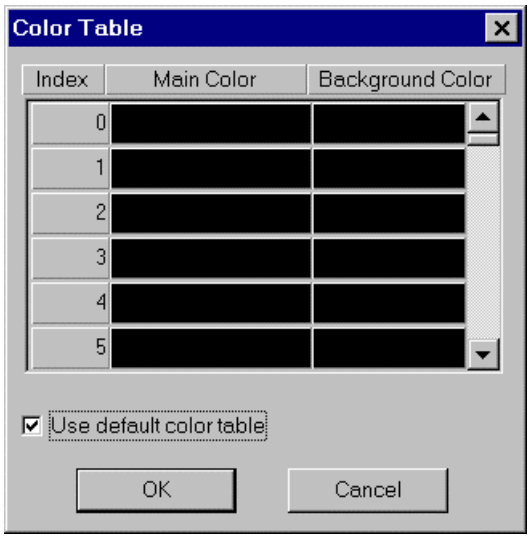
To replace the colors in the boxes click with the mouse on the box to open the *Colors* dialog window from which to select the required colors from the palette.



The *Colors* dialog window not only displays the 256 colors of the individual screen but also displays the blinking colors selected from the boxes that are available for the application. To select a color click with the mouse on it and then press the *"OK"* key.
If the *Disable blinking* command in the *Blinking colors* dialog window is activated the boxes in which the blinking colors are displayed are deactivated.

7.3.17 Local colors table 

Select this command to enable specific screen colors to be defined. These colors are made specially for each screen and are based on the default colors.
Each screen, of whatever type, has a palette and the palette represents the set of colors that are used on that screen. It is therefore possible to draw on the screen using only these colors. Each palette consists of 256 colors. It should therefore be remembered that a color that is available on one screen may not be available on another because each screen has its own palette that may be different from all other screens.
***LOGOVIEW NT*'s** *Colors table* enables up to 256 different colors to be defined that can be assigned to interactive fields or color animations.
Here again, there are two tables: one is a default table that can be used by all frames and then there is a local one for each screen that can be customized. A screen can therefor access the default colors or its own local colors. It is the developer's task to click on the relevant frame and change them.



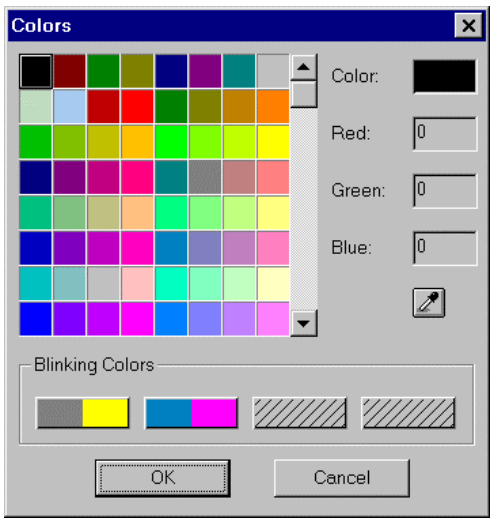
Index: reference box during instruction insertion phase for configuration of events and variables.

Main color: box from which to select the color to apply to the animation text.

Background color: box from which to select the color to apply to the animation's background.

Use default colors table: click on this option with the mouse to make the current screen use the colors selected in the *Colors table* default window. This window can be configured by using the **Modify Colors Table** from the **Edit** window.

To replace the colors in the boxes click on the box to open the *Color* dialog window from which to select the required colors from the palette.

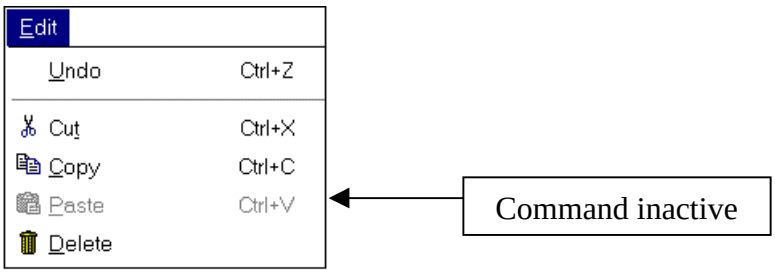


The *Colors* dialog window does not only display the 256 colors of the complete palette of the single screen but also displays the blinking colors selected from the boxes that are available for use in the application. To select a color click on it with the mouse and click the *"OK"* to confirm.

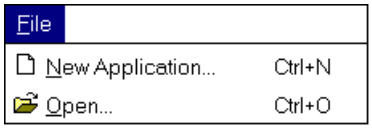
8. The menus

Whilst the layouts are being planned for the next application runtime ***LOGOVIEW NT*** provides the developer with commands organized into a series of menus displayed on the menu bar at the top of the work window. Apart from all the commands contained in the toolbars they consist of a further series of options. All the applications have their own menus that can be given the same name but which contain different commands that depend on the use for which they are intended. The menu bars vary according to the type of editor that is being used.
To open a menu click on it with the mouse and highlight the command inside it.
The list may contain inactive commands, i.e. commands that cannot be used in that application or another command may first need to be selected before they can be activated.

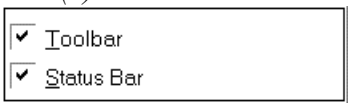
There may be dots after the name of the command. This means that when the command is



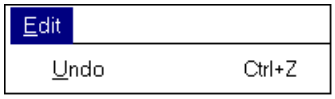
activated a dialog window will be displayed containing the options required to run the command.



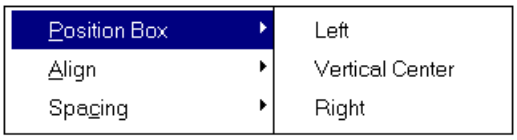
Two *'check' (✓)* signs can be displayed to the left of the name of the command in order to activate it: if the *'check' (✓)* is removed the command is eactivated.



A series of key combinations can be displayed that enable the command to be rapidly keyed in instead of opening the menu to select a command.



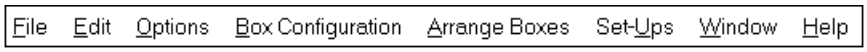
The menus above the command can also be opened when the arrow sign is displayed to the right of the name.



All the commands on the toolbar that are displayed by means of the buttons are available inside the menus. There is therefore a close link between the menus and the toolbars.
There are also commands inside the menus that are displayed inside the menu bars whilst the layouts are being designed.

After opening a layout by using the mouse to click on the corresponding icon in the Color opaque screen layouts  a series of items on the menu bar are activated. Each of these items corresponds to a curtain menu containing different commands.

The menu bar contains fixed menus, i.e. menus that are always current and menus that are removed or added, depending on the development environment that is being used.



We shall provide a description of the menus and commands that are always current and we shall then describe the conditional ones, i.e. those that appear only when working with a given type of editing, in which case the available options are shown.

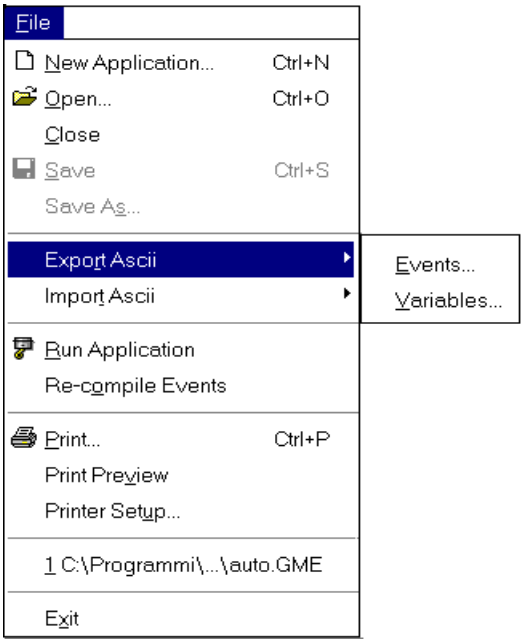
Introduction

As the ***LOGOVIEW NT*** development environment consists of different configuration sections (Setups, field configurations, formats, etc.) there are specific commands for each one that enable the objects that make them up to be handled.
When these commands are not displayed explicitly on the toolbar bars they can be retraced inside the curtain menus.
These menus are modified dynamically according to the type of environment that is being used, so menus can be obtained that lengthen or shorten commands and menus can appear and disappear from the bar.
For this reason the different menus have been explained by assigning them each time to

Fixed Variable menus

different environments in order to explain the operation of the commands that make them up in all situations.

8.1 The FILE menu



8.1.1 New Application

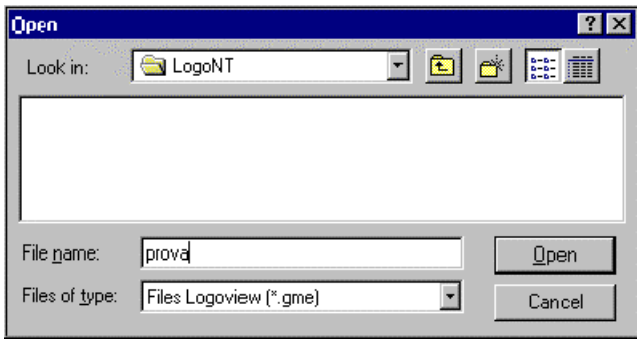
Select this command to activate a new application by means of *Wizard*. When this command is activated a dialog window is opened in which the configurations are entered for creating the skeleton of the application, which the developer will then integrate according to his own requirements.
For more detailed display and explanation of the configuration, see the chapter on *Wizard*.

8.1.2 Open

Select this command from the menus bar to display the dialog window "*Load application"*. This is the same for all applications and enables the unit, directory file and file type to be selected for loading.

8.1.2.1 *How to open a file*

- Choose the command Open from the file menu. The dialog window "*Load application"* will be displayed.



- Select the **unit** (Look in) in which the file to be loaded is stored.
- Select the **Directory** that you wish to open.
- The box *"File name"* displays the names of all the **Files** contained in the Directory that correspond to the type selected from *"Files of Type"*.
- To display a file with a different extension select it from the *" Files of Type"* box. The selection box is a curtain-type box, open it by clicking on the arrows at the side.
- Select the **File** that you wish to load by clicking on the box *"File Name"* or highlight the name and click on "*Open"*.

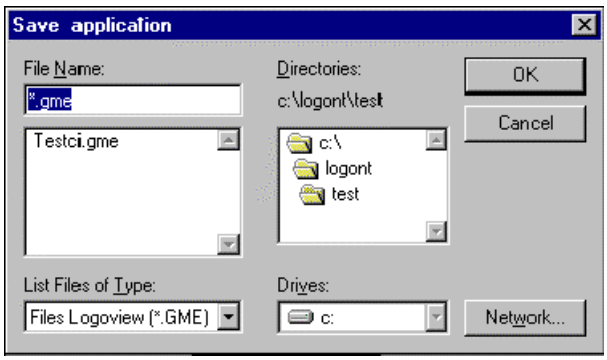
The dialog window may contain the command *"Network"*. Select it to open a dialog window in order to link up to other PCs that are connected to the network unit described in the areas *"Drive"* and *"Path"*. Use this command to work with the files of other users connected to the computer network (see page 164).

8.1.3 Close

Use this command to finish the work session and to leave the layout. If modifications have been made to any of the editors that have not been saved a warning window will appear that will ask if the file should be saved.

8.1.4 Save / Save as 

The **File** menu has two commands for saving applications. The "*Save"* command is used to save the modifications to an existing application.
The command *"Save as"* is used to save and assign a name to a new application or to save an existing application with a different name.

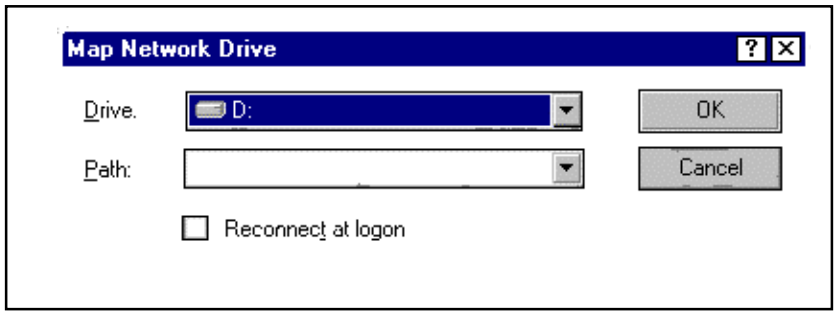


8.1.4.1 *How to save a new application or to save it with a different name*

- Select the command **Save with name** from Logoview's **File** menu.
- To save an application on a **driver** that is different from the current drive select the required drive from the box *"Drivers"*.
- From the *"Directory"* box select the **Directory** in which the application must be saved.
- In the *"File name"* box key in the name that you wish to assign to the application.
- If requested, select the **Extension** that should be given to the file from the box "*List files of Type"* or else key in the required extension.
- Click on *"OK"*.

8.1.4.2 *Salving an application by logging into a shared disk.*

The window *"Save Image"* contains the command *"Network"*. Select this command to open a dialog window that enables the user to link up to other networked PCs described in the areas *"Drive"* and *"Path"*. Use this command to work with the applications of other users who are connected to the network.



Drive =: select the disk drive (shown by a letter) to which you wish to be connected by choosing it from the cascade list.

Path =: enter the name of the network drive that is required to identify the position of the disk path. All the connections made are stored in the area list so that a connection can be made in future by selecting the connection directly from the list instead of keying in the network path.

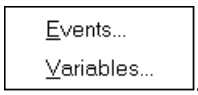
Reconnect at Logon =: use this command to reconnect each time that the program is accessed.

Note

In order to log on to a remote network drive the drive must first be shared on the network. This must be done on the PC in which the disk is located. In order to do so, its privileges must be made available. To find out how to make network disks available and how to set privileges, consult the Operating System manual used.

8.1.5 Export ASCII

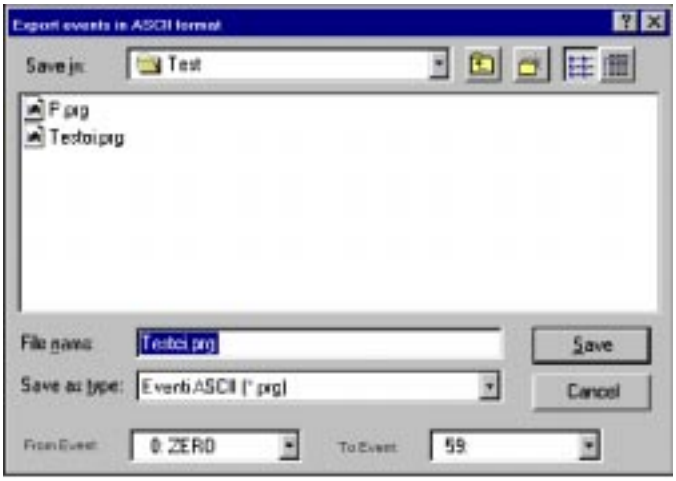
Select this command to activate the possibility of exporting the events and variables that are written and configured by the ***LOGOVIEW NT*** editors in ASCII format so that the user

can use other programs to edit them. Click on a command in order to open a menu from which to select what should be exported: 

. After this, a dialog window is opened in which the options are entered that are required to export the events or variables.

8.1.5.1 *Exporting events*

To change the events in ***LOGOVIEW NT*** into ASCII all the events must be exported and saved with the extension .PRG. In this way alternative ASCII editors can be used to write and modify them.



Apart selecting the complete destination path for exporting, use the dialog window to select how many and what type of events are to be selected for export by using the boxes "*From event" "To event".*

8.1.5.2 *Exporting variables*

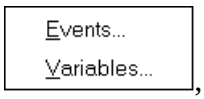
To change the variables in ***LOGOVIEW NT*** into ASCII export all the events and save them with the extension .VAR so that they can be modified by the developer's favorite editor.

Inside the dialog window, apart from the complete export destination path, the offset of the variable at the start of every line of the file can be selected.

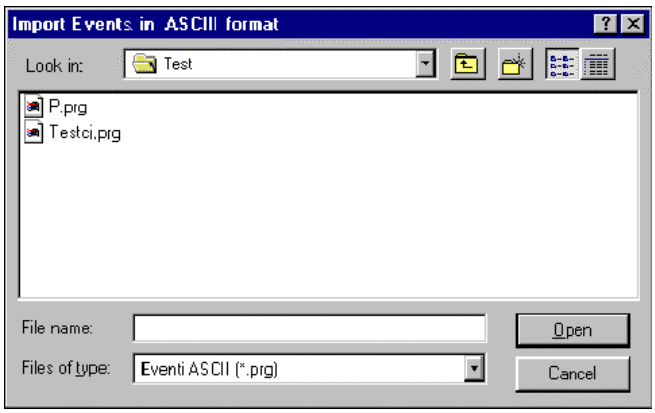
For a fuller explanation of the subject, see the programming manual.

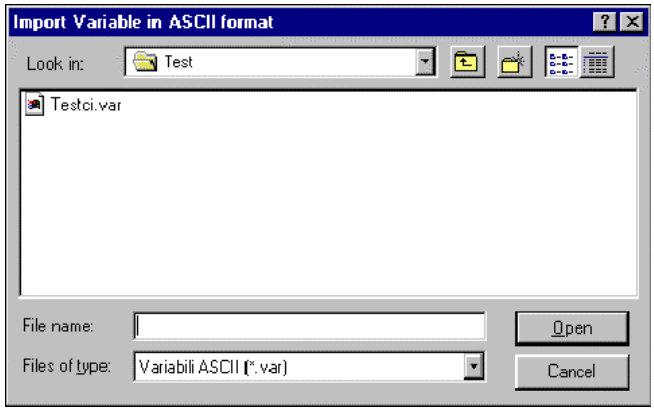
8.1.6 Import ASCII

Select this command to import events and variables written and configured by editors that are not part of ***LOGOVIEW NT***.
Click on this command to open a menu from which to select whether to import



, after which a dialog window is opened into which the options can be entered that are required for importing events or variables.



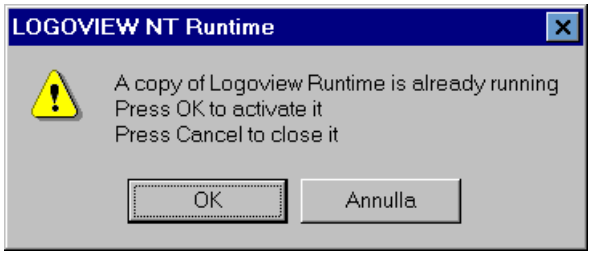


Whilst the events and variables are being imported in ASCII format ***LOGOVIEW NT*** checks the formal aspect of the language but any logic errors will not be detected and the developer will become aware of them only when the application is run. On the other hand, syntactical errors in the language that are detected can be viewed by the developer in the dedicated part of the events editor.
For more details, see the programming manual.

8.1.7 Run application 

Select this command to run the application that is being planned without having to shut down the development.
If the setups and the layouts have been modified but have not been saved ***LOGOVIEW NT*** will display a warning window that asks whether they should be saved.

This command runs the runtime program and places the development work environment in the background. The application being run will have the same functions as the definitive program in order to enable all the functions implemented by the developer to be checked immediately.
When runtime is interrupted the development work environment is restored.
If a runtime program has already been run from the development environment and it has not been shut down, if the command is activated again to see if any modifications have been made to the design, ***LOGOVIEW NT*** will display a warning window asking where the developer wishes to continue or reactivate the runtime started previously.

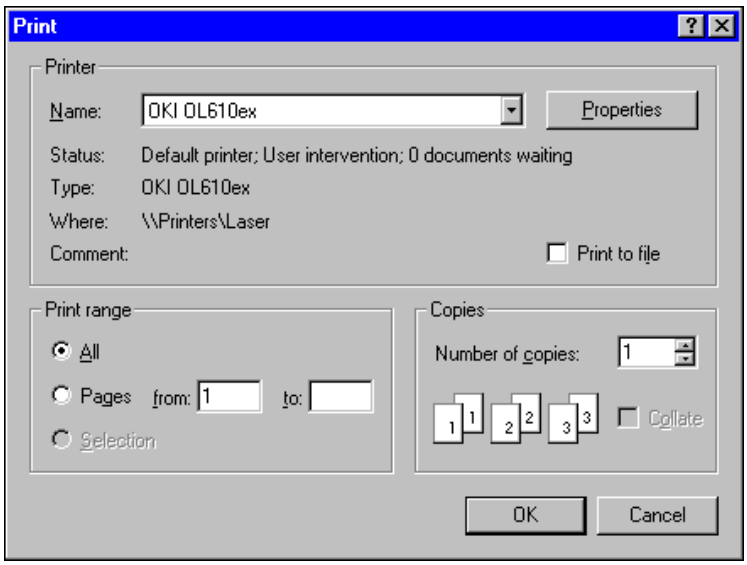


For a more detailed description of runtime and its commands see the application manual.

8.1.8 Print

Select this command to print all the codes and the configurations that make up the application until that moment.
The printout provides a complete record of the entire contents of the application and makes ample use of comments that the user must have keyed in by assigning them each time to the objects and the events.
To key in the comments, use the comment buttons that are located in the different windows: 

When the command is activated a dialog window opens *"Print"* inside which the data can be entered and the print options can be selected.

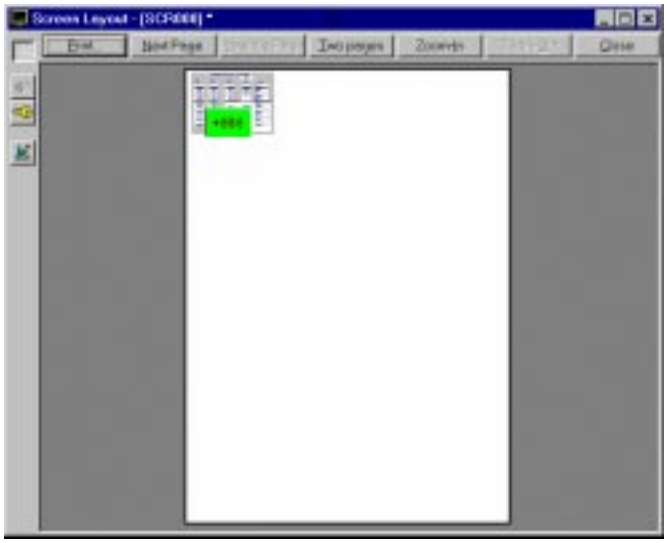


The window is divided into 3 different areas into which the options are inserted for checking the type of print.
The area *"Printer"* displays all the database on the printer selected from the box *"Name"*: this list shows the printers installed in the system. The user can select the one connected to his own application system. Activate the command *"Properties"* to access a window in which to configure the selected printer.
Inside the *"Print Range"* area, select whether to print all or only part of the pages in the activated layout.
To find out how many pages the application contains, first carry out a print preview. This will enable all the pages to be displayed. In addition, it enables the user to obtain a printout only of certain pages, all pages being numbered.
Within the area *"Copies"* the number of copies to be printed can be defined.

8.1.9 Print preview

Select this menu item to obtain a print preview of the application documentation. This command enables the number of pages to be checked that make up the application if only some of them need to be printed and enables the numbers to be selected that refer to the printout.
The command opens a window that enables the print preview to be selected by means of a series of commands that display the document.

The print preview can be enlarged or minimized, 2 pages can be viewed simultaneously or in succession and then the document can be printed.



8.1.10 Print setup

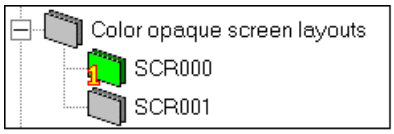
Select this command to access the standard *"Print Setup"* dialog window that is normally used in a Windows area, by means of which the printer type can be configured and the printout options can be selected.
Each type of printer opens a different dialog window into which the data and characteristics can be entered that are required for the printout.
Normally, the printers that are available on the list are activated in the system that can be linked up for printing.
For further information, consult the manual of the printer that you intend to use or else the Windows manual.

8.1.11 Exit

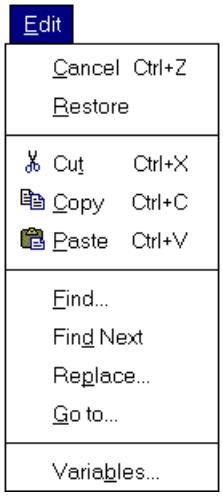
Use this command to finish a job and to leave the development system.
Different methods exist for exiting ***LOGOVIEW NT***. One of them is to select the command **Exit** from the file menu.
If a layout is being designed whose modifications have not been saved or if modifications have been made to any of the settings, a warning window will appear asking if the modifications should be saved.

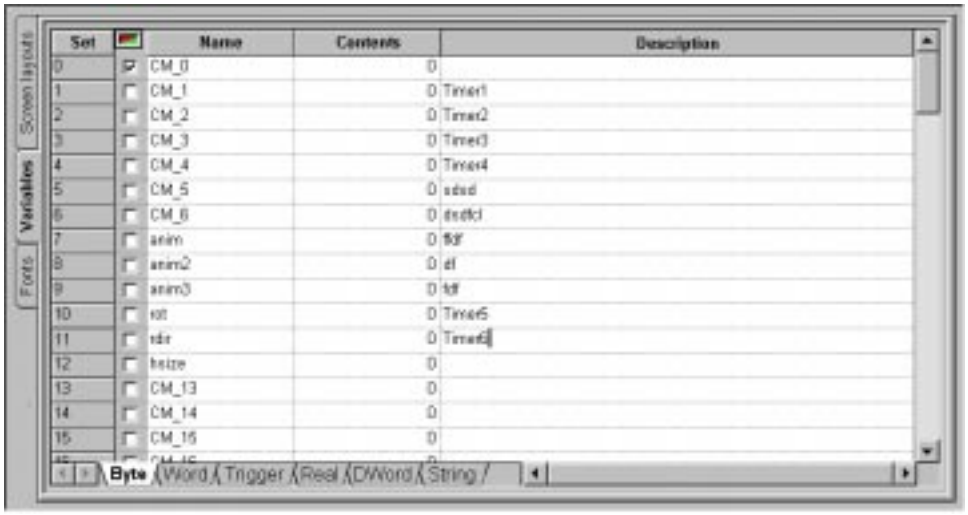
8.2 Edit menu setup

The Edit menu is displayed in two different command compositions: the first consists of a series of options that enable the variables inside the *Setup* window to be configured. The second menu composition is displayed during the insertion and editing of the boxes when a color opaque screen layout is open.



For the sake of greater clarity, the two menu compositions are described in two different chapters.
As we have said, the first commands composition is displayed when the setup file is in the foreground and the variables configurations section is selected.





BASIC SETTINGS window for configuring variables.

8.2.1 Cancel

This command is used when a modification to one of the variables configurations text boxes is incorrect or unsatisfactory and the user wishes to delete it and restore the previous setting. If *"Cancel"* is selected **only the last operation performed** will be deleted.

8.2.2 Restore

Command is similar to the *"Cancel"* command and is used to restore a variation made to one of to the variables configurations text boxes. If *"Restore"* is selected **only the last operation performed** will be restored.

8.2.3 Cut 

This command is used to delete or transfer a part inserted in a variables configurations text box to another text box.
The selected and cut parts are stored in scrap until other information is cut or pasted or until the application is exited.
As the information remains available in scrap it can also be pasted into another text box whenever it is required. **Note** Scrap can contain only one object at a time, so when the cut and paste commands place something in scrap they will remain available for pasting more than once until something else is placed in scrap that replaces the object that was stored there by a previous command.

8.2.3.1 *How to cut a part inserted into the text boxes.*

- Select the box by dragging the cursor of the mouse onto the text that is to be cut.
- Select the command **Cut** from the application menu or select the **Cut** icon on the instruments toolbar.
- The activated command will delete the selected text from the screen and will store it in scrap, from which it can be fetched.

8.2.4 Copy 

This command is used to copy and paste a part in one of the variables configurations text boxes into another text box. The selected and copied parts will remain stored in scrap until other information is cut or copied or until the application is exited. As the information is available in scrap it can be pasted into another box whenever it is required.

8.2.4.1 *How to copy a part inserted into the text boxes.*

- Select the box by dragging the cursor of the mouse onto the text that is to be cut.
- Select the command **Copy** from the application menu or select the **Cut** icon on the instruments toolbar.
- The activated command will copy the selected text from the screen and will store it in scrap, from which it can be fetched.

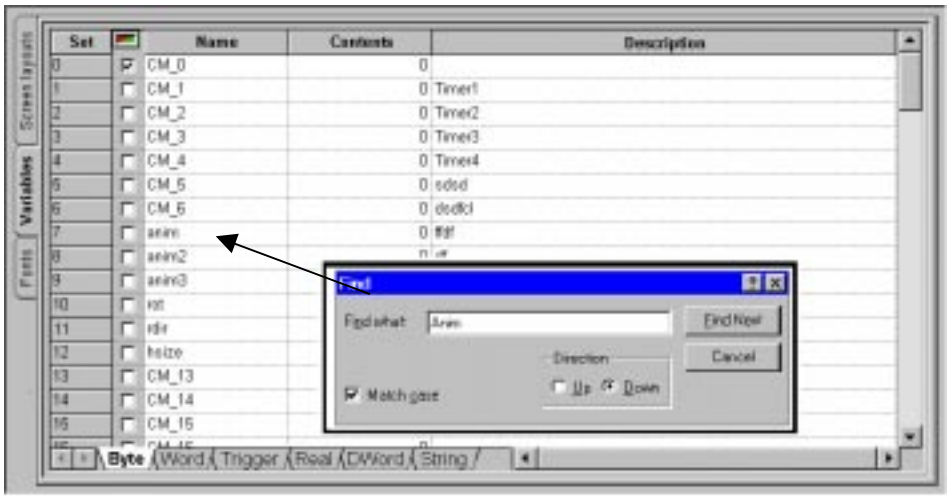
8.2.5 Paste 

This command is used to copy and paste a part in one of the variables configurations text boxes into another text box. The selected and copied parts will remain stored in scrap until other information is cut or copied or until the application is exited. As the information is

available in scrap it can be pasted into another box whenever it is required until another object is cut and copied so that it replaces the object that has been previously stored in scrap.

8.2.6 Find

Select the command *"Find"* to display a dialog window in which the text can be specified that you wish to insert in a description box in the section dedicated to configuring the variables of the *"Setup"* window.



The search is carried out in all boxes of the configured variables but it can be limited by selecting the options *"Up"* or *"Down"* from the *"Direction"* box.

8.2.6.1 *How to carry out the search*

- Select the command **Find** from the application menu.
- The dialog window *"Find"* will open.
- In the box "*Find What"* key in the item that you wish to find in the variables configurations text.
- Click on "*Find".*
- When the selected text is found inside the configuration box in which it is inserted anim will be highlighted.
- If the text is the one that you are looking for, you can proceed with modifications, otherwise continue the search by pressing *"Find* next".

"Find next".

- *"Match Case"*: as the search for the texts in the variables configurations is case-sensitive the text will not be found if it is not identical to the text keyed into the *'Find'* case.

For example, if we wish to find the word "*ThermoCouple"* in the *'Find' box* the exact sequence of lower case and capital letters must be keyed in or the word will not be found.

The command *"Match Case"* can be used to instruct the program to ignore all the capital and lower case letters but to find all the repetitions of the text in the variables configuration window.

It will then be the user's task to view all the selected parts and to stop at the task that he wishes to display.

Note

During the search the sought text may be highlighted in the search dialog window: to highlight it, move the window by using the cursor of the mouse to drag the title bar.

8.2.7 Find next

This command should be used after using the "*Find*" dialog window to search inside the text boxes for the variables configurations. If the dialog window is closed but we wish to continue the search for the set text, just activate the command in the *"Edit"* menu or press ***F3*** on the keyboard without opening the dialog window again.

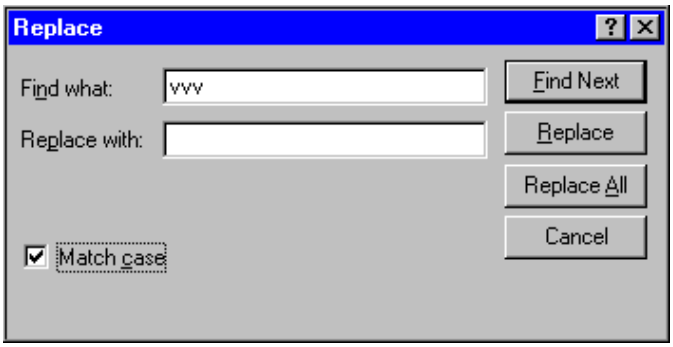
When the next selected text is found inside the box in which the text is inserted ffdf will be highlighted. If this is the text that is required, work can proceed, otherwise the search can be continued.

Note

During the search the sought text may be highlighted in the search dialog window: to highlight it, move the window by using the cursor of the mouse to drag the title bar.

8.2.8 Replace

If *"Replace"* is selected a dialog window is displayed in which you can enter the text that you wish to find or replace, which is inserted in a description box. The text can be both the name of the variable or the comment that is assigned to it.



A search will be made for the text that must be replaced in all the boxes of the same type as the selected variable.

8.2.8.1 *How to find and replace a text.*

- Select the command **Replace** from the application menu.
- The dialog window *"Replace"* will open.
- Key in into the *"Find What"* box the item that you wish to find in the variables configurations text boxes.
- Key in into the *"Replace (Replace With)"* box the item that you wish to enter in the variables configurations text boxes.
- When the selected text is found ffdf will be highlighted inside the box of the configurations window in which it is entered.
- To replace the selected text with the entered text click on *"Replace".*
- To replace another identical text inside the configurations use the command "*Find Next"* and then click on *"Replace"*.
- If all the items in the configuration boxes are the same as those keyed into the box *"Find What"* click on the command *" Replace All"*.

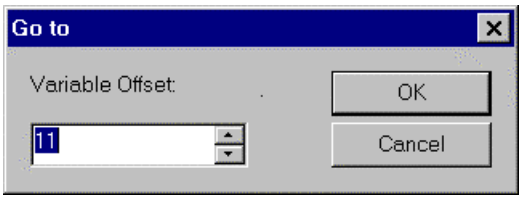
- *"Match Case"*: as the search for the texts in the variables configuration is case-sensitive the text will not be found if it is not identical to the text keyed into the *'Find'* box.
For example, if we wish to find the word "*ThermoCouple"* in the *'Find' box* the exact sequence of lower case and capital letter must be keyed in or the word will not be found.
The command *"Match Case"* can be used to ask the program to ignore all the capital and lower case letters but to find all the repetitions of the text in the variables configuration window.
It will then be the user's task to view all the selected parts and to stop at the text that he wishes to display.

Note

During the search the sought text may be highlighted under the search dialog window: to highlight it, move the window by using the cursor of the mouse to drag the title bar.

8.2.9 Go to

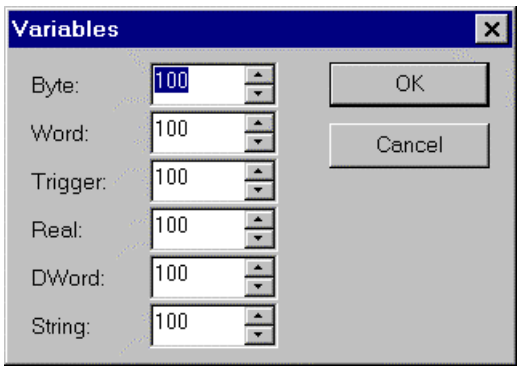
It may be necessary to quickly find a variable inside the configuration list in order to modify it. This need arises especially when a lot of variables have to be configured. To obtain this result, two systems may be used: either use the scroll bar at the side of the window or select the command *'Go to'*.
This command displays a dialog window in which the offset number of the variable that you wish to find and display can be specified.
This command enables the user to rapidly move from one variable to another without having to scroll through the configuration window.



To access a given variable, key in the offset number of the variable or click on the arrow keys to the right of the box to set the required number. Press *"OK"* to confirm and move rapidly to the selected variable.

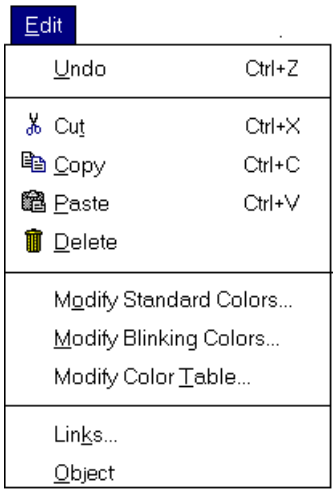
8.2.10 Variables

The variables are the basis on which to develop the next application written with ***LOGOVIEW NT***. The variables contain the values read by the field or which are engineered by the events, etc.
It is therefore essential that there should be an adequate number to ensure correct application operation. The first step is to scale the variables lists: ***LOGOVIEW NT*** keeps the variables in lists in which each element is marked by an *"OFFSET"* number. This represents its position within the list; an alphanumeric name makes the code clearer and easier to read; finally there is a comment.
LOGOVIEW NT has a list for each type of variable and each of these lists must be scaled to create a place for the variables.
Select the command *'Variables'* to display a dialog window from which the number of different types of variable can be increased or decreased.



Use this type of command to modify the quantity of any type of variable regardless of its position in the "*Setup"* window and without having to use the command Set

8.3 Screens configuration EDIT menu



8.3.1 Cancel

This command is used when a modification to the variables configuration text in one of the boxes is incorrect, unsatisfactory or if the user wishes to delete it and restore the previous setting. If *"Cancel"* is selected **only the last modification** to the layout will be canceled. This command always cancels the last operation performed and restores the status that obtained before the command was given.

Note

The command "Cancel" refers only to the current application, so it cannot be activated if the user wishes to open another application or if he decides to save the current application. If the commands 'Open' and 'Save' are activated they cannot be canceled. Normally, the commands of the file menu cannot be canceled once they have been confirmed.

8.3.2 Cut 

Use this command to delete or transfer a graphic object in a layout to another layout of the application. The selected and cut parts will remain in scrap until other information is cut or copied or until the application is exited. As the information is available in scrap it can be pasted onto another layout whenever it is required.

8.3.2.1 *How to cut an object from the layout*

- Click on the object that is to be cut with the mouse. A combination of objects can be cut by clicking on them simultaneously and pressing **CTRL**.
- Select the command **Cut** from the application menu.

- This command deletes the selected objects from the videocreen and stores them in the scrap areas, from which they can be retrieved.

8.3.3 Copy 

Use this command to copy a graphic object from one layout onto another. The selected and copied parts will remain stored in scrap until other information is cut or copied or until the application is exited.

8.3.3.1 *How to copy an object from the layout*

- Click on the object that you wish to copy with the mouse. A combination of objects can be cut by clicking on them simultaneously and pressing **CTRL**.
- Select the command **Copy** from the application menu.
- This command copies the selected objects from the videocreen and stores them in the scrap areas, from which they can be retrieved.

8.3.4 Paste 

Use this command to paste the graphic objects that were cut or copied onto the scrap areas. The pasted objects are placed in the top left-hand corner of the layout: click on them with the mouse to move them to any part of the layout and to change their size. The cut or copied information will remain in scrap and can therefore be pasted onto another layout, whenever this is required.

Note

The scrap area contains all the objects that have been cut or copied. It is an exclusive box inasmuch as it contains only the last object that has been copied inside it. As there is only one scrap area for all the Windows applications great care must be taken when cutting or copying new objects: as operations are carried out consecutively, there is a risk that objects may be deleted from the scrap area before they have been pasted. During pasting the scrap area is not emptied: the object that it contains is merely copied.

8.3.5 Delete

Use this command to delete the selected graphic object from the layout. If an object is eliminated by mistake, select the command *'Cancel'* immediately from the Edit menu in order to cancel the object and reposition it in the same place on the layout.

8.3.6 How to use the colors in the LOGOVIEW NT applications

*Color management is a delicate stage in the creation of a **LOGOVIEW NT** application. The aim of this paragraph is to introduce basic color management concepts in order to clarify the explanations of the commands used to make up the colors tables.*

*As **LOGOVIEW NT** can be used to display up to 5 layouts simultaneously, the problem of the limit of color limits has had to be addressed. In a Windows environment any one of the graphic modes permitted by the graphic cards can be chosen: i.e. 16 - 256 - 32.000 - 16 million colors.*

***LOGOVIEW NT** easily adapts to all these modes, with one limitation: blinking. If an application requires blinking colors to be activated, the 256-color graphic mode **must** be used. If this mode is used, problems arise that are due to the fact that the total number of colors is greater than 256 because several different layouts are open at the same time*

*In these cases **LOGOVIEW NT** tends to maintain the real layout colors that it finds in the foreground and adapts the palette whilst for the other layouts an algorithm is used to replace the color with the color that most resembles it from the foreground palette layout.*

It is clear that it is extremely difficult to draw up a program that uses colors because there are no precise references. It is in these cases that the absolute and relative colors tables help us: a general table is compiled (i.e. one that is valid for all the layouts of the application) of 16 colors select from a standard palette of 256 colors. These colors are numbered from 0 to 15.

Accordingly, when an event instruction refers to a color this is referred to by its own number within the table "Standard Events Colors". For example, if one wishes to write on the layout with the color BLUE and this table has the reference number 12, the table color 2 will be used for all the layouts.

***LOGOVIEW NT** will in each situation also always try to use the color that is closest to the one referred to in the "Standard Event Colors " table.*

Obviously, if an event is configured on a layout with a palette that consists of 256 shades of RED and has no shade of BLUE the algorithm will reproduce the message in a tone of red that is as intense as the selected BLUE.

*It is also possible to intervene in these cases to assign a table of specific colors to the open layout that is completely different from the colors of the "Standard Event Colors" table. In this case **LOGOVIEW NT** will reproduce the message in color 12 of this table.*

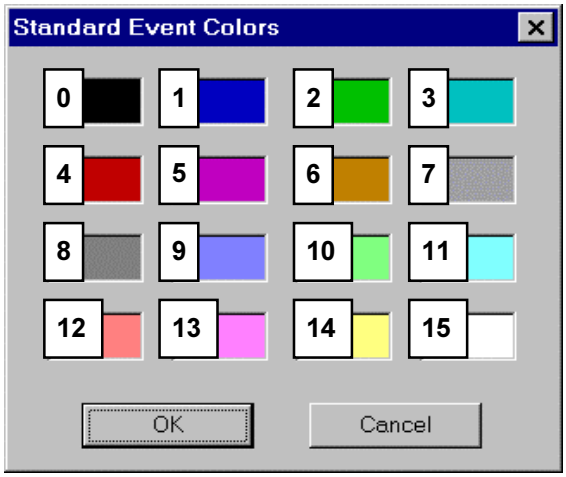
The above is not valid and cannot be reproduced with 32.000 and 16 million color graphic methods because they reproduce the entire spectrum of colors. On the other hand, there is no possibility of achieving blinking colors because of the hardware problems connected with the video card.

The 16-color method is not recommended because the few available colors prevent a complex graph from being created.

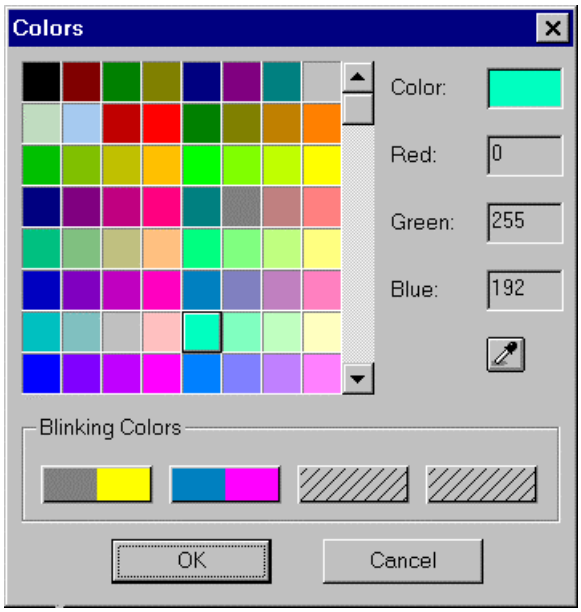
*The color reference in the "Standard Event Colors" table can be specified not only by the index number but also by the RGB component. The RGB component is a combination of primary colors that enables colors to be added or replaced in a palette. The RGB model (Red- Green- Blue-) uses the three primary colors in different combinations to add new colors. In this case again **Logoview NT** chooses the most similar color from those that are available. For further comparisons and information on colors see Functions Manual.*

8.3.7 Modifying standard colors

Command for defining *"Standard Event Colors"* that contains the 16 colors that can be used by Event in all the graphic instructions.
LOGOVIEW NT provides different tables for configuring all the different types of colors required in an application. These can then be used by Event with the appropriate instructions. As we mentioned previously, the colors that are available on a layout are connected to the respective palettes. A color that is configured on one layout may not be available on another.
The colors tables may vary between one layout and the next. ***LOGOVIEW NT*** always conducts a *"best match"* between the color configured in a *"Standard Event Colors*" table and the one available in the layout palette.
The *"best match"* criterion means that ***"LOGOVIEW NT"*** will choose the palette color that is closest to the color configured in the *"Standard Event Colors"* table, whatever it is. This applies to all color configurations in ***"LOGOVIEW NT"***.
The table consists of 16 colors numbered from 0 to 15.



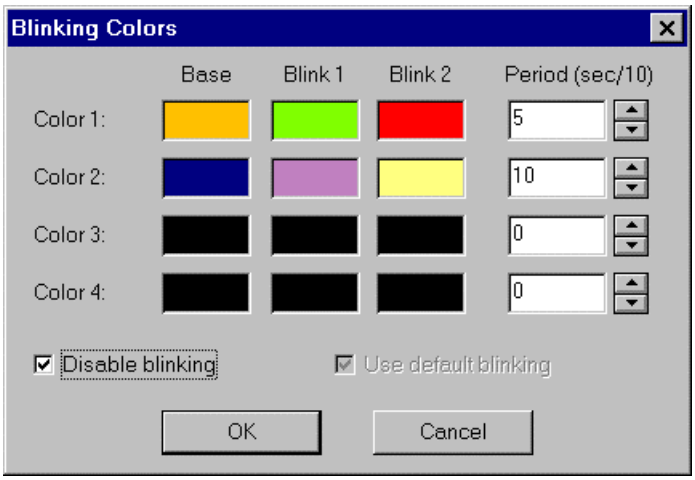
Within this window the 16 colors can be configured that are to be used in a layout design. The matches of numbers and colors are shown in the figure.
To modify a color place the mouse on the box that represents it and click.



A "*Colors"* dialog window opens from which the chosen color is selected.
The colors selected from the window can be accessed in all the application layouts simply by indicating the corresponding number in the graphic instructions.

8.3.8 Modifying blinking colors

Use this command to define the blinking colors for the application. The blinking colors are colors that do not remain fixed on the screen but vary between two different colors in order to simulate blinking.
The blinking colors are defined on a base color, which will be the reference color and which will blink between the two other colors.
For example, if the base color is green and the blinking colors are red and yellow, each time that green is specified, blinking between red and yellow will be displayed. As can be imagined, the base color is only a reference color in place of which the two colors will alternate at set intervals. Normally, unusual colors that are not used for other purposes in the application are chosen as base colors.
LOGOVIEW NT provides four blinking colors. Each layout may have its own local blinking colors: however, default blinking colors can be set. The default colors are colors that can be used by all the layouts.
For each layout the default colors or the local colors can be used. The local colors are available only for the current layout and are set individually for each single layout. Theoretically, one layout can have four different blinking colors. However, standard blinking colors should normally be used so that mainly default colors are used for all the layouts.
For the setup all the layouts use the default colors. The developer must change the local colors on the affected layouts.
To define the colors and the length of blinking time, the dialog window "*Blinking colors"* opens:



Inside the dialog window 4 blinking colors can be configured by entering the required data into the different boxes.
These are the default colors and are made available for all the layouts.

Base: box in which the base reference color for blinking is defined.

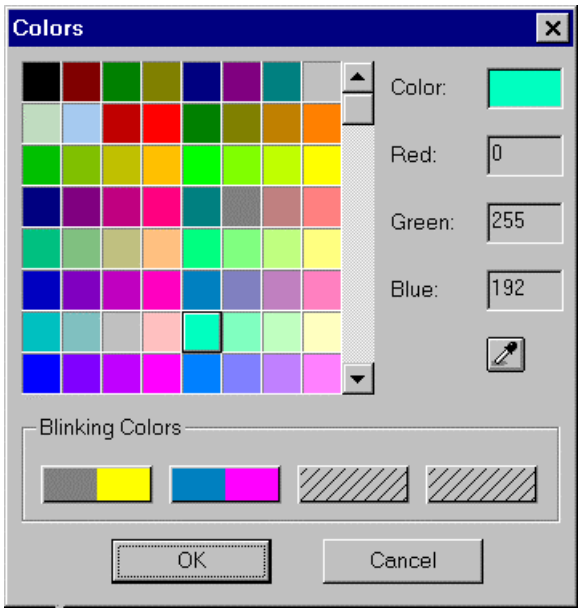
Lamp 1: enter first blinking color in this box

Lamp 2: enter second blinking color in this box

Period: period of time expressed in tenths of a second for blinking of two colors.

Disable blink: click on this option with the mouse to disable blinking for the layout that is being designed. When the base color is entered into the layout design no blinking will take place.

Use default blinking: activate this command to use the default blinking colors set for the application inside the layout and to disable the local blinking colors table.
To replace the colors in the table, click on the table with the mouse: the "*Colors"* dialog window will open from which the required colors can be selected.

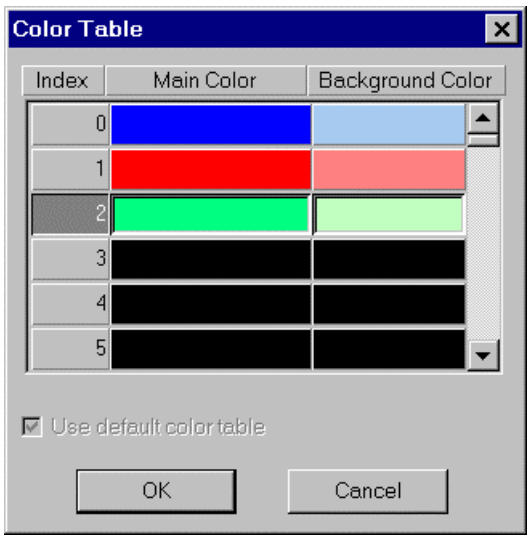


The *Colors* dialog window does not only display the 256 colors of the complete palette of the single screen but also displays the blinking colors selected from the boxes that are available for use in the application. To select a color click on it with the mouse and select *"OK"* to confirm.

8.3.9 Change colors table

Use this command to define the default colors that are available for all the layouts of the application.
The last table that is provided by ***LOGOVIEW NT*** defines the 256 different colors that can be assigned to interactive fields, color animations and to all the application options.
Here again, there are two types of table: one is a default table that can be used by all the layouts and one is a local table for each layout and can be configured for different requirements. A layout can access the default colors or its own local colors. For the setup each layout uses the default colors and it is the developer's responsibility to change the local colors in the layouts concerned.

To define the default colors the dialog window *"Color table"* opens.



Index: reference box used during configuration of events and variables.

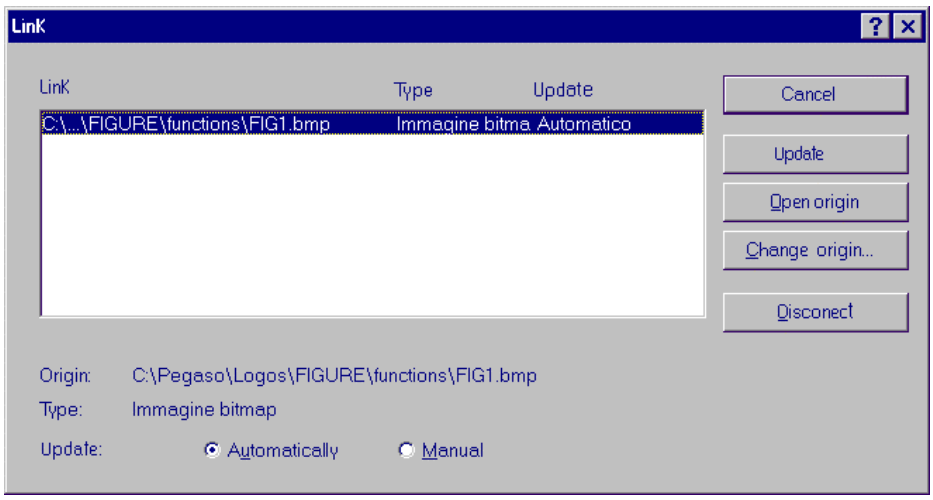
Main color: box from which to select the color to be applied to the animation text.

Background color: select color for background of animation from this box.

Use default color table: activate this command to use the default colors set for the application inside the layout and to disable the local colors table.
To replace the colors in the boxes click on the box with the mouse: the *"Colors"* dialog window will open from which to select the required colors from the palette (see figure on page 9).
The *Colors* dialog window not only displays the 256 colors of the individual screen but also displays the blinking colors selected from the boxes that are available for the application. To select a color click with the mouse on it and then press the *"OK"* key.

8.3.10 Links

This command is enabled if there is an OLE image inside the layout that has been connected to the original application.
When an OLE image is inserted a connection can be made between the original and destination objects. Although the incorporated object is displayed in the destination layout and can be run the object data are found in the application in which the object has been generated. When modifications are made to a connected object these modifications will also affect the original application data. When modifications are made to the original application they will be displayed inside the destination layout.
Select the connected object inserted into the layout and activate the command **Links** from the menu to check the connections by means of a series of options that are current in some dialog windows. For example, specify whether the object should be updated manually or automatically, whether a connection should be canceled or eliminated or whether to modify the format of an object.



The *"Links"* window contains different objects into which the files can be entered.

Display window: inside this area all the files connected to another application inside the box are displayed.

Origin: displays file path, name, extension and the position inside the original object.

Update: select this command when the information inside the origin file is modified. The different connections in the layout box can be updated manually or automatically.
Automatic connections are updated when the layout is opened or whenever the original object is modified if the layout is opened. The manual connections are updated when 'Update' is selected from the *"Links"* dialog window.

Blocked: select this command to block a connection to prevent modifications being made to the original file.

Save image in document: select this command to automatically save the connected file inside the layout.

Disconnect: select this command to deactivate a connection so that the connected data are maintained inside the layout but are no longer updated. The deactivation procedure is irreversible.

Change origin: If this command is selected if the origin file is renamed or moved it may lose contact with the object. In such cases the connection with the origin file must be restored or modified by creating a new connection with a different file. The new origin file must be created by the same application that is used to create the previous original file.

Open origin: select this command to open the original application in which the file was created. This enables modifications to be made to the object inserted inside the layout.

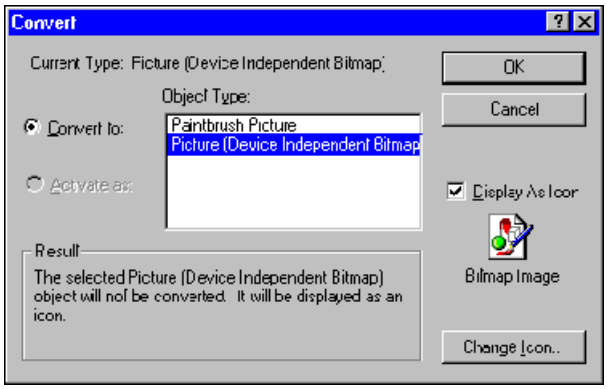
Update: select this command to automatically up date manual connections.

8.3.11 Object

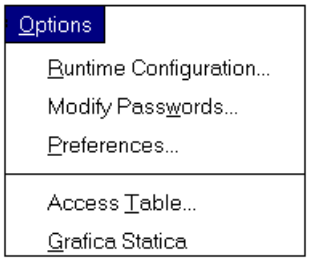
This command is enabled if an OLE image is inserted inside the layout.

When an OLE image is inserted a connection exists between the original and the destination object. Although the incorporated object is displayed in the destination layout and can be run the data on the object stay in the original application.

Select the OLE object in the layout and activate the **Object** command in the menu to check the image by means of a series of commands that can be selected from a menu that changes according to the image that has been entered. These commands can be used to activate the contents of the object, open the application in which it has been created and convert the image regardless of the original application.
To convert the image activate the command **Convert** and use a dialog window to insert the required options.



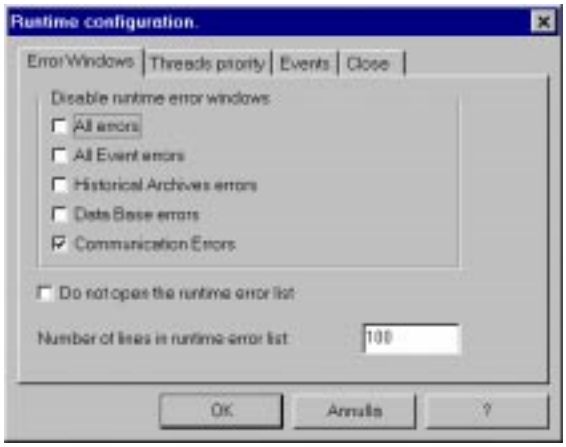
8.4 OPTIONS menu



8.4.1 Runtime configuration

Use this command to activate different objects that are displayed in a series of dialog windows that are used to configure runtime. The different sections of the windows are displayed on a selection bar that is located at the top of the first section.

8.4.1.1 *Error windows*

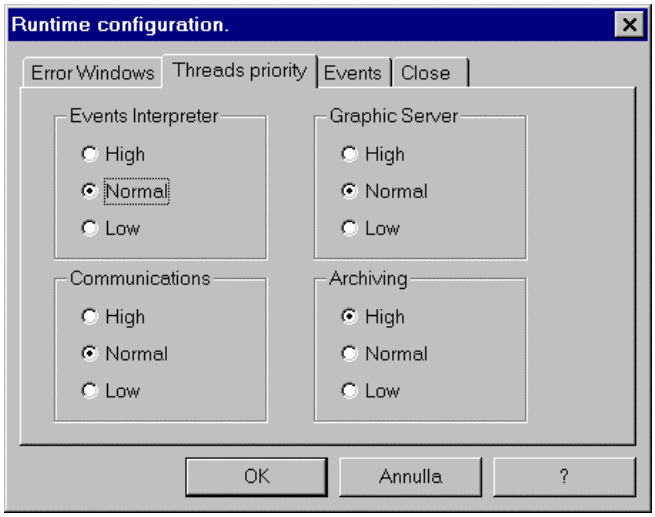


During runtime the first section of the dialog window displays any windows warning of setup or system development errors.

LOGOVIEW NT provides a series of warnings that are activated during runtime if different types of errors are detected. These are displayed on the user's screen by a series of windows. In addition, ***LOGOVIEW NT*** compiles a list of errors that can be easily consulted in its own window. This can be displayed at the start of runtime or by selecting in from the menu.
During the development phase this part of the configuration enables different warnings to be disabled or enables the dimension of the errors display list to be set during runtime.
Remember that even if all the error warnings are disabled they are still stored by ***LOGOVIEW NT*** and can be consulted by the developer.

8.4.1.2 *Threads priority*

The second section of the dialog window is dedicated to setting ***LOGOVIEW NT*** threads priority during runtime.



LOGOVIEW NT consists of different flows that are technically known as 'threads' that are developed simultaneously but since there is only one CPU (Central Processing Unit) the system must be able to assign priorities to different threads.
Inside this section of the window the priorities can be set for the four threads that are considered to be critical during runtime.

Events interpreter: internal ***LOGOVIEW NT*** programming language that is used to run event configuration.

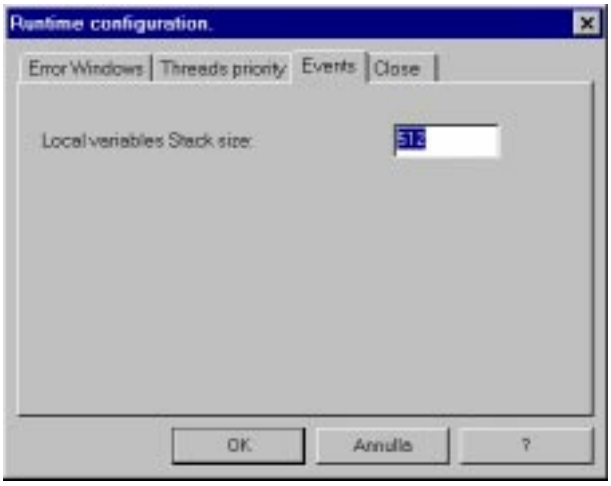
Communications: enables the system to communicate by exchanging data with the drivers of the PLCs or with other systems equipped with ***LOGOVIEW NT***.

Graphic server: program thread that enables the drawings of the objects to be composed inside the layouts.

Archiving: storing the historical application data in the disk file.
The system is already configured meet most requirements. Nevertheless, in a few rare cases, a finer setting may be required. This setting must be made by an expert in order to avoid operating faults during application runtime.

8.4.1.3 *Events*

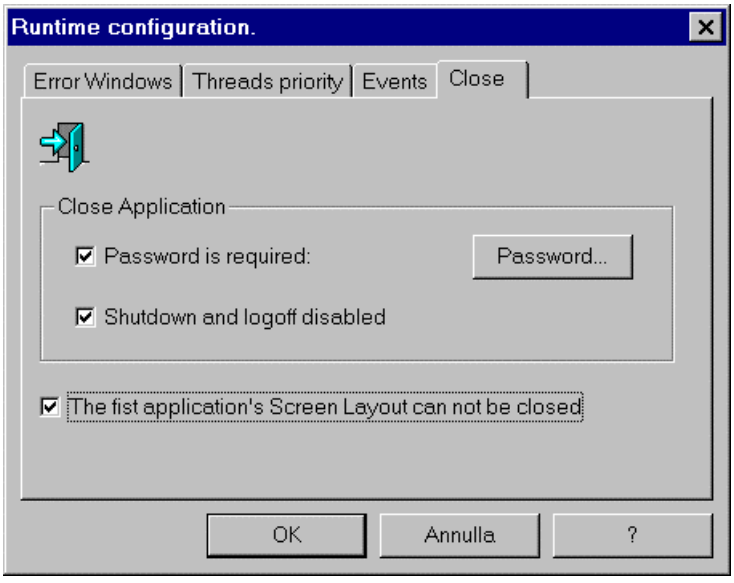
This section of the dialog window is used to set the dimensions of the memory area required for the local variables for the events during runtime.



Here again, it is not advisable to modify the default values assigned to stack size.
Modify by doubling the value only if during ***LOGOVIEW NT*** runtime an error window warns the user that the stack is too small to run an event.

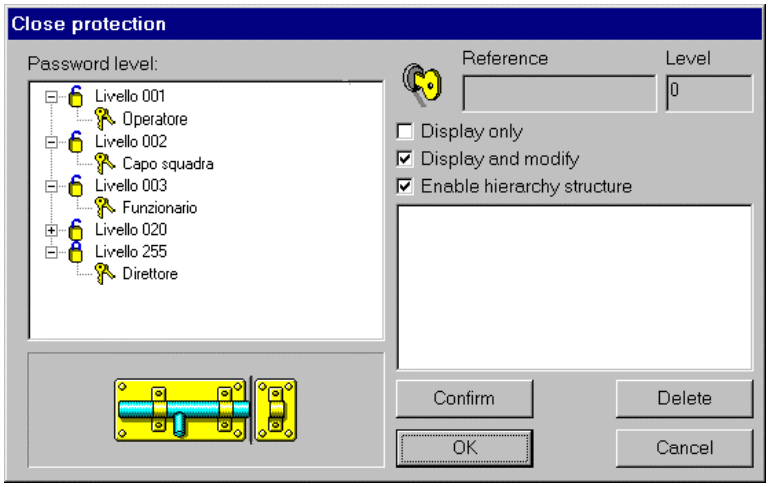
8.4.1.4 *Shutdown*

The last section of the *"Runtime configuration"* window is dedicated to setting application closure.



Inside the window different options can be used to protect the application by assigning passwords so that it cannot be closed by unauthorized users during runtime.
Check (**x**) the box *"Password is required"* to access the list of users who possess a password for using the system and to assign the possibility of closing the system during runtime.

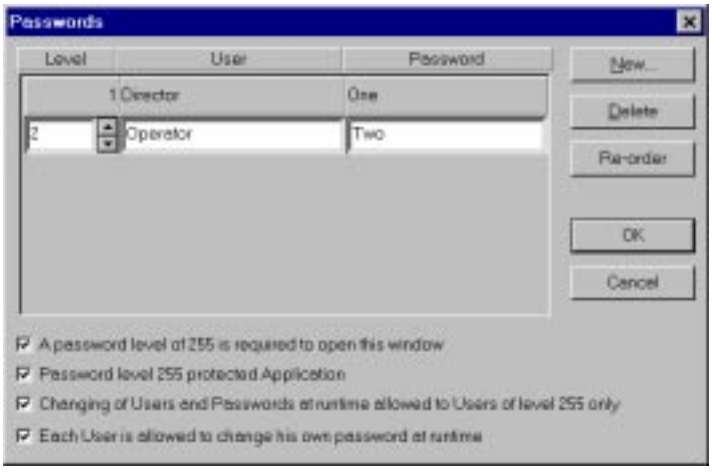
The list of users is displayed inside the window *"Close protection"* and shows the privilege levels assigned to the users during the system design phase.



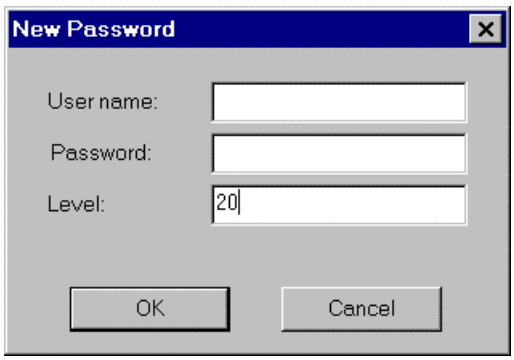
The commands can also be activated to prevent the system support program used by ***LOGOVIEW NT*** from being exited. Finally, even persons possessing an access password can be prevented from shutting down the system right from the first application layout.

8.4.2 Modify Password

Select this command to compile a user list divided by level and to assign a password to each user for displaying and using the application during runtime. When this command is activated a dialogue window is opened in which the options can be configured and the lists can be compiled.



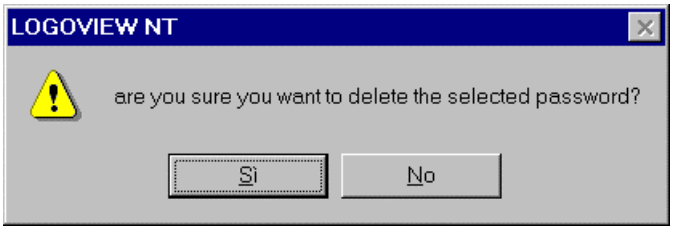
When the window is opened it is displayed without any data. To enter the names of the users and their passwords press *"New"*. A window will then be opened in which the name of the user, the personal password and the a user password level between 1 to 255 can be selected.



After making the entry press *"Ok"* and the data entries will be placed in the display area inside the window after those that have already been entered.
For each level several different users with different passwords can be inserted. A password with fewer than three characters cannot be entered. If only two alphanumeric characters are keyed into the box a window will open to warn the user that the new password cannot be accepted:

After the entry has been made select the command "*Re-order"* and ***LOGOVIEW NT*** will automatically re-order the entered list in ascending order from 1 to 255.

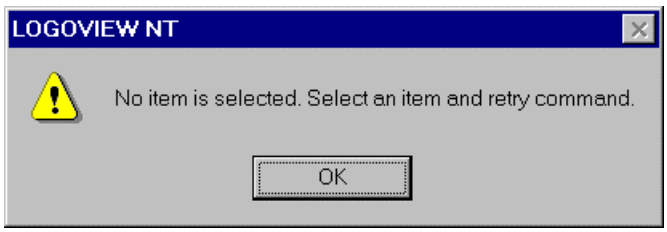
To delete a user from the list, select the relevant line with the mouse and when the line has been highlighted press "*Delete"*. Another window will open to ask for confirmation of deletion of the user.



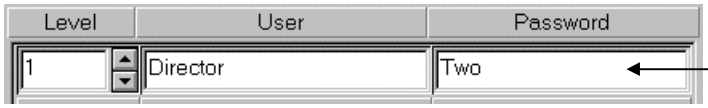
Note

Be careful not to delete protected passwords that are assigned to critical areas. Otherwise, there is a risk that you will be unable to access the area concerned.

If the command "*Delete"* is pressed whilst a user list is being deleted although the corresponding line in the window area has not been selected ***LOGOVIEW NT*** will display a message warning that it is impossible to proceed with the deletion.



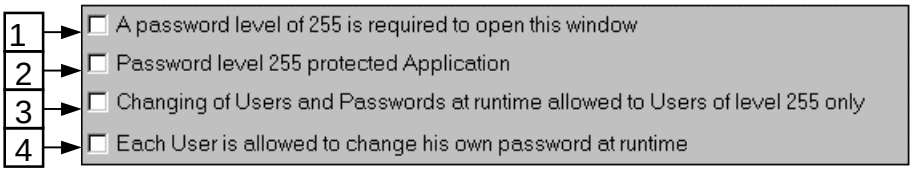
To modify a user level or a password highlight the corresponding line with the mouse and then key in the modifications inside the writing areas.



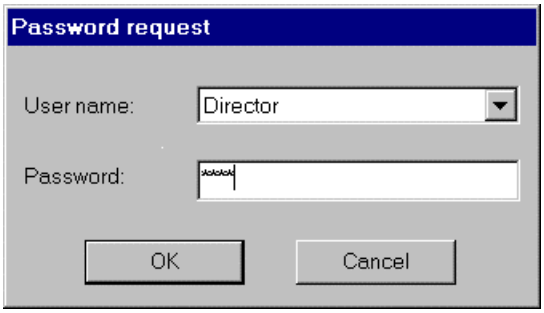
Select the area to be modified and then key in the characters of the new data.

Do

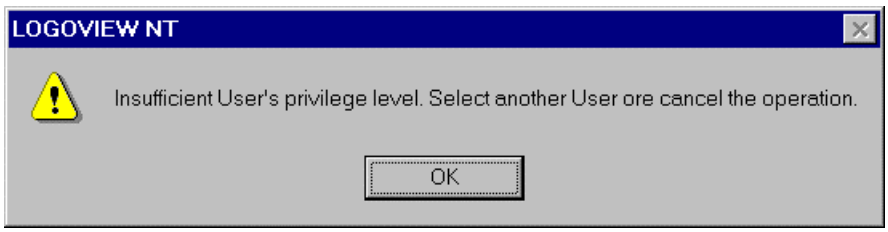
After inserting the new data, select *"Re-order"* and then *"OK"* to confirm the modifications.
The dialog window displays the options that can be selected by clicking with the mouse on the relevant box to put a *'check'* (**x**) in it. Selecting specific boxes enables the developer to customize the passwords.



1- Activate this option restrict access and to allow only 255 password level users to change passwords inside this dialog window (255 SUPERUSER).
When this option is activated, when the command *"Modify Password"* from the *"Options"* menus is selected a window is opened from which the name of the user and the corresponding password should be entered.



If unauthorized users or passwords are entered into the boxes ***LOGOVIEW NT*** will not allow the window to be opened to modify the passwords and will display the message:



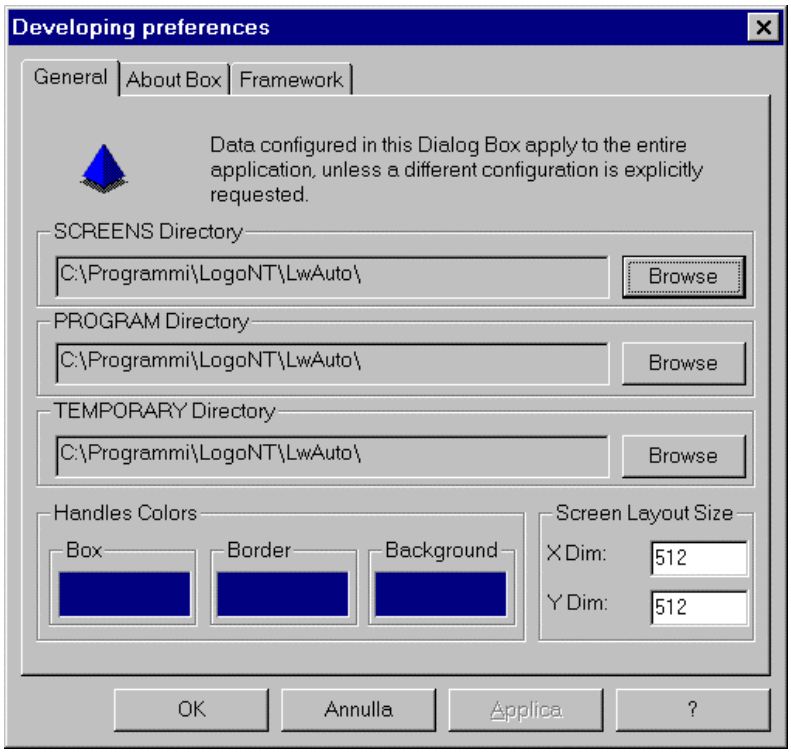
2- This option protects the application during the development phase by allowing only highest level users(255 SUPERUSERS) to make modifications.
When the command is activated, if ***LOGOVIEW NT*** is opened and the user wishes to load the application during the development phase the password request window opens to enable the application to be accessed.

3- Select this option to allow users with the highest level of privilege (255 SUPERUSERS) to modify the protection passwords during runtime.

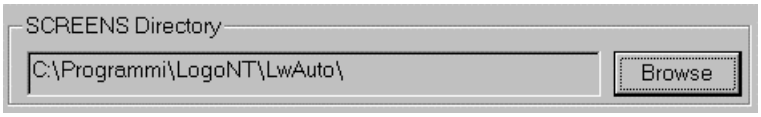
4- Choose this option to allow all the listed users to modify their protection password during runtime.

8.4.3 Preferences

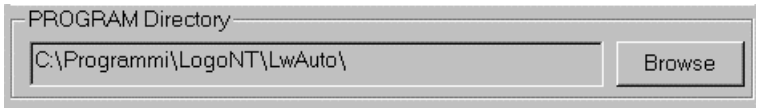
Select this command to activate the possibility of changing system configuration preferences run by Wizard. Activating this command opens a dialog window that is divided into different sections in which the configuration settings can be changed that were inserted in order to create the application skeleton.



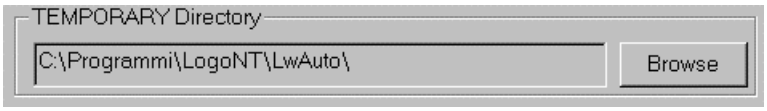
The first window enables the main application settings to be entered: work directory, handles color and dimensions (in pixel) of screen layouts.



This box enables the SCREEN LAYOUTS directory to be set that is used for the application. This directory contains all the boxes and graphic parts that make up the application and the files with the extension .GMB. The directory is set by the 'Browse' button.

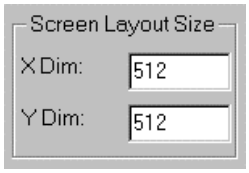


This box enables the PROGRAM directory to be set that is used for the application. This directory contains the application file (.GME), the archives and all those files that run the application package that are not graphic files. The directory is set by the 'Browse' button.

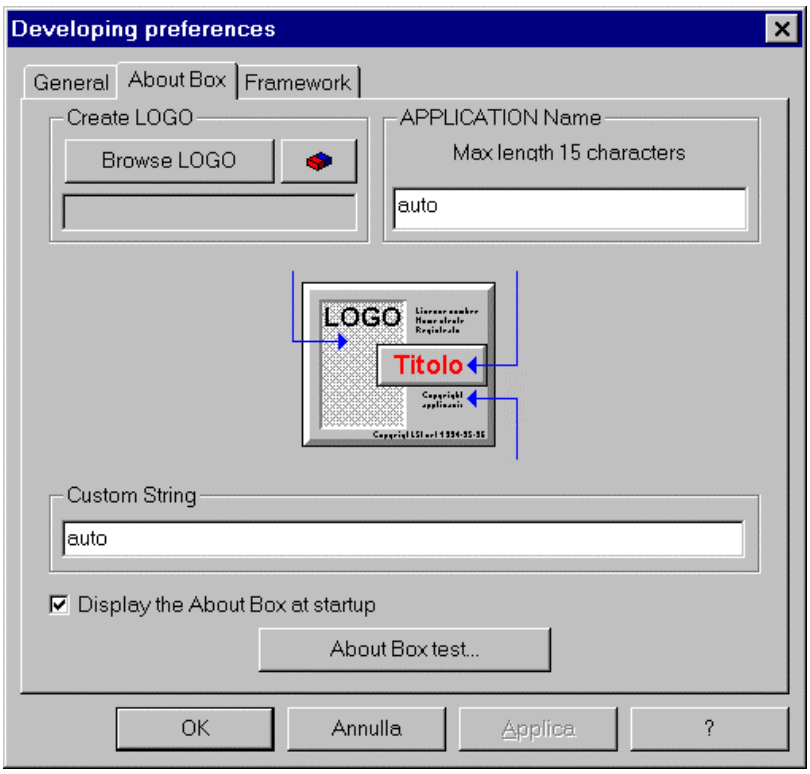


This box enables the SERVICE directory used for the application to be set. All the files that are required only during development and which will not be part of the final application package are saved to this directory. The directory is set by the 'Browse' button.

The colors of the handles around the selected objects can be set in this area together with the XOR color of the boxes. To set a color, just place the mouse on the colored square and press the left-hand mouse key. This will cause the colors window to appear, from which the required colors can be selected.



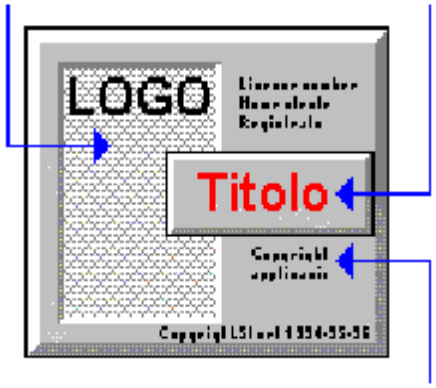
In this section both the height and width of the screen layouts can be set. These dimensions are references: they can be changed later. The value must be between 160 and 1024 pixel



In the second window the screen characteristics can be set that need to be displayed when the is setup. This screen consists of several different parts: a graphic file, the LOGO, the name of the application and a custom string.

Graphic file

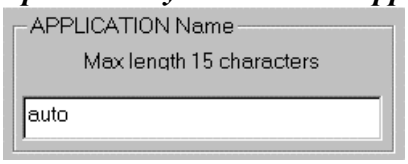
Name of application



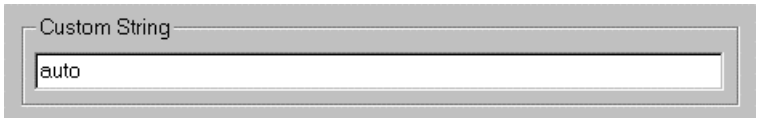
Custom string

This section enables the LOGO to be entered in the startup screen. The graphic file that the user wishes to use as a LOGO must be located in the SCREEN LAYOUTS directory. To identify the LOGO use the button 'Browse LOGO'. This section is not active if the option illustrated below is not selected.

This option activates the startup screen layout when the application is started up.

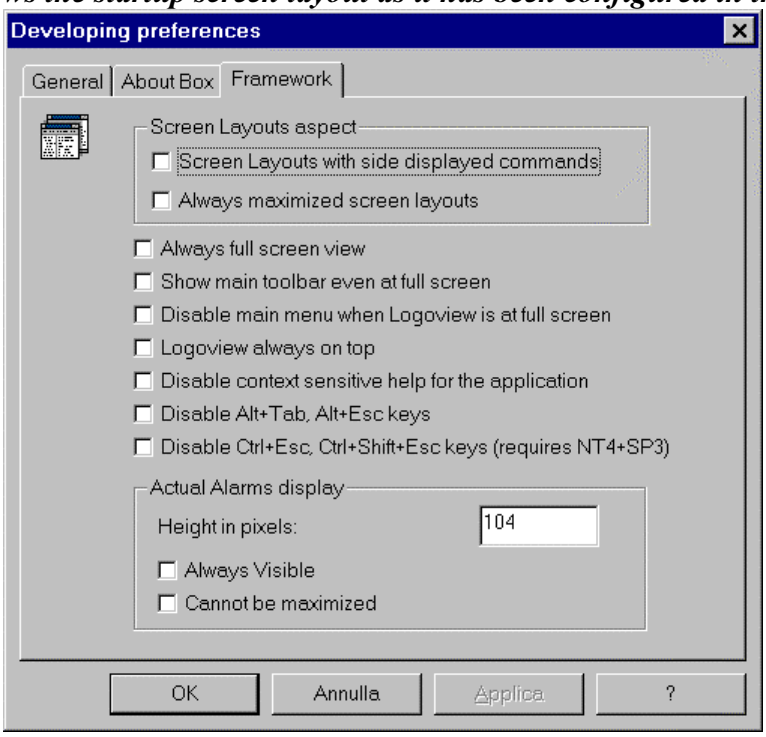


The name of the application appears in this section. This name is displayed on the startup screen.



A brief description can be entered in this box for display when the application is started up. For example, the message can contain warnings about Copyright.

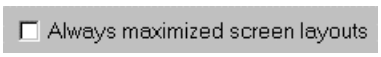
This button shows the startup screen layout as it has been configured in this window.



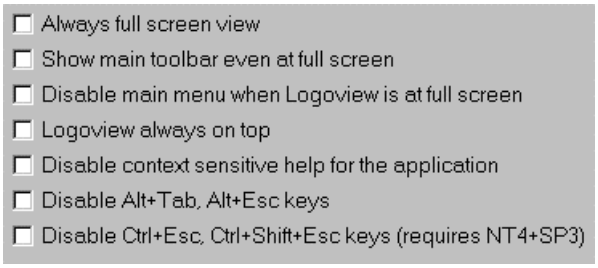
The third window enables important characteristics of the Logoview work environment during runtime to be set. For example, screen layouts aspect,

In this section both the appearance and the behavior of the boxes during runtime can be configured. In particular:

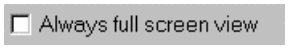
This option enables a toolbar to be displayed during runtime that is located to the left of the window containing the layout.



This option enables the Logoview screen layout to be always maximized. In other words, it enables the screen layout to always take up the entire work window provided by Logoview.



This section enables equally important aspects of the appearance and behavior of the Logoview work environment to be configured.



If the first option is enabled it enables a full screen view of the Logoview layout and removes the toolbar and main menu from view. They are not, however, disabled because the different curtain menus can be opened by simultaneously pressing the ALT+down arrow keys.

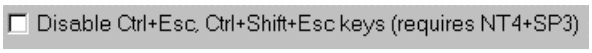
This option can be used only if it is combined with the previous option or if Logoview is at full screen. It enables the user to see the toolbar even at full screen.

This option is available if Logoview is at full screen and allows the user to completely disable the main menu.

This option enables the Logoview to be always on top and physically prevents the windows of the other programs from being on top of Logoview.

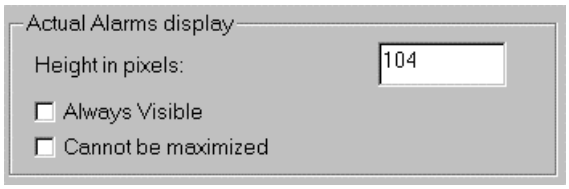
This option is very useful if the context-sensitive Help has not been configured in the program. Place the cursor of the mouse on the white box and click on it with the left-hand side of the mouse. The button that is connected to the Help can be disabled during runtime in order to prevent any mishaps arising from Help command inadequacies.

This option prevents the user from transferring to a program other than Logoview by disabling the combined keyboard commands Alt+Tab and Alt+Esc.



This option can be configured only if the computer has Windows NT4 and Service Pack 3 or later versions. Place the cursor of the mouse on the white box and click on the box with the left-hand key of the mouse. The user cannot activate the Task Manager and the Task Bar because the combined keyboard commands Ctrl+Esc and Ctrl+Shift+Esc have been disabled.

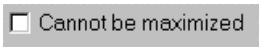
In addition to the foregoing remarks it should be noted that in order to increase Logoview safety in critical environments the options "Always full screen view", "Logoview always on top", "Disable Alt+Tab, Alt+Esc keys", "Disable Ctrl+Esc, Ctrl+Shift+Esc keys" (only NT4 + SP3) should be selected.



This section enables the behavior and the dimensions of the current alarms window to be configured or modified.

A default height in pixels for the current alarms window can be set in this box.

If this option is selected the current alarms will always be shown during runtime and will disable the commands that would enable the user to modify the configuration.



If this option is selected the list of current alarms cannot take up the entire Logoview screen layout, thereby disabling the commands that would allow the user to modify this configuration.

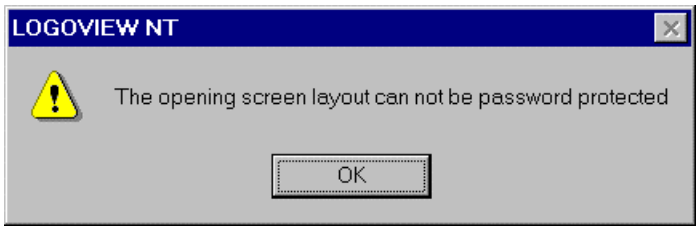
8.4.4 Access table 

Select this command to assign password protection to the layout in which an application is to be designed. It is important to protect layouts in order to prevent modifications or errors and to prevent unauthorized persons from viewing them. In order to prevent unauthorized users from viewing and modifying applications ***LOGOVIEW NT*** has provided different levels of protection. If a command is activated the dialog window *"Layout protection"* is opened. This is subdivided into different areas in which different levels of protection and the levels to which different types of user have access are displayed

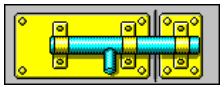
Before embarking on a detailed explanation of this command, the developer should remember that the lists contained in the window areas were compiled previously in agreement with the persons responsible for the future application. Without this step no list of users and protection levels would appear, so that it would not be possible to activate the protection for the layouts that are being designed.

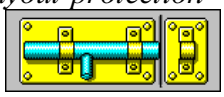
For full explanations on compiling the lists of users and protection levels, see the programming manual.

Let us now examine this command in detail. Note that ***LOGOVIEW NT*** does not allow the "*Opening screen layout"* of the application system to be password-protected. When you click on the layouts list icon  this message will in fact be displayed:

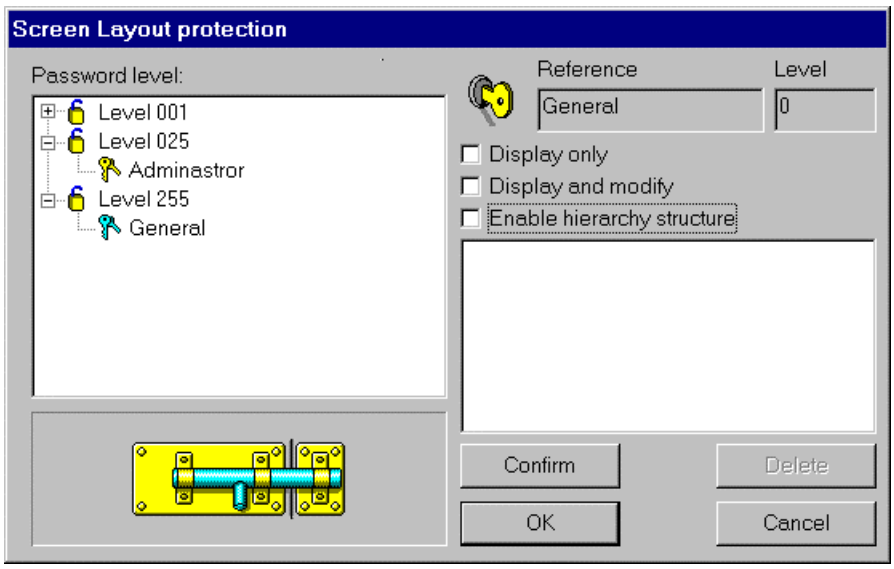


Select the layout icon that you wish to protect from those listed. If the layout on which you wish to work has already been protected, the icon that depicts it will be identified by *'keys'* 

and when the command inside the dialog window opens the bolt logo will be in the "locked" position:  .

If the layout is not protected, when the *"Layout protection"* dialog window is opened the bolt logo will be in the "unlocked" position:  .

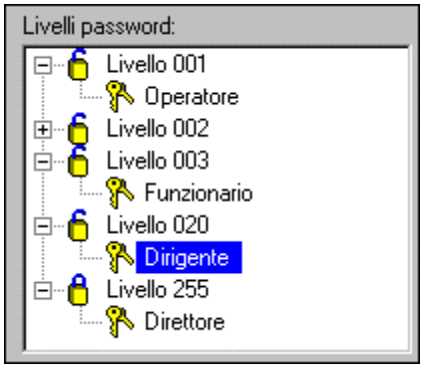
The users and the levels of protection for the layout can now be set.



There are two different ways of applying a protection password to the layout on which one is working. The first method depends directly on the user's personal password; the second is a hierarchical type of protection that depends on the previously compiled list.

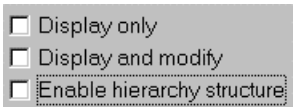
8.4.4.1 *Direct protection by password*

Inside the *"Password levels"* of the dialog window a list appears numbering levels from 001 to 255. Inside each level users with different functions and personal passwords can be listed. To view the users, click twice on the required level to open the list.



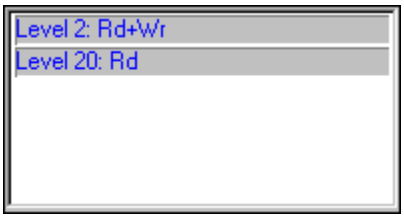
Click on the chosen user on the opened list. The user will be highlighted and displayed in the reference area combined with the level of password

protection. After this step the user must be assigned his or her access privileges to the layout. Click with the mouse on the different options. The selected options will be highlighted by a *'check'* (**x**).



After correctly carrying out all the steps press 

to place the selected user on the list. Repeat this procedure for all the other users.



During runtime the users on the list will have access to the protected layout only after entering their password and may intervene or view the layout on the screen only if they have been authorized to do so by the developer during the application design phase.

8.4.4.2 *Protection by hierarchy structure.*

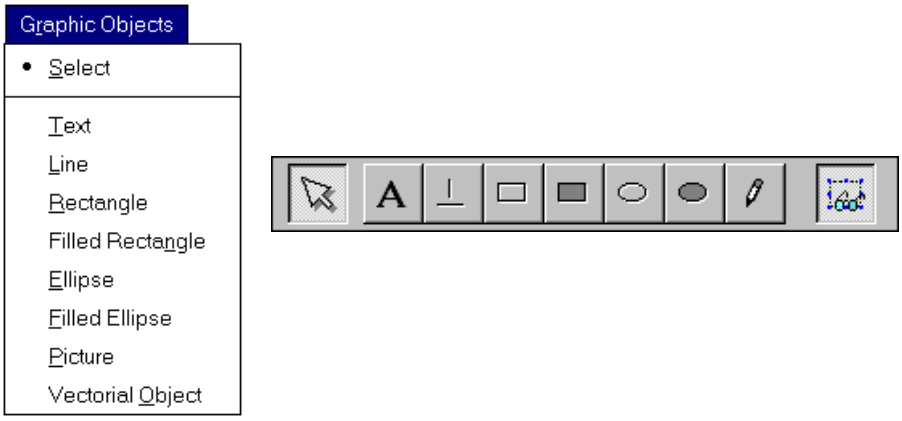
By assigning levels of privilege and passwords to different users during the design phase hierarchical choices are made: as the levels increase (from 0 to 255) privileges increase for users. This means, to take a simple example, that the line operator will be LEVEL 0 whilst the plant director will be LEVEL 255.
Let us look at a simple example of the option *"Enable hierarchy structure"* Select this command to delete the display of users from the layout access list with their privileges as assigned by the developer. At this point it is necessary to select a level from the list of the *"Password levels"* area that is displayed without reference to the user.

.

After this command has been confirmed during runtime all the LEVEL 20 or above users on the list who are authorized to view and modify the layout can access the application whilst lower level users will be denied access regardless of the assigned privilege level.

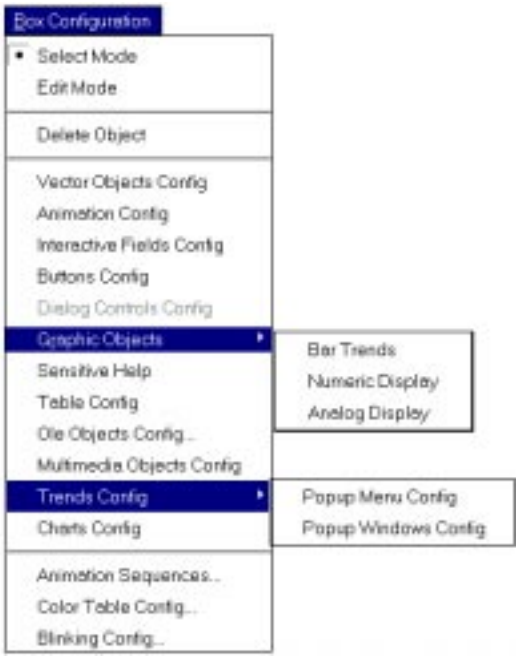
8.4.5 Static graphics 

Select this command to enable editing of the static graphics inside the layout or to insert the graphic objects or images that are static inside the layout during runtime. The command can also be activated by selecting the icon on the toolbar at the side.
The static graphics objects can be used to customize the layout or for inserting the reference data or images. These are static and cannot therefore be removed or modified but may be useful to the user during runtime.
After editing has been enabled, a new toolbar will appear at the top of the screen that is made up of different graphic objects for compiling the static graphics. At the same time, inside the menu toolbar, ***LOGOVIEW*** will alter the *"Graphic objects"* menu by inserting the commands that correspond to the toolbar items.



For a more detailed explanation of the chapter see the chapter static graphic objects menu
on page 234.

8.5 BOX CONFIGURATION menu



This chapter describes the commands for selecting the different icons that make up the *"Box Configuration"* menu.
All the windows that are opened after the commands are activated are described in the chapter on the layout editor.
We shall restrict ourselves to describing the functions of the different commands and the relative icon in the editor toolbar.

8.5.1 Selecting, moving and size changing 

Select this command to enable a box to be selected inside the layout. Place the cursor of the mouse on the screen and it will take on the appearance of an arrow. To activate the box, move the cursor onto the required box and press the left-hand mouse key. The selected box will be highlighted by the handles along the perimeter, which are used to change the size of the box and move it to another point in the layout.

8.5.2 Insertion of reference box 

Select this command to insert a new reference box inside the layout. When the mouse cursor is placed on the screen it will take on the form of a 

Press the press the left-hand mouse key to obtain a screen display of a box with pre-set dimensions that is highlighted by the handles around the perimeter, with an internal number that starts from 0 and increases by 1 for each new box specified in the layout.

8.5.3 Delete objects 

Select this command to enable one or all the objects and the options in the box inside the layout to be deleted.
When this command is activated a dialog window is opened in which all the objects and options in the box are listed that can be deleted.

8.5.4 Vector objects configuration 

Select this command, which is available only with a selected box, to insert a vectorial object that is store in a dedicated library inside the layout. The vectorial objects are graphic objects that are connected to variables and are very much used in ***LOGOVIEW NT*** applications.

8.5.5 Animations 

Select this command, which is available only with a selected box, to activate a color animation in the layout. A color animation consists of different colors that alternate and change when a variable value changes.

8.5.6 Interactive fields 

Select this command, which is available only with a selected box, to define an interactive field inside a layout. This type of field enables the operator to interact with a variable. The variable assigned to the interactive field can be displayed in different colors, that vary according to the variable value. In addition, if the developer considers this to be necessary, the operator can modify the variable during runtime.

8.5.7 Buttons 

Select this command, which is available only with a selected box, to define a button inside the layout. Pressing this button can be assigned to running an event or loading another layout.

8.5.8 Trend 

Select this command, which is available only with a selected box, to insert a trend inside the layout, i.e. the representation of a certain form, of a variable. There are three possible representations: bar trend, analog tool or digital tool.

8.5.9 Sensitive Help 

Select this command, which is available only with a selected box, to insert a context Help in the layout. This Help enables the operator to access information on the different objects in the layout that the developer has provided.

8.5.10 Tables 

Select this command, which is available only with a selected box, to insert a table consisting of the variables values. This table is very convenient for showing the operator a certain number of variables in columns to be monitored during runtime.

8.5.11 OLE objects 

Select this command, which is available only with a selected box, to insert an OLE object inside the layout. This command is very useful if applications that are not part of the package need to be inserted such as *WORD* or *EXCEL*. These applications can in fact be incorporated into others, thanks to the *OLE* standard.

8.5.12 Multimedia objects 

Select this command, which is available only with a selected box, to insert any object inside the layout that that uses the MCI. interface ***LOGOVIEW NT*** can therefore reproduce sounds, films, etc.

8.5.13 Trend config. 

Select this command, which is available only with a selected box, to insert a popup menu into the layout. This can be actuated by the operator by pressing the right-hand mouse key during runtime. This menu may contain commands that can be configured to suit the developer's requirements such as running events, changing layout or simply inserting Help menus inside boxes.

8.5.14 Chart config 

Select this command, which is available only with a selected box, to insert a graph inside the layout. The graph is constructed by a powerful editor that enables all the variables that

make it up to be configured very flexibly. ***LOGOVIEW NT*** provides a powerful tool for creating graphs.

8.5.15 Animation sequences 

This command is always active. Select it to open a library of vectorial images that have been created with the Flash Draw software for use in the configuration of vectorial objects.
These animations are sequences of images that can be configured by preset shifts of the variables inside the layout.

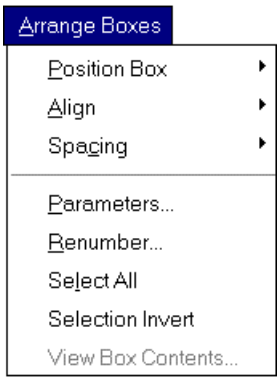
8.5.16 Colors table 

Select this command to define the specific layout colors. These colors are specializations for each single layout of the default colors.
As each layout of whatever type has a palette and the palette represents the whole of the colors that can be used on that layout it is possible to use only these colors to draw on the layout.

8.5.17 Blinking table 

Select this command to define the specific blinking colors for the layout. These colors are specializations for each single layout of the default colors.
The blinking colors are colors that do not remain fixed on the screen but instead take on two different colors in order to simulate blinking.

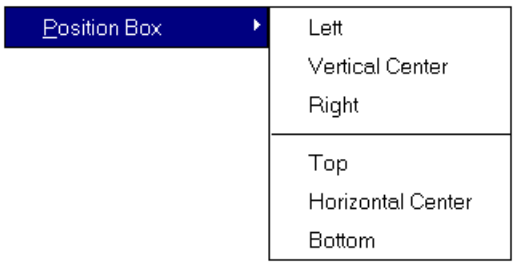
8.6 ARRANGE BOXES menu



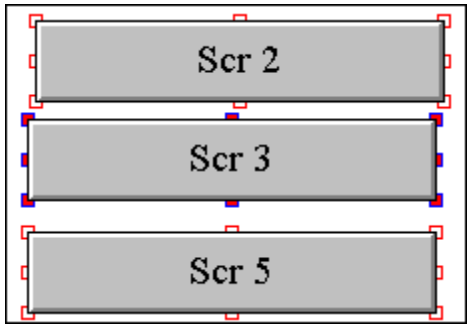
The *"Arrange Boxes"* menu and all the control command are displayed inside the menu bar when the box entry and editing commands inside the layout are displayed.

8.6.1 Alignment

Use this command to align all the boxes selected inside the layout. To align, use the different options by clicking on the command window with the mouse.



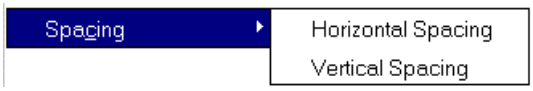
To select the boxes to be aligned, click the mouse on each one and at the same time press *"Shift"* on the keyboard and press the left-hand mouse key. To select all the fields run the *"Select all"* (see page 188).



Inside the layout on the worksheet a box can be selected as a reference for ordering all the others. The reference box is always the last one to be chosen. To change the reference box after the selection click the mouse on the box and press *"Shift"* on the keyboard at the same time. The reference box for ordering is highlighted by the handles that surround it becoming full. (In the example the reference box is number 3).

8.6.2 Spacing

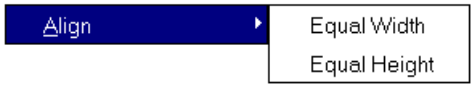
This command can be used after **3 or more** boxes inside the layout have been selected. This command enables the same distance (spacing) to be assigned between one box and another both in terms of height and width.



Inside the layout displayed on the worksheet a box can be selected as a reference for ordering all the other boxes. The reference box is always the last one to be selected. To change reference box click the mouse on the required box and at the same time press "Shift" on the keyboard. The reference box for ordering is highlighted by the handles around it filling up.

8.6.3 Dimensions

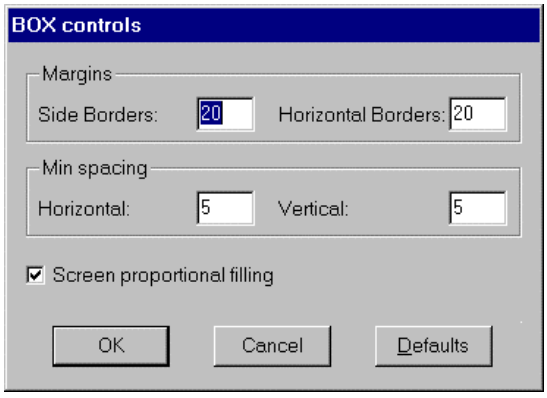
Use this command to assign the same height or width dimensions to all the boxes inside the layout in relation to the reference box.

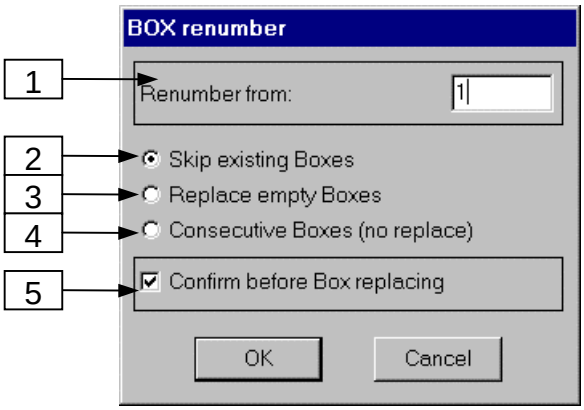


Inside the layout displayed on the worksheet a box can be selected as a reference for ordering all the other boxes. The reference box is always the last one to be selected. To change reference box click the mouse on the required box and at the same time press "Shift" on the keyboard. The reference box for ordering is highlighted by the handles around it filling up.

8.6.4 Parameters

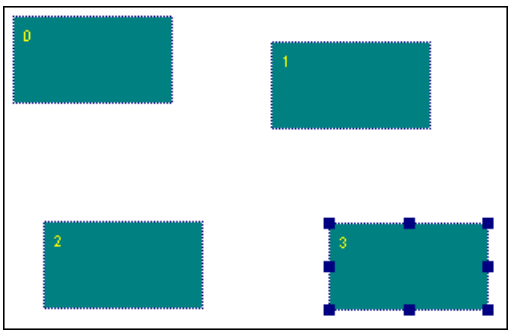
Use this command to configure the margin parameters and the spaces between the boxes when the *"Spacing"* command is run (see page 186).
When this command is activated the dialog window *"BOX controls configuration"* opens up, inside which the required values can be inserted into the relevant boxes.
If the *"Defaults"* command inside the boxes is selected the values displayed in the window at the moment of opening will appear.
If the command *"Proportional filling of the screen"* is selected, the spacing and the margins between the boxes in the screen will be proportional to the configured layout.





8.6.5 Renumber

Use this command to renumber the boxes inside the layout. The boxes each have an identification number that is assigned on the basis of the entry number in the layout.



This command can be used after two or more boxes inside the layout have been selected whose reference numbers need to be replaced.
If the command is run a dialog window will open into which the different box renumbering options can be entered.

1- *Renumber from:* inside the box insert the box number from which renumbering should start:

2- *Jump existing boxes*: if this option is activated, renumbering will start from the first free number that is not occupied by a box, regardless of the one entered in the top box.
For example, if you wish to renumber from number 7, but the first number that is not occupied by a box is '9', renumbering will start from '9'.

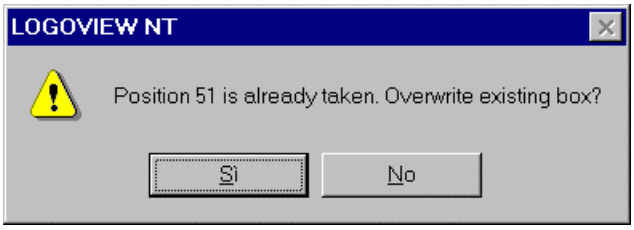
3- *Overwrite existing boxes if empty:* if this option is activated renumbering will start from the first number occupied by an empty box that contains no graphic objects, starting with the box number from which renumbering should start.
For example, if you wish to renumber from number '7' but the first empty box that contains no graphic objects is 10 renumbering will start from number 10.

4- *Consecutive boxes without overwriting:* if this option is activated renumbering will start from the first number that is not occupied b a box followed by a series of consecutive free numbers that can complete renumbering.

In this case renumbering does not overwrite the existing empty boxes but starts with the first possibility of having a consecutive run of available boxes so that the total number of boxes to be renumbered can be satisfied, regardless of the number of the box from which one wishes to begin renumbering.

For example, if 3 boxes inside the layout are selected for renumbering from the number '7' renumbering will start when the program has chosen 3 consecutive empty numbers, i.e. numbers that are not assigned to other boxes.

5- *Warning before overwriting a box*: this option is active only after the command *'Overwrite existing boxes if empty'* has been selected. Selecting it will open a warning window each time that ***LOGOVIEW NT*** overwrites an empty box in the layout.



8.6.6 Select all

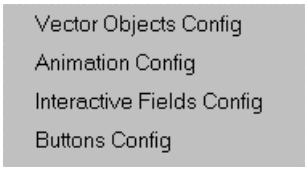
Use this command to select all the boxes inside the layout.

8.6.7 Invert selection

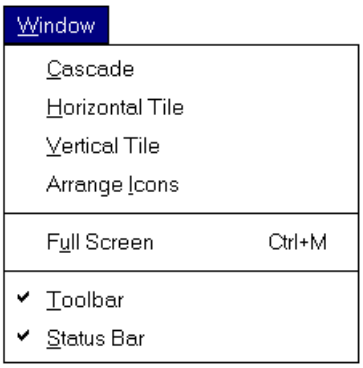
Use this command to invert the selection of the boxes inside the layout. The non-selected boxes will be selected and the selected boxes will be deselected.

8.6.8 See box configuration

Use this command to display the configurations inside the selected box.



8.7 The WINDOW menu



8.7.1 Superimpose

Command to use to superimpose several layouts that are open at the same time in such a way that the title bar for them all is visible. This makes it easier to move from one layout to an other by clicking on the title bar with the mouse or selecting it directly from the *"Window"* menu in the list displayed at the bottom.
N.B. It is not possible to superimpose layouts that have been reduced to icons.

The open and superimposed layouts will be displayed with the title bar highlighted.

8.7.2 Arrange horizontally /vertically

- *Horizontally:* this command is used to arrange the open layouts horizontally so that they can be seen together. If two layouts are open, one will appear in the top half of the screen and the other will appear in the bottom half. The active layout is positioned in the top part of the screen.
- *Vertically: :* this command is used to arrange the open layouts vertically so that they can be seen together. If there are two open layouts one will appear in the right-hand side of the screen and the other will appear in the left-hand side of the screen.

The two commands are useful for working with several open layouts at the same time so that layouts can be configured better.

8.7.3 Arrange Icons

Use this command to order the layouts that have been reduced to icons along the bottom of the screen.

8.7.3.1 *How to arrange the layouts that have been reduced to icons*

Select the icon  from the screen control menu to reduce all the layouts to *icons*.
Select the command *'Arrange icons'* from the *'Window'* menu. The layouts that have been reduced to icons will be located at the bottom of the screen.

8.7.3.2 *How to restore images that have been reduced to icons*

Click with the mouse on the layout icon  that you wish to open.

or

Select the name of the layout that you wish to open from the *"Window"* menu.

8.7.4 Full screen

Command used to obtain full-screen display of the entire open layout that is being designed. The menu bars and the tool bars containing the program icons will be hidden. This enables a more complete view of the layout on which you are working to be obtained when its dimensions mean that a complete view cannot be obtained.
To restore the menu and toolbars to the screen press keys **CTRL+M** on the keyboard.

8.7.5 Toolbar

This command is used to show or hide the *"Toolbar"*. The toolbar contains all the tools required for designing the layouts. To display the tool bar place a *'check'* (**✓**) in the box next to the command in the menu.

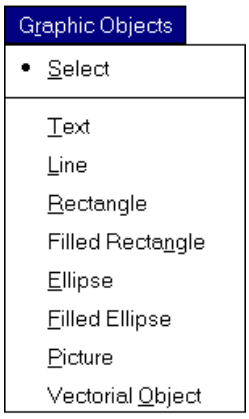
To rapidly select a tool press the corresponding icon in the *"Toolbar"*. The selected icon will appear to be depressed in relation to the others and the status line will display a description of the tool used.

8.7.6 Status line

This command is used to show or hide the *"Status line"*. The *"Status line"* displays information on current operations. To display the *"Status line"* place a *'check'* (**✓**) in the box next to the command in the menu.

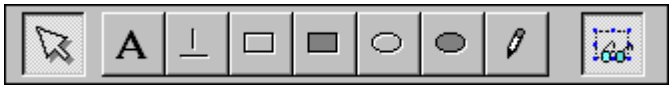
The data displayed on the status line varies according to the operation that is being performed. A short description of the selected command is displayed together with the number of the boxes inside the layout that is being designed and of the coordinates of the mouse inside the layout and of the active box. It can also display additional information if this is activated.
If a command has been selected that can be run only after a certain time has elapsed, as is the case when a file is saved, the status line will display a message that shows that the operation is in progress.

8.8 STATIC GRAPHIC OBJECTS menu



Select *"Static graphics"* to the static graphics option inside layout or in order to enter *"graphics primitives"* items or images that are static inside layout during the application.

To run the command, select this icon from the toolbar on the side:  .
The *"graphics primitives"* icon can be used to customize the layout or to enter reference or static data or images and cannot therefore be removed or modified whilst the application is run but may be useful to the user during the application.
After editing is enabled, a new toolbar will appear at the top of the layout. It comprises different graphic objects for making up the *"graphics primitives"*. At the same time, inside the menu toolbar ***LOGOVIEW NT*** changes the composition of the *"Graphic objects"* by inserting the toolbar commands.



After the command *"Static graphics",* inside the *"Graphic objects"* menu is activated, a new option appears: *"Display Box"* ,

This corresponds to this icon in the side toolbar:  .
This option enables or disables the *"graphics primitives"* display and all the elements that it contains. If the command is activated, all the elements inside the layout are displayed. If the command is deactivated, inside the layout only the *"graphics primitives"* will be displayed that have been entered. Remember that whichever selection is made, the box and the objects that it contains cannot be altered in any way.

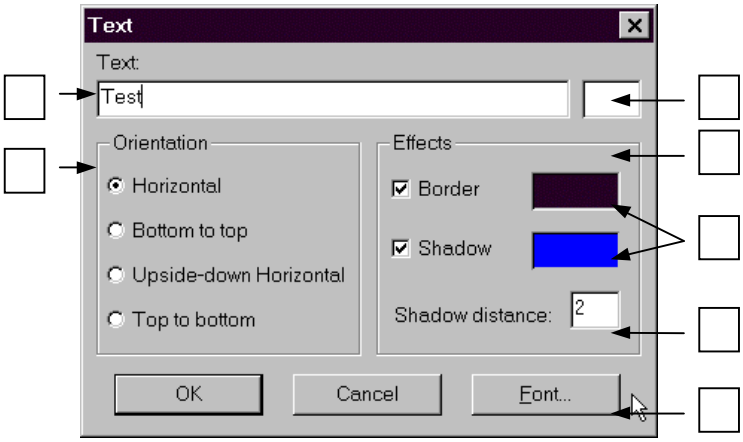
8.8.1 Select 

Select this icon to select one of the *"graphics primitives"* inside the layout. Click the mouse on the screen and the cursor will become an arrow. To select the required *"graphics*

primitives icon click on it and press the left-hand mouse key. The selected *"graphics primitives"* icon will be highlighted by the handles around the edge. These enable the icon to be maximized or minimized or to be moved to any other point in the layout.

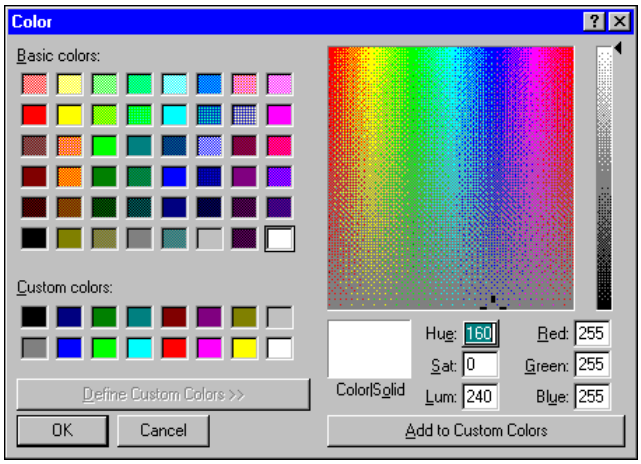
8.8.2 Text 

Select this icon to insert a *"graphics primitives"* icon containing a text inside the layout. The inserted test will remain fixed whilst the application is run.
After the command is activated a dialog window will open from which the text characteristics can be selected.



The dialog window is divided into different areas from which the text configuration can be selected.

1- *Text*: inside this box key in the text to be inserted inside the layout.
Text color: this box displays the color that is assigned to the text. To change the color, click on the box twice to open the color dialog window, from which the required color can be selected.



Orientation: inside this area, assign the text's position inside the layout by selecting from the four options: *Horizontal – Upturned Horizontal From top to bottom – bottom to top.*

Effects: inside this area, select the special effects that you wish to assign to the text inside the layout.

Contour: run this command to surround the text with a color selected from the box on the side.

TEST TEXT

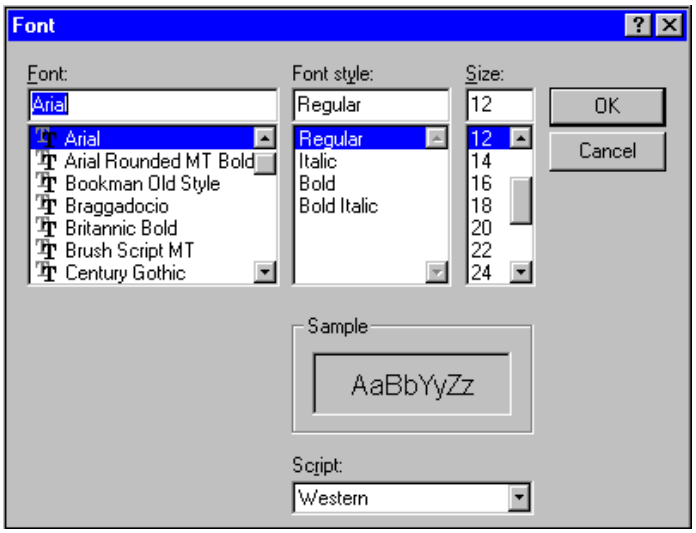
5- *Shade* : activate this command to shade this text with a color selected from inside the box on the side.

To replace the colors inside the boxes, click with the mouse on the box to open the *'Color'* dialog window from which to select the required color.

Shade distance: this box is active only if the *'Shade'* option has been selected from inside the *'Effect'* area. Enter a number from 1 to 99 inside this box to defined the distance of the shade from the text.
For example, if 8 is entered for the shade configuration, the text will be displayed thus inside the layout:

Shade test

Font: select this command to open the dialog window *"Font"* from which to select the text font type. The characters inside the dialog window are those of the system that is currently in use.



After pressing the *'OK'* button to assign all the text options, the text will be displayed inside the layout and will be highlighted by handles that enable the text to be minimized, maximized or moved.

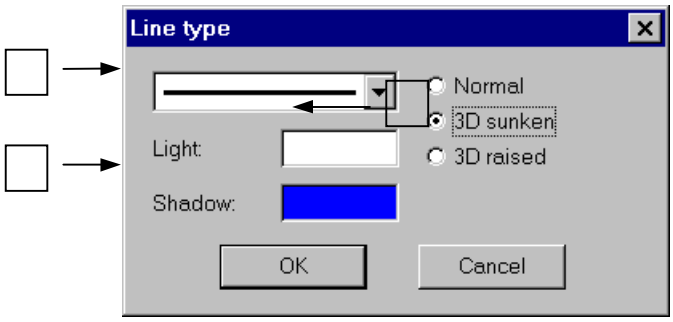
Text test

Notice

When selecting a font, make sure that it has also been installed in the machine program that must run the application. Otherwise, the text will be assigned the default font.

8.8.3 Line 

Select this icon to insert a straight line inside the layout.
Activate the command by clicking on the screen at the point in which you wish to plot the line and press the left-hand mouse key to open a dialog window from which to select the characteristics to assign to the line.

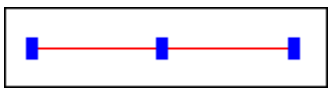


The dialog window is divided into different areas from which to select line configuration.

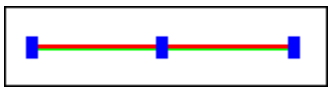
2. Line: click on the pull-down menu to view a list of lines of different dimensions and select the one required.

3. Light and shade:
Light: color of line displayed in the box.
Shade: color of line shade if option 3D is selected.
To replace the colors inside the boxes, click on the box to open the *'Color'* dialog window from which to select the color required.

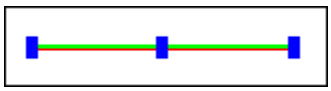
Effects: select one of the options from the list to assign different effects to the layout's line display.
Normal: the line is displayed with the selected color in the *'Light'* box.



3D at bottom: the line is displayed with the color selected from the *'Light'* box with the color selected from the *"Shade"* box in the background.

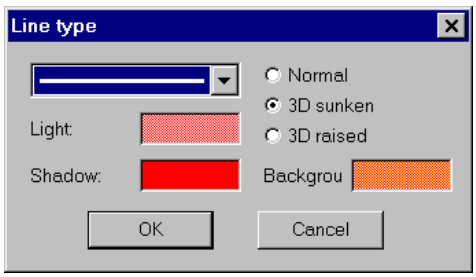


3D at top: the line is displayed with the color selected from the box *"Light"* with the color selected from the box *"Shade"* in the foreground.



8.8.4 Empty rectangle 

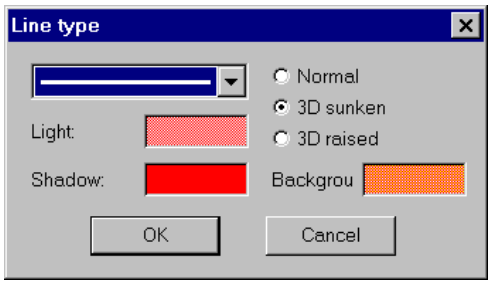
Select this icon to insert an empty rectangle inside the layout.
Activate the command by clicking on the screen at the point in which you wish to plot the line and press the left-hand mouse key to open a dialog window from which to select the characteristics to assign to the rectangle's perimeter lines.



The dialog window contains the same options as the window for assigning the different "Line" characteristics

8.8.5 Full rectangle 

Select this icon to insert a full rectangle inside the layout.
Activate the command by clicking on the screen at the point in which you wish to plot the line and press the left-hand mouse key to open a dialog window from which to select the characteristics to assign to the rectangle's perimeter lines and with which to fill the rectangle.



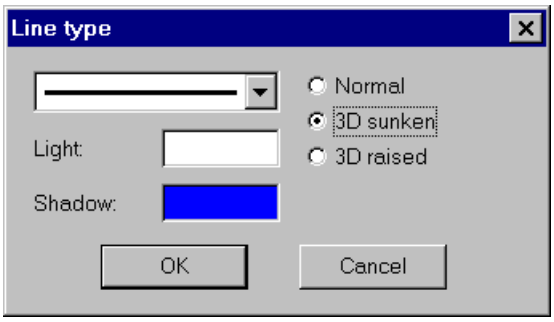
The dialog window contains the *'Empt rectangl* caracteristics contains color to be selected

Inside: this box displays the color with which the rectangle is filled. To change the color,

click on the box to open the *"Color"* dialog window from which to select the required color.

8.8.6 Empty ellipse 

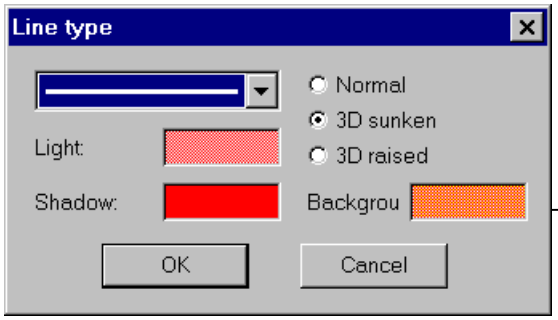
Select this icon to insert an empty ellipse inside the layout.
Activate the command by clicking on the screen at the point in which you wish to plot the line and press the left-hand mouse key to open a dialog window from which to select the characteristics to assign to the perimeter lines of the ellipse.



The dialog window contains the same options as the open window for assigning *'Line'* characteristics except that only the command *"Normal"* and the color *"Light"* can be activated and run. All the other options are deactivated and cannot be used to draw an ellipse.

8.8.7 Full ellipse 

Select this icon to insert a full ellipse inside the layout.
Activate the command by clicking on the screen at the point in which you wish to plot the line and press the left-hand mouse key to open a dialog window from which to select the characteristics to assign to the perimeter lines of the ellipse and with which to fill the ellipse.



The dialog window contains the options as the open assigning the *Empty* characteristics and also*'Inside* that enables the color selected with which to fill rectangl

Inside: this box displays the color with which the ellipse is filled. To change the color, click on the box to open the *"Color"* dialog window from which to select the required color.

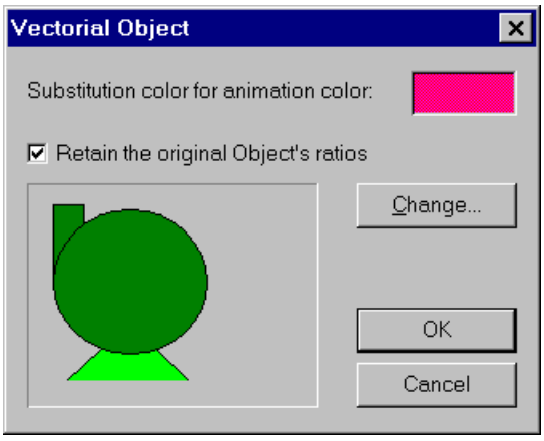
8.8.8 Insert an image 

Select this icon to insert an image with the extension .BMP inside the layout.
Activate the command by clicking on the screen at the point in which you wish to enter the image and press the left-hand mouse key to open a dialog window from which to select the path and the type of image to be displayed inside the square.

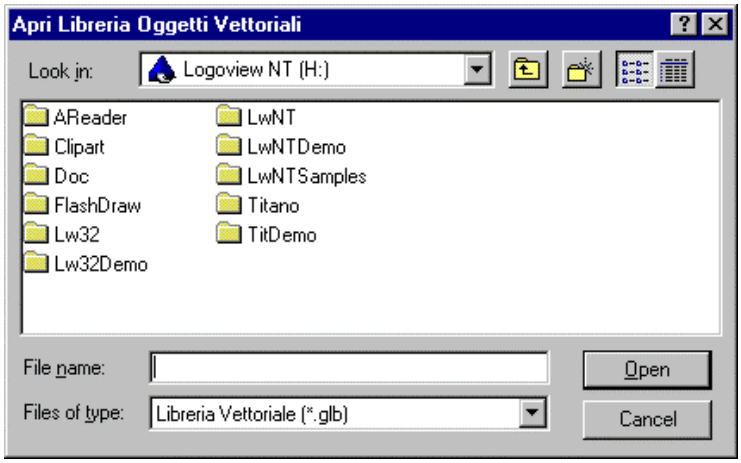
The dialog window is a *'Load image'* that is normally used in a Windows environment and from which all the image path options can be selected for display.

8.8.9 Vector object 

Select this icon to insert inside the box a vector object that is stored in a dedicated library.
The vector objects are graphic objects that are greatly used in ***LOGOVIEW NT*** applications.
Typical vector objects are the symbols used to indicate the machines used in the system: symbols of motors, valves, etc. A library of vector objects can be created by using the *Flash Draw* program (can be purchased separately).
To insert the vectorial objects, use the above command. The objects cannot be animated. Instead the form part of the background of the box.

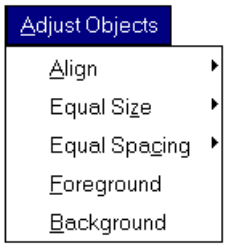


Click on the left-hand mouse key to select the icon  to position a vectorial object on the screen when you click on the window shown here. This enables the developer to set the animation color and to select the object to be inserted on the screen.
Click on the box in which the image appear or on the button 'Change' to open another dialog window.



This opens the library from which the required image can be selected. This dialog window is described in greater detail on page 126 of the 'Logoview NT user guide

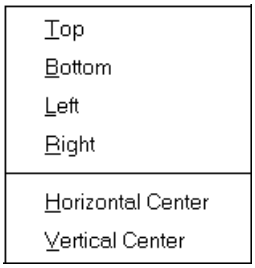
8.9 The ADJUST OBJECTS menu



This menu and its commands are current during editing of the *"graphic primitives"*. Select the command *"Adjust Objects"* to enable editing of static graphics inside the layout: in other words, the command loads the *"graphic primitives"* items or pictures. The command can also be run by selecting the icon  on the toolbar at the side.

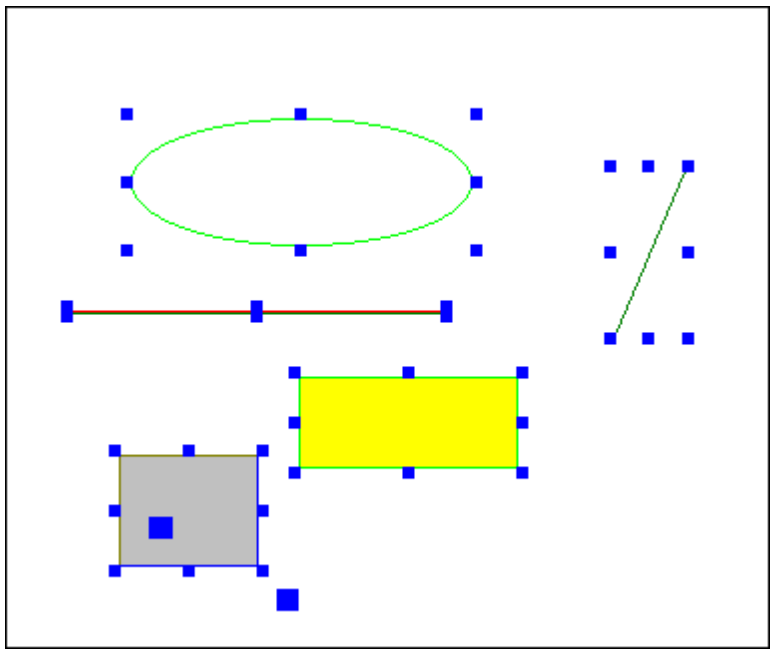
8.9.1 Align

Use this command to align the *"graphic primitives"* selected from inside the layout. Different alignment options can be selected from a menu by clicking on them with the mouse:



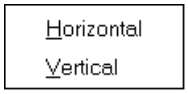
To select the *"graphic primitives"* to align, click on each one with the mouse and then press the *"Shift"* key and press the left-hand mouse key at the same time. To select all the *"graphic primitives"*, activate the command *"Select All"* from the *"System Box"* menu (see page 188).
From the *"graphic primitives"* selection displayed on the layout one *"graphic primitives"* can be selected as a reference for sorting all the others. The reference *"graphic primitives"* is always the last one of all to be selected.

To change the reference *"graphic primitive"*, run the command *"Select"*, clock with the mouse on the required one and then and then press the *"Shift"* key and press the left-hand mouse key at the same time. The selected *"graphic primitives"* will be highlighted by the handles around it filling up.



8.9.2 Equal sizes

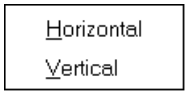
Use this command to assign the same heights or width to all the *"graphic primitives"* selected from the layout.
From the *"graphic primitives"* selection displayed on the layout one *"graphic primitives"* can be selected as a reference for changing the sizes of all the others. The reference "graphic primitives" is always the last one of all to be selected.
To change the reference *"graphic primitive"*, run the command *"Select"*, clock with the mouse on the required one and then and then press the *"Shift"* key and press the left-hand mouse key at the same time. The selected *"graphic primitives"* will be highlighted by the handles around it filling up.
Click on the arrow to the side of the command to open another menu.



If *"Horizontal"* is selected all the *"graphic primitives"* will be the same width; if *"Vertical"* is selected all the *"graphic primitives"* will be the same height.

8.9.3 Equal spacing

Use this command after selecting **3 or more** *"graphic primitives"* inside the layout. This command enables the same distance (spacing) to be set between one *"graphic primitives"* and another, in terms both of height and width.
Click on the arrow to the side of the command to open another menu.



If *"Horizontal"* is selected all the *"graphic primitives"* will have the same spacing width; if *"Vertical"* is selected all the *"graphic primitives"* will have the same spacing height.

8.9.4 Foreground

Use this command to place in the foreground the selected *"graphic primitives"* that are positioned underneath other *"graphic primitives"* inside the layout.

8.9.5 Background

Use this command to place in the background the selected *"graphic primitives"* that are positioned above other *"graphic primitives"* inside the layout.

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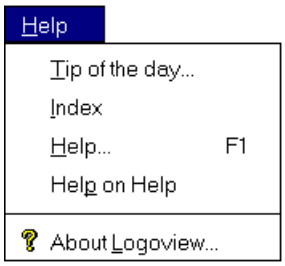
8.10 HELP menu



LOGOVIEW NT provides On-line Help that supplies all the information required to optimise configurations planning and development for the next application.
Activating the different commands contained in this menu enables the different helps contained in the Help to be consulted in the manner that the developer finds most convenient.
For all information that cannot be contained in the On-line Help, refer to the user manuals that are sold with the software.
If the user manuals do not contain any information, either our *Customer Technical Support Service* has been set up to provide top service to customers.

8.10.1 Daily tips

Select this tip to open a window displaying every day a different tip on the On-line Help. This enables the user to get to know the program better and optimum use of it to be made.

8.10.2 Contents

Use this command to access the On-line Help contents. An alphabetical list enables the topic to be select on which your require information.

8.10.3 Help 

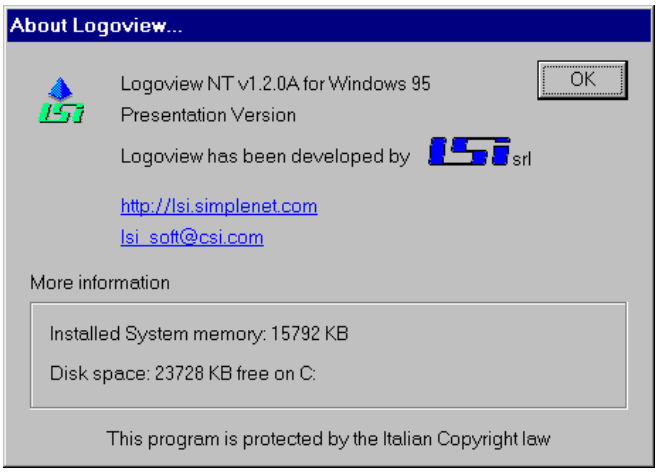
Select this command to obtain a display of the help for the current operation.

8.10.4 Using the On-line Help

Use this command to display all the information on the On-line Help.

8.10.5 Information on Logoview 

Use this command to obtain information on the author of the program. A demonstration icon will be displayed. The command can be activated by selecting the corresponding icon on the toolbar.



8.10.6 How to call up the On-line Help

There are different ways of calling up the On-line Help. This is a very effective tool that is made up of detailed procedures that can be displayed whilst the t is being designed.

- Select the command *Help* from the *Help* menu to obtain a display of the Help for the current operation.

- If the icon is selected from the toolbar  the cursor on the screen will take the form will  . Select the item about which you wish to have information from the toolbar. The topic on the selected item will then be displayed.
To obtain a display of the *"Help"* contents, press F1: the Help for the current operation or for the element shown by the mouse cursor on the toolbar will be displayed. If it is no tool is selected the On-line Guide will open on "*Contents".*