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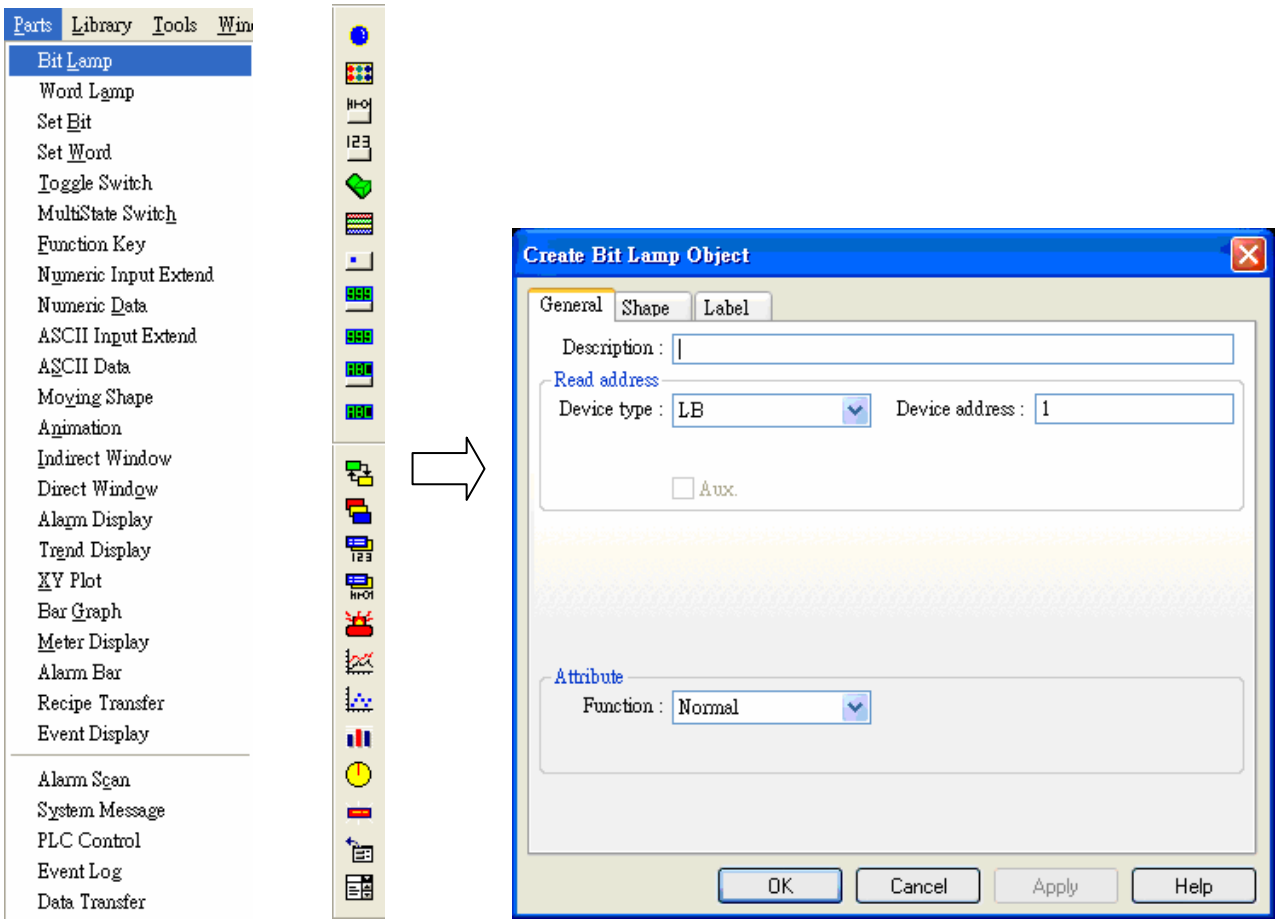
Chapter 5. EB500 Getting Started

5.1 Create a Object

A window include a lot of switch, lamp, numeric input and picture etc. Add an object to the window is very easy, there are 3 steps procedure to create object.

Add object 3 steps.

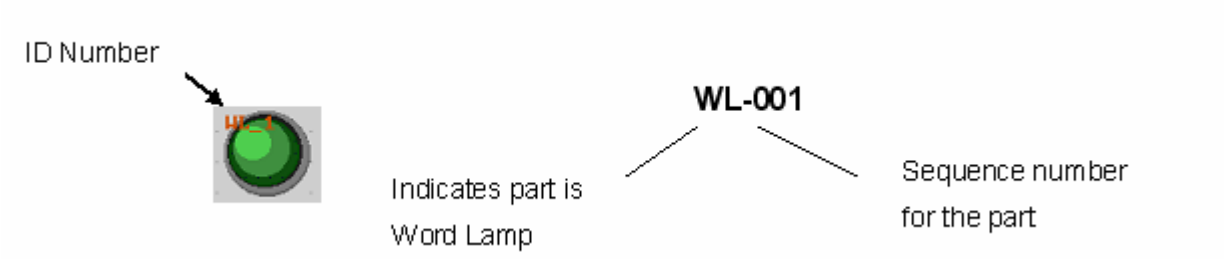
1. Click Toolbox object icon or from menu [Object] select one object.
2. The object attribute dialog will appear. Set the object's attribute. Example: PLC read/write address, Shape or Bitmap and label.



3. After the attributes setting, click [OK] place the object on window. If necessary, adjust size or drag it to new position.

5.2 ID Number

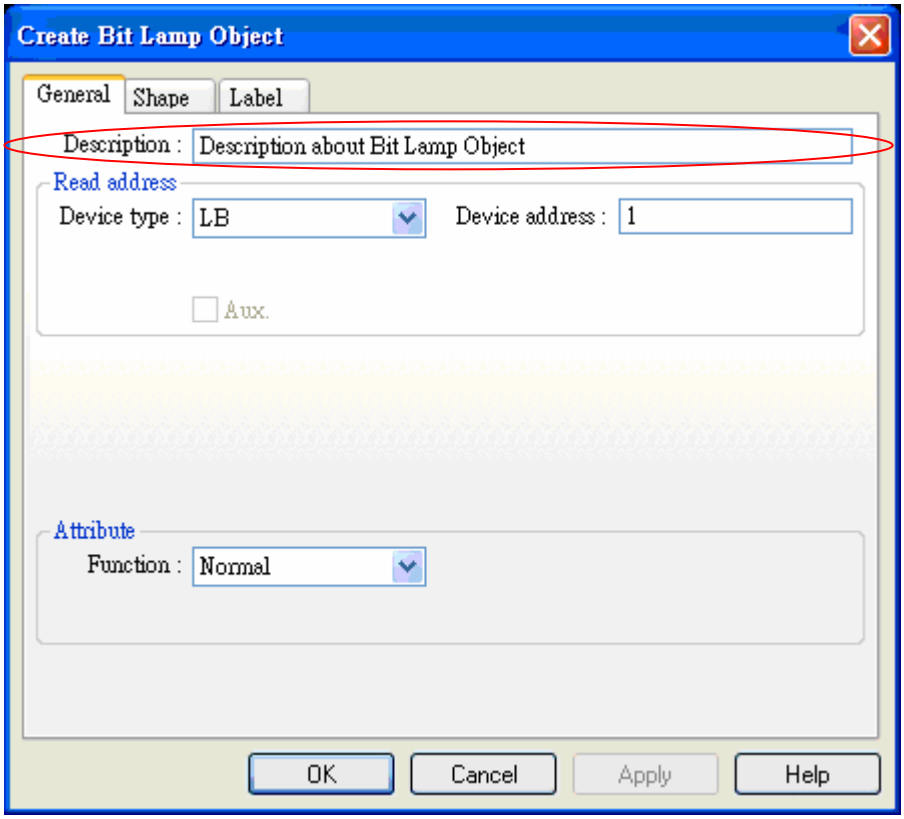
An ID number is assigned automatically to a part. The number identifies a specific part on the current window. The programmer can not change the ID number.



BL: Bit Lamp
WL: Word Lamp
SB: Set Bit
SW: Set Word
TS: Toggle Switch
MS: Multi-state Switch
FK: Function Key
MV: Moving Shape
AN: Animation
NE: Numeric Input Extend
ND: Numeric Data
AE: ASCII Input Extend
AD: ASCII Data
BG: Bar Graph
MD: Meter Display
WP: Indirect Window
WC: Direct Window
AL: Alarm Display
AS: Alarm Scan
TD: Trend Display
XY: XY Plot
SM: System Message
RP: Recipe Transfer
EL: Event Log
ED: Event Display

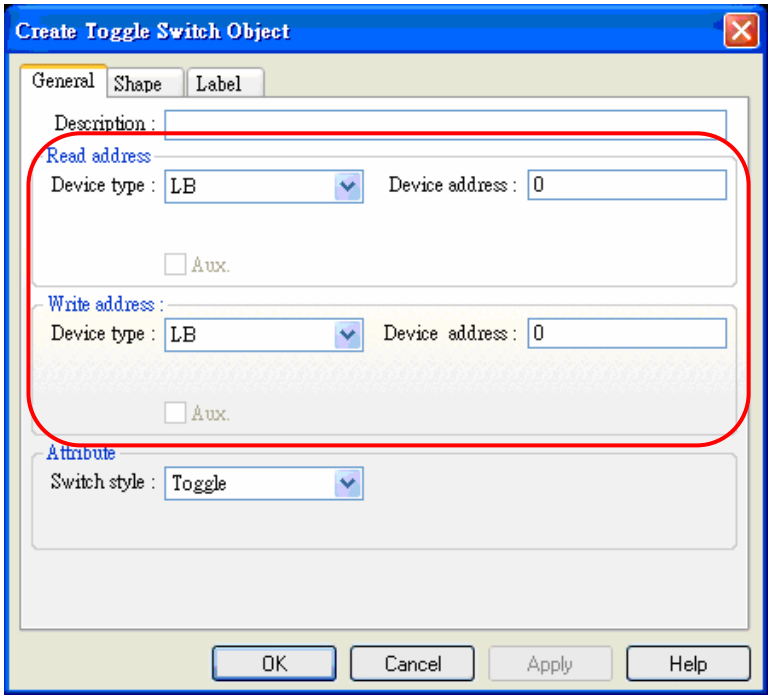
5.3 Attaching a Description

If desired, a comment can be attached to a Part. This is a good practice for future referencing and useful when deciphering a printout of project files.

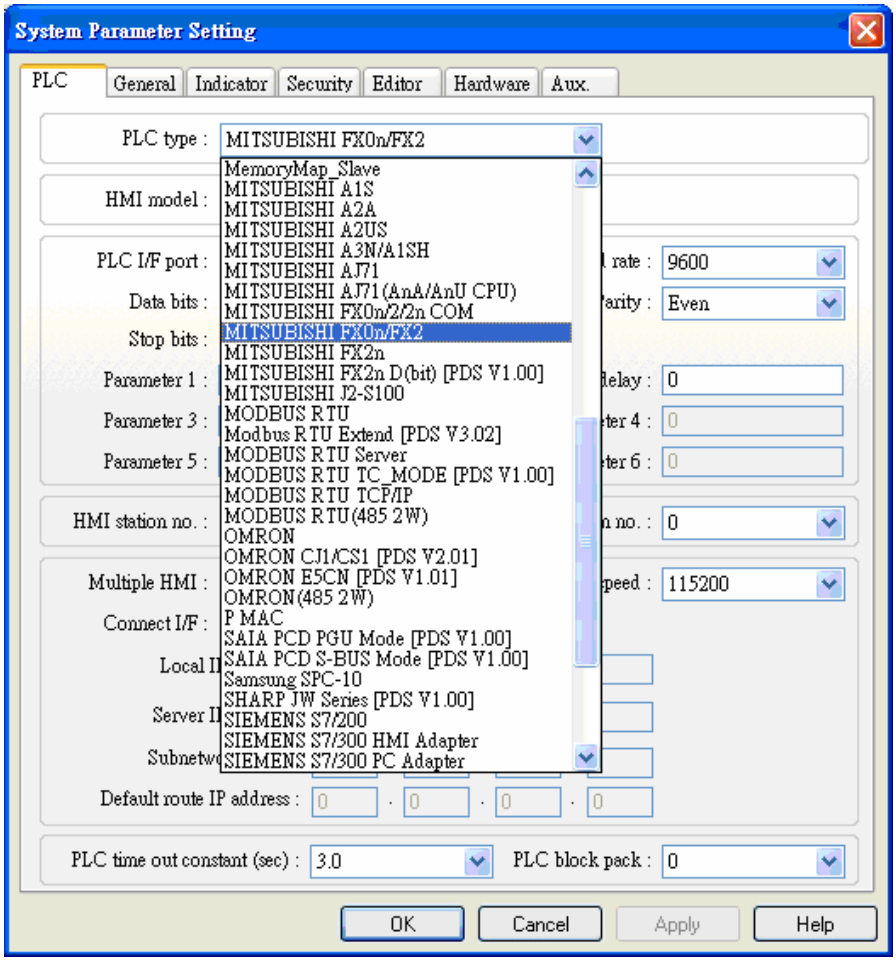


5.4 Entering a PLC read or write address

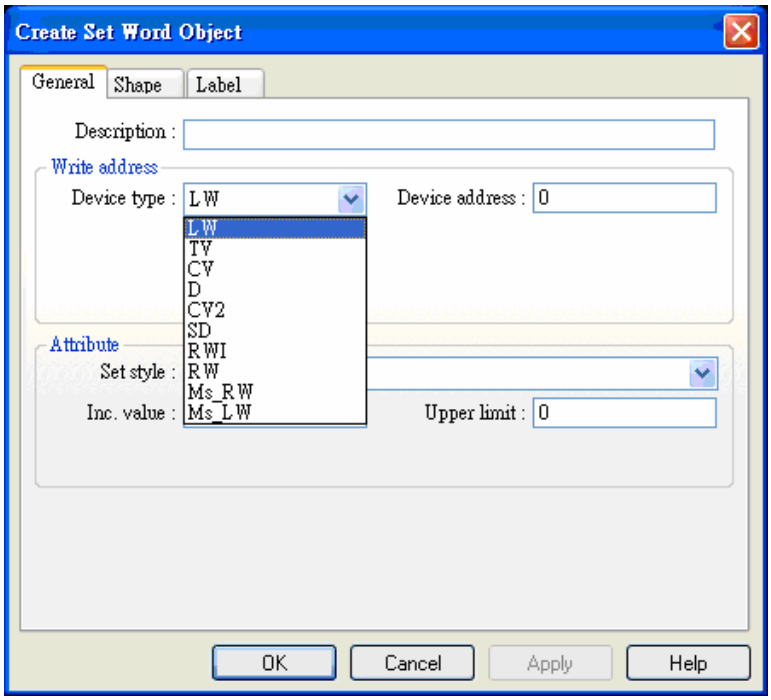
The valid device type and address range depends on the individual PLC type.



Select appropriate PLC type in the system parameter menu.



The device type field will indicate all possible devices available.



EasyView internal memory:

Type	Device Name	Range	Description
Bit	LB	0~9999	Local Bit
Bit	RBI	0h~4095h	h=0~F, index address of recipe memory
Bit	RB	0h~4095h	h=0~F, absolute address of recipe memory
Bit	Ms_RB	0h~4095h	h=0~F, absolute address of Master HMI's recipe memory
Bit	MS_LB	0~9999	Address of Master HMI's local memory
Word	LW	0~9999	Local Word
Word	RWI	0~4095	index address of recipe memory
Word	RW	0~4095	absolute address of recipe memory
Word	Ms_RW	0~4095	absolute address of Master HMI's recipe memory.
Word	MS_LW	0~9999	Address of Master HMI's local memory

The RB is mapping to the same area as the RW, for example RB50..RB5F is mapping to the same location as RW5, while the LB is mapping to the different area from the LW.

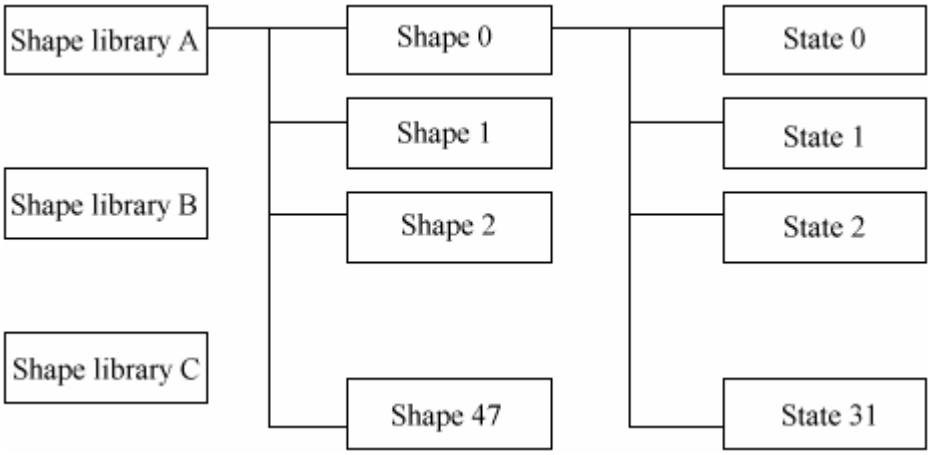
The local memory address (LB9000~LB9999, LW9000~LW9999 and RW60000~RW65535) is reserved for system use and user shall not use them as general purpose device. Please refer ch.12 System Register.

When the recipe memory is accessed by index address, the index address is offset from its indicated address by the content of LW9000. For examples if (LW9000)= 50, then an index address RWI 100 physically accesses the data at address RW 150 (100+50).

5.5 Selecting a Shape

Before select a shape have to select a shape library. (One shape library includes 48 shapes, each shape includes maximum 32 states)

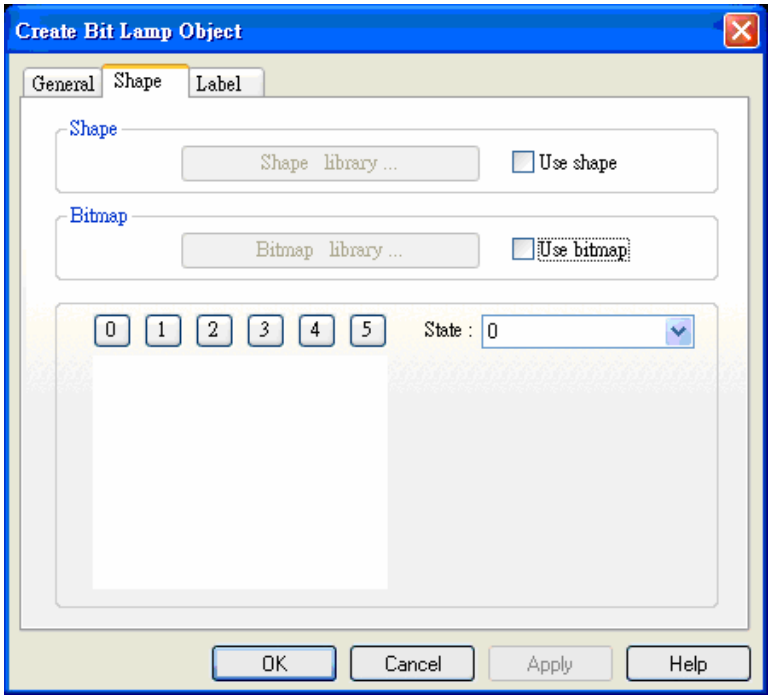
There are two methods to use shape. One is static shape another way is display different object states.



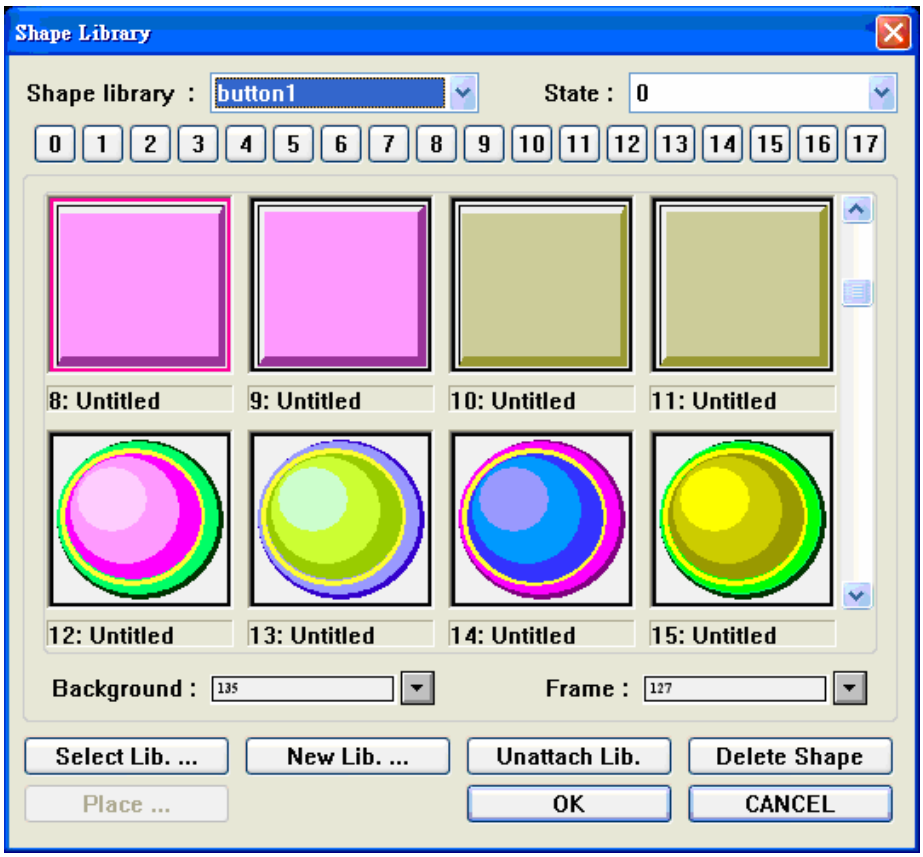
The static shape object methods please refer Ch. 3, 5, 6.

Selecting a shape for object:

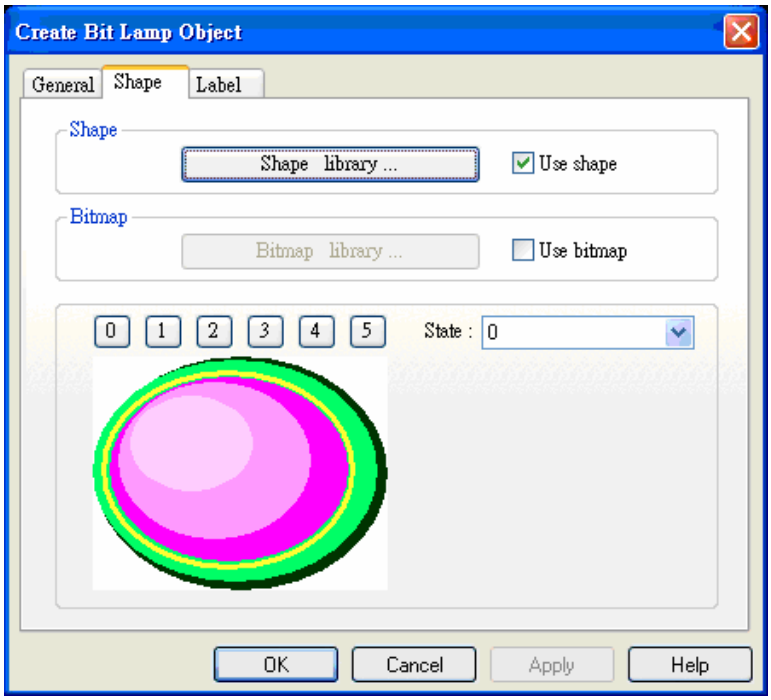
1. Click on the [Shape] tab



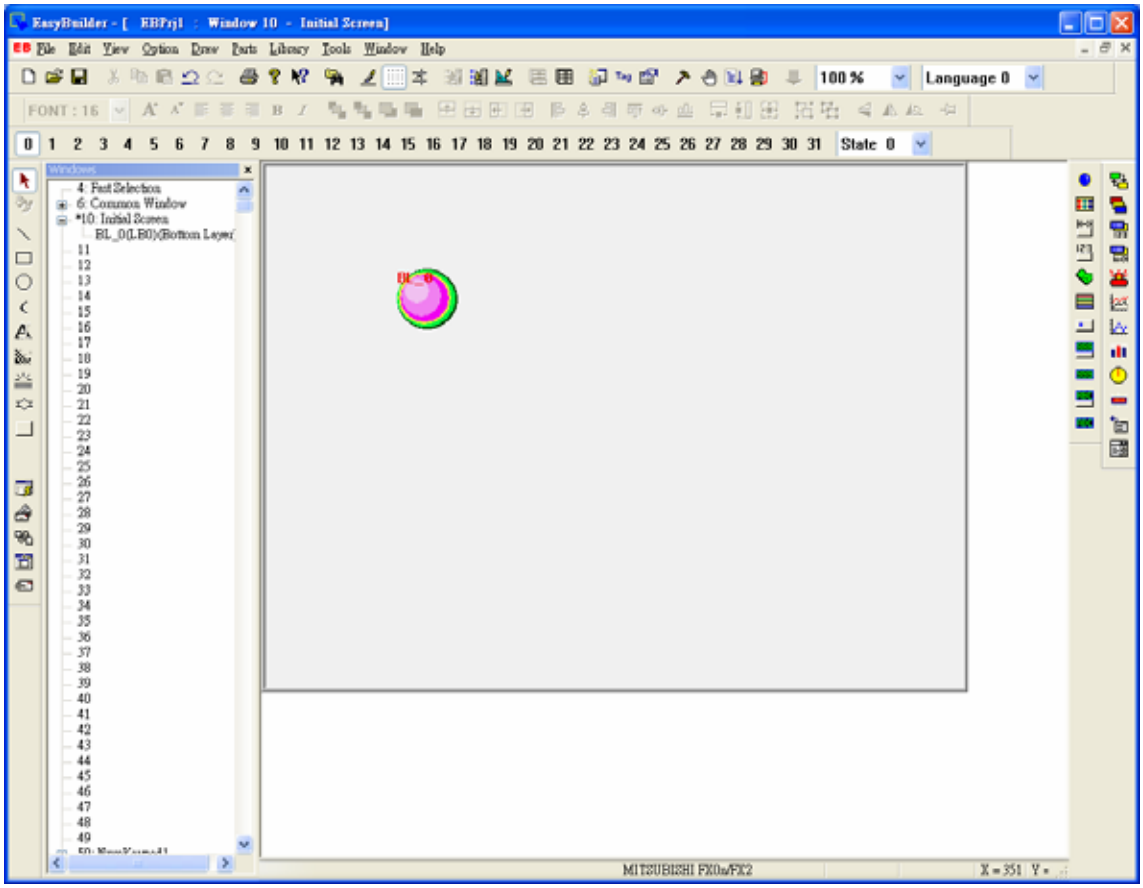
2. Select [Use shape], click on [Shape Library]



3. The shape browser will pop-up. Select a shape, click [O.K]



Click [OK], the shape will show on the object's position.



The shapes are stored in a specified shape library (*.slb file). A maximum of 20 shape libraries can be attached to a project. By calling up different shape libraries, useful shapes for almost any application can be found. Users can also build up their own shape library.

Background	Allows the background field of the library objects to be changed. This is used to see how a window's background color affects the way a shape appears. The background color of the shape object in the library does not follow the shape when it is placed on the window.
Select Lib	Attach an existing library to the current project
New Lib	Attach a new (blank) library to the current project
Unattach Lib	Remove a library from the current project
Delete shape	Delete all the shapes from the selected cell
Place	Place the shape on the current window as a group of draw objects

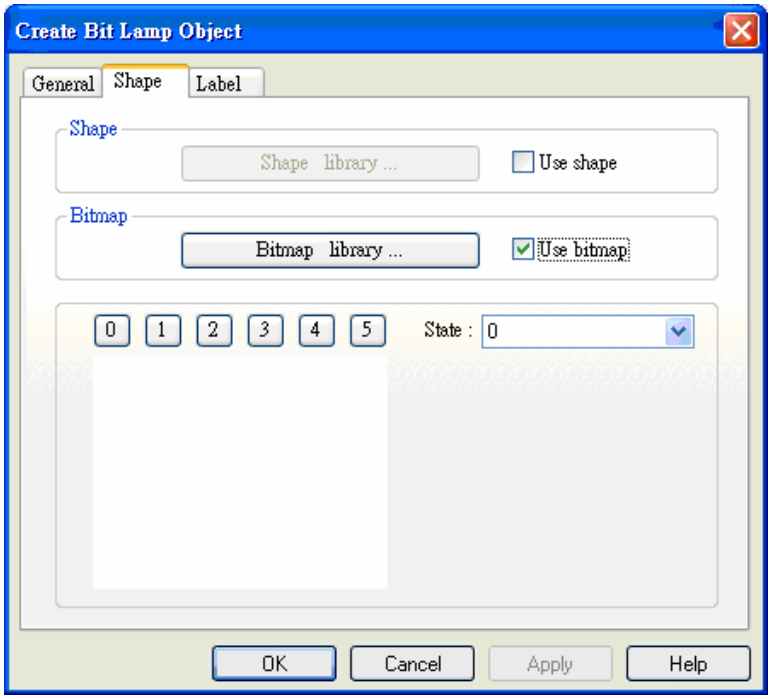
Note: After create the new shape library or new shapes have to save project. Otherwise, the library or shapes will lost.

5.6 Selecting a Bitmap

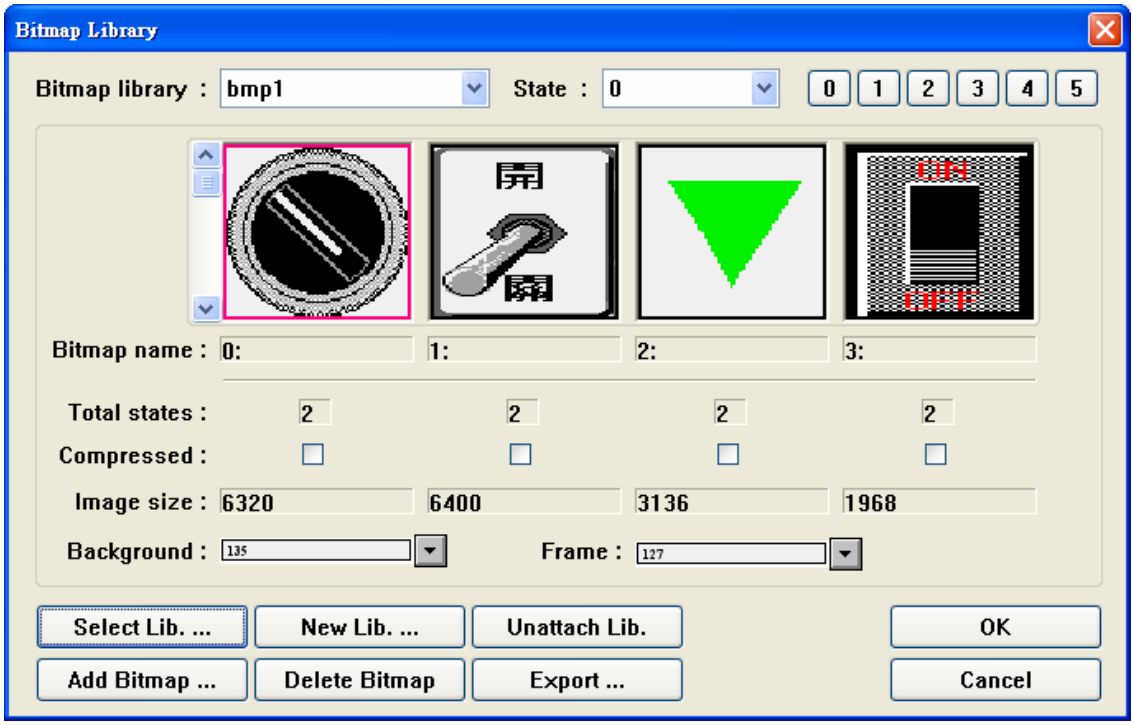
There are two methods to use Bitmap. One is static Bitmap another way is display different object states. The static Bitmap object methods please refer Ch. 3, 5, 6.

Selecting a shape for object:

1. Click on the [Shape] tab.
2. Select [Use Bitmap].
3. Click [Bitmap Library].



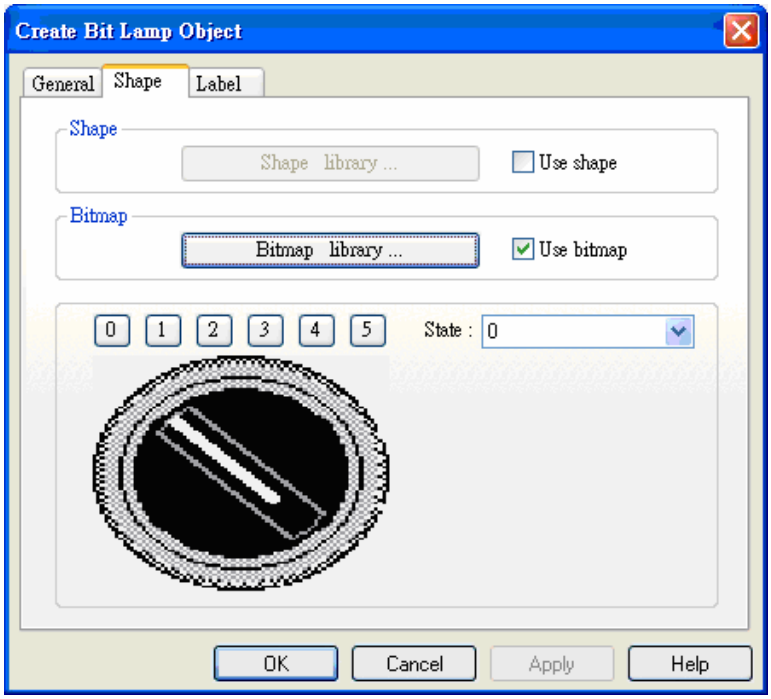
The Bitmap browser will pop up. The Bitmap graphics are stored in a specified Bitmap library (*.blb file). Each project is able to include a maximum of 10 Bitmap libraries. By calling up different Bitmap libraries, a useful Bitmap library for almost any application can be found. Users can also build up their own Bitmap libraries.

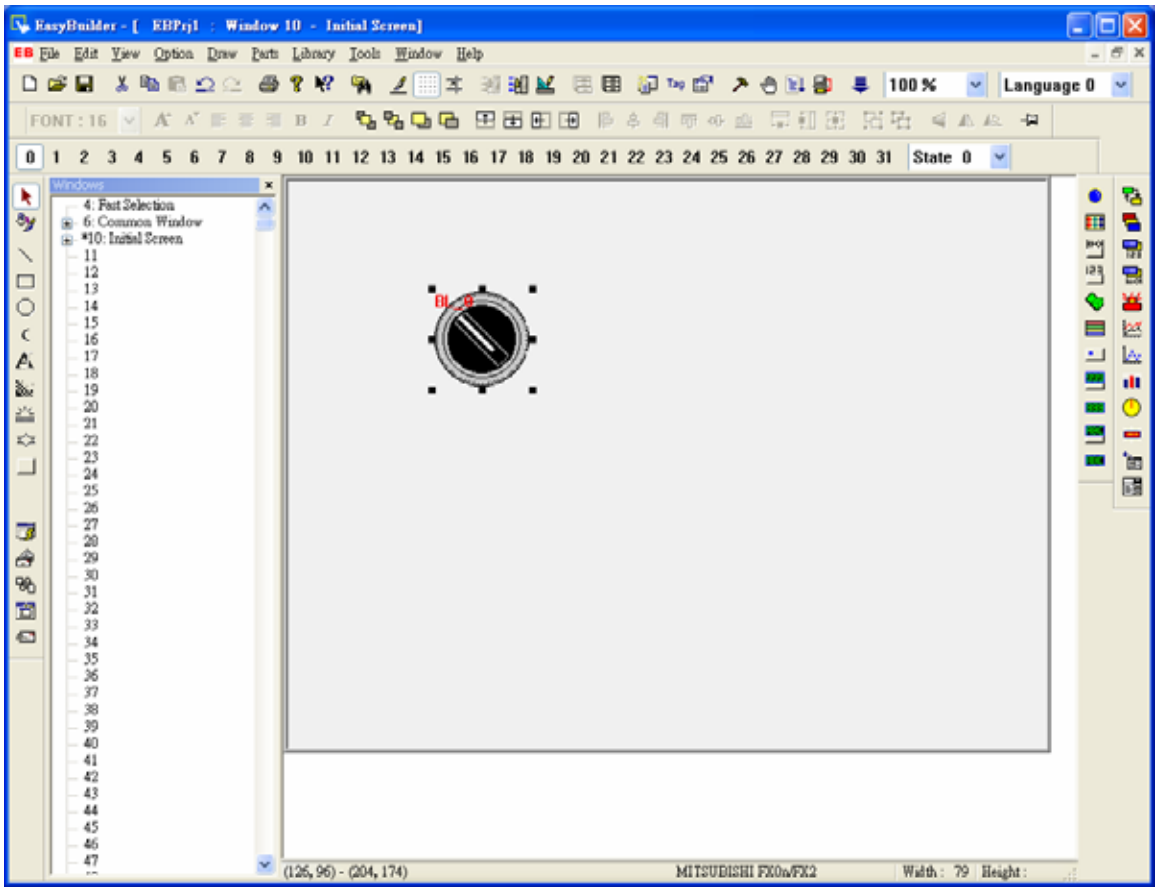


Background	Allows the background field of the library objects to be changed. This is used to see how a window's background color affects the way a bitmap appears. The background color of the bitmap object in the library does not follow the bitmap when it is placed on the window.
Select Lib	Attach an existing library to the current project
New Lib	Attach a new (blank) library to the current project
Unattach Lib	Remove a library from the current project
Add bitmap	Add Bitmap graphics to the specified cell
Delete bitmap	Delete Bitmap graphics from the selected cell
Export	Save the Bitmap to a file with *.bmp format

Note: After create the new shape library or new shapes have to save project. Otherwise, the library or shapes will lost. After deleting, when there is Bitmap used in this Library in the procedure, the corresponding position in the procedure will no longer show corresponding Bitmap, but show the blank figure , and even choose this Bitmap Library again, the corresponding position will no longer show this Bitmap, only reselect corresponding Bitmap for this component and can show Bitmap again .

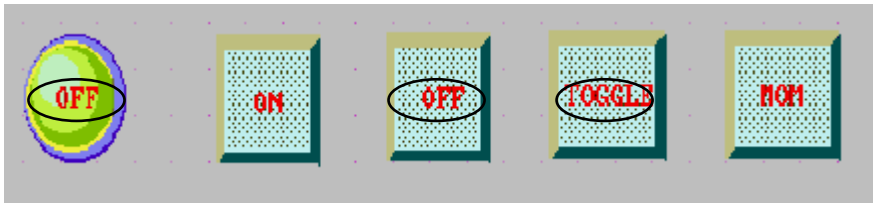
4. Click [OK]




EasyBuilder - [EBPrj : Window 10 - Initial Screen]
File Edit View Option Draw Parts Library Tools Window Help
100 %
Language 0
FONT : 16
State 0
Windows
4: Fast Selection
6: Common Window
*10: Initial Screen
(126, 96) - (204, 174)
MITSUBISHI FX0n/FX2
Width : 79
Height :

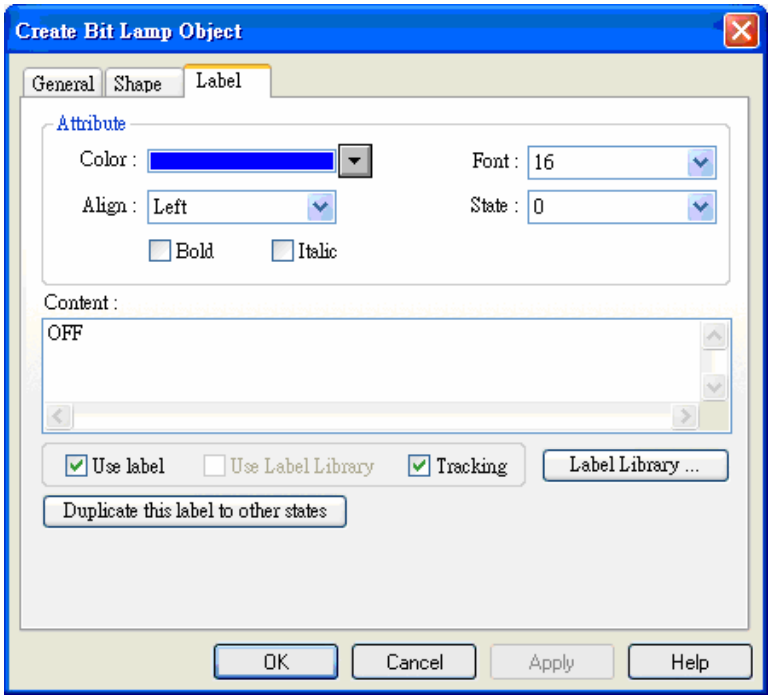
5.7 Creating Labels

A label means the text characters shown on the face of the Switch, Lamp or other objects (Parts).



Adding a label to a Part

1. Click on [Label] tab
2. Select Attributes for the part.



3. Select the state to label.
4. Type the state's label in the Content box.
5. Click [OK].

State

States are displayed only for those parts with multiple states. The text displayed for each state can be set independently. Simply select a state in order to set its text, font, color and alignment.

Font

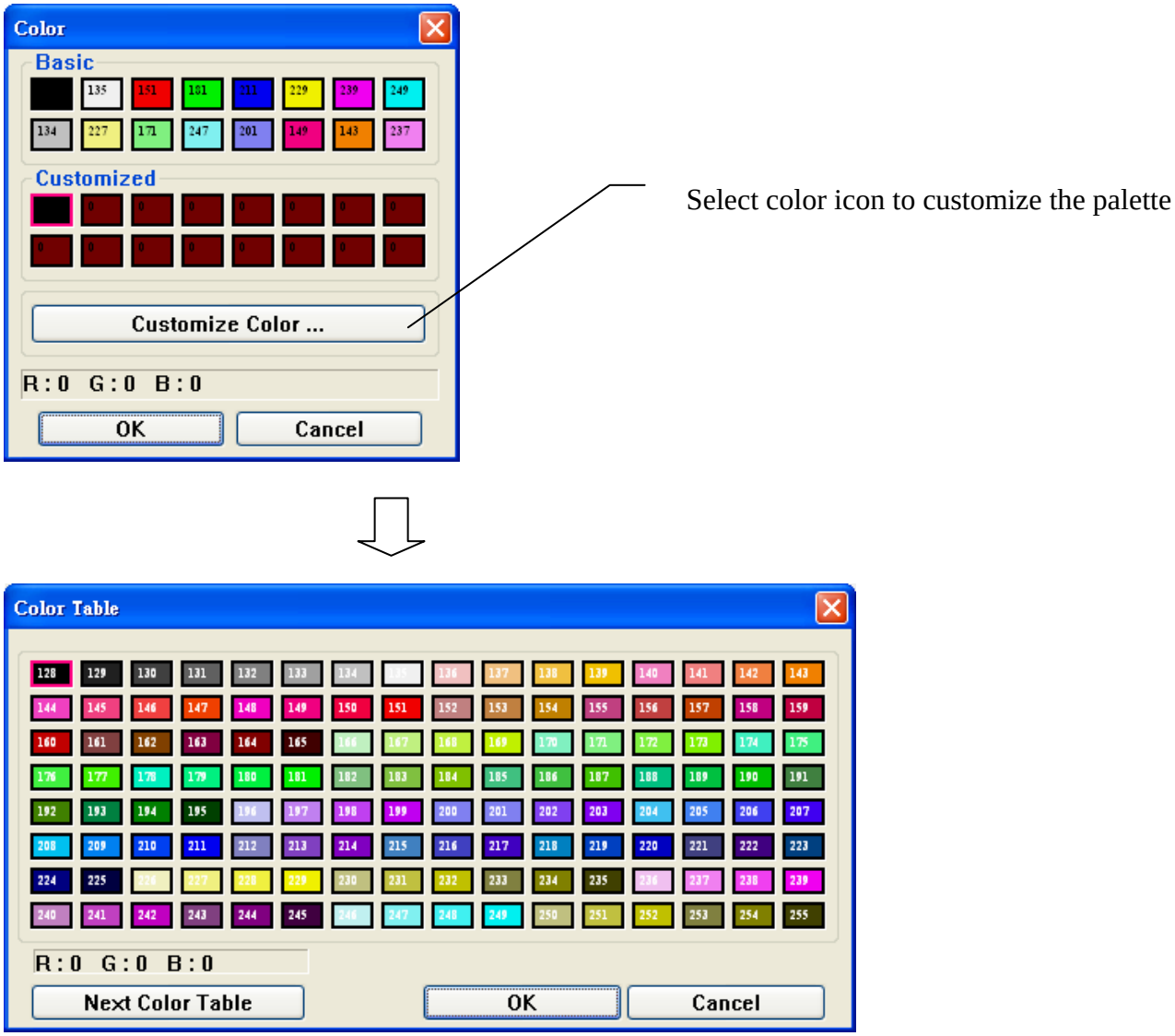
A variety size of font is available – 8, 16, 24, 32, 48, 64, 72 and 96.

Alignment (Justification)

When the text input for a Label becomes more than two lines, the alignment can be defined as left, right or center justification.

Color

A maximum of 32 from 256 colors are available for selection, the “basic” palette includes the most commonly used colors. The “customized” palette allows the user to customize his preference color palette.

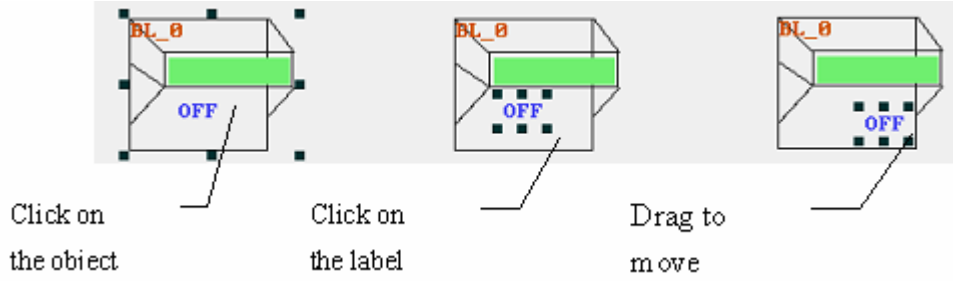


Content Box

Type in the characters to be displayed on the button in the Content Box. The “ENTER” key can be used to move to the next line if desired.

Position

Once the Part is placed on the screen, the Label can be moved anywhere within the boundary of the object. Just click on the label and drag the mouse to move it to the desired position. Toggle through the state designator to display the predefined label in each state.



Use label

Determine whether to show the content of labels or not.

Tracking

When there is state of the label can use the label as moves a certain state of the decision to count at over 1 o'clock, whether other labels follow this label to move together. Choose [follow], this all labels of component will show in the same position.

5.8 Task Button

The EasyView 500 provides a method to pop up (maximize) or icon-ize (minimize) child windows and change window displays.

There are 2 Task buttons, a control Fast Selection Window, another control Window bar.
Whether set up the use of Task Button or not in [General] of the system parameters, attribute , such as the color , the position ,etc.

If “Task button” is enabled, pressing the right-hand task button will pop up a fast selection window. The fast selection window can have several function keys (placed on it by the user) to change to different windows. Since the fast selection window is global to all windows, it can be called up at any time. To change windows, press the function key that targets the destination window. This avoids the tedious search and find process. The Window Bar accommodates up to six window icons. Double-clicking the minimize icon of a window will icon-ize the corresponding window. Clicking it again will return the window to its original location and size.

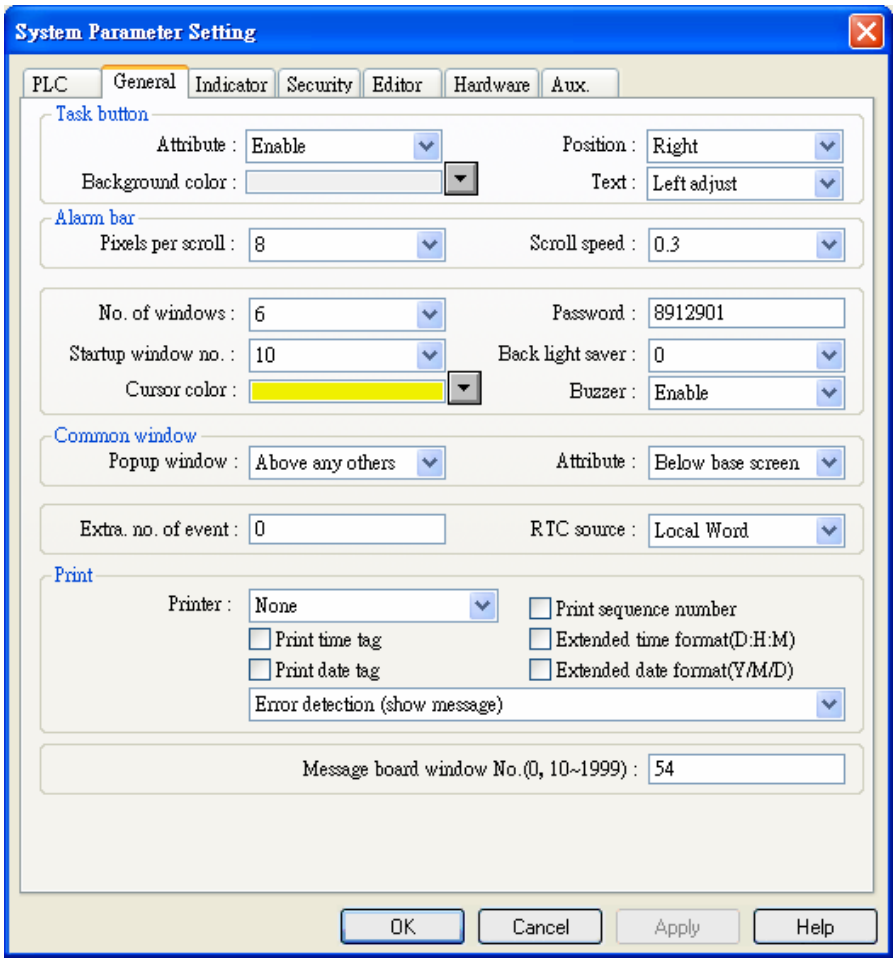
Task Column can include 6 window icons at the same time at most. Doubling click and minimizing icons can minimize corresponding pop up window , clicking again can resume to the original state at the window in this icon. Can minimize this window on Window bar when one popup window contains [Minimize window] and [Window bar] with the function key. Can consult [Parts] /[Function key] some content.

Procedure to Setup Task Buttons

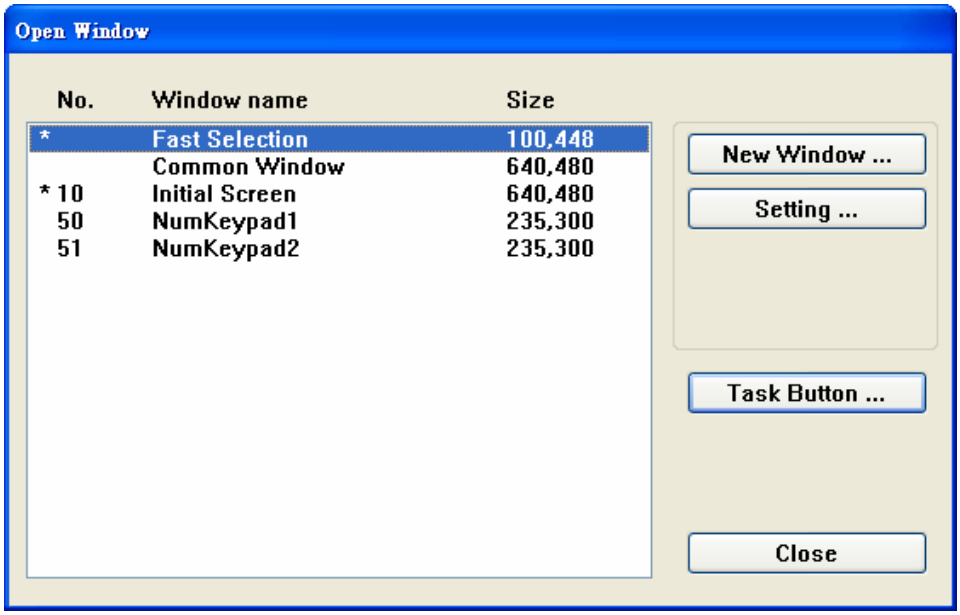
1. On [Edit] menu

Select [System Parameter]. Set [Task button] as Enable. Set the position of the task buttons to the left or right side of the window.

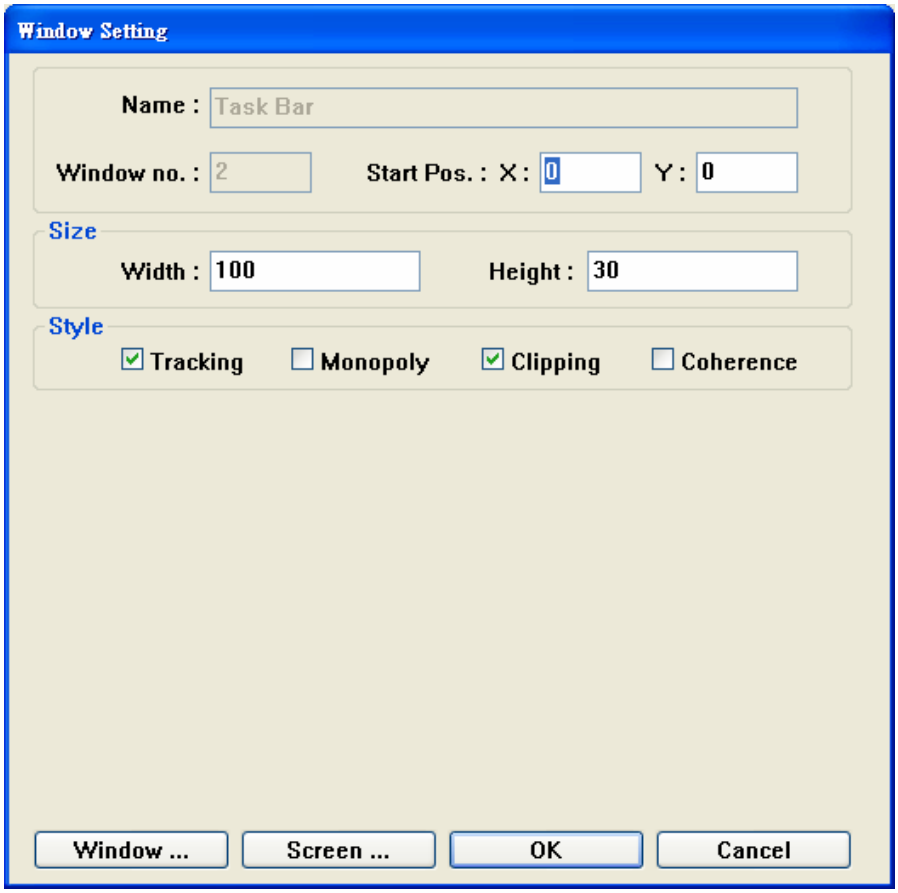
Note: The task buttons will be visible at run time in the lower right or left corner of the display. The Task buttons are not visible when editing a window.



2. Click on the General Tab. Select the different drop downs to determine how the task bar will appear.
Then, in the [Window] menu
Select [Open Window]



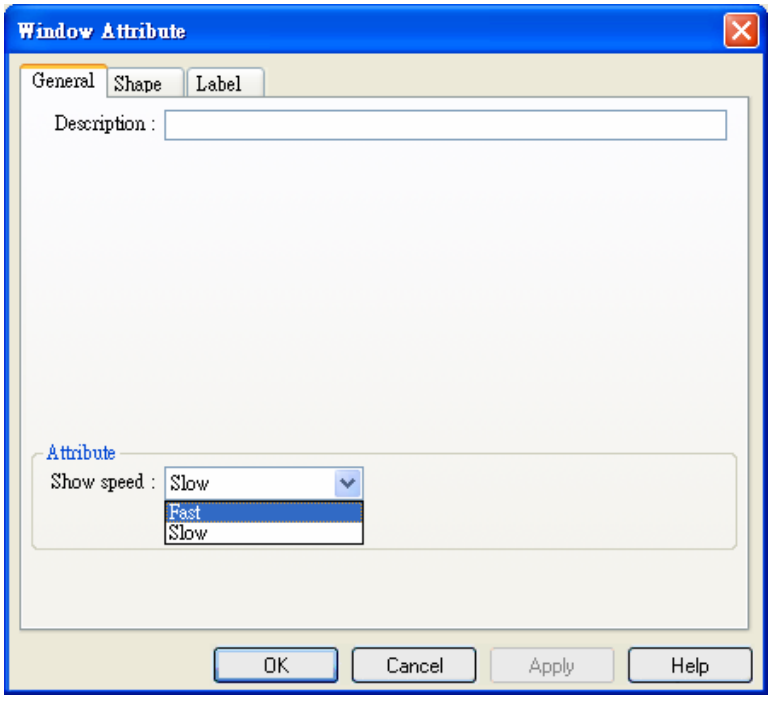
Press [Task button], then press [Window] or [Screen] buttons to customize how the Fast select button or Window bar button will look.



3. Fill in the blanks of the Fast Window and Window Selection dialog

The Fast Window dialog has the settings for the button that controls the bar where window icons are displayed.

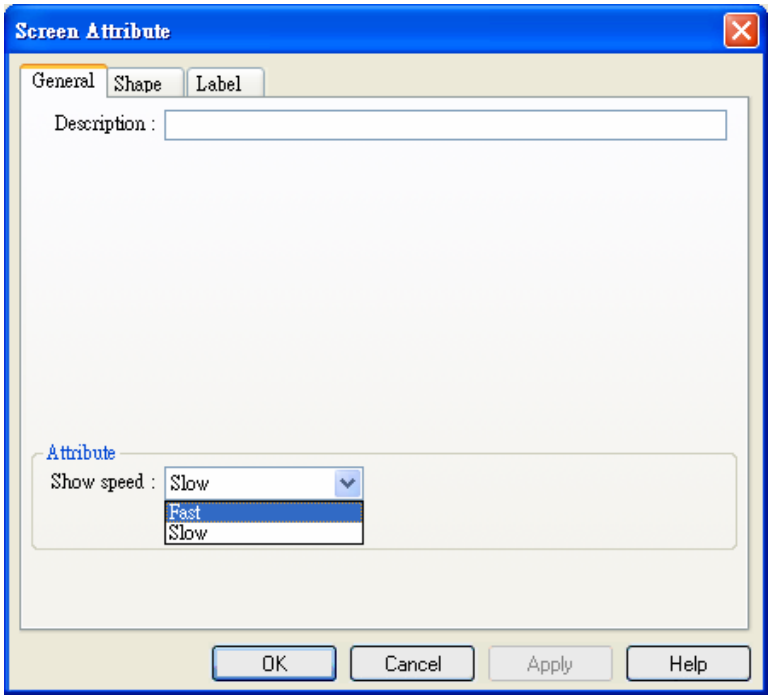
The Window Attribute dialog has the settings for the button that controls the popup Fast Window.



Style: Set “Fast” or “Slow” to control the pop up speed.

Shape: Define the shape of task button or window button just as you would any other button object.
Label: Place a customized label on the task or window button.

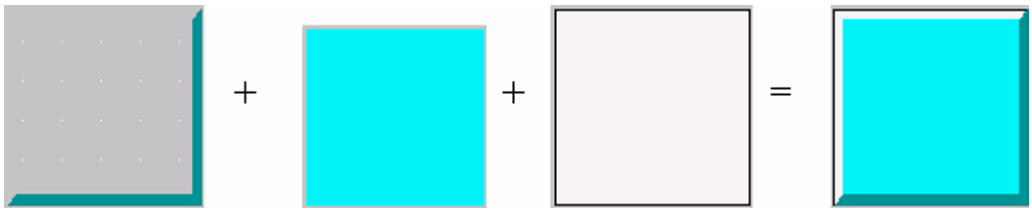
4. The Screen dialog has the settings for the button that controls the popup Fast Window.



Attribute: Show speed: Set “Fast” or “Slow” to control the pop up animation speed.
Shape: Select a shape for the Screen or Window button just as you would any other button object.
Label: Place a customized label on the task or window button.

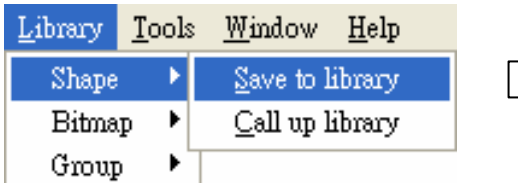
5.9 Shape Library

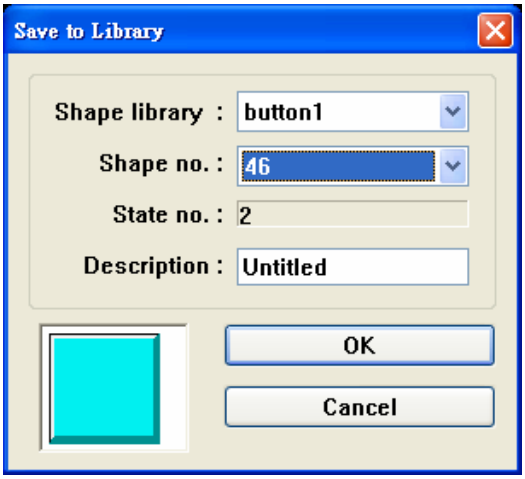
Open a window and Draw the graphics by using the drawing tools in the EB500 program. For example, the following graphic uses the line and rectangle tools.

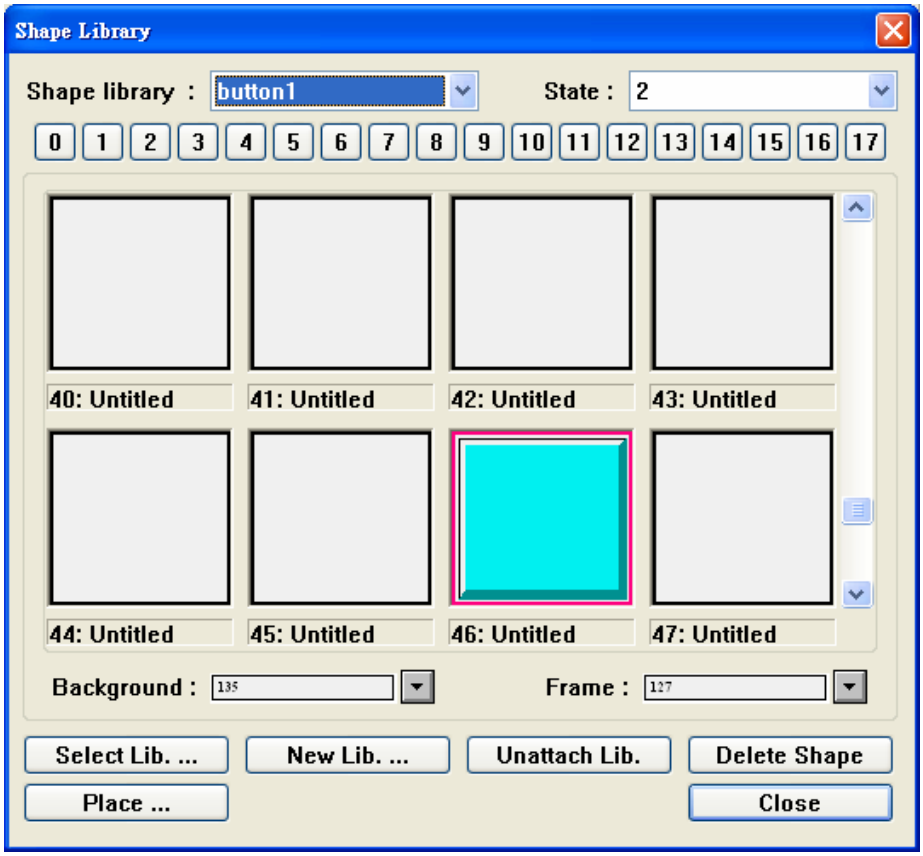


Select the whole graphic by using the arrow tool and dragging a rectangle around it. White handles should appear on all of the selected objects.

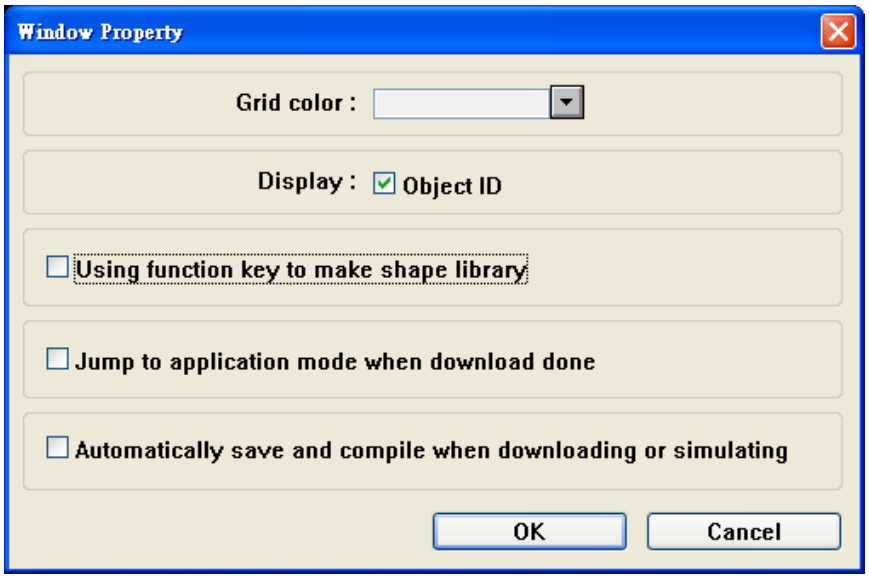
In the Library menu select [Shape] → [Save to library] or click the tool.



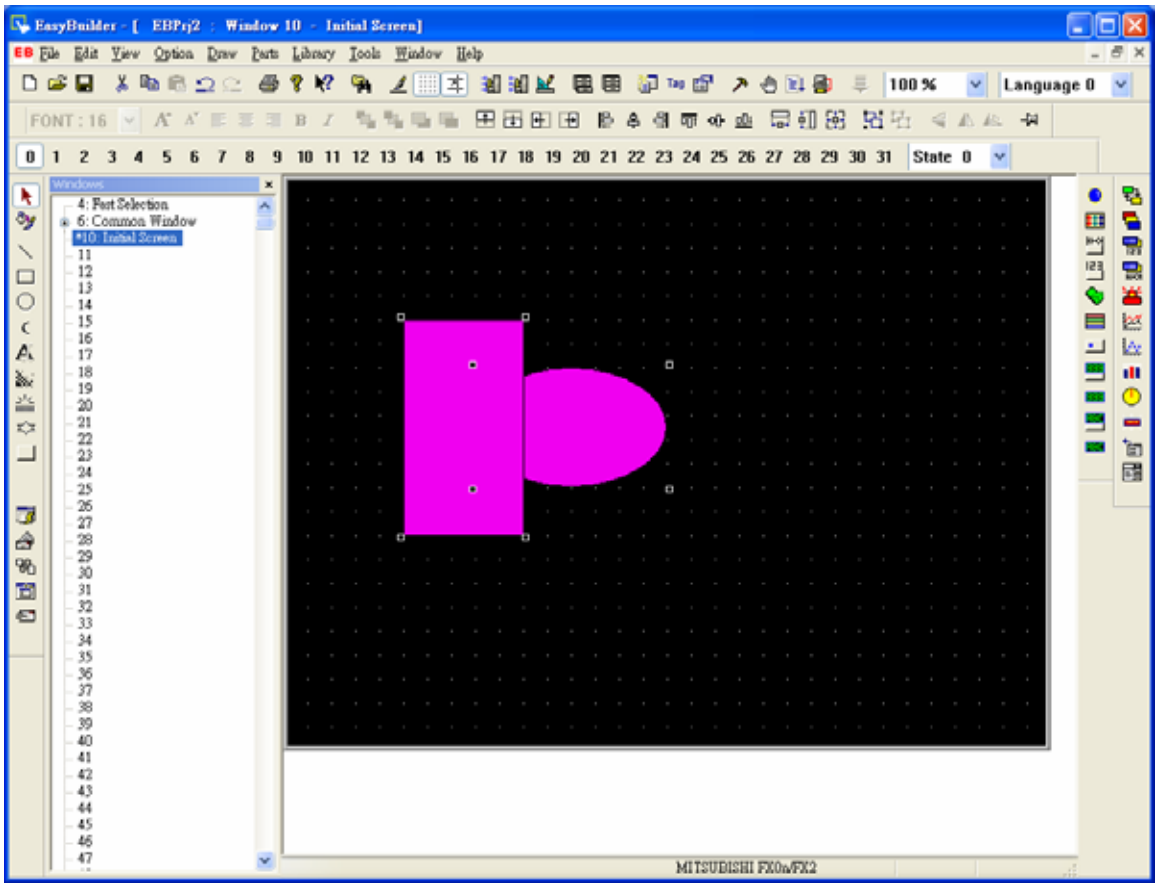




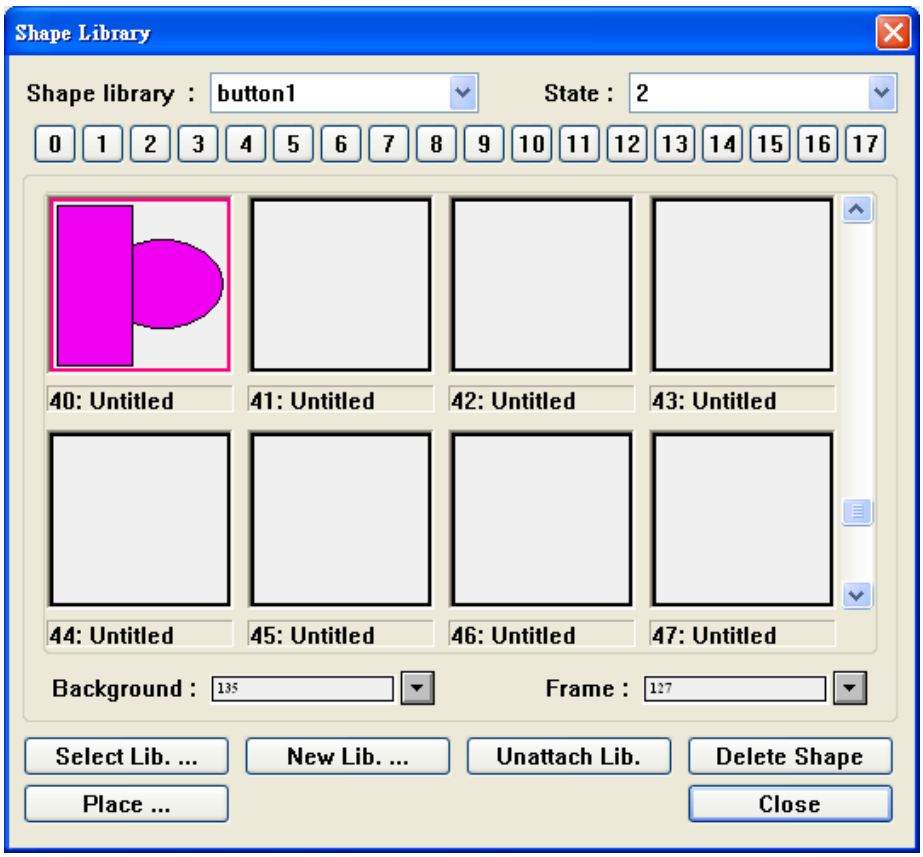
Can choose this Shape Library first when need to use this Shape , then choose this Shape directly.
In [Option] /[Window Property],use [Function key] it make by Shape Library it select, the following picture shows:



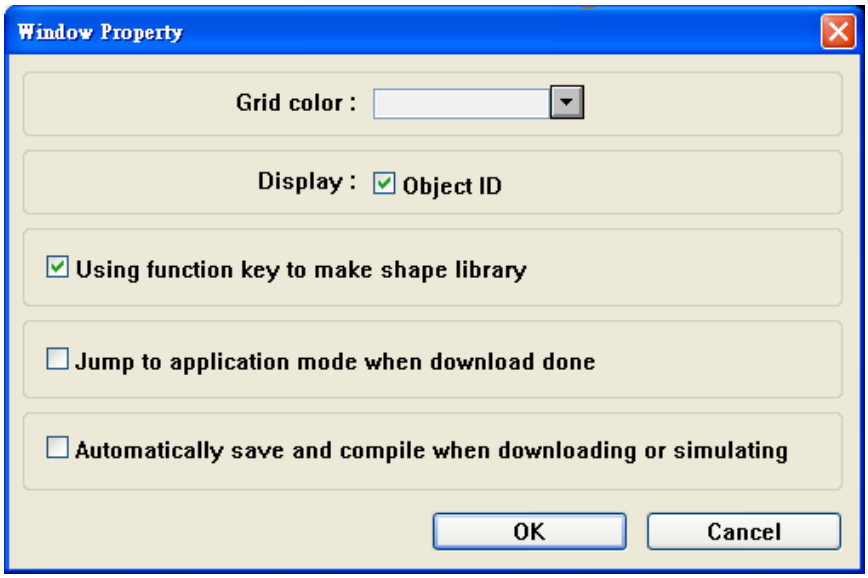
If has not selected this function , while making the picture pursueing to be drawn and storing to Shape Library, Shape will be combined for the coordinate of the picture for the coordinate of selecting the picture at present.



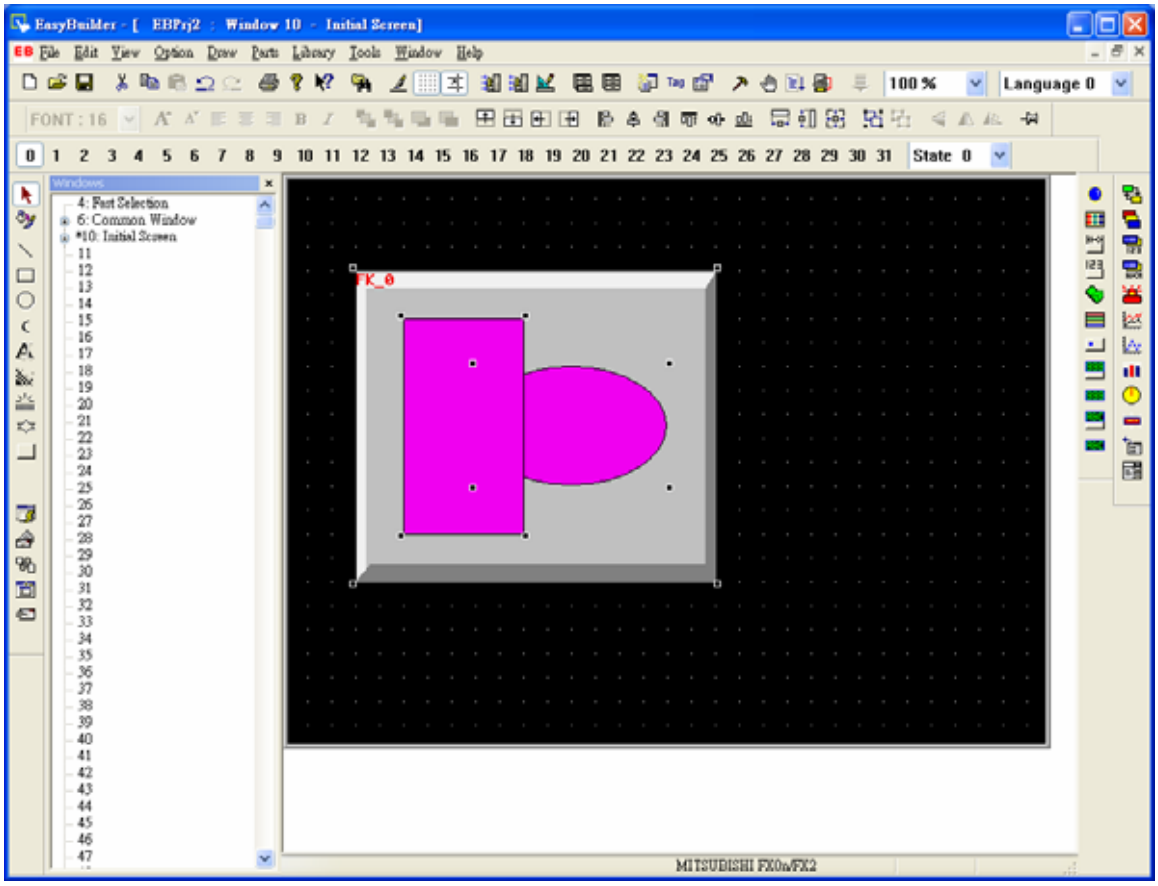
Store the picture done well to Shape Library, Shape got is as follows:



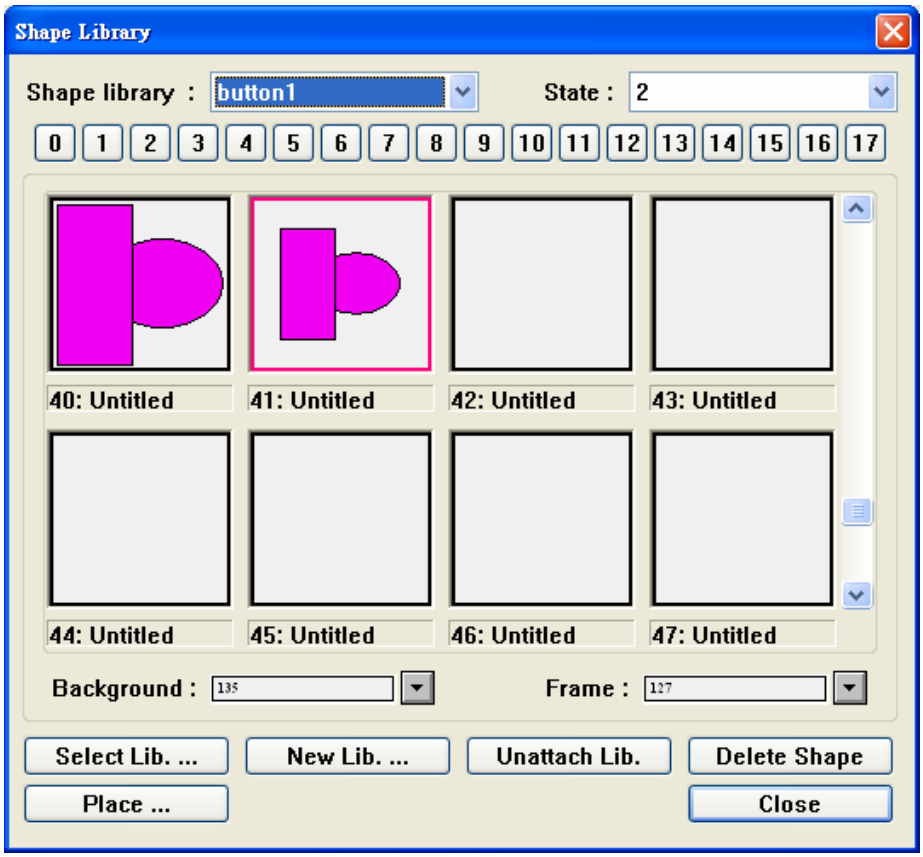
Now, select Using Function key to make Shape Library.



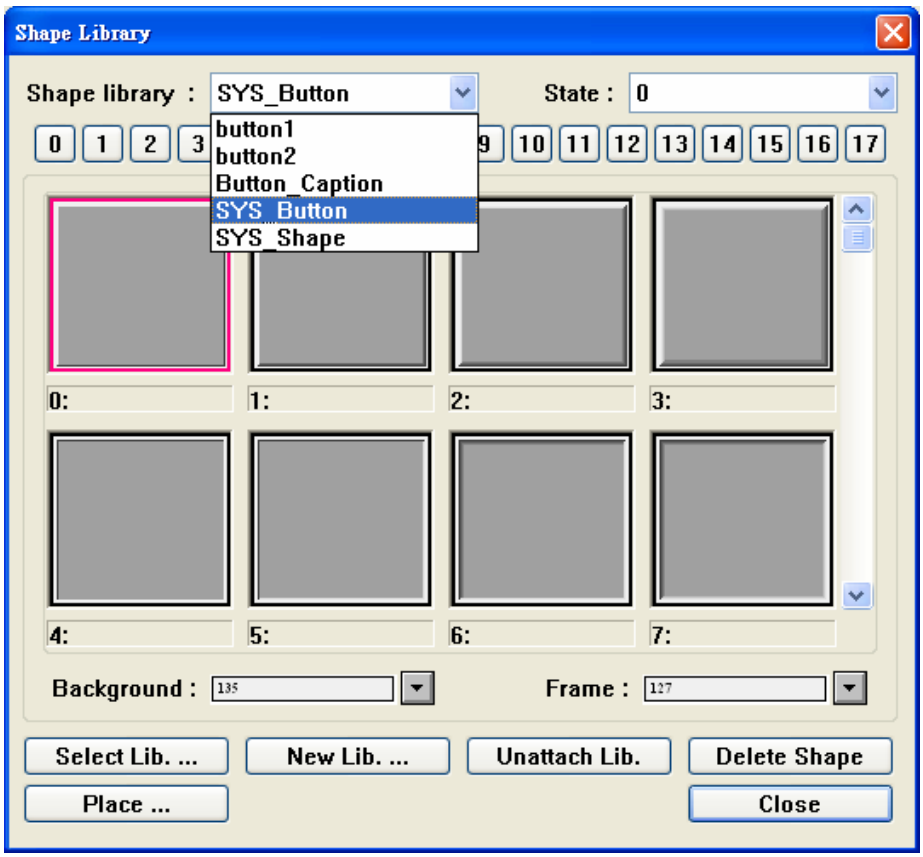
Create a Function Key object under shape. Select shapes and Function Key, save to Shape Library.



The Shape Library's boundary will be equal to the Function Key's boundary, but the Shape Library doesn't include the Function Key Object.



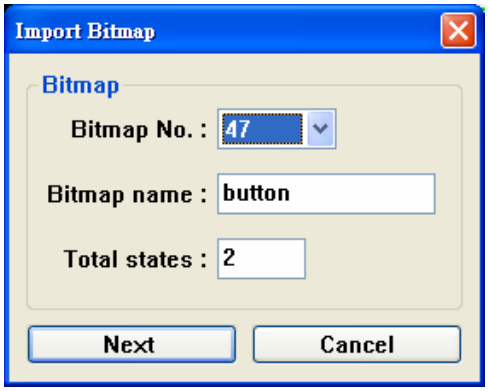
Shape Library SYS Button and SYS_Shape is system library.


Shape Library
Shape library :
SYS_Button
State :
0
button1
button2
Button_Caption
SYS_Button
SYS_Shape
0
1
2
3
9
10
11
12
13
14
15
16
17
0:
1:
2:
3:
4:
5:
6:
7:
Background :
135
Frame :
127
Select Lib. ...
New Lib. ...
Unattach Lib.
Delete Shape
Place ...
Close

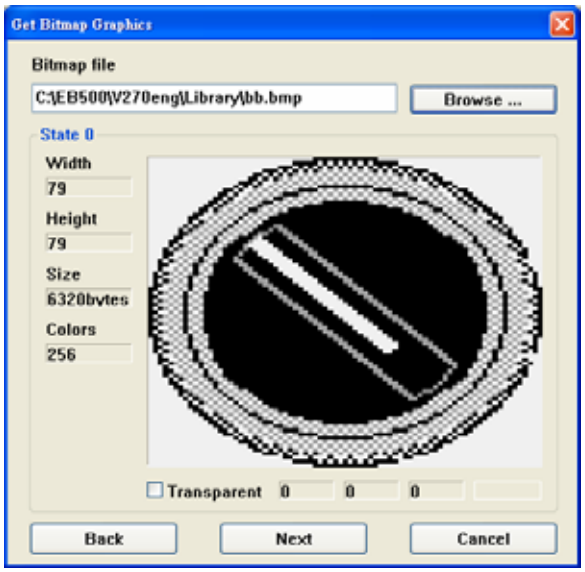
5.10 Bitmap Libraries

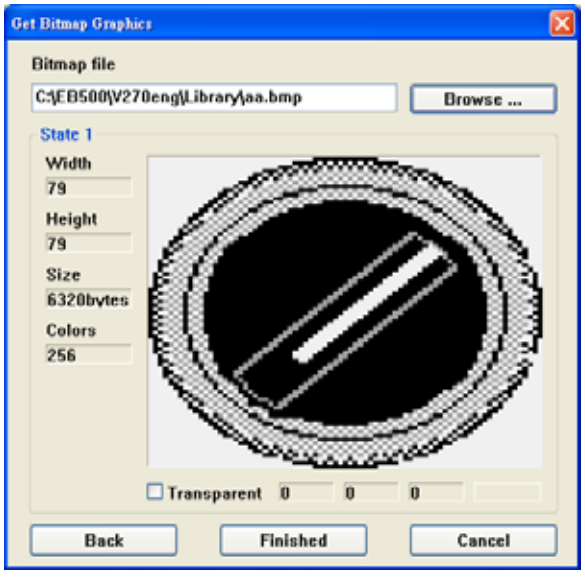
1. On [Library] menu, select [Bitmap]/select [Call up Library].

2. Click on the Add bitmap… button, the following dialog box pops up. Fill in cell no. (Bitmap no. to save imported graphics), assign a name (up to 8 characters) to the bitmap and enter the number of states the bitmap is to have.



All states must be assigned a bitmap. When done, click on Next button.



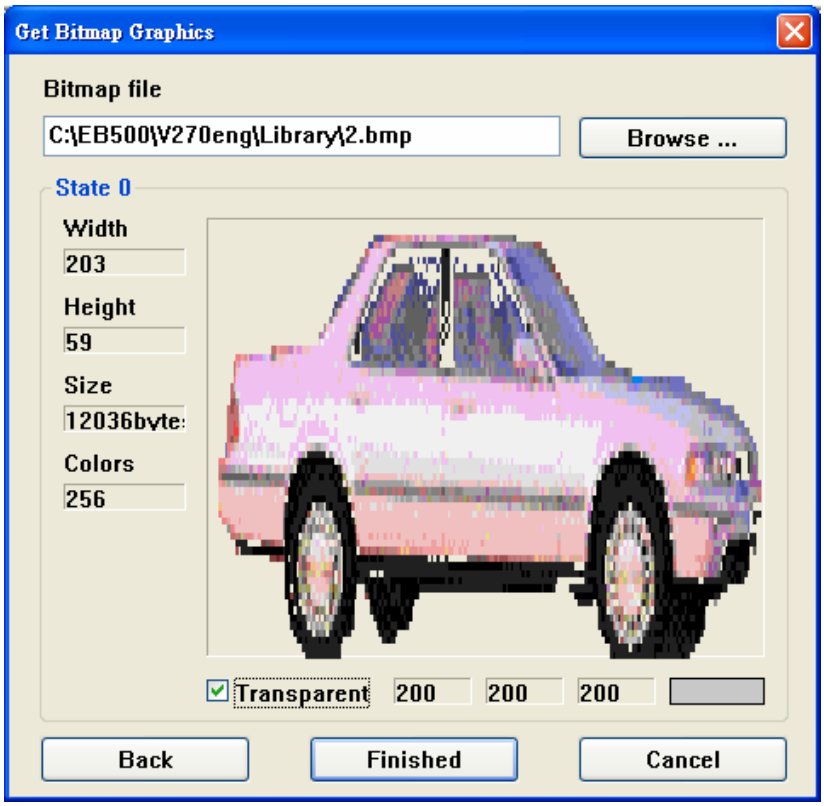


Push [Finished], such a Shape with 2 kinds of states is added to Shape Library.

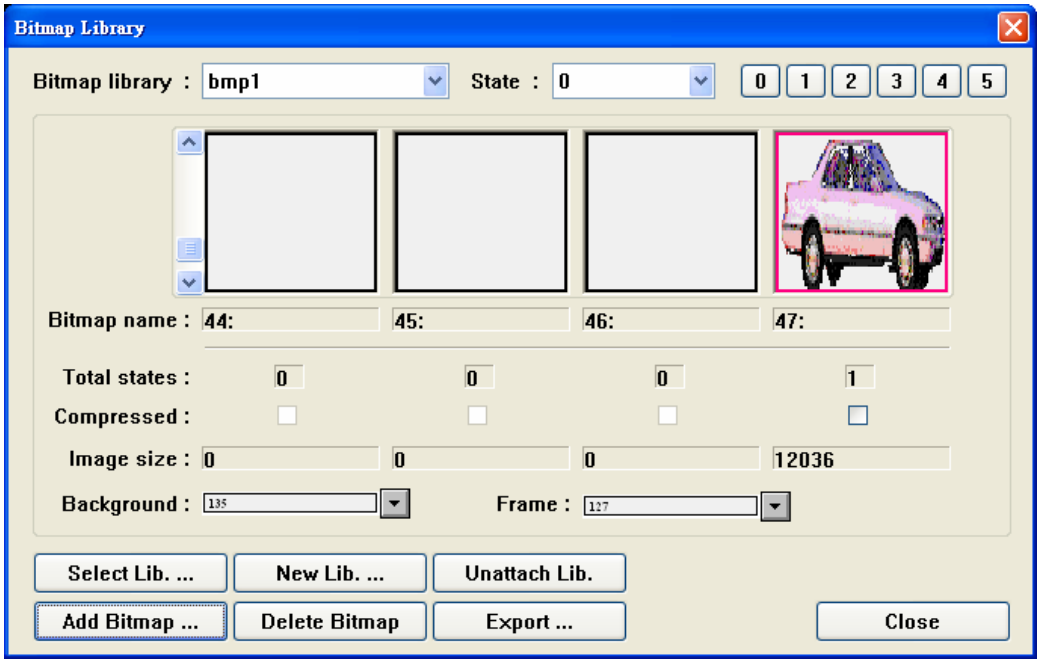
Several points about [Get Bitmap Graphics] the communication frame are explained:

1. One color of the bitmap can be selected as transparent.

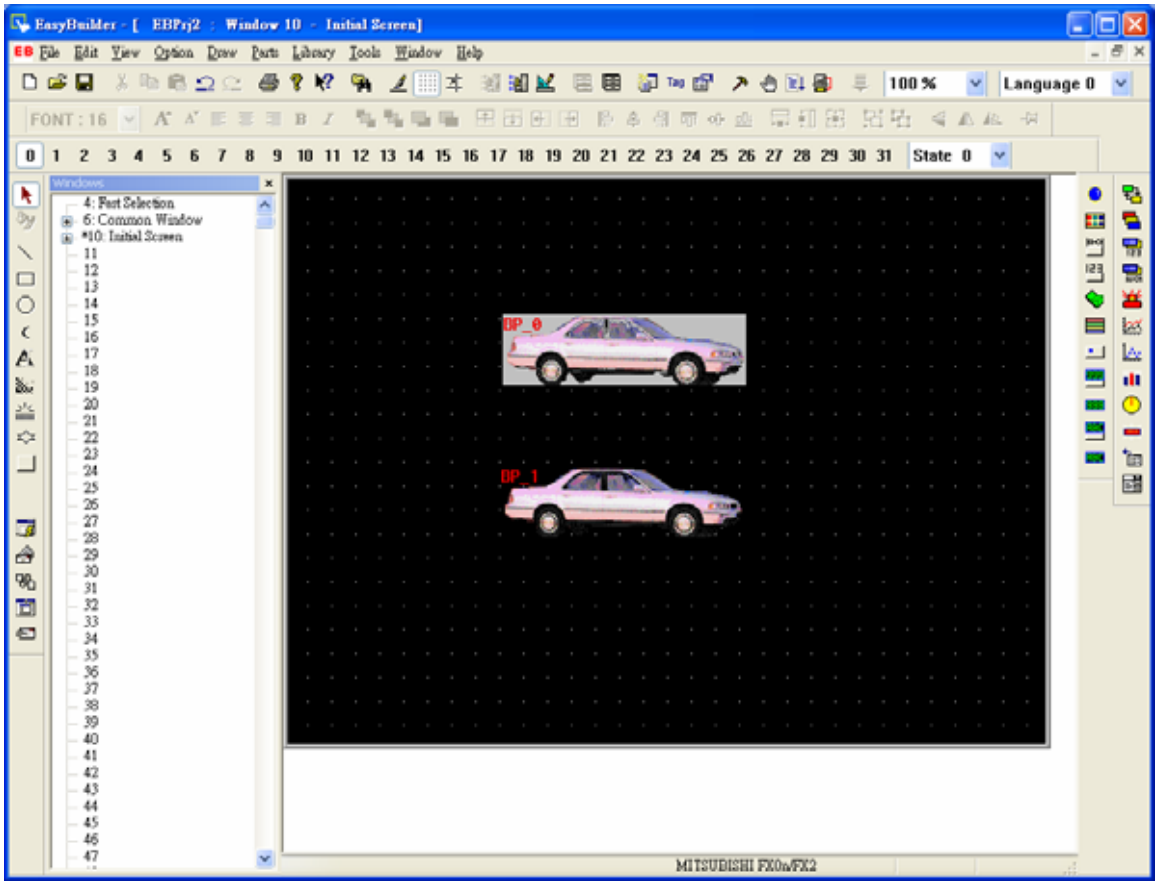
To make a color transparent simply select the Transparent check mark and then click anywhere in the area to be made transparent.



Click on Finished when final selection is made. The graphic importer will guide you through each state to get and install BMP graphics. The Back button can be used to review the entered bitmaps.

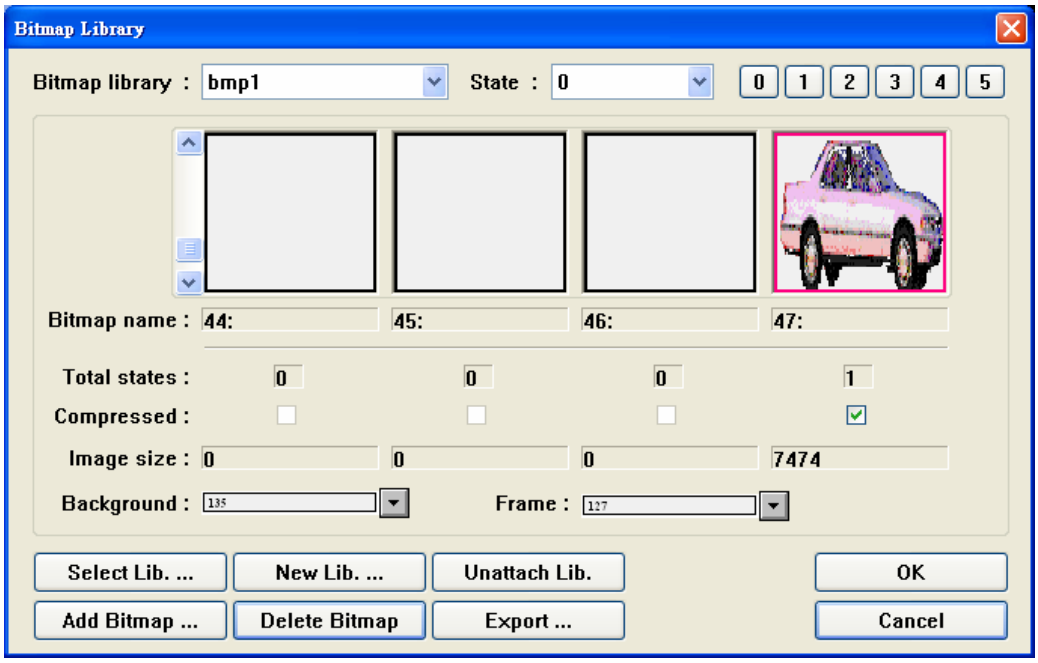


Can see , the background color of the car has already disappeared, has regarded this Bitmap as static Bitmap and shown on the screen, its result is as follows:



This is useful for eliminating background colors.

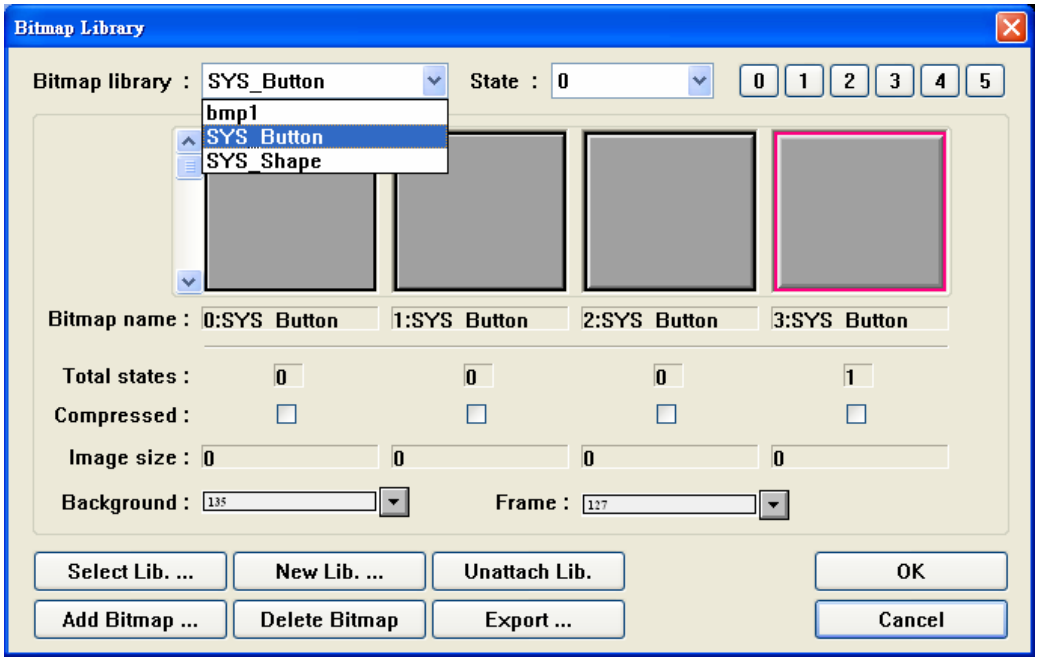
2. [Compressed] can compress this Bitmap to deal with , can reduce the memory body taken up.



The example figure shows after being compressed as above, its size turns from 12036 Byte into 7474 Byte. Certainly, the space taken up after some figures are compressed becomes great instead, should not compress this component at this moment.

3. Bitmap introduced is limited as follows:

Its several colors support 2 colors , 16 colors or 256 colors. The size of the figure introduced can't exceed 640*480 (W *H) .



Bitmap Library SYS Button and SYS_Shape is system library.

5.11 Group Library

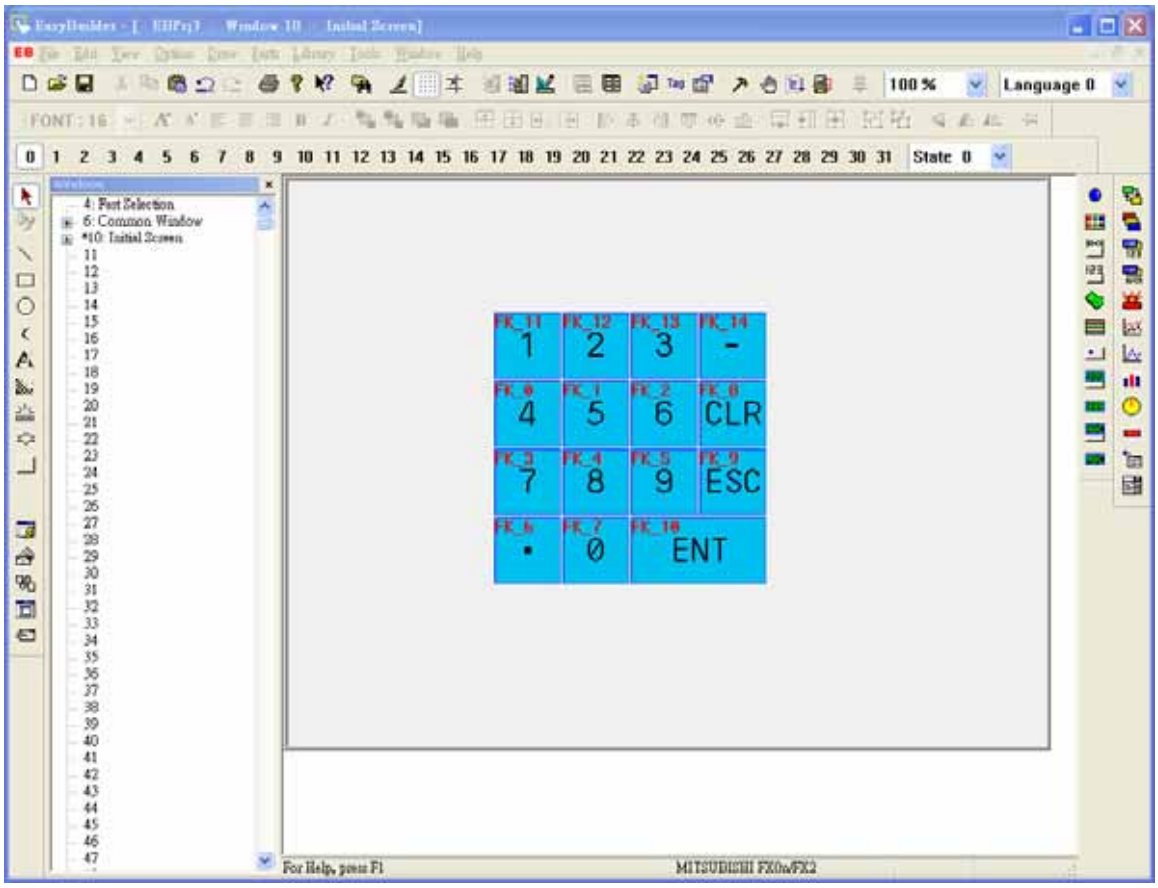
“Group Libraries” enable multiple parts and drawing objects to be combined and saved, and then called up whenever necessary. The Group objects saved in these libraries can be viewed and selected using the Browser function. Since groups of objects may include parts that refer to Shape or Bitmap graphics, the related Shape and Bitmap libraries must be attached to the project before calling up group objects.

Click on the Select Lib… button. A Standard Dialog Box for selecting a file appears. Select the name of the Group library to be opened.

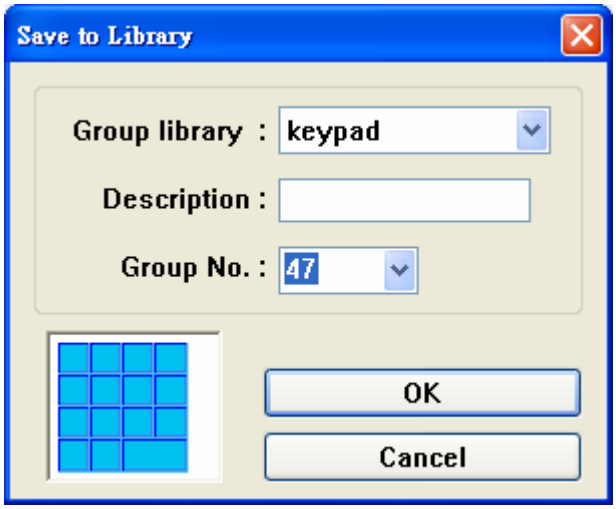
Adding a Group to a Library or save an item to Open a window and Draw the graphics by using the drawing tools. Also add any parts such as lamps, function keys, etc. For example, the group shown to the left uses shapes, bitmaps, a numeric part and rectangle tools.

1. Save group of object to a Group library

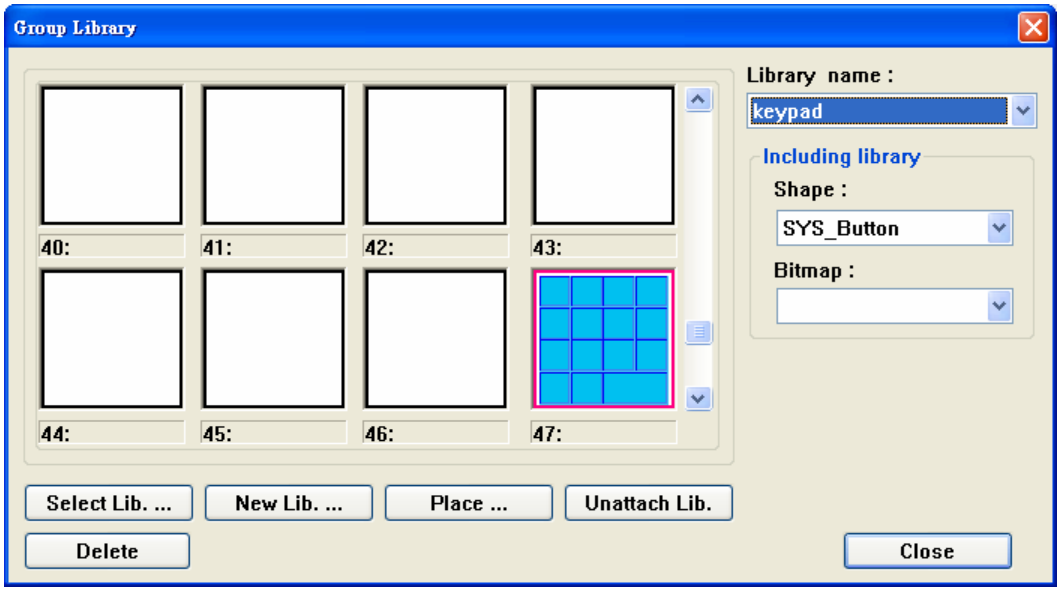
Use arrow tool to select all the candidate objects on the window.



Then, in the [Library] menu, select [Group]/[Save to library] or click  icon. The dialog will appear.



Select the appropriate Group library, fill in the Description and Group No, click OK and the selected objects are saved to the group library.



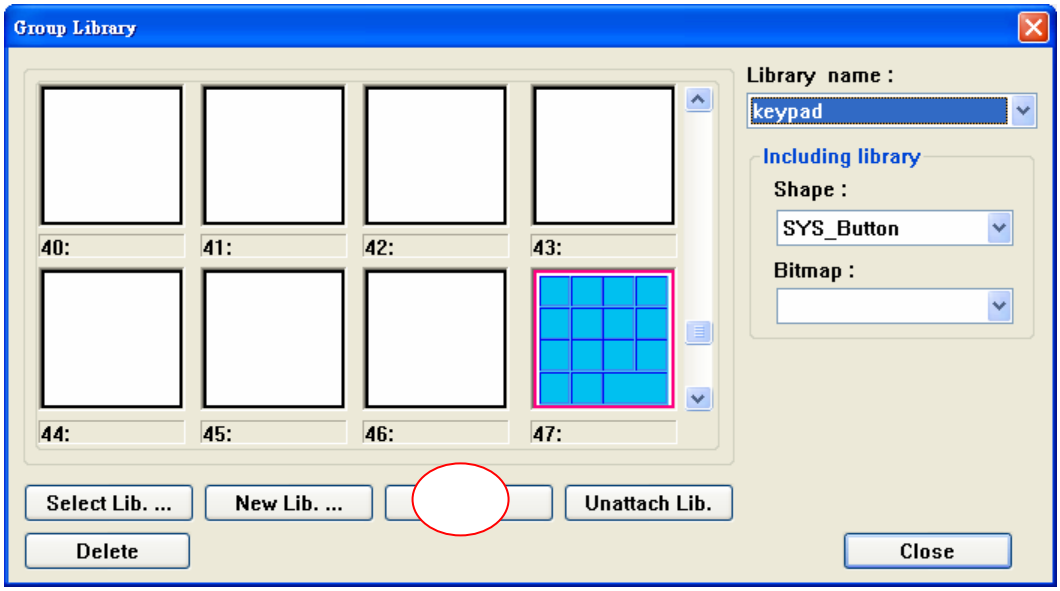
[Group Library] the content is as follows:
Library Name: Select the group library from the dropdown list.

Including library: Specifies the related Shape and Bitmap libraries for that group of objects. If the related Shape and Bitmap libraries are not included with the project, the group objects will be displayed as boundaries of shapes and/or bitmaps. To correct this, go to the Shape and Bitmap libraries dialogs and open the required libraries.

Select Lib…: A Standard Dialog Box for selecting a file appears. Select the name of the Group library to be opened.

New Lib. … : A Dialog Box for entering a file name appears. Enter the name of the group library to be created.

Place: Select the group of objects and place it on the screen.



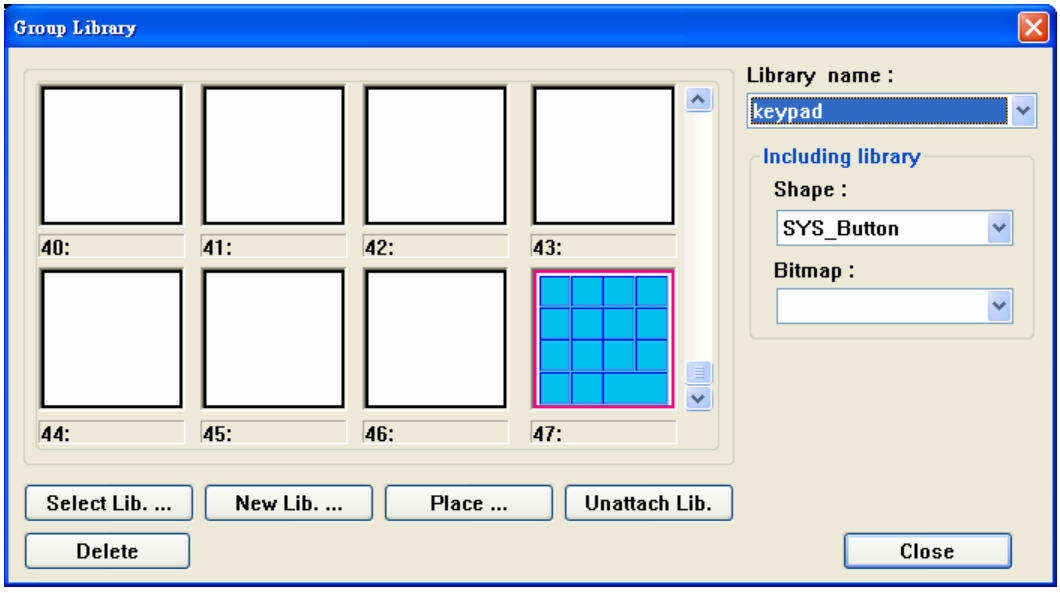
Unattach Lib.: Remove the library from current project.

Delete: Delete the selected group library.

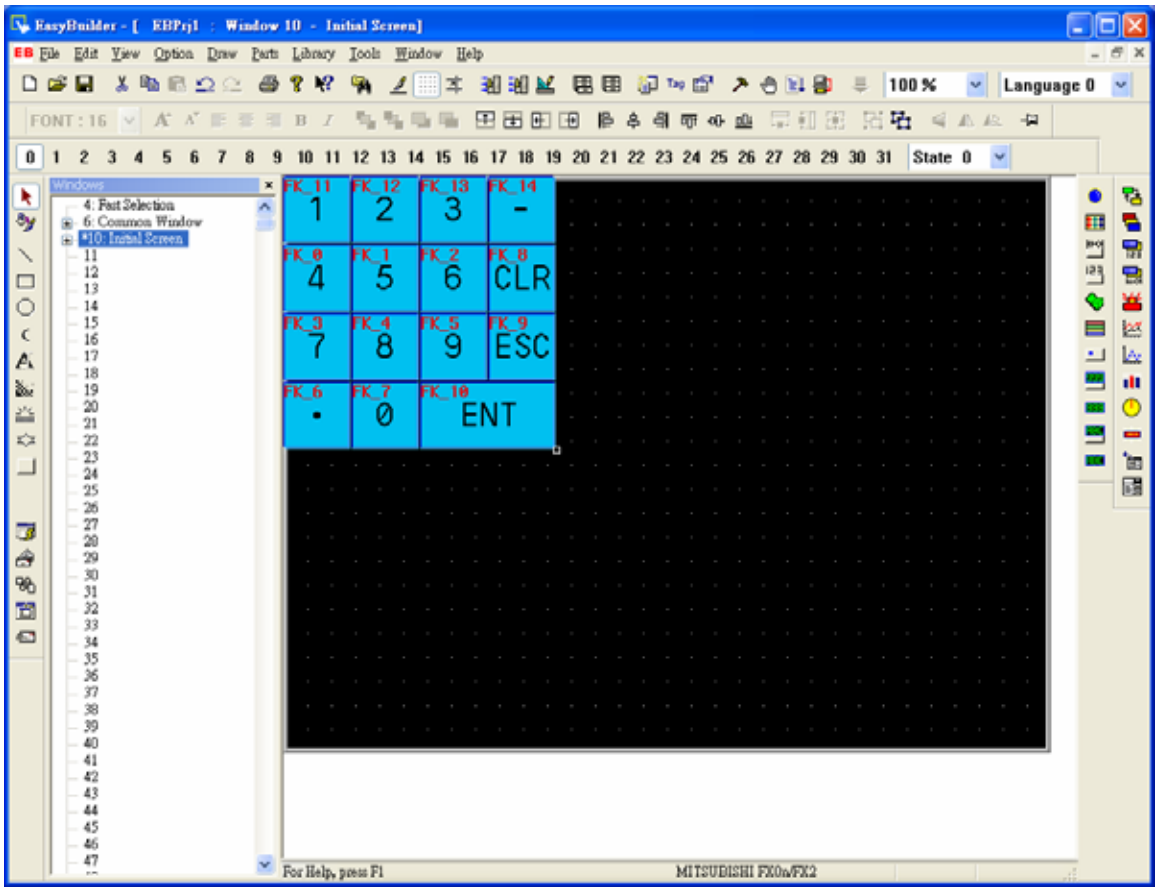
Close: Close the group library dialog.

2. Call up the group of object from a Group library

In the [Library] menu, select [Group]/[Call up library] or click  icon. The dialog will appear.



Select the group, click [Place…]. The objects on the current window.

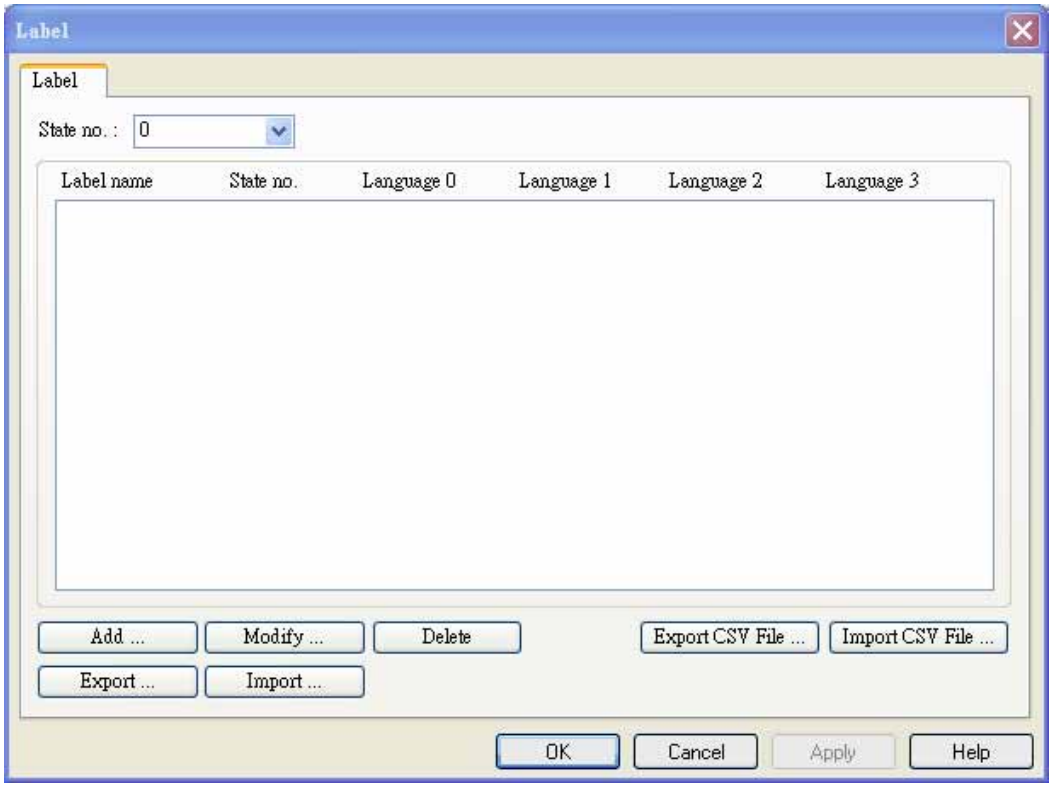

EasyBuilder - [EBPrj1 : Window 10 - Initial Screen]
File Edit View Option Draw Parts Library Tools Window Help
100 %
Language 0
FONT : 16
State 0
4: Fast Selection
6: Common Window
#10: Initial Screen
FK_11 1
FK_12 2
FK_13 3
FK_14 -
FK_0 4
FK_1 5
FK_2 6
FK_8 CLR
FK_3 7
FK_4 8
FK_5 9
FK_9 ESC
FK_6 .
FK_7 0
FK_10 ENT
For Help, press F1
MITSUBISHI FX0n/FX2

5.12 Label Library

From EB500 V2.5.0 add multi-language function, the multi-language use Label Library to realize this function. Please follow these step:

1. Open Label Library: Click menu [Library]/[Label Library] open Label Library Dialog.

2. Setting Label Library



State No.: Select the state No. to display each state's context.

Label Name: User's define Label name.

State No.: State Number, range is 0~31, total 32 states.

Language 0 ~ Language 3: User's define 4 different language message.

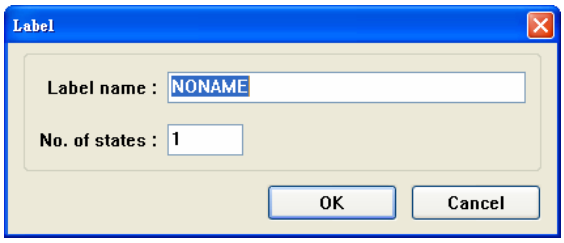
Add…: Add a label to label library.

Modify…: Modify the label that already in Label Library.

Delete …: Delete the label library.

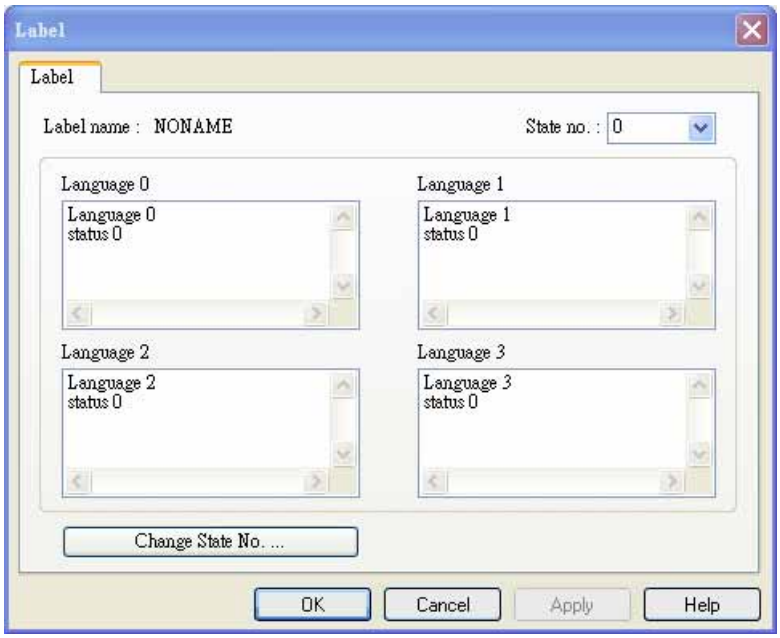
Exit: Exit Label Library dialog.

Click [Add…], a appear the dialog:



In this dialog, set the label name and total state number.

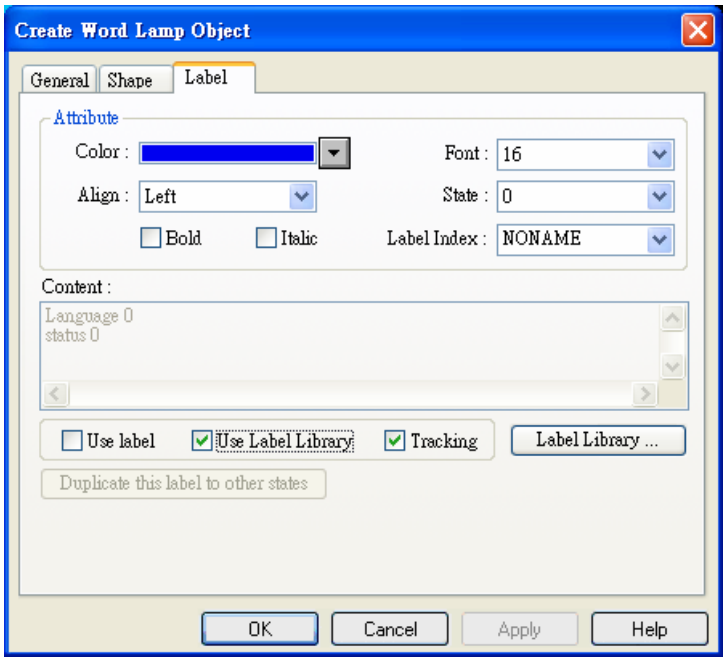
Click [OK], the Label Library will more one label. Select this label, click [Modify…]. The Label Content Setting dialog pop up:



This dialog able to edit each state, each language content.

3. Operating Multi-Language fuction:

If the EB500 objects has label attribute, it can use Label Library. The following example use Word Lamp object:



Select Use Label Library box

Label Index: Select the label that already define in Label Library. It was enabled by selected Use Label Library box.

Use Label Library: Select this box to enable use Label Library.

Label Library…: Click [Library] to open Label Library.

After the Word Lamp setting, use System Register LW9130 to change the different language.

LW9130(Multi-Language change):

LW9130=0；Display label library, language 0 content text.

LW9130=1；Display label library, language 1 content text.

LW9130=2；Display label library, language 2 content text.

LW9130=3；Display label library, language 3 content text.

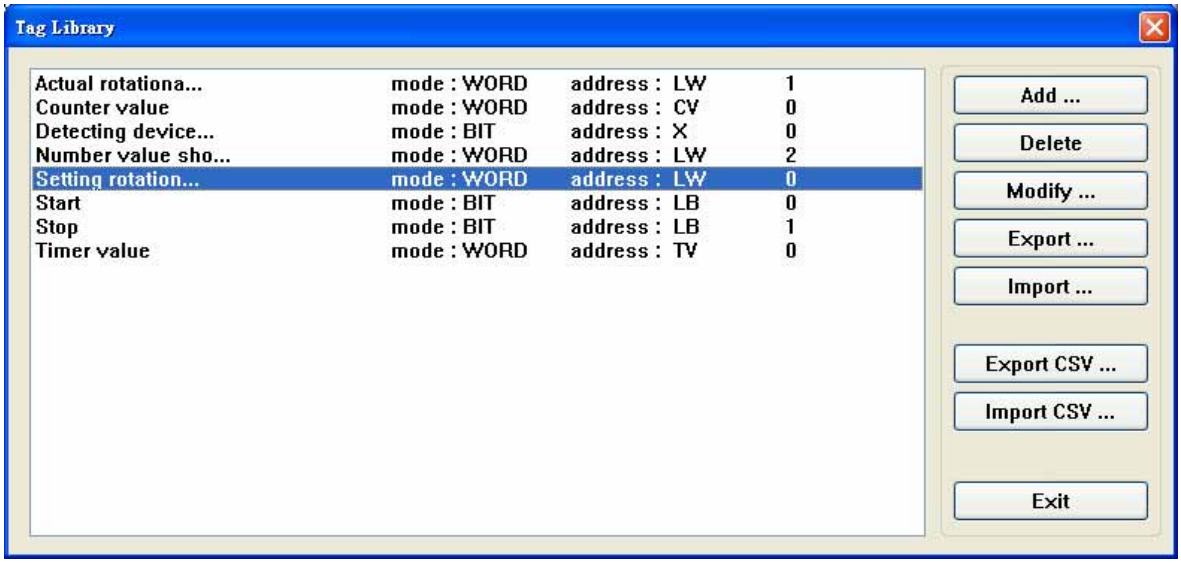
LW9130>3；Still display label library, language 0 content text.

5.13 Tag Library

Software V2.5 adds a new capability for supporting address tags. This capability can translate all required addresses into specific tags. In the project, a tag is used to represent a particular address and users can make use of the tag library to utilize this capability. Procedures of usages are described as below:

1. Opening the tag library：Select [Library]-> [Tag…] to open the tag library.

2. Setting the Tag Library



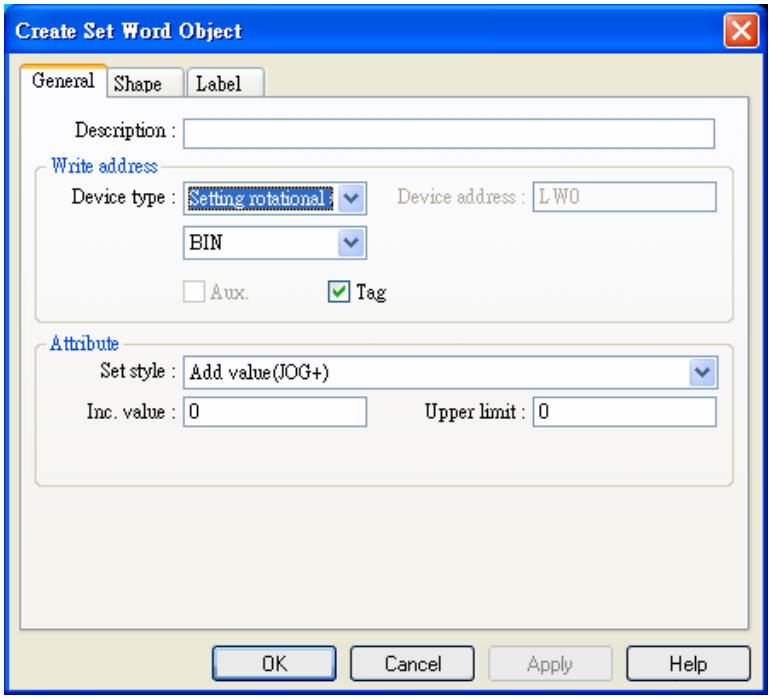
[Add …]: Adding a new address tag to the tag library
[Delete]: Deleting an existing address tag in the tag library.
[Modify…]: Modifying the contents of an existing address tag in the tag library.
[Exit]: Exit the tag library dialog

After pressing [Add…] or [Modify…] button, a dialog appears shown as below:

[Tag Name]: English or Chinese character can be used to identify an available register or a PLC

Addresses. Maximum length of an English tag name's characters is 10 and maximum length of a Chinese tag name's characters in is 5.
[Address Type]: An address type is Bit or Word.
[Device Type]: Selecting a device type to set relative device type or address.
[Address]: Defining an address.
After pressing [OK] button, a new address tag is added into the tag library.

3. Usages of the tag identifications
Objects, possessing an address attribute, can use the tag library in EB500.
Now usages of the tag library are described as below for a Multi-States object.



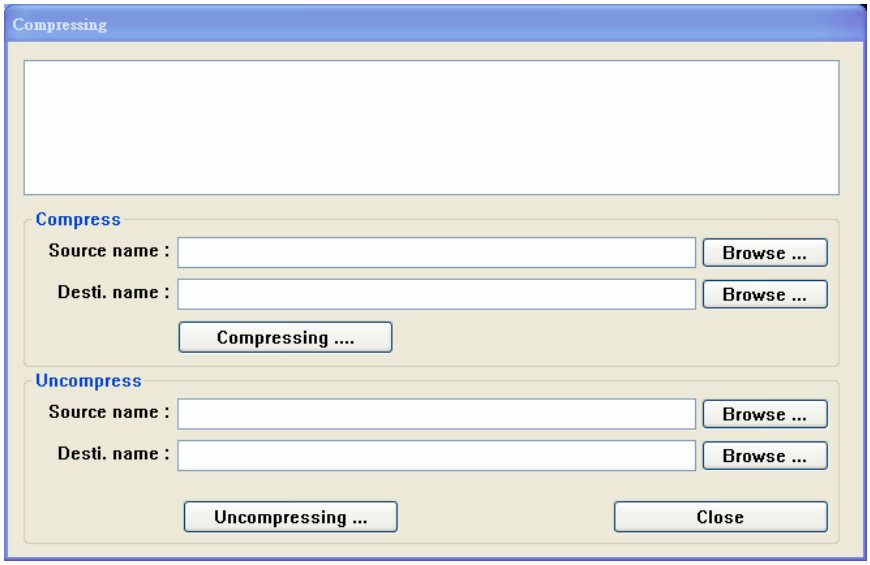
A new [Tag] item is found in general page of a object attribute dialog:
If this [Tag] item is checked, users can select an existing tag in the tag library for a particular address.
Notification:
Not only addresses can be used clearly and directly through a tag library, but also it is convenient and practical for modifying some partial addresses after completing a project. (When a purpose-built address must be changed, it is unnecessary to modify this address on all relative dialogs, and users only correct this address in the tag library.)

5.14 Compressing Project

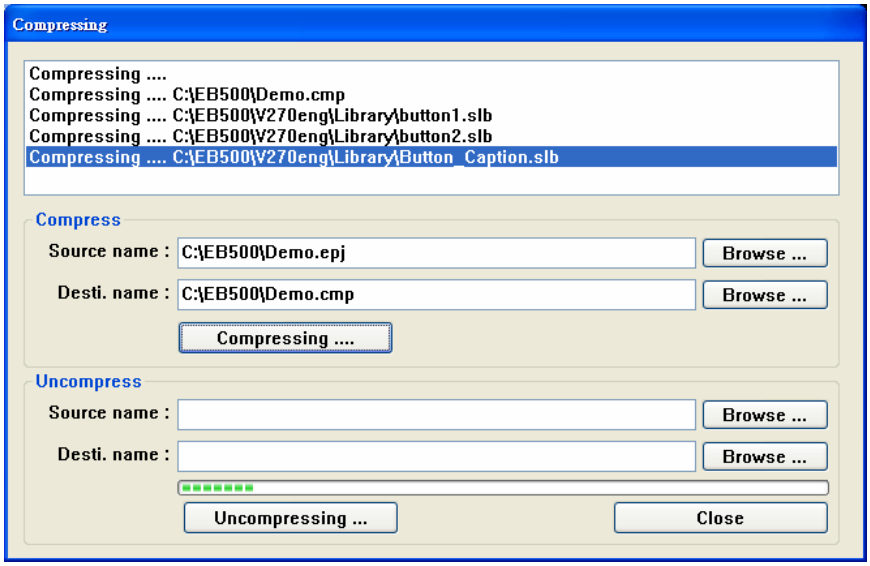
After a project is set up successfully, it can duplicate in other computers , or store to other catalogues . Will meet 2 questions at this time. One is all kinds of problem of the file . But present hard disk space is all bigger, so this question is not big . One is that this project may use a lot of Shape Library or Bitmap Library , an impossible one users will go to find these picture libraries that it use to duplicate with this project file afterwards, so EB200 offers and compresses the function. It is smaller that it can make the project file compress , and all picture library files(Shape Library or Bitmap Library,etc.) applied this project to are compressed into *.cmp for one with project file . In this way , can utilize and deserve . *cmp file comes to transmit the project file . Only have to decompress it when use this project file , all its storehouse files used will be decompressed to the acquiescence route too.

The course compressed and decompressing is as follows:

Select the menu [Tools]/[Compress/Uncompress], the dialog pop up:



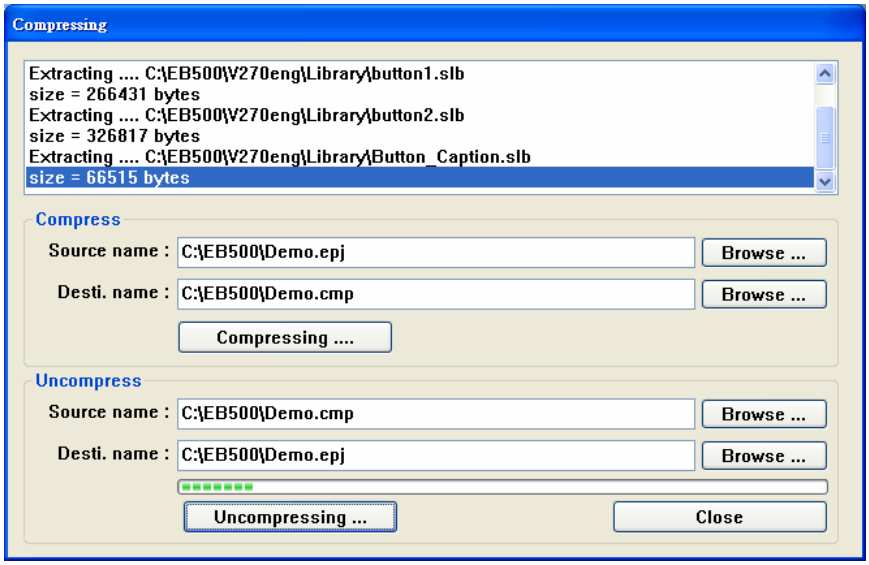
Use the [Browse] feature to find the project to compress. The Destination name is automatically assigned. This name can be changed by the user.



Click [Compressing…] button to begin the compression process.

The picture show: the project compress to demo.comp.

Decompiling procedure like Compressing. Browse for the project to decompile. The Destination name si automatically assigned, but can be changed. Click [Decompile] to begin the decompile process.



If the library already exists, the dialog will appear. Select [Yes to all] to replace the existing file.