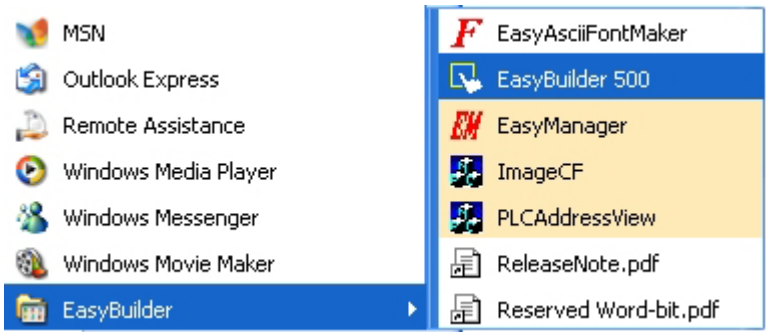
Chapter 3. Software Reference Guide

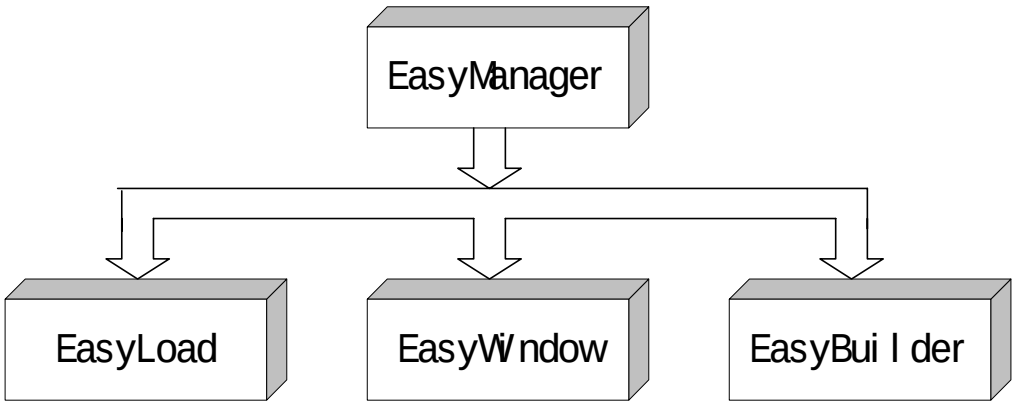
EasyManager and PLCAddressView are software used for Easybuilder 500. We will introduce them one by one.



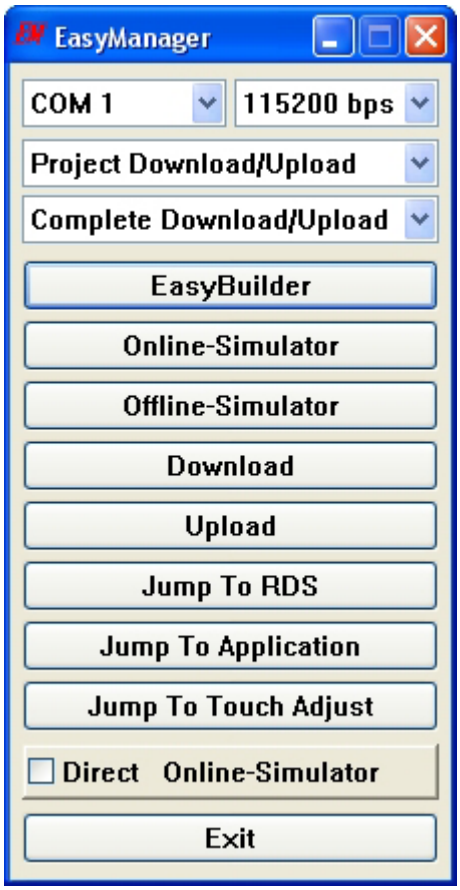
3.1 EasyManager

Easy Manager is the comprehensive software of system of a whole set of WeinView500 software. There are three modules in the whole Easybuilder500: Easyload [Upload & Download],EasyWindow(On-line Simulator & Off-Line Simulator) and Easybuilder. Easybuilder is the software for editing,Used for planning various kinds of component positions,Generally abbreviate as EB500. You can download and simulate on line (or off line) by using EasyManager that is realized by the way transfering other two mould groups via EasyManager. Don’t need to open EasyManager window downloading or off-Line from EasyBuilder. But you have to set up related parameters on EasyManager(ex.COM port, communication speed),otherwise the operation may be unable to run.

The structure relation diagram of EasyManager depicts as below:



Select Start/Program/ EasyBuilder/ EasyManagert,the popup EasyManager dialog appears as below:
EasyManager has the following components:



In EB500 the communication parameter between the computer and HMI is defined as follows:
COM Port Drop-Down Box:
Select the number of the RS232 Serial COM port ,COM1 or COM2 for computer.(Ports COM1 through COM10 are available for selection.)

Communications Speed Drop-Down Box:
Determine the communications speed between the PC and the unit during downloads and uploads,the 115200 speed is recommended. (For old style machine or special requirement, the 38400 speed is recommended.)

Project Download/Upload or Recipe Download/Upload:
Select Project Download/Upload to transfer project data.
Select Recipe Download/Upload to transfer recipe data.

Complete or Partial Download/Upload:
Selecting Complete to download both program file (*.eob) and system file (*.bin) is slower than select Partial to download just only program file(*.eob). When uploading, speeds are the same to select either Complete or Partial.

Easybuilder:
EasyBuilder is the software for editing,Used for planning various kinds of component positions,Generally abbreviate as EB500. Push this button can enter the editing picture of EB500 software. Please consult this seal of section five about the detailed introduction to this software.

Online-Simulator:
Simulator can read the data of PLC through MT500 after a project is compiled by EB500.(This creates a file with extension*.eob) and you can operate directly on computer by MT500.
Using Online-Simulator function saves much time for repeat downloading. Please refer to Ch. 6 for detail.

Offline-Simulator:
The Offline simulator emulates the operation of a project on the PC screen which retrieves the static data from display. Please refer to Ch. 7 for detail.

Download:
Download a project compiled by EasyBuilder to the MT500. Please refer to Ch. 2 for detail.

Upload:
Upload the project file from MT500 to an object file (*.eob). The upload file can’t be opened by EB500 but can be transferred to another HMI. On the other words, the upload file can be transferred among the HMI with the same program. Please refer to Ch.3 for detail.

Jump to RDS Mode:
Jump to RDS is used for on-line simulations or far-end error detections. Uploads and Downloads are done in this mode. You also can search system’s ROM version or some system information.

Jump to Application (State mode of the application program) Mode:
This is the normal operating mode of a unit. Clicking Jump to Application runs the project in memory. If there is no project (or the project is broken) in the unit , the unit jumps to RDS Mode after booting. You can download a complete project to HMI and then return to operation mode.

Jump To Touch Adjust (Touch screen calibration) mode:
Jump to Touch Adjust is used to calibrate the touch screen. Changing motherboards or displays have to use this mode to calibrate the touchscreens. MT 500 series shows the instruction to lead you to complete the calibration.

The three buttons of EasyManager describe above can be forced into switch to the corresponding mode, far-end On-line operation mode and Touch screen calibration mode.

Touch Test mode:
Test touch panel accuracy. In this mode, when you touch the screen, there is a corresponding display “ +” on the point you touch which for you to test the accuracy. Note: This mode change isn't on the EasyManager menu, But it is done by changing Dip Switches. Please refer to Dip Switch chapter for detail.

Exit:
This button closes the EasyManager application.

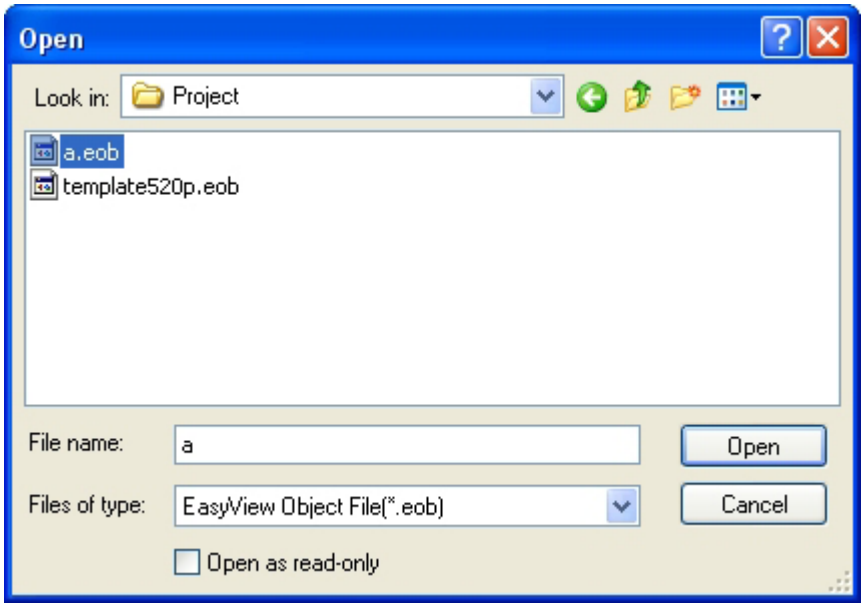
3.2 Download

Before a project can be downloaded it must be compiled. There are two methods to process:one is through the download button of EasyBuilder ,another one is from EB500, select Tools/ Download in the menu bar or press  icon to download

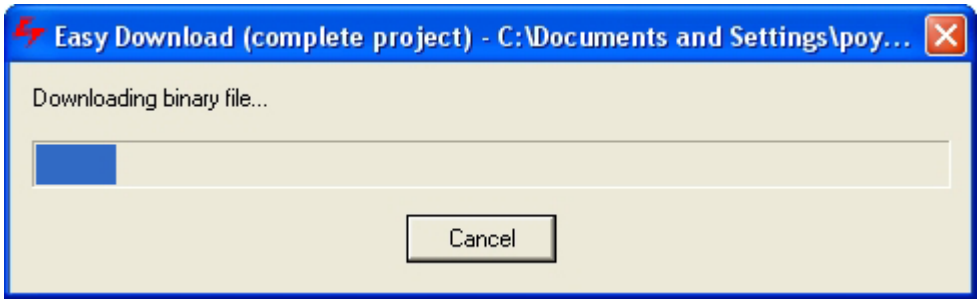
(1)Downloading through EasyManager:
Select Start /Programs/EasyBuilder/EasyManager.

Set up all necessary parameters. Please refer to EasyManager part in this chapter.

Click on DownLoad button.



Choose the project file and then click Open.



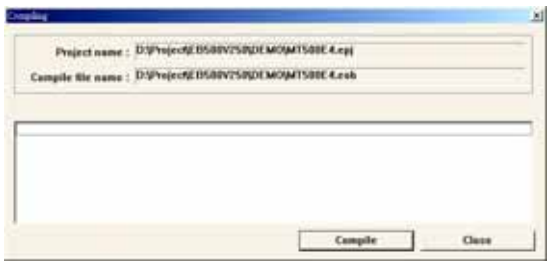
Downloading begins with the Easy Download dialog popping up and is tracked by the progress bar. After downloading, click OK.
Click on Jump To Application button or reset the display to application mode, the project is operated on the display.

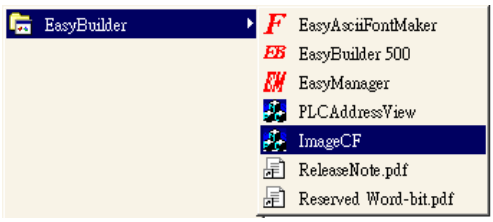
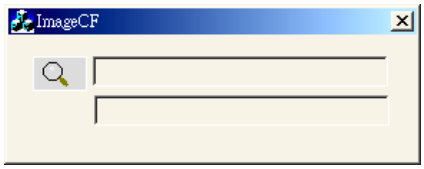
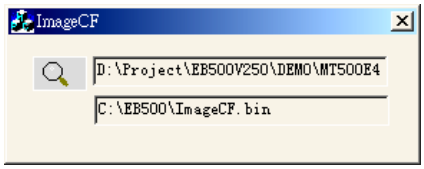
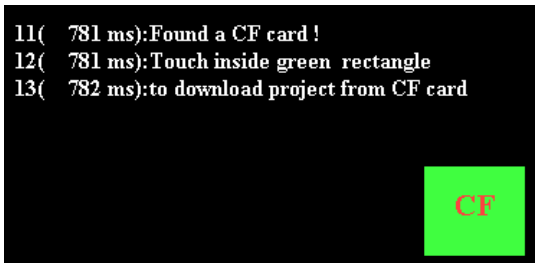
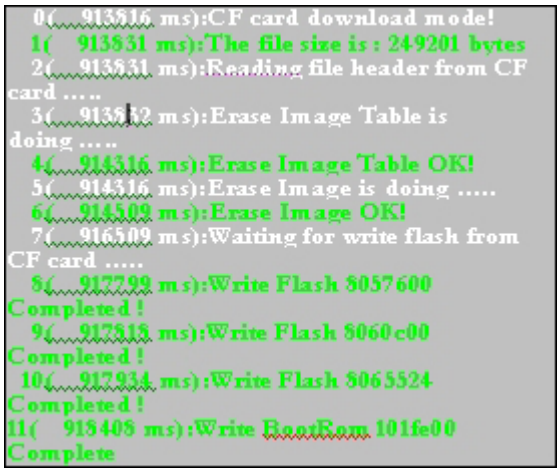
(2)Downloading through EB500
Open the [*.epj] file name of the project on EB500 or the current editing file, select Save in the Edit menu and then select Compile in the Tools menu.

After compiling, close the compiling dialog. In Tools menu, select Download or press  icon.The pop-up dialog appears as below:

Click OK when finish.
Click on Jump To Application button or reset the display to application mode, the project is operated on the display.

(3)Downloading through CompactFlash memory.(for E4 series)
MT500 E4 series support the function of downloading through CompactFlash memory.

Step	Task	Picture
1	After editing,compile and save.	

2	Click ImagCF icon from the programs list.	
3	Click  icon and open eob extension compiled from step1.	
4	ImageCF.exe program combines .eob file and related .bin file to a ImageCF.bin(Please don't use other name on this file.)	
5	Copy ImageCF.bin to the root folder of CF card.	
6	Insert the CompactFlash card into the units CompactFlashT slot.Put dipswitch 2 of the unit in the ON position and the others are all off. Then push reset button.The unit comes up in RDS mode and a green CF card button appears.	
7	Click the green button and then start to download. After download, the mode automatically switch to Application mode.	

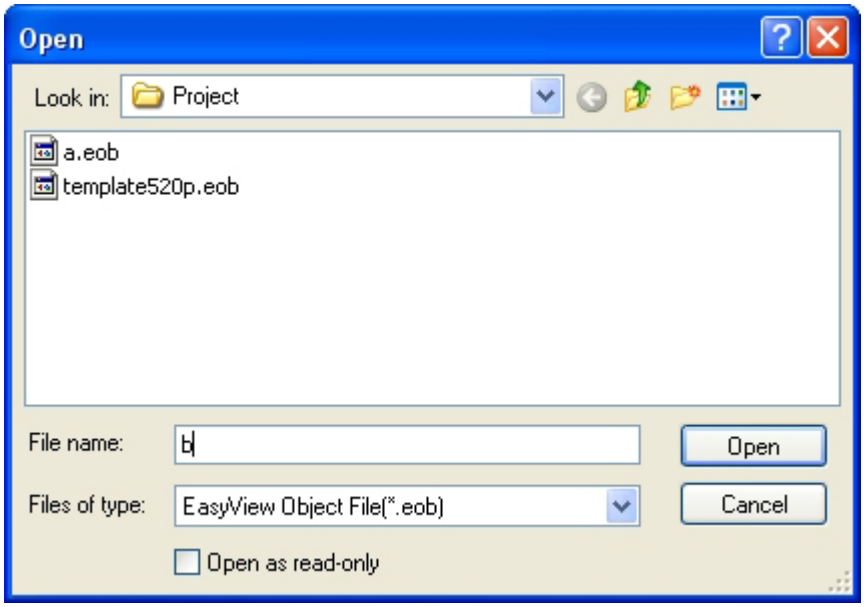
The CF slot of MT500 may not detects all brands of CF cards. “San Disk”and “PQI”are suggested.

The CF memory card may be formatted as FAT16 or FAT32.

3.3 Uploading

We can upload the project from HMI to PC and then On-line Simulation in the computer and download project enter other HMI to operate.The upload file must be *.eob which is not allowed to compile on EB500. Uploading isn't reached in EB500.Upload the project through EasyManager/ Upload.

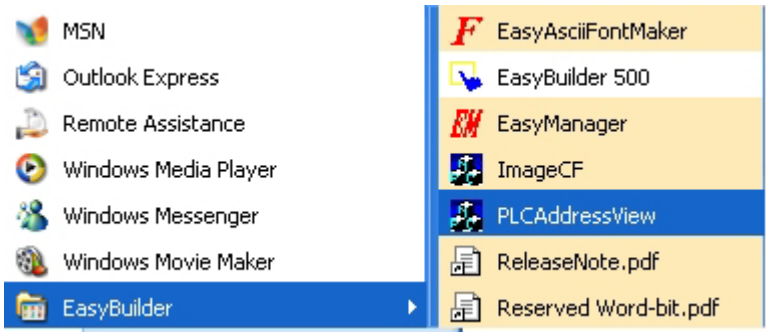
Open EasyManager, set up the corresponding parameters.The pop-up dialog shows as follows:



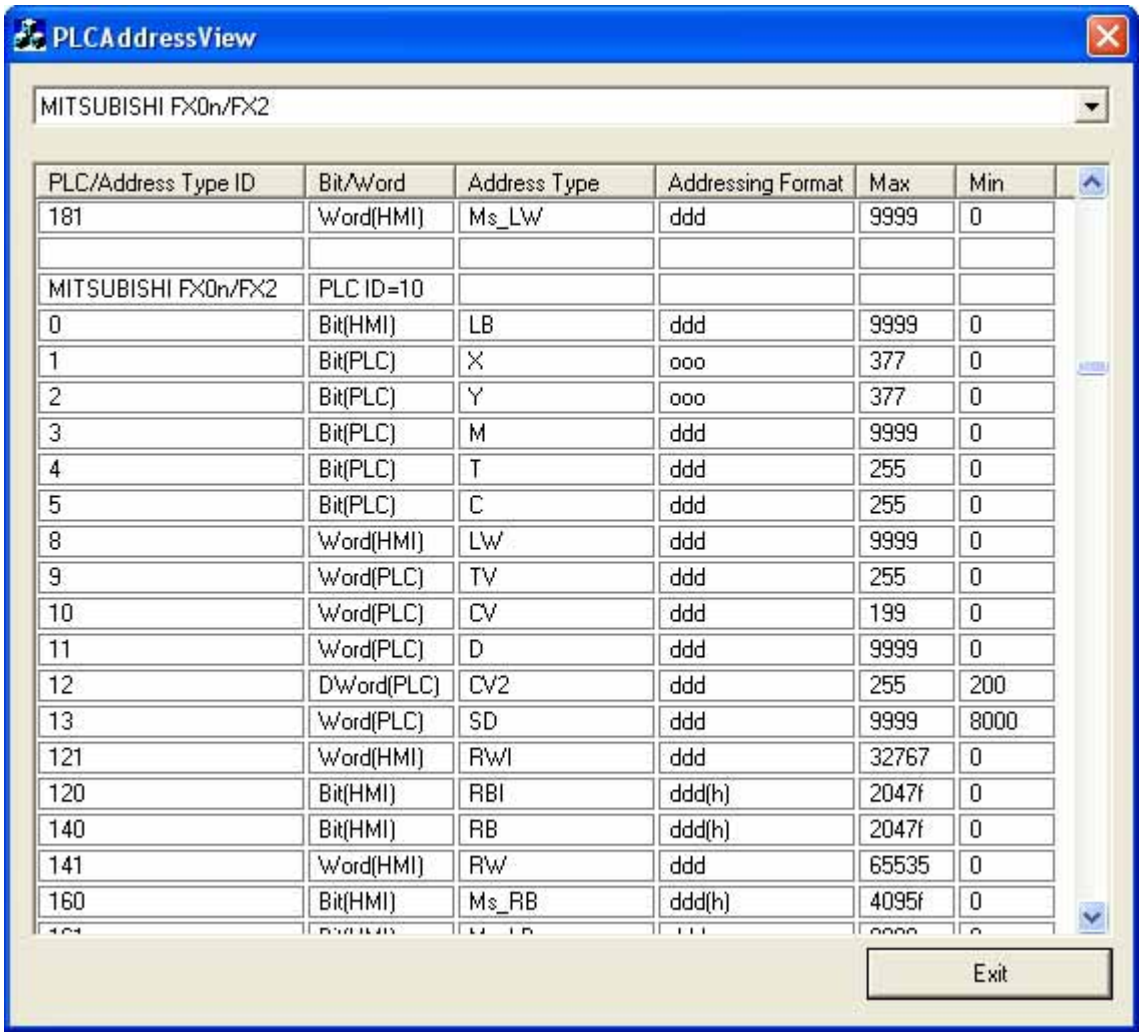
Input the file name. Click Open. If the password is set on the project, it pops up a password message box. After the password is confirmed, the pop-up message box appears as below.

Click OK after downloading. Find the file from the corresponding location and then download to other HMI or run On-line simulation.

3.4 PLC AddressView

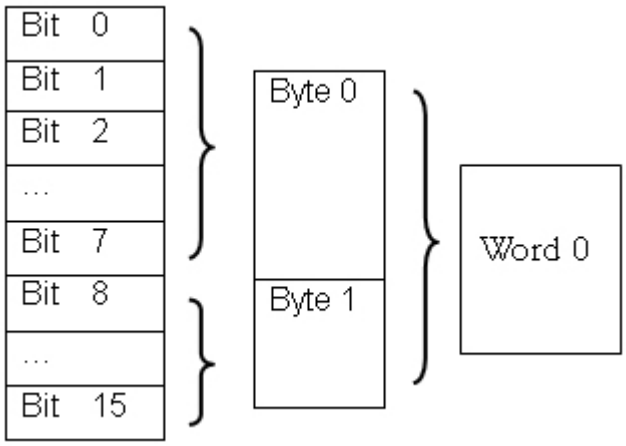


Select and click PLC AddressView will show plc address type and range,The pop-up dialog shows as follows:



PLC/Address Type ID	Bit/Word	Address Type	Addressing Format	Max	Min
181	Word(HMI)	Ms_LW	ddd	9999	0
MITSUBISHI FX0n/FX2	PLC ID=10				
0	Bit(HMI)	LB	ddd	9999	0
1	Bit(PLC)	X	ooo	377	0
2	Bit(PLC)	Y	ooo	377	0
3	Bit(PLC)	M	ddd	9999	0
4	Bit(PLC)	T	ddd	255	0
5	Bit(PLC)	C	ddd	255	0
8	Word(HMI)	LW	ddd	9999	0
9	Word(PLC)	TV	ddd	255	0
10	Word(PLC)	CV	ddd	199	0
11	Word(PLC)	D	ddd	9999	0
12	DWord(PLC)	CV2	ddd	255	200
13	Word(PLC)	SD	ddd	9999	8000
121	Word(HMI)	RWI	ddd	32767	0
120	Bit(HMI)	RBI	ddd(h)	2047f	0
140	Bit(HMI)	RB	ddd(h)	2047f	0
141	Word(HMI)	RW	ddd	65535	0
160	Bit(HMI)	Ms_RB	ddd(h)	4095f	0

Bit is a base unit,eight bits are one byte,two bytes are a word,two words are the Dword.
d:Decimal,o:Octal,h:Hexadecimal
Bit(HMI): HMI bit , Bit(PLC):PLC bit。



The Address Type show different PLC address type and range. Usually, there are 4 data types Bit, Byte, Word, Double Word.

1. Bit address type

   LB (Local Bit): Internal bit of the HMI.

   RBI: Recipe index bit. Please refer the CH8.

   RB: Recipe bit.

   Ms_RB: Master/Slave connect, the slave HMI can use Ms_RB to get the Master HMI's RB data.

   Ms_LB: Master/Slave connect, the slave HMI can use Ms_LB to get the Master HMI's LB data.

   ddd: Decimal address format

   ooo: Octal address format

   hhh: Hexadecimal address format

   ddd(h): "ddd" word address in decimal format, "h" bit address in hexadecimal format.

   ddd(dd): "ddd" word address in decimal format, "dd" bit address in decimal format.

   ddd(o): "ddd" word address in decimal format, "o" bit address in decimal format.

   Some PLC base address are 1. For example, Modbus RTU 1x and 0x address range is from 1 to 32767. Some Modbus RTU device base address is 0. So, the MT500 address have to subtract 1 to according the device address. Mitsubishi FX2n SM address type base address is 8000.

   Max and Min to mean maximum address number and minimum address number.

2. Byte address type

   Byte address has 2 types, ddd and hhh.

   ddd: byte address in decimal format

   hhh: byte address in hexadecimal format

   Max and Min to mean maximum address number and minimum address number.

3. Word address type
   LW: Local Word, the data in HMI memory. When the HMI power off, the LW data will reset to 0. 9000~9999 are reserved for system.
   RWI: Index to Recipe Word. Please see ch8.
   RW: Recipe Word. After the HMI power off, backup by battery. 60000~65536 are reserved for system.
   Ms_RW: Recipe Word located in the Master HMI. Slave HMI use Ms_RW to access Master HMI RW data.
   Ms_LW: Local Word located in the Master HMI. Slave HMI use Ms_LW to access Master HMI LW data.

4. Double Words address type
   Double words address has 2 types, ddd and hhh.
   In EasyBuilder, No. of words select 2.
   ddd: address in decimal format
   hhh: address in hexadecimal format ddd

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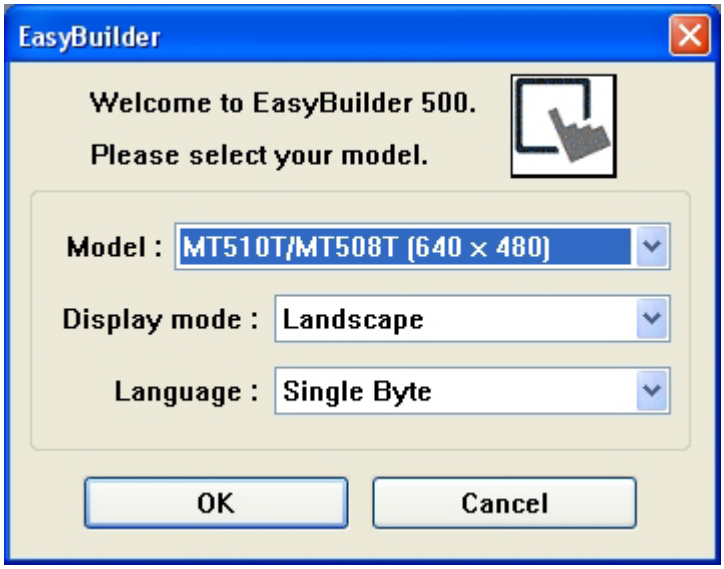
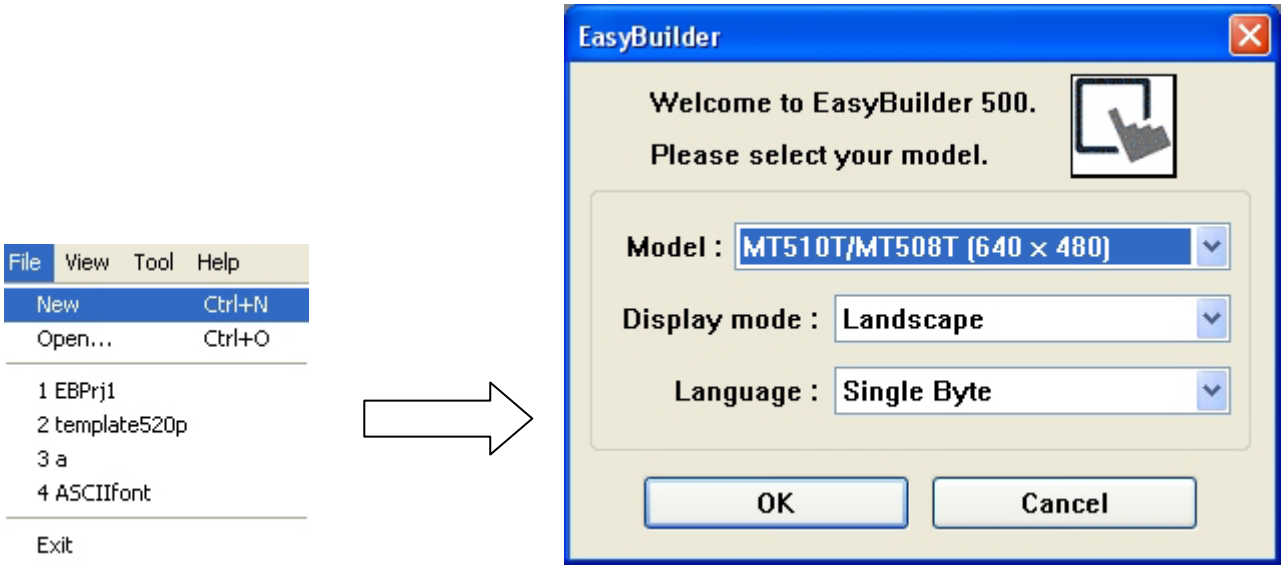
3.5 EasyBuilder interface

Click EasyManager's EasyBuilder button or directly select Start/Programs/Easybuilder/ EasyBuilder 500 in the menu bar. If it's the first time running EasyBuilder or a last blank project was opened on last time log-in, the following popup dialog appears.



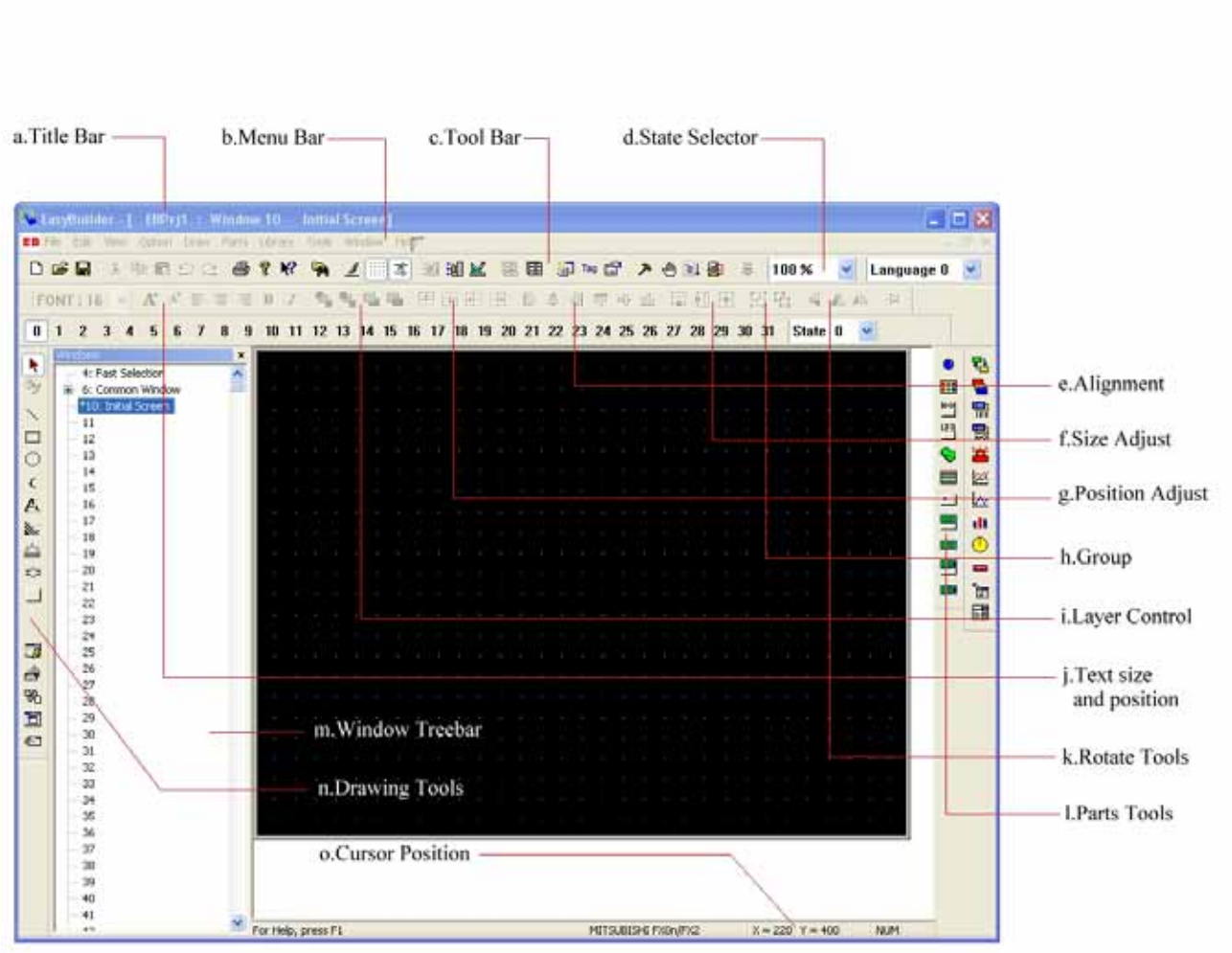
Select the type of display and then click OK to enter EB500 screen editor window. Or enter EB500 to open the latest opened project.

Select File/New to create a new project. The pop-up dialog appears as below. Select the appropriate type of display from the drop-down box and then click OK to enter EB500 screen editor window.



3.5.1 Screen Editor Overview

The following shows the screen editor window. The function of each screen area are explained below.



a. Title Bar:

Displays the project's file name, active window number and title.

b. Menu Bar:

Displays the menu used to select EasyBuilder commands. There is a corresponding dropdown under each function bar. Each choice in the dropdown execute an operation.

c. Tool Bar:

Displays the icons corresponding to File, Edit, Library, Tools ,Simulation and up/ download menu items.

d. State Selector:

Selecting different state toggles all the parts on the window to the specified state.

e. Alignment:

Makes all the selected parts line up to the top, bottom, left or right

f. Size Adjust:

Makes the dimension, width or height, of all the selected parts the same size.

g. Position Adjust:

Adjusts the position of selected parts.

h. Group:

Makes a collection or combination of selected parts and drawing elements as one object. Save the group to the library for next time use.

i. Layer Control:

Adjusts the Layer of selected part ¡V one layer up, one layer down, to top layer and to bottom layer.

j. Text size & position:

Changes the font size and alignment of the selected text.

k. Rotate and Flip:

Flips the shape horizontally or vertically and rotates the shape in 90-degree increments.

l. Parts Tools:

Each icon represents each Part type. Clicking on one of these icons causes that icon¡¦s dialog to appear. That Part¡'s attributes can then be set and the Part can be placed on the screen.

m. Window Treebar:

Provides quick access to Window properties or objects.

n. Drawing Tools:

Each Icon represents each drawing tool. These tools include: line, rectangle, circle, arc, polygon, bitmap and so on.

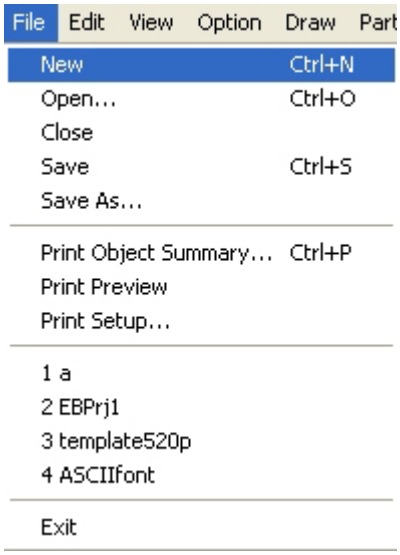
o. Cursor Position:

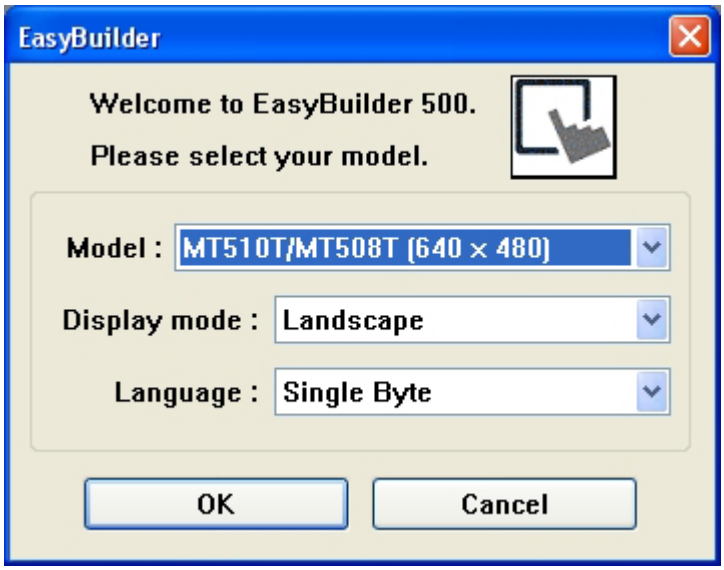
Shows the current cursor position on the active screen and assistant statements.

3.5.2 Menu [File]

1) New

Select [New] from File menu or select to create a new project.

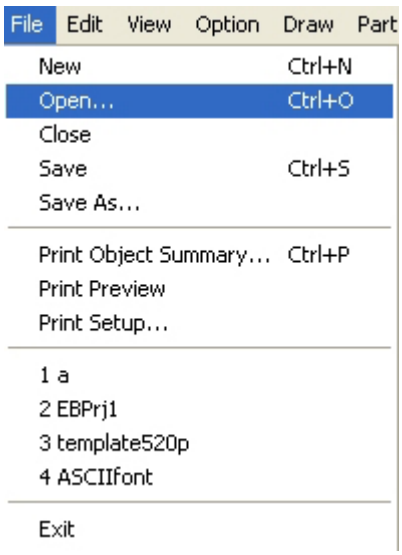


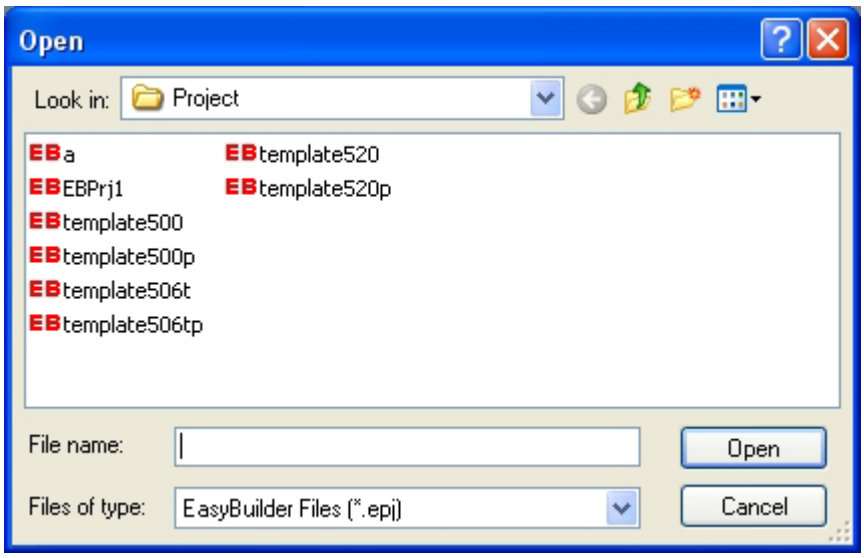


Click OK, a new project is initiated.

2) Open

Select [Open] from File menu or select to open a exist project.

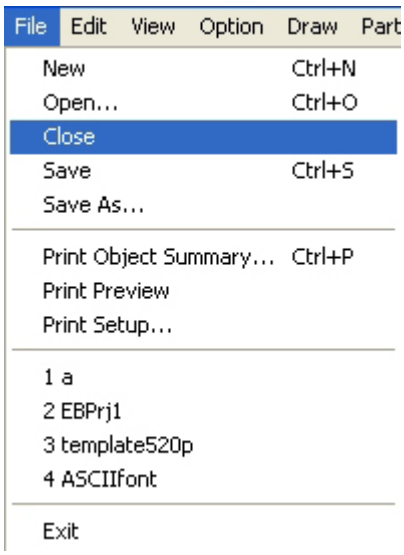




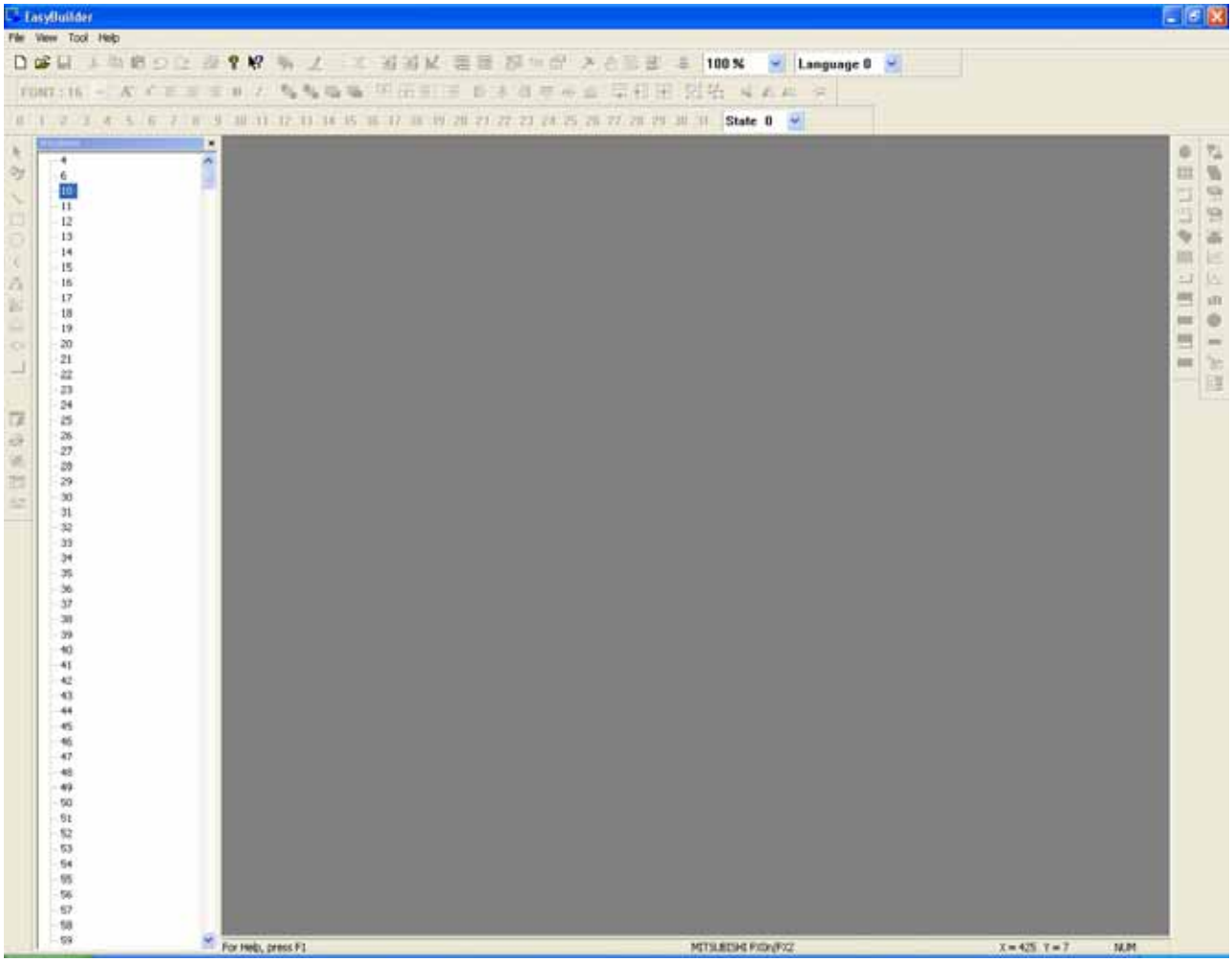
Choose the selected project file and then click Open or double click that project file.

3) Close

Select [Close] from File menu to close the current project.

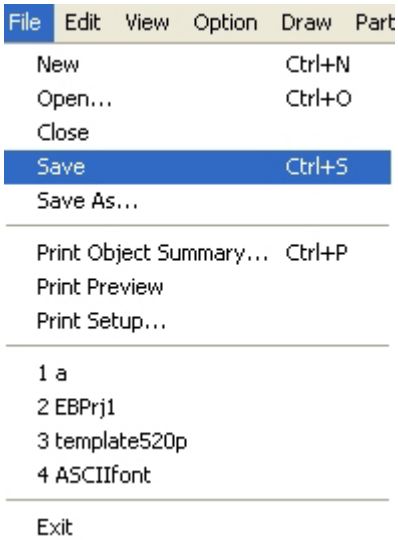


All current windows are closed after clicking Close, the display shows as below:

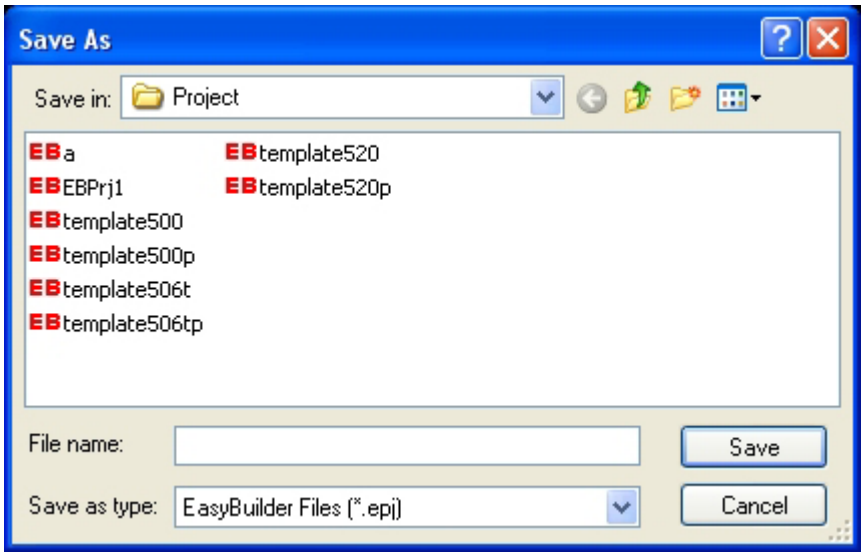


4) Save

Select [Save] from the File menu or select to save the current project.



The dialog shows as below if the project hasn't been saved.

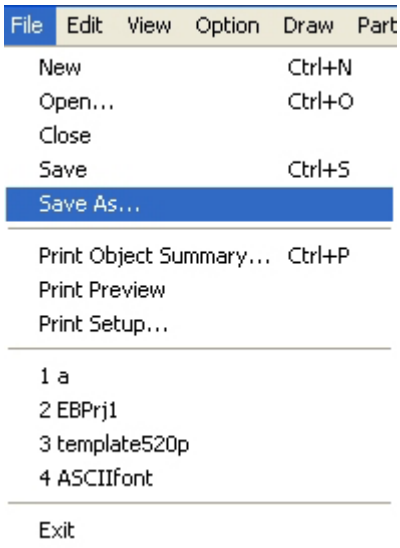


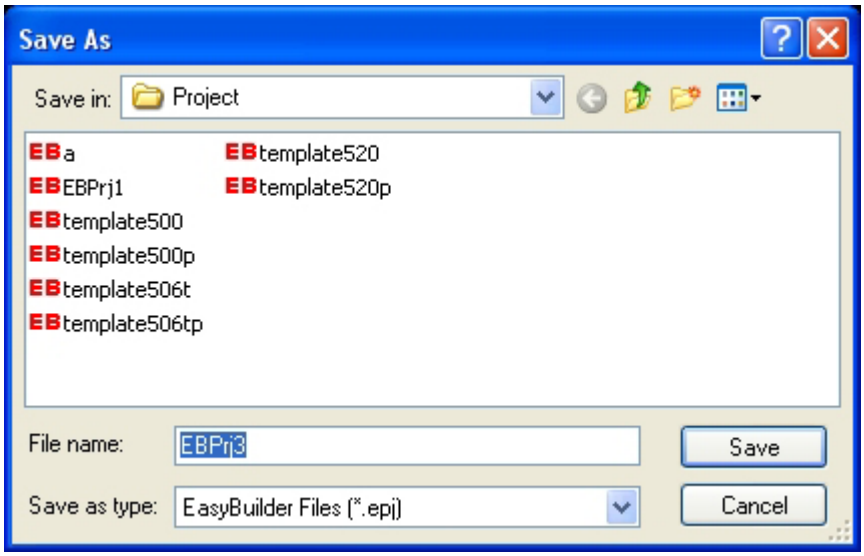
Input the file's name and click Save.

If the project is saved before, click Save and there isn't any dialog showed.

5) Save as

Select [Save as] in the File menu to save the current project to designate path.





Input new project name to save the new project.

6) Exit

Exit EB 500.

7) Current opened files

Four current opened files' names and paths are showed in the File menu. Click any file name to open the file.

3.5.3 Menu [Edit]

1) Undo

[Undo] function cancels the latest operation and go back to previous condition. Press  icon or select [Undo] from the Edit menu to cancel the latest operation.

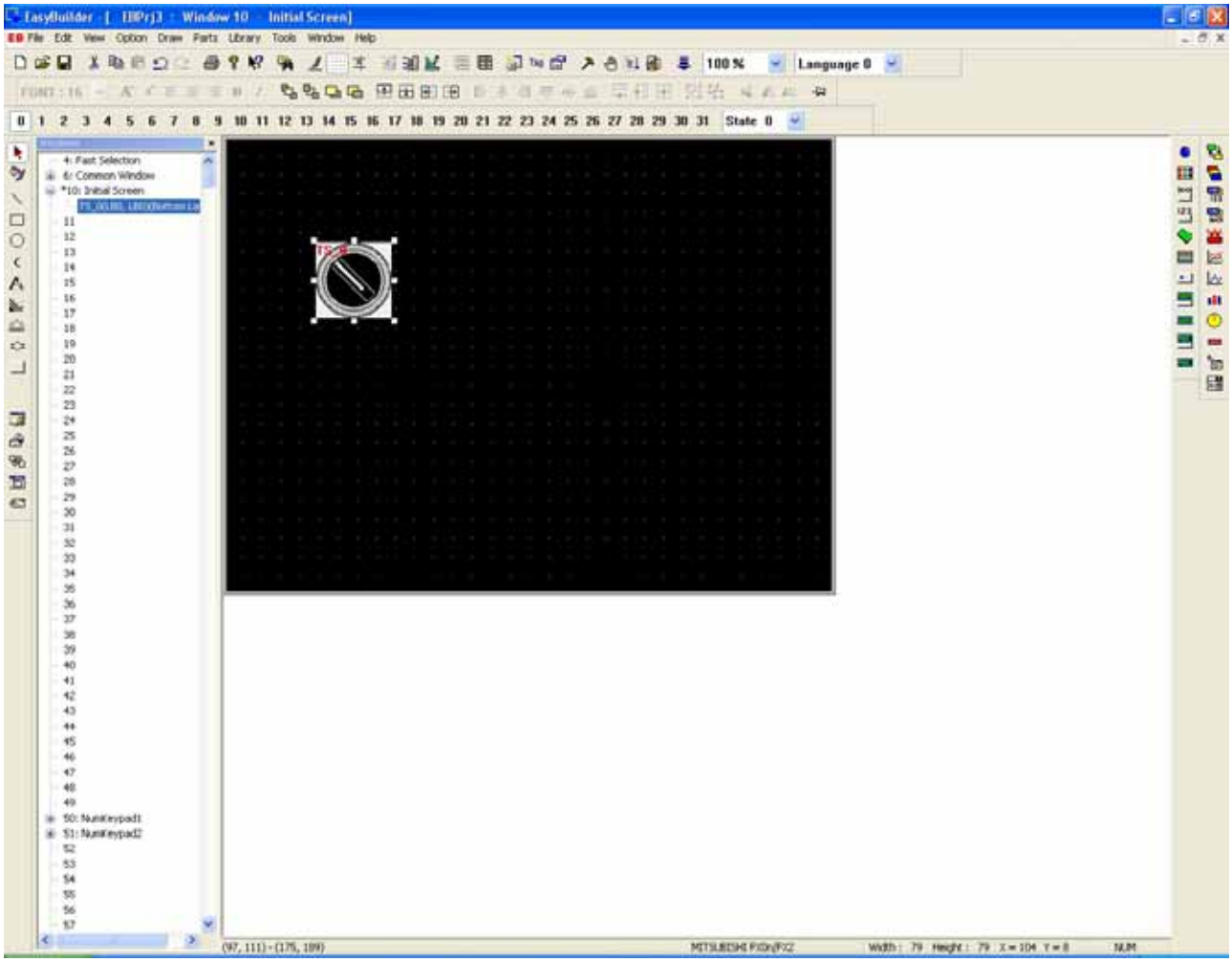
2) Redo

[Redo] function revert current operation to previous condition. It's done by pressing  icon or selecting [Redo] from the Edit menu.

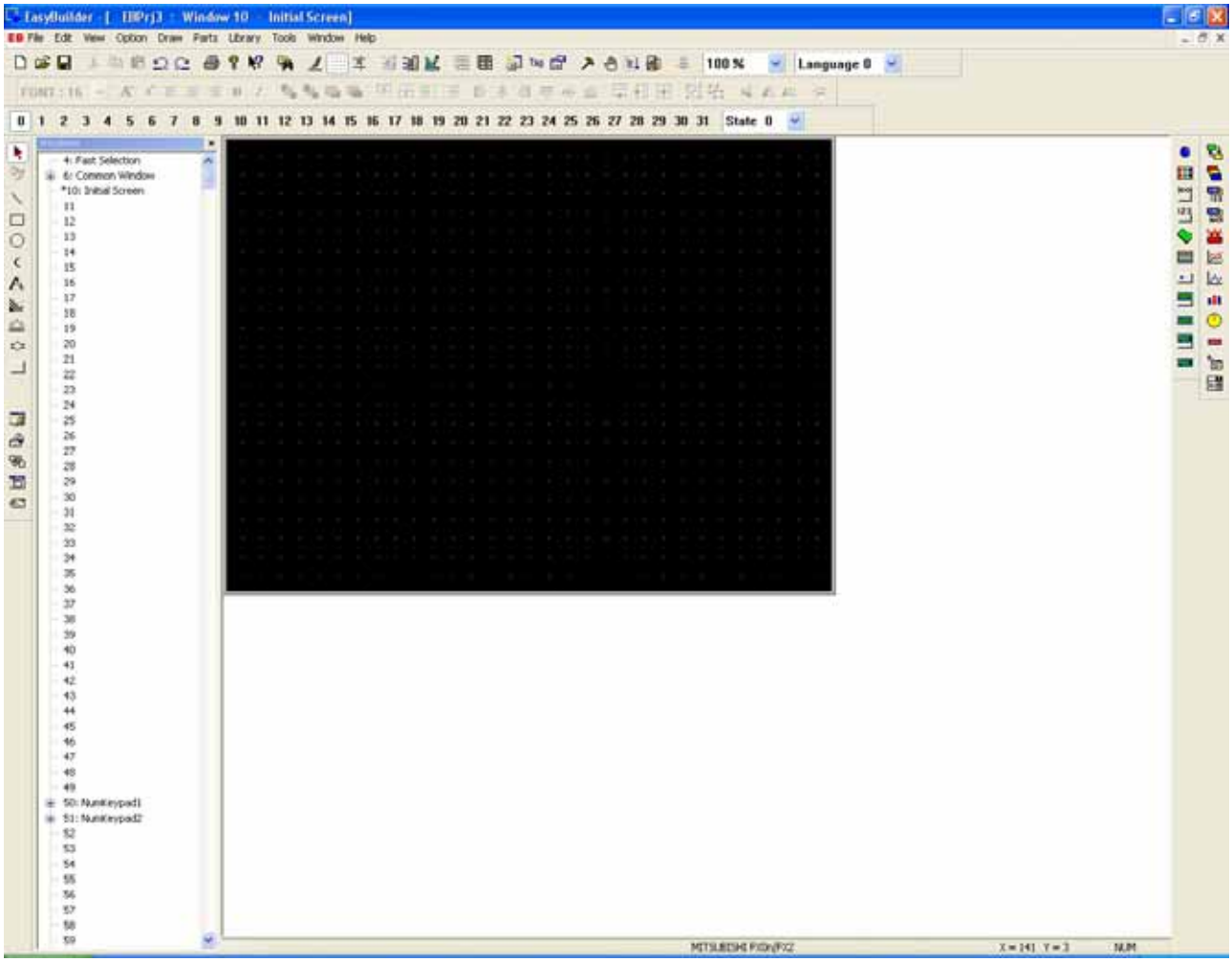
[Undo]/[Redo] function is used in adding or changing any object on the screen.

Add one object as the

diagram:


EasyBuilder - [EBPrj3 : Window 10 - Initial Screen]
File Edit View Option Draw Parts Library Tools Window Help
100 %
Language 0
State 0
4: Fast Selection
6: Common Window
*10: Initial Screen
50: NumKeypad1
51: NumKeypad2

Click Undo.



then click Redo.

Note: Considering the size of the file, only the lastest action can be Undo/Redo.

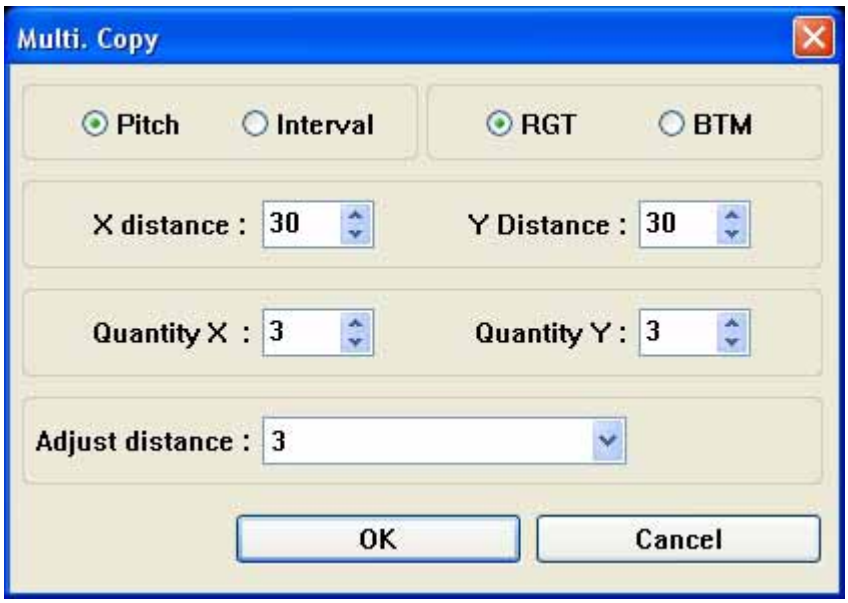
3) [Cut],[Copy],[Paste] and [Delete]

Cut, Copy, Paste and Delete functions are available for all objects. The corresponding icons are:

4) Multi-Copy

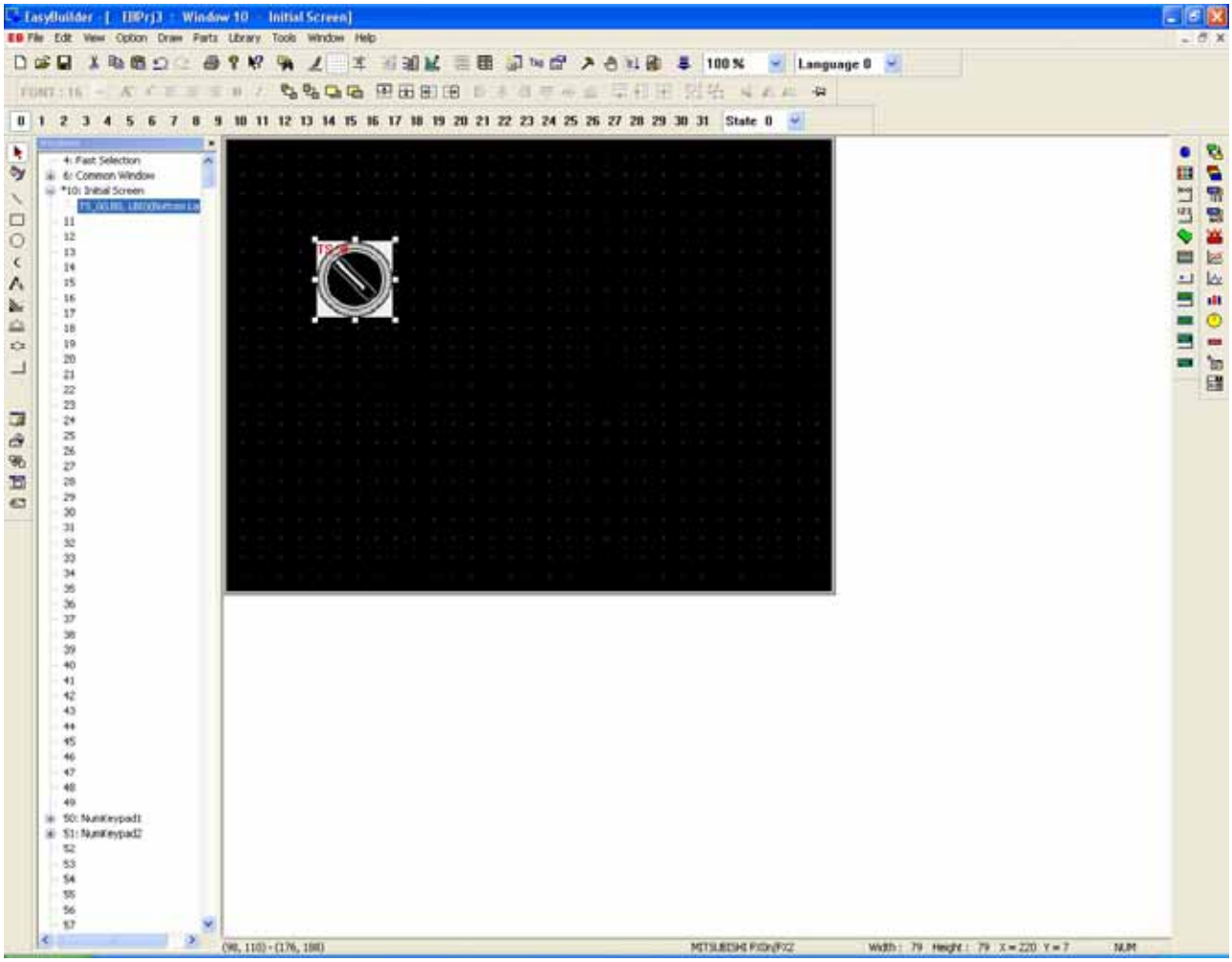
Multi-Copy duplicates one object to many and arrange them in a certain way.

Choose an object and select [Multi-Copy] from the Edit menu. The popup dialog appears as below.

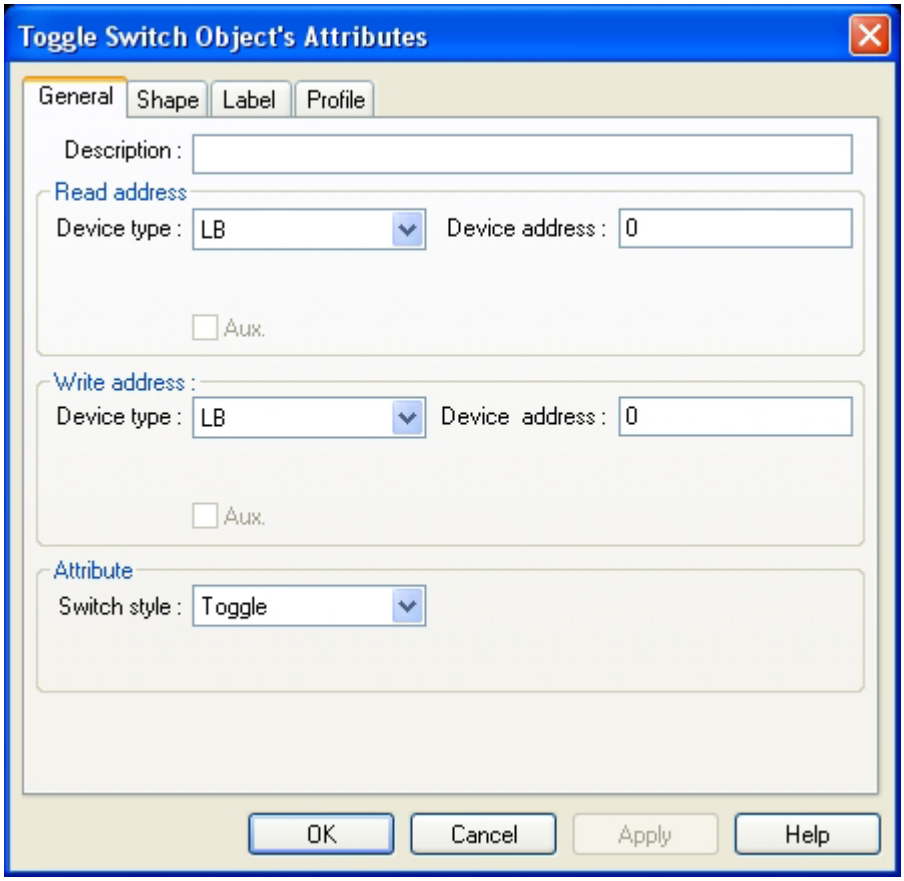


Pitch:
The duplicates object is overlaps.
Interval:
The space between duplicated objects is the X and Y distance.
RGT/BTM:
The address type of duplicates is copied from left to right one row at a time.
X: Horizontal Distance/ Y: Vertical Distance:
The space of the duplicates are X and Y distance apart.
Quantity X/Y:
The replica object is in x (y) quantity of the direction.
Address Distance:
This value adjusts how much the object's Address is incremented for each duplicated object.

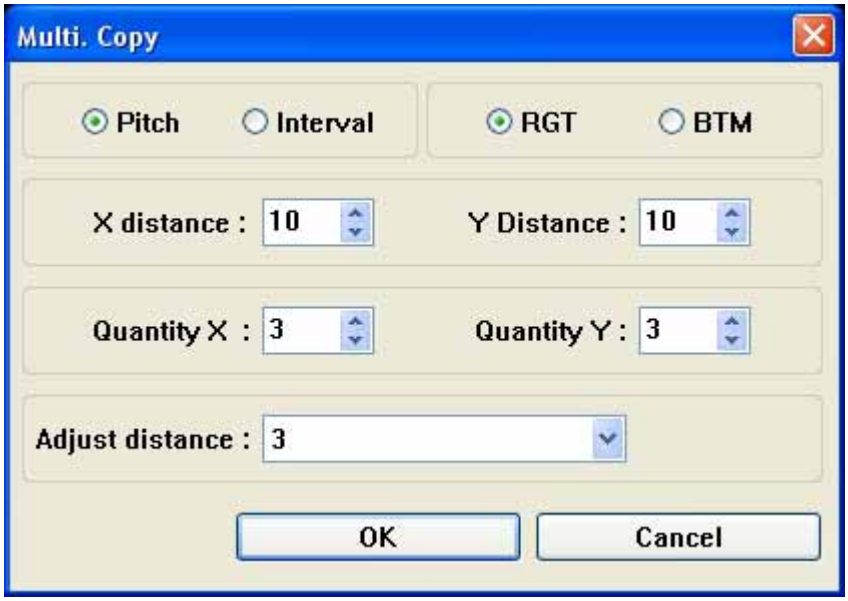
Example:
Choose an object:



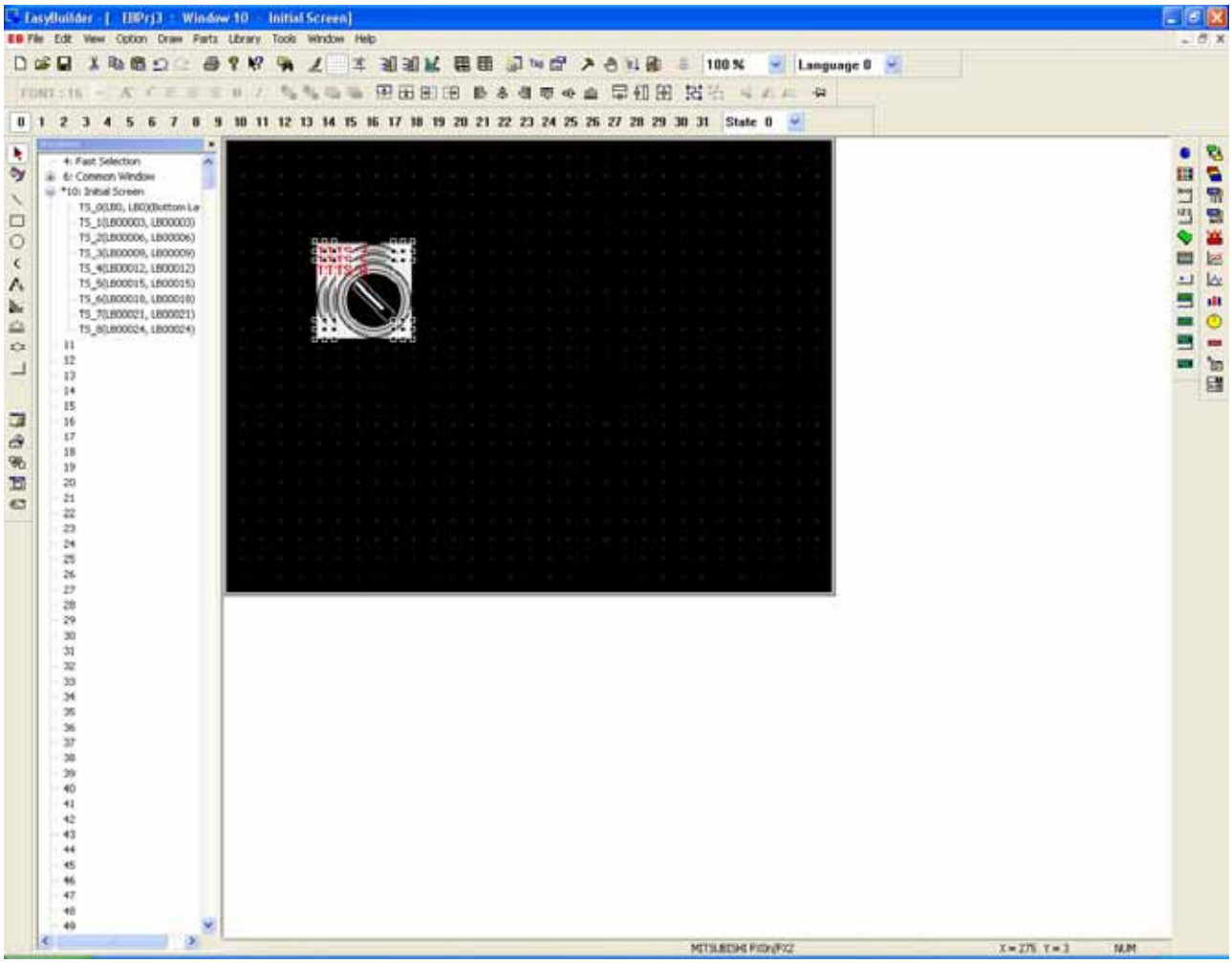
The attributes of the object as follows:



Select Multi. Copy from the Edit dropdown. The Multi. Copy dialog shows as below:

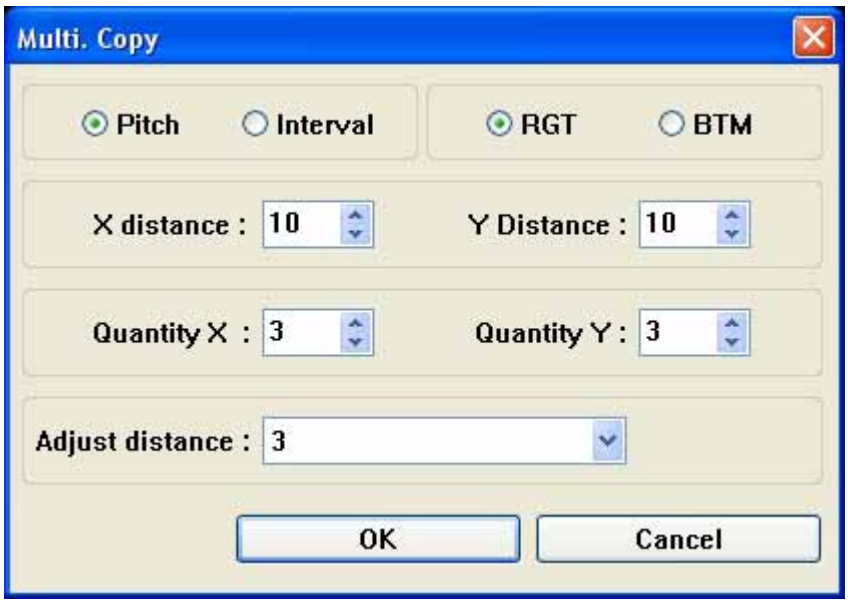


Click OK and the result shows as the following diagram:

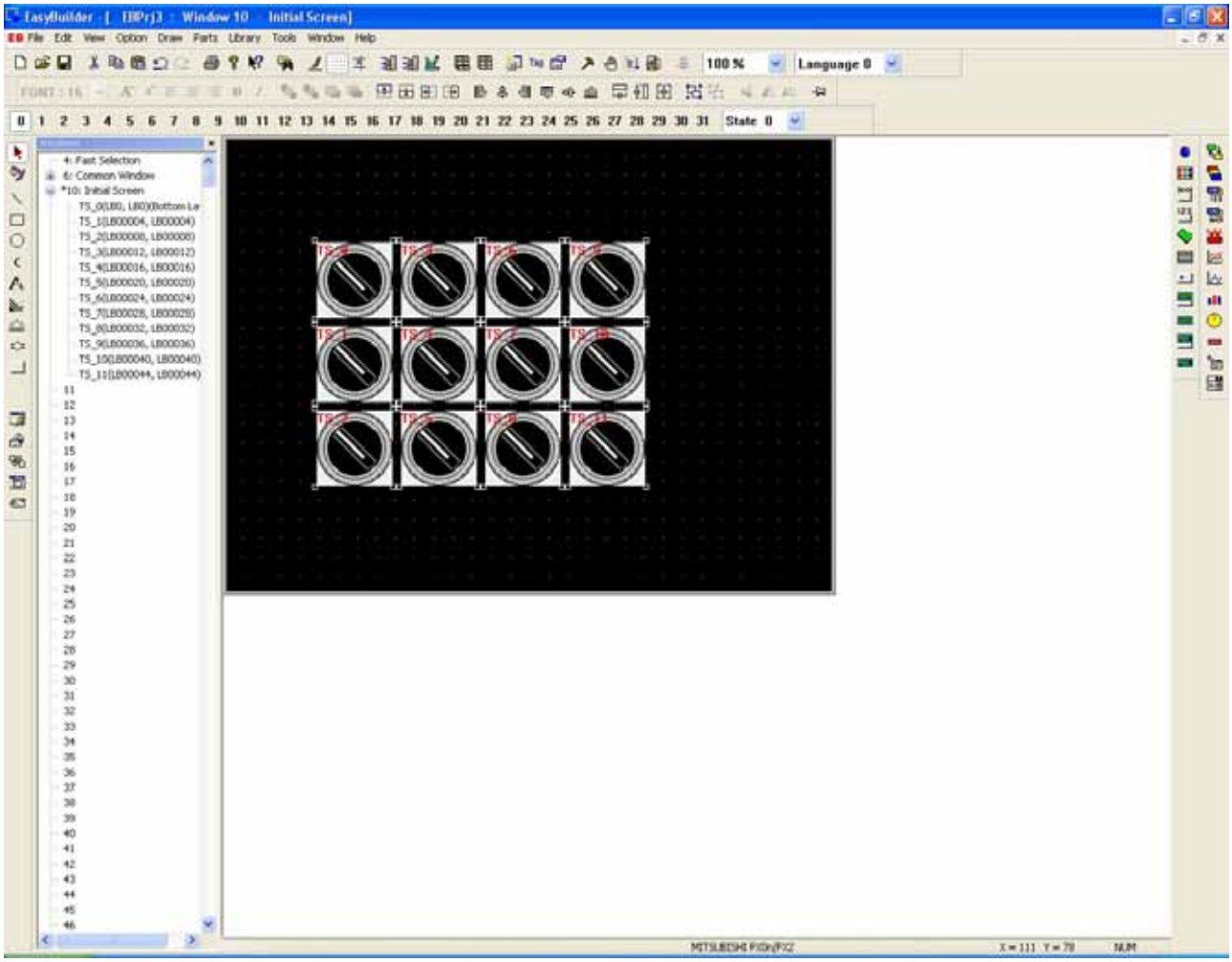


Check the attributes of each object. The addresses of them from left to right are Y1、Y4、Y7⋯;and X and Y direction are each 3 objects.

If the Multi. Copy dialog shows as below:



Click OK and then the result shows as the following diagram:

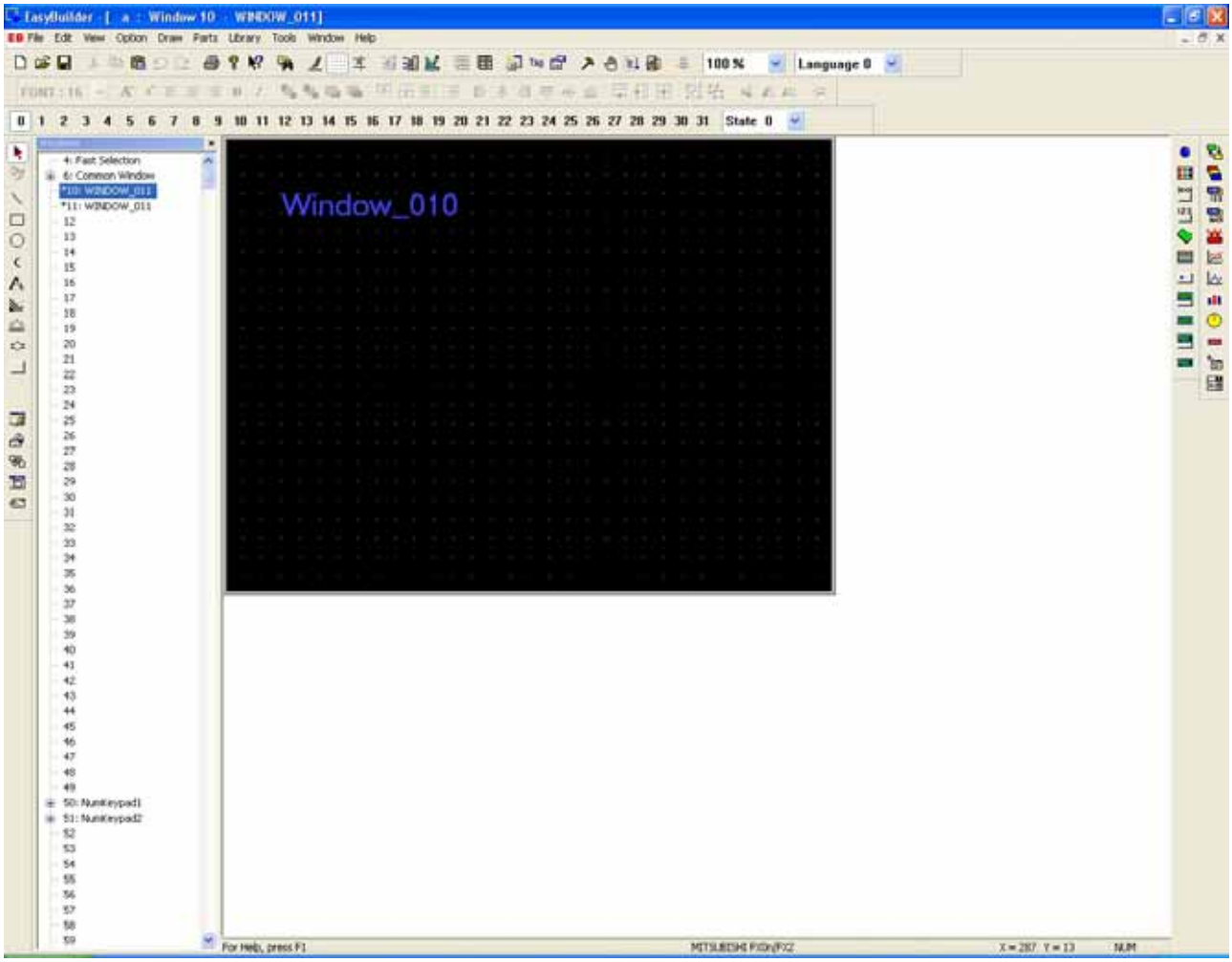


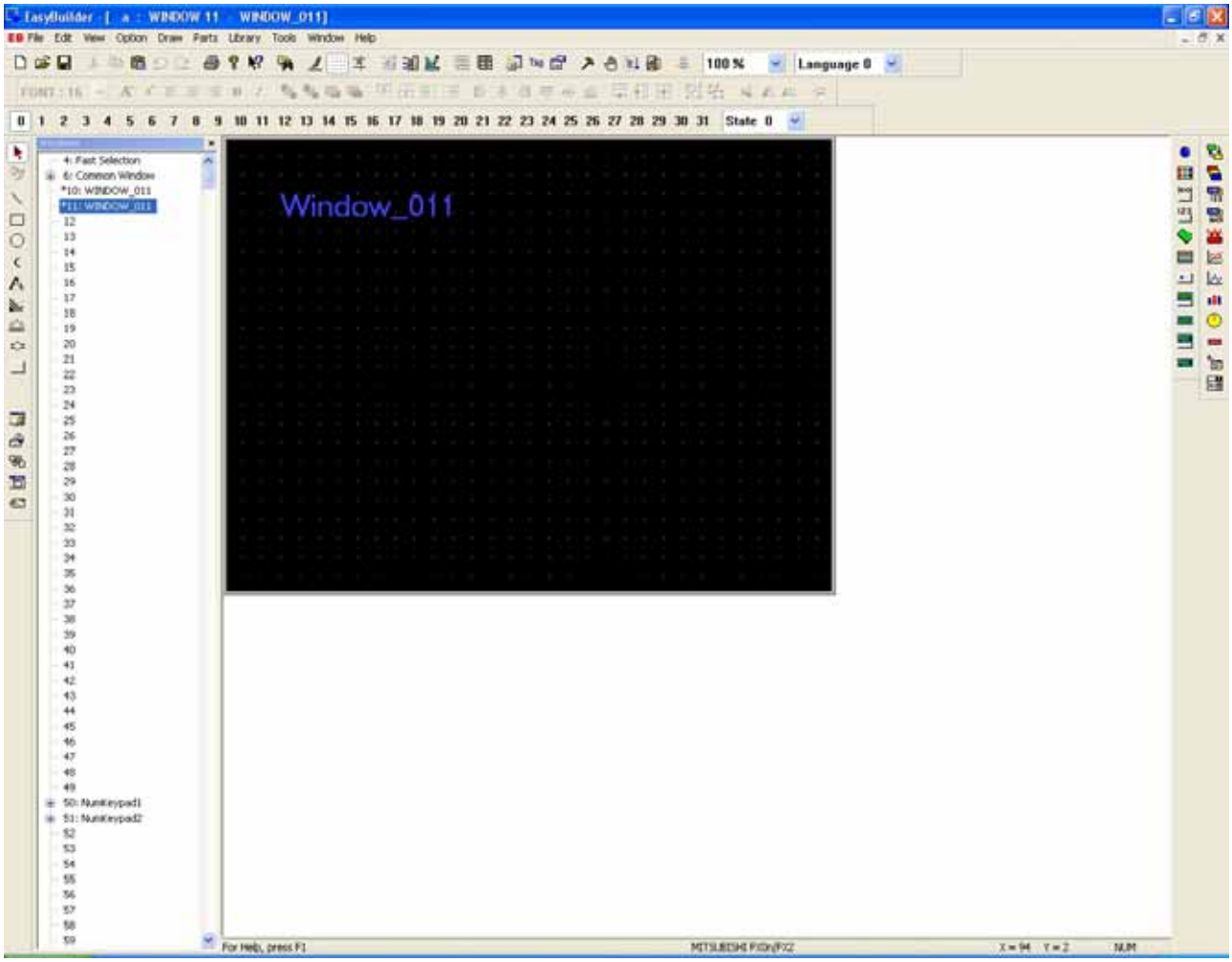
The X vector is 4 and the Y vector is 3.The addresses from top to down are Y1,Y5 and Y9.

5) Window Copy

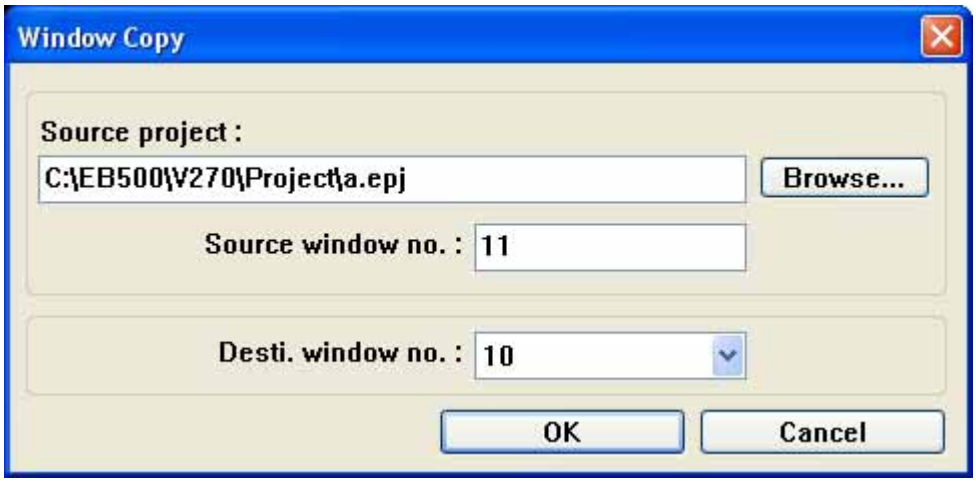
EB500 supports the window copy function not only within a project but also among different projects. For example:

< Within a project>As the diagram, there are two windows in a project:





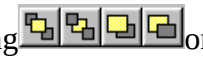
Select Window Copy from Edit menu, the pop-up dialog box appears as below:

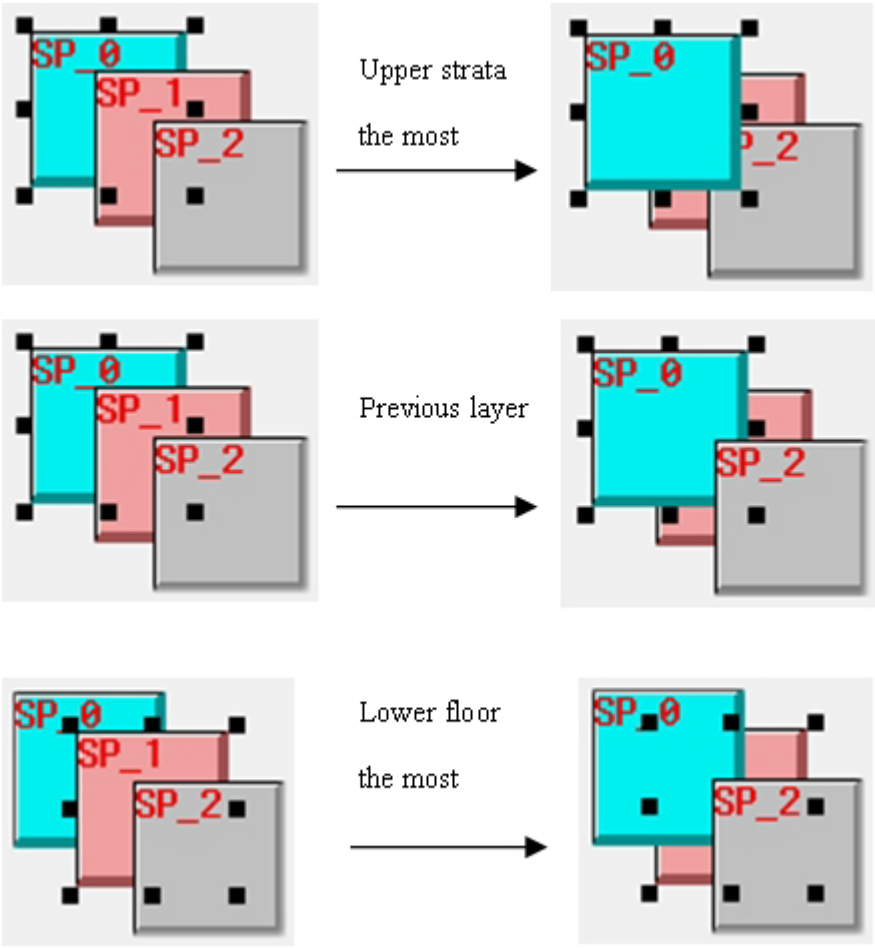


Click OK and then pop up a message box. Select OK.

Window 10 is covered by window 11. Window 10 shows the same content as window 11.
Similar way is used in copying windows among different projects. Browse the file (*epj) that has the window you want to copy or import. Fill in the Source Window No. from the *.epj project. Select a window number in the open project where the window is to be placed.

6) [Layer]

When many pojects layer one on top of the other,through pressing  or selecting the [Edit] menu [Layer] submenu to change the order of the objects.
Select object and An object may be brought to the front, back, front one layer at a time or back one layer at a time by choose a corresponding icon.



7) [Nudge]

Choose an object and the object position moves can be adjusted by nudging. Press the cursor keys on the keyboard to move an object or group one pixel at a time. Object position moves can be called from the [Edit] menu [Nudge] submenu and the corresponding icons are.

8) [Align]

Objects can be aligned by their left edge, vertical center, right edge, top edge, horizontal center, or bottom edge. Object alignment can be called from the [Edit] menu [Align] submenu or by clicking on the appropriate corresponding icons.

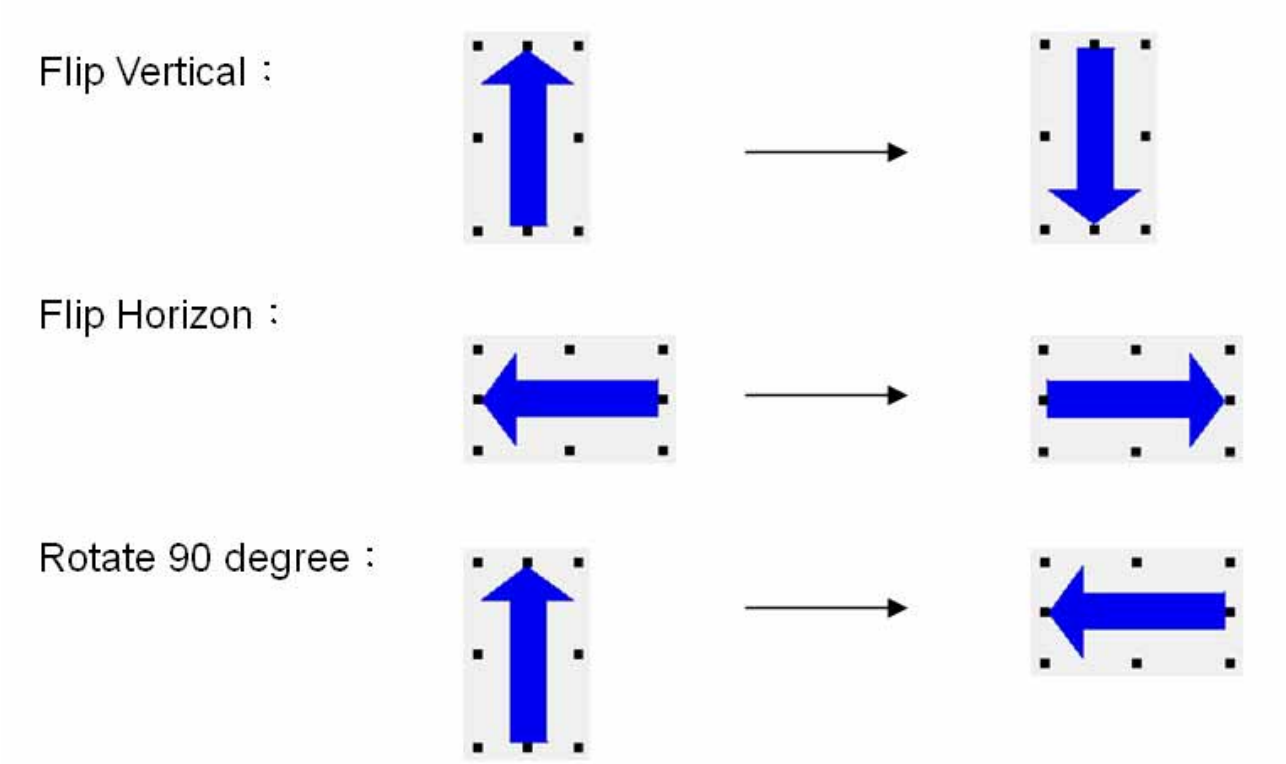
9) [Make same size]

When multiple objects are selected, they can all be fixed to the same size by using the [Make same size] function.Objects can be made the same width, height, or overall size. It can be done from the [Edit] menu [Make same size] submenu or by clicking on the corresponding icons.

10) Transformation

The one that can be turned is only a figure drawn with the drawing tool, such as the straight line,

round, polygon ,etc., other components can not be turned. Select the object and the object transformation can be done from the [Edit] menu [Flip Vertical], [Flip Horizon] or [Rotate 90 degree] items or by clicking the corresponding icons.



11) Group/Ungroup

[Grouping]/[Upgrouping] multiple objects or shapes can be called by this function. Grouped single objects can be used as a object or can be saved to the library for next time use. Click icon to gather multiple objects and click icon to break up a group into its seperat objects. Select [Library]/[Group library]/[Save to group library] to save the group.

12) Redraw Window

Redraw the window to show again,the corresponding icon is.

13) [Select All Objects]

A object can be selected by clicking icon in the drawing tools or selecting [Select] from the [Edit] menu.

There are 3 types of selection: 1)[Select]: Select single object.

2)[Select All Objects]:Select the all objects on the screen.

3) [Select Next Object]：Select the object under the selected object

Cancel the selected object:

If many objects are selected and you would like to cancel some of them, move the mouse to the

object ,press [Ctrl] key and then click that object to cancel the selection.
Add the object:
If many objects are selected and you would like to add another object, move the mouse to the object you are adding ,press [Ctrl] key and then click that object to add the selection.
NOTE : Many objects or states are selected , just move the mouse and select someone of the object , press [Ctrl] key and then click that object to be selected.

14) Change Attribute

Double click on the object or click on the Edit icon  to call up its Attribute Dialog for editing.

15) Change the size of the object

By double clicking the object, the dialog of the object's attribute appears. Select Profile to change the size of the object or by dragging the corresponding points to resize the object.

3.5.4 Menu [View]

In View menu, each selection controls the display of each toolbar. Basically, each function in the toolbar can be found in corresponding menu.

1. Standard Toolbar

As the diagram above, the functions to the corresponding icons are:
[New]：Create a new object
[Open]：Open a existing project
[Save]：Save the current project
[Cut]：Cut
[Copy]：Duplicate
[Paste]：Paste
[Undo]：Cancel the latest action
[Redo]：Return to the previous condition

[Print]：Print
[About EB500]：Detail of EB500 Version
[Help]：Perfecting
[Redraw]：Redraw Window
[Grid]：Set grid on the screen
[Snap]：Enable the snapping of objects to the grid.
[Save Objects to Shape Library]：Save Objects to Shape Library
[Call up Shape Library]：Call up Shape Library
[Call up Bitmap library]：Call up Bitmap library
[Save to Group Library]：Save to Group Library
[Call up Group Library]：Call up Group Library
[Compile]：Compile
[On-line Simulation]：On line simulation
[Off-line Simulation]：Off line simulation
[Download]：Download
[State bar]：Change the state of the object

2. Manager Toolbar

[Font]：Choose the size of the font
[Font enlarging]：Enlarge the font
[Font shrinks]：Reduce the font
[Align Left]：When the content of the text exceeds 2 lines, the text is put according to the left aline way.
[Center]：When the content of the text exceeds 2 lines, the text is put according to the center aline way.
[Align Right]：When the content of the text exceeds 2 lines, the text is put according to the Right aline way.
[Top Layer]：Set up object and lie in top layer.
[Bottom Layer]：Set up object and lie in Bottom layer.
[Previous Layer]：Set up object to Previous Layer.
[Next Layer]：Set up object to Next Layer.
[Nudge Up]：Make object Nudge Up.
[Nudge Down]：Make object Nudge Down.
[Nudge Left]：Make object Nudge Left.
[Nudge Right]：Make object Nudge Right.
[Align Left]：Make several object Align Lefts.
[Align Vertical]：Make several object Align Vertical.
[Align Right]：Make several object Align Right.

[Align Top]：Make several object Align Top.
[Align Horizontal Center]：Make several object Align Horizontal Center.
[Align Bottom]：Make several object Align Bottom.
[Make Same Width]：Make several object to the same Width.
[Make Same Height]：Make several object to the same Height.
[Make Same Size]：Make several object to the same size.
[Group]：Make the object form one group.
[Ungroup]：Cancel one group of groups.
[Flip Vertical]：Flip up or down.
[Flip Horizontal]：Flip right or left.
[Rotate]：Rotate counterclockwise 90 degrees.

3. Draw Toolbar:

[Select]：In choosing the object state.
[Attributes]：Change the attributes of the object.
[Line]：Draw a line.
[Rectangular]：Draw a rectangular.
[Ellipse/Circle]：Draw a ellipse/circle.
[Arc]：Draw a arc.
[Text]：Add the text.
[Bitmap]：Add the bitmap.
[Scale]：Add the scale.
[Polygon]：Draw a polygon.

[Shape]：Add a Shape.
[Alarm Scan]：Add alarm message.
[System Message]：Change system information.
[PLC Control]：Add PLC control elements.
[Event Log]：Add event log object.
[Data Transfer]：Periodically retrieve object's data from PLC.

4. Part Toolbar 1 & 2:

Picture	Title	Capability	ID
	Bit Lamp	Displays On or OFF shape to reflect current bit status in the PLC.	BL-nnn
	Word Lamp	Displays different shapes to reflect current register data in the PLC.	WL-nnn
	Set Bit	Changes the state of PLC bit address data.	SB-nnn
	Set Word	Writes specified data to a PLC word address.	SW-nnn
	Toggle Switch	Combination of bit lamp and set bit parts.	TS-nnn
	Multi-State Switch	Combination of word lamp and set word parts.	MS-nnn
	Function Key	Creates a touch area to input data, change window, pop up or minimize a window or leave the memo.	FK-nnn
	Moving Shape	Moves a changeable object on the screen.	MV-nnn
	Animation	Moves a changeable object along predefined track on the screen or displays the different states of the object.	AN-nnn
	Numeric Input	Displays PLC registers data in numeric form and allows keypad input for changes.	NI-nnn
	Numeric Data	Displays the PLC register data only in numeric form.	ND-nnn
	ASCII Input	Displays the PLC register data in ASCII and accept keypad input.	AI-nnn
	ASCII Data	Displays only the PLC register data as ASCII characters.	AD-nnn
	Bar Graph	Displays the PLC register data as a bar graph.	BG-nnn
	Meter Display	Displays the PLC register data as an analog meter	MD-nnn

	Indirect Window	Calls a specific pop up window by a PLC word address.	WP-nnn
	Direct Window	Controls a preset pop up window by a PLC bit address.	WC-nnn
	Alarm Display	Displays alarm messages by word value in a defined location.	AL-nnn
	Trend Display	Periodically retrieve a group of PLC register data and displays in a trend graph.	TD-nnn
	XY Plot	Periodically retrieve a group of PLC register data and displays X values versus Y values.	XY-nnn
	System messenger	Set up system messenger	SM-nnn
RP	Recipe Action	Downloads a block of registers to the controller or uploads a block of registers to the HMI.	RP-nnn
EL	Event log	Set up the warning incident in Event log	EL-nnn
ED	Event Display	Displays prioritized and formatted alarm messages as triggered by bit status in a defined location.	ED-nnn

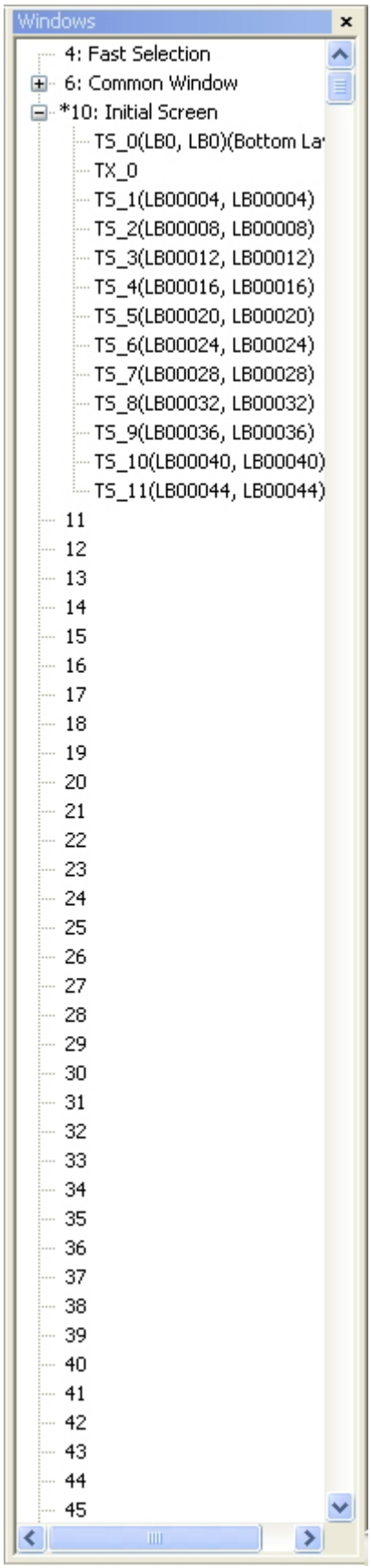
5. Object/Window Treebar:

Object/Window Treebar lists the all objects/windows. The windows are numbered from 4,6,10 to1999. Each window is displayed by window No. and window name. The window without a window name is an empty window. Right click the highlighted window and select Create to create a new window. Double click to open an existing window. The window with "*" in front of the window No. means it is open. Right click the highlighted window and select Delete or Close to delete or close an open window.

EasyBuilder provides a good way in the Object Treebar to display the PLC address of each object. Click on the Objects Tab to view all the objects and of which corresponding PLC address on the Window number being displayed.

Click on an object No. in the Treebar to highlight the object. The object can be positioned and edited. Double click on an object No. to pop up the attributes dialog of the object.

To hide or display the Object/Window Treebar, Select [View]/[Object/Window Treebar] or simply press the Tab key.



6. Cursor Position:

Shows the current cursor position on the active screen and assistant statements.

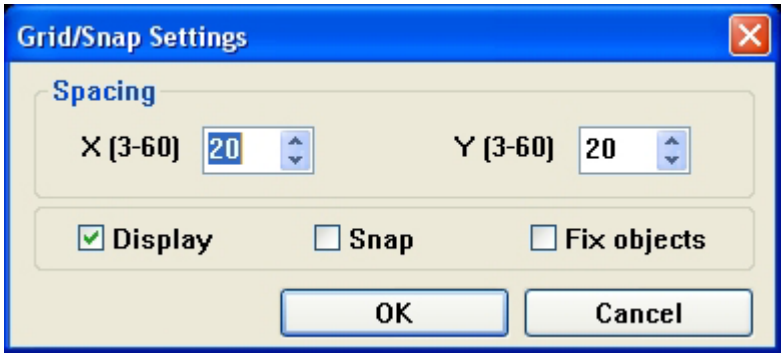
3.5.5 Menu [Option]

1. Grid/Snap

Grid is composed of many pixels on the screen for the alignment of the object. Enter X,Y pixels to change the grid density. Select Display checkbox to enable/disable grid visibility.

Note: The grid isn't showed on the screen after a downloaded.

Select Option/ Grid/Snap, the following pop-up dialog appears:



Spacing：Enter the space of the grid. Unit is dot, the default are 20 dots in both X and Y.

Display：Enables/Disables grid visibility.

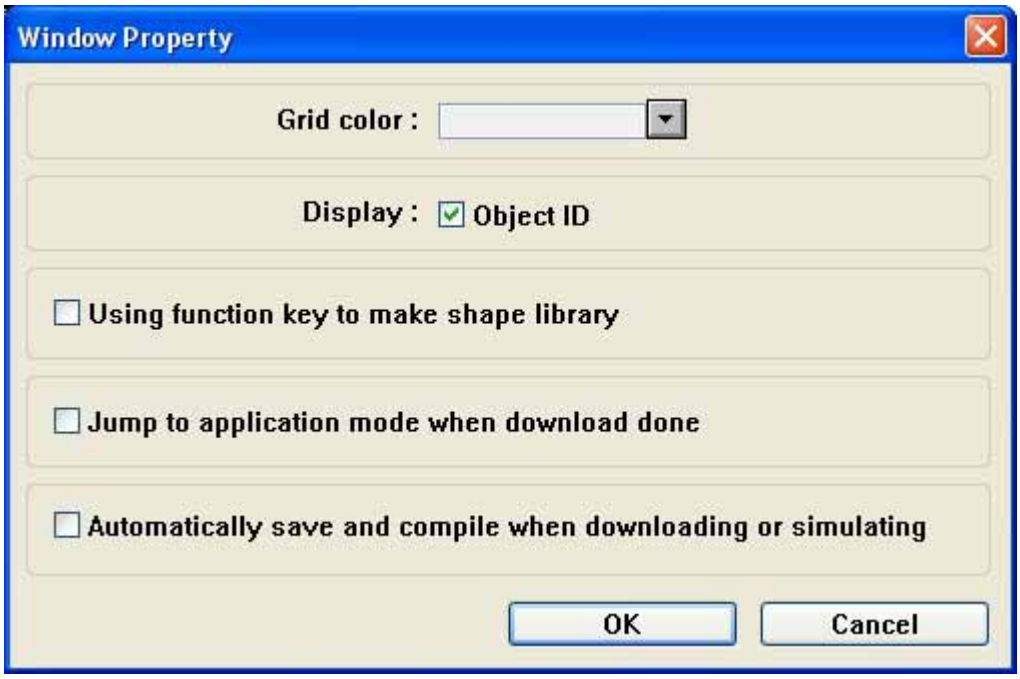
Snap: As choose snap, the mouse cursor will come from moving and revise and making the automatic corresponding net of Xiang of aline of object according to the site position on the screen.

Fix objects：Fix the location of the object to prevent objects from inadvertently being moved.

2. Window Property

Set the environment of the screen.

Select Window Property from the Option menu.



Grid color：Set the Grid color.

Object ID：Enables/Disables the object ID number from being displayed on an object.

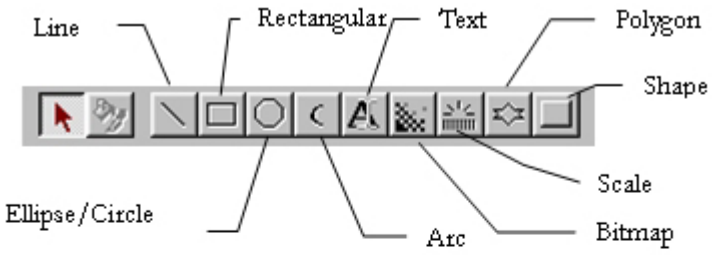
Using Function Key to make Shape Library: Please refer to Library Operations in Ch5.9. for further discussion.
Jump to application mode when download down：Enables/Disables automatically forcing the MT500 toe the application mode after a download.
Automatic save and compile at download and simulate：Enables/Disables automatically saving and compiling a project before a simulation or download.

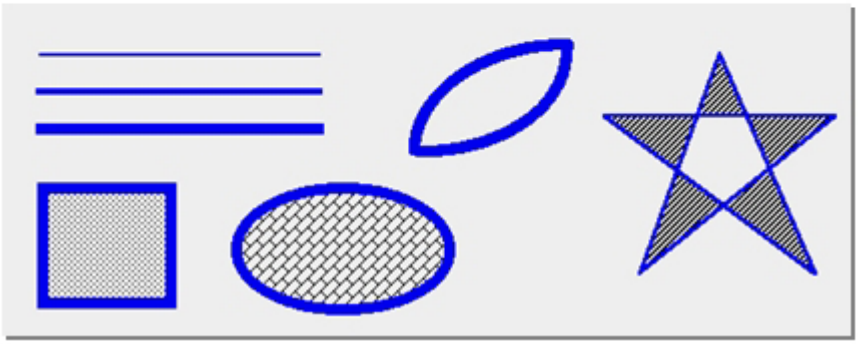
3. Language

EasyBuilder supports several languages.。Should use the designated language, EasyBuilder must be installed under correct Window edition. For example, should support Chinese-traditional, EasyBuilder must be installed under Windows Chinese-traditional edition. At the same time , must install the designated font .Satisfied above, choose [Language] and choose the correct language type in the function form [Option], in this way , can use the suitable language type.

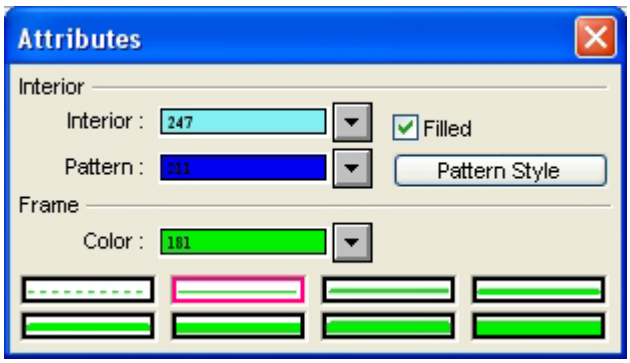
3.5.6 Menu[Draw]

1. Line/Rectangular/Ellipse/Circle/Arc/Polygon





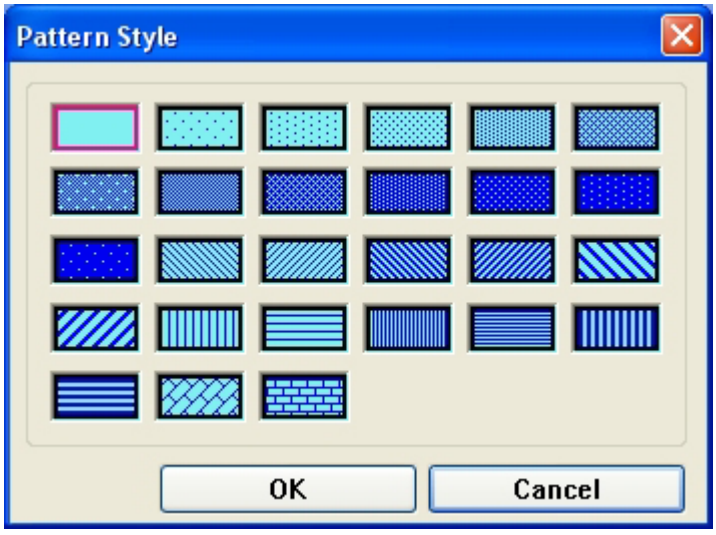
The following Attributes dialog box is displayed when drawing an object.



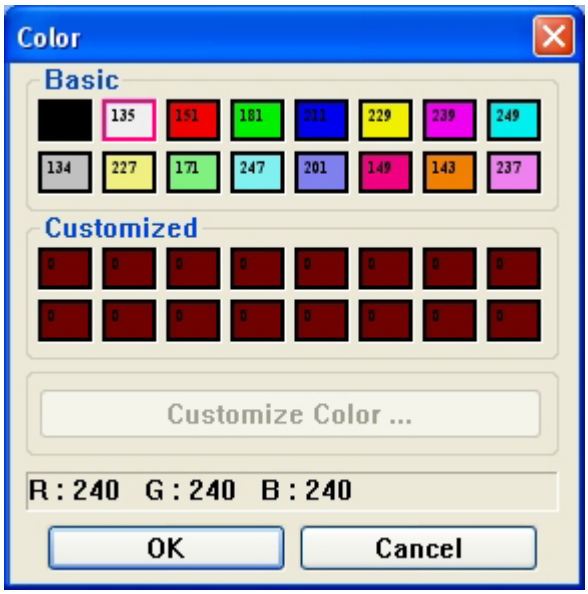
The Frame attributes are used to set how the lines for the object are displayed.
Select Line types – There are eight selections for the line or frame width.
Select a Color– Select a color from the 256-color selection.

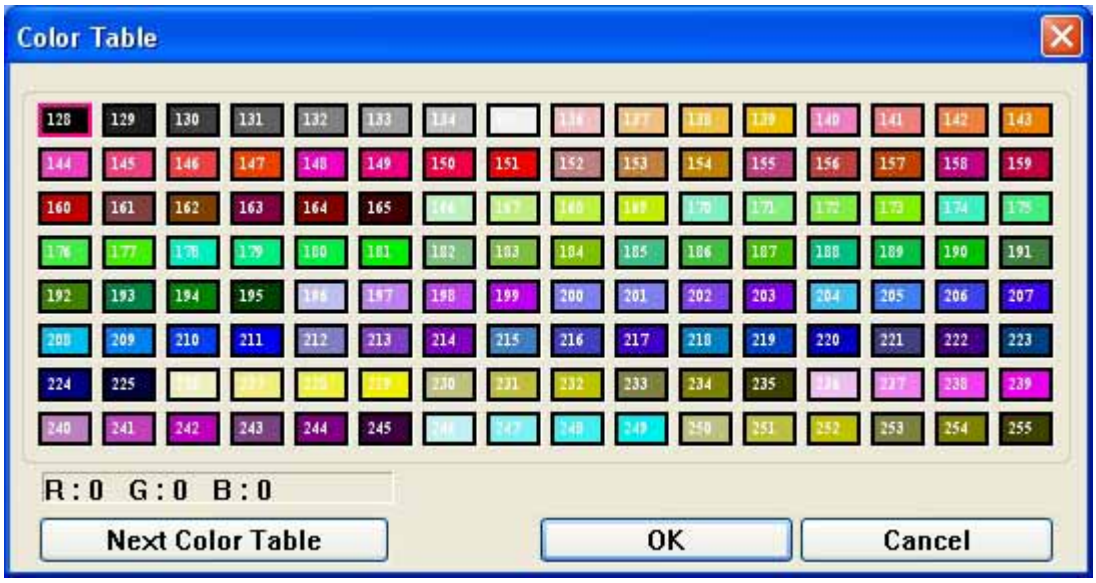
The Interior attributes are for objects that can be filled. For objects that cannot be filled, this option is disabled. The filled attributes are not displayed if the Filled check box isn't selected.
If the Filled option is selected, the following attributes can be set:

Select Interior colors – Select a color from the 256-color selection.
Select Pattern – There are 26 different patterns available in the Pattern Style.



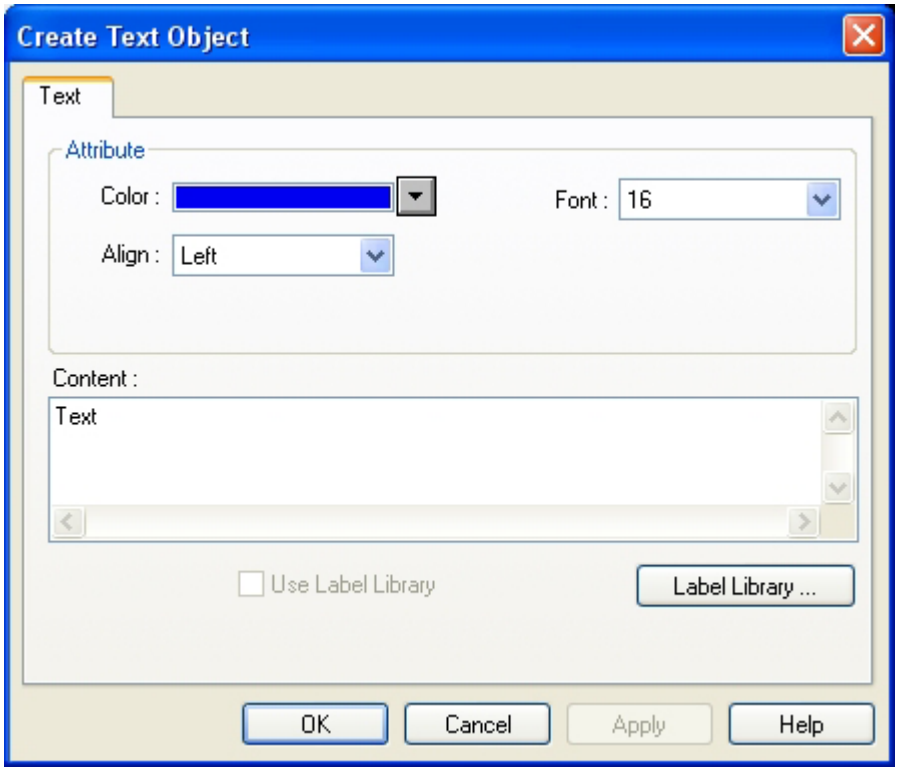
The Pattern Style dialog pops up when the Pattern Style button is clicked.
Note: The color window pops up when a color selection dialog is activated. One of the standard colors may be chosen or click on Customize color to access a full spectrum of color options.





2. Text

Click on the Text icon to display the Create Text Object dialog as below:



Font:

8, 16, 24, 32, 48, 64 and 96 font sizes are available.

Align:

When the text input for a display more than2 lines the alignment can be left, right or center justified.

Color:

Choose 32 colors out of 256 colors. Basic colors include the common use colors and customized colors allow you to choose your favorites.

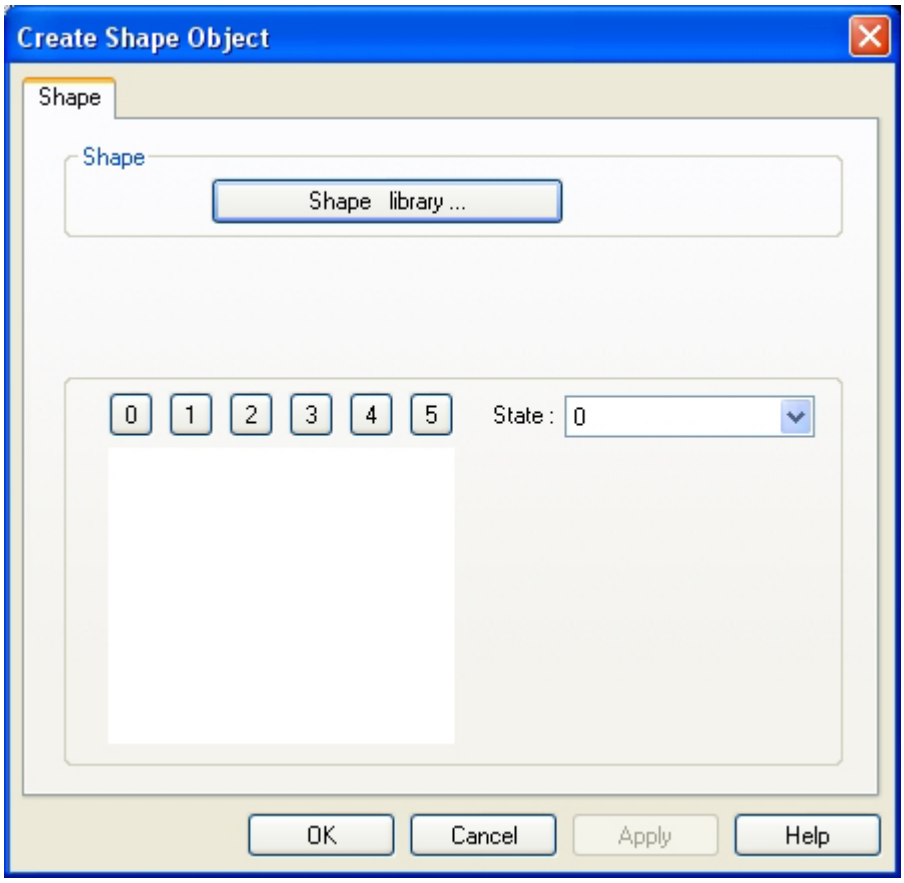
Content:

Type in the characters to be displayed. When typing in the characters, press the ENTER key to move to a new line.

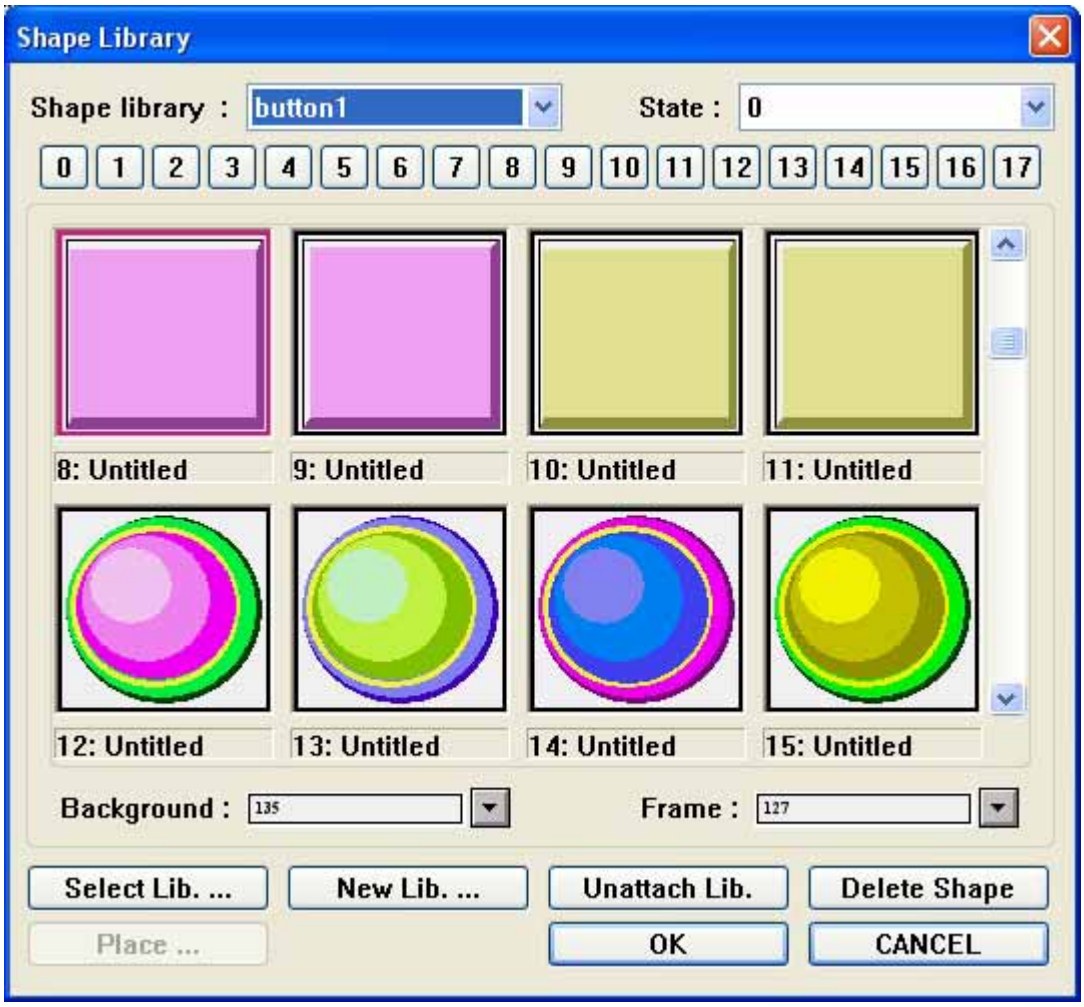
3. Shape

The function is to place a static shape no the screen, The procedure is as following:

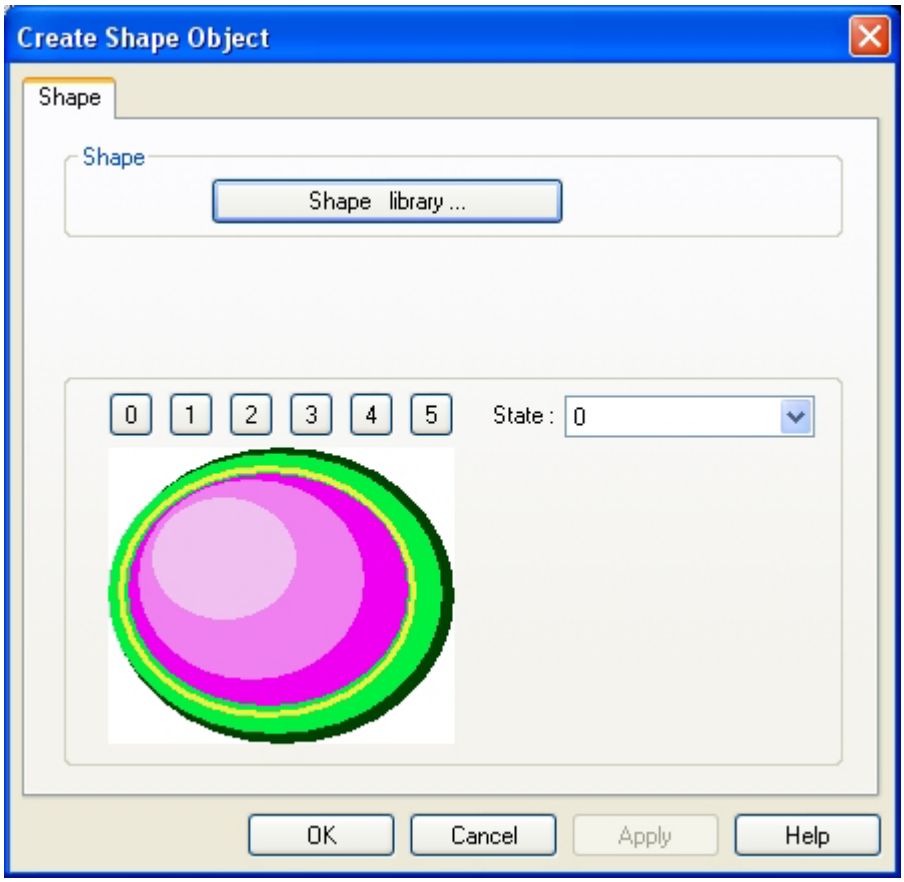
1) Select Shape from the Draw menu or click icon to pop up the dialog as below:



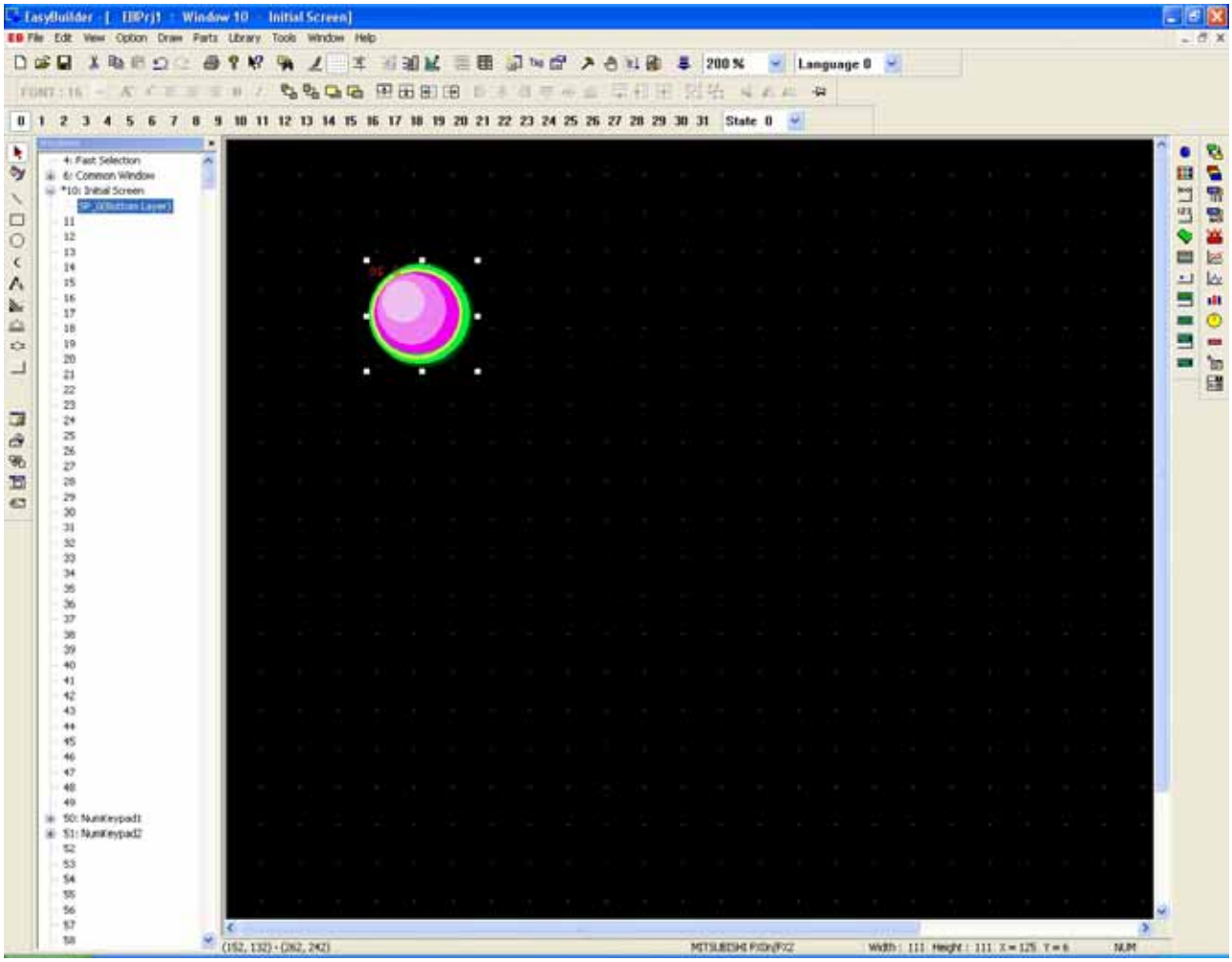
2) Click on the Shape Library and select appropriate shape.
Click OK.



3) The display returns to the previous dialog.



4) Click OK to place the shape.

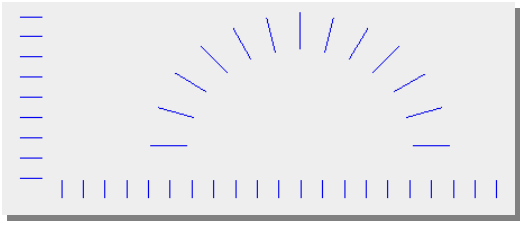


4. Bitmap

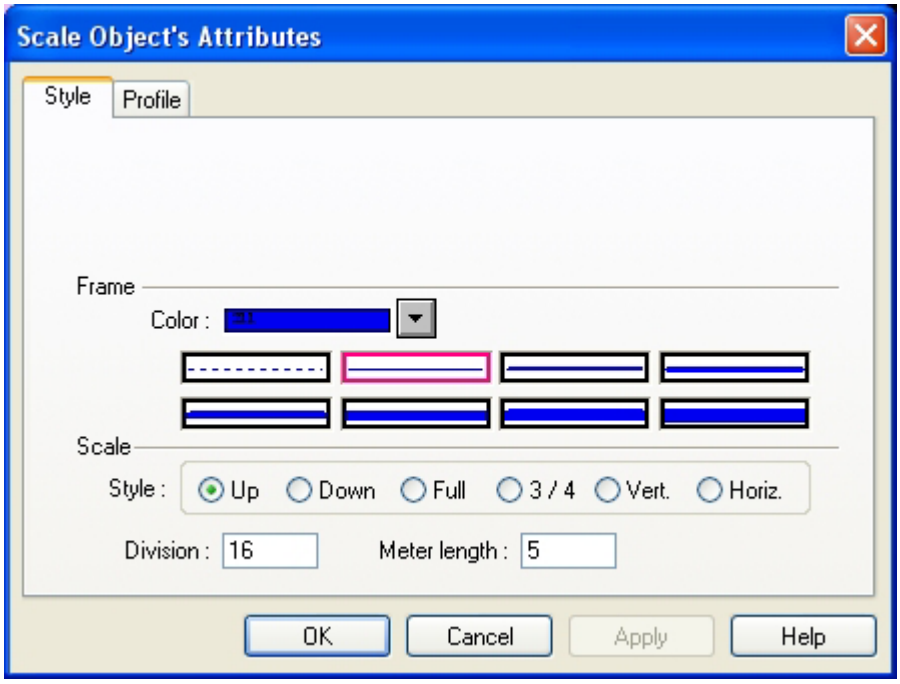
Add a static bitmap on the screen by clicking Bitmap function. The procedure is the same as creating a shape.

5. Scale

Scale is useful with bar graph, meter or trend display. The types of scale are horizontal, vertical or curved.



1. Click Scale icon.
2. Left click to adjust the size of the object.
3. Double click the selected object.



Frame：Select the color and line style to be used for the Scale.

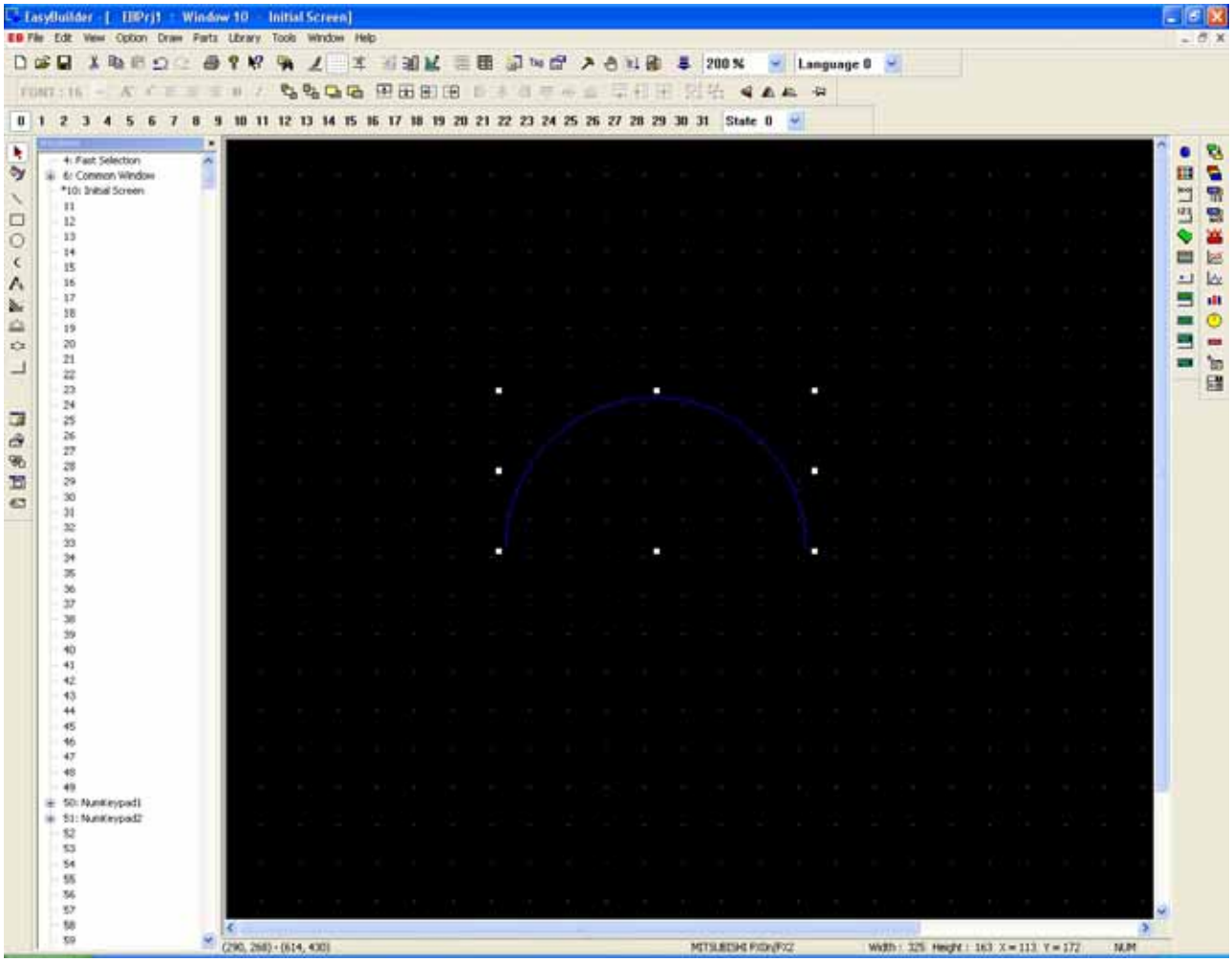
Scale: Select the Style to be displayed: horizontal, vertical or curved Up, Down, Full, and ?.

Disivion: Select the number of Divisions on the scale (Range from is 1 to 255).

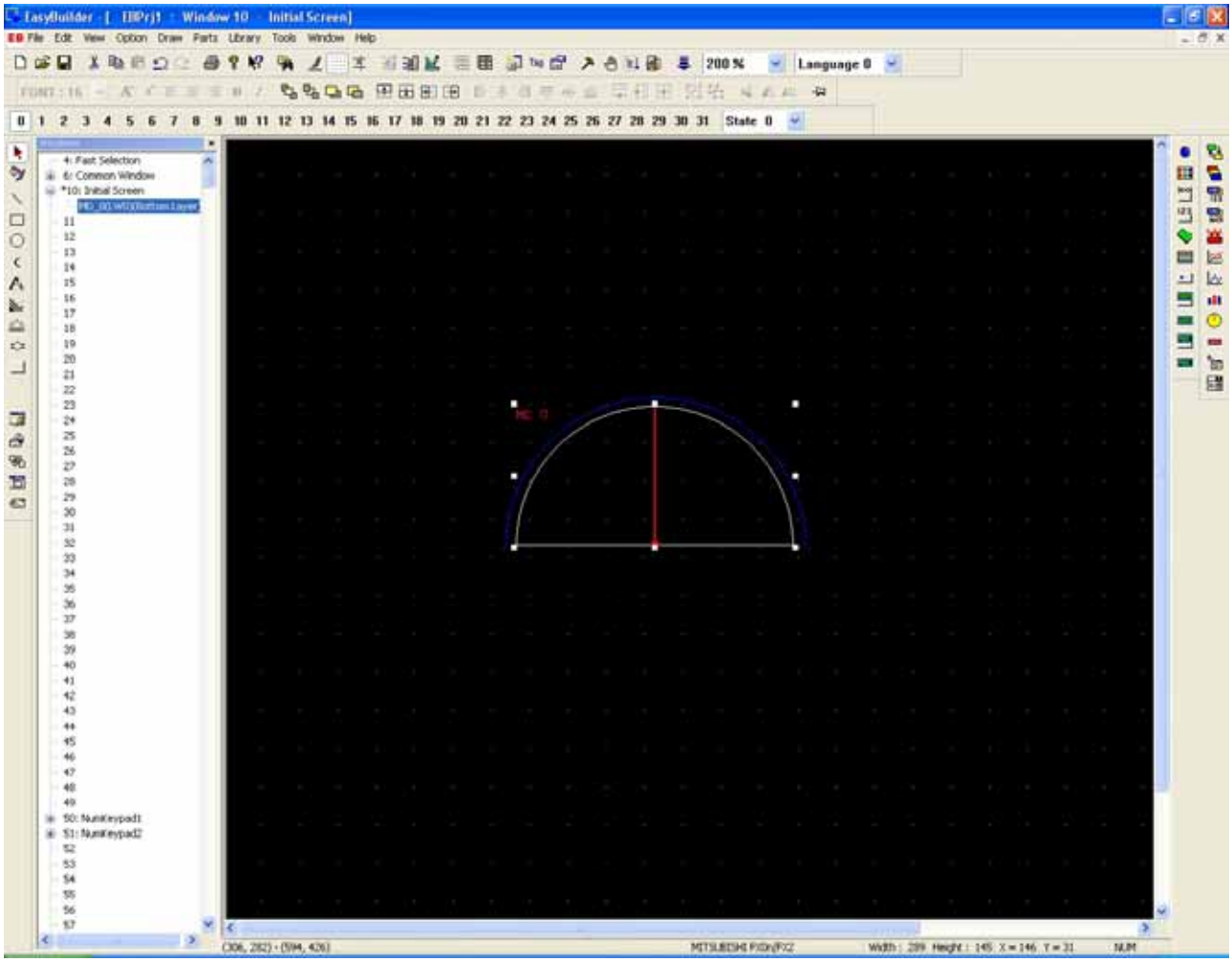
4. Fill in Style Tab.

5. Fill in Profile tab to adjust size

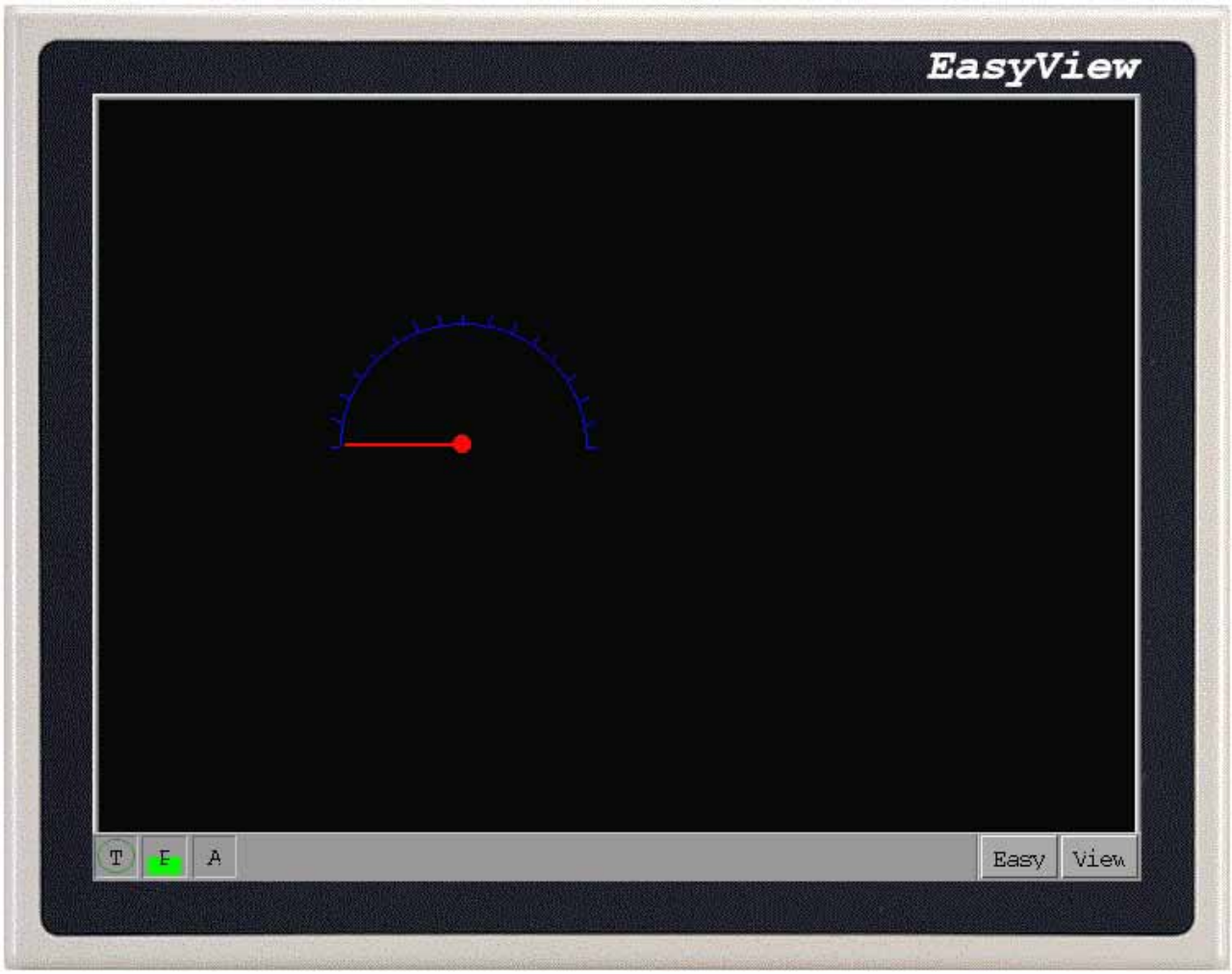
6. Click OK and place the object.



The display of using a scale with meter shows as below:



The operation shows……



3.5.7 Menu [Parts]

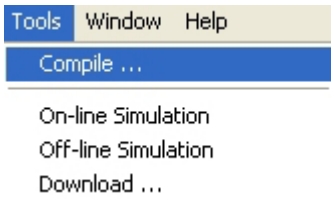
The further details are discussed in Ch.6.

3.5.8 Menu [Library]

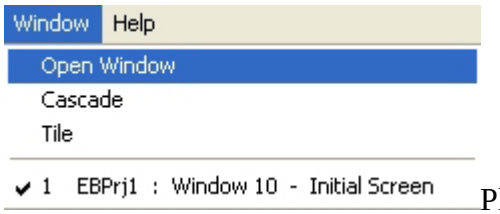
Please refer to Shape Library, Bitmap Library and Group Library in Ch.5

3.5.9 Menu[Tools]

There are five functions in Tools menu, please refer to Ch.12.

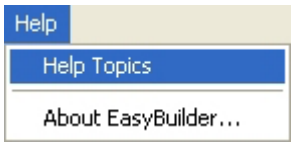


3.5.10 Menu[Window]

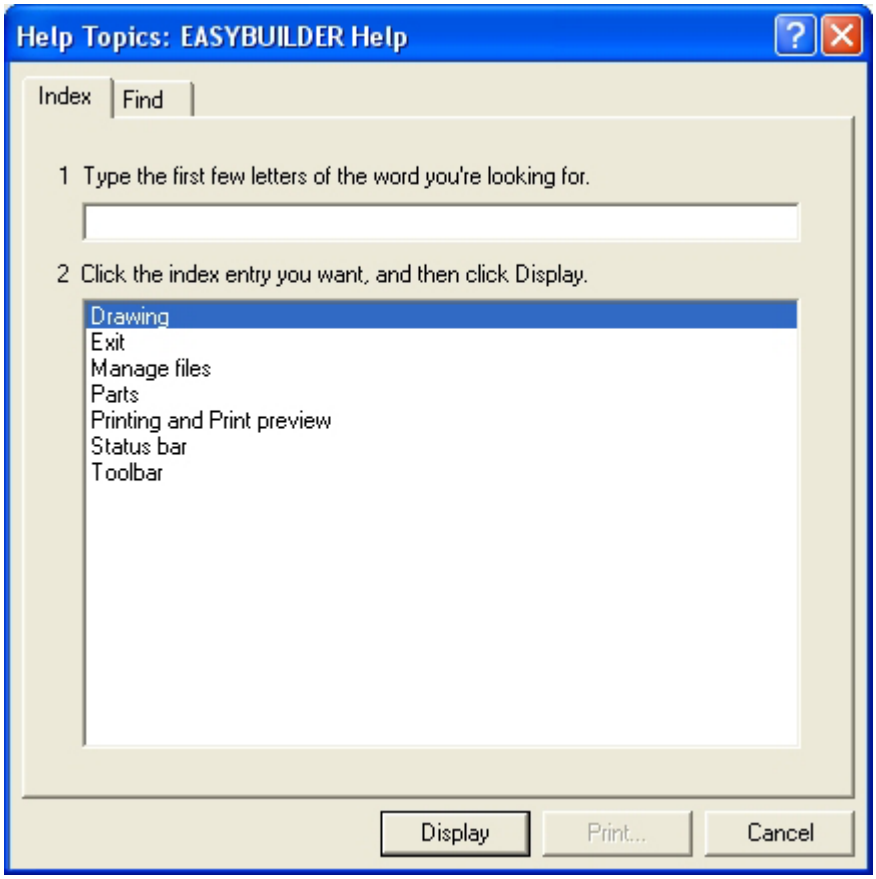


Please refer to Ch4.

3.5.11 Menu[Help]



1. Select Help Topics and the following dialog box appears:



Key in the key words you are looking for or directly choose the index from the list.

2. About EasyBuilder

Select About EasyBuilder. The pop-up message box appears as follows:

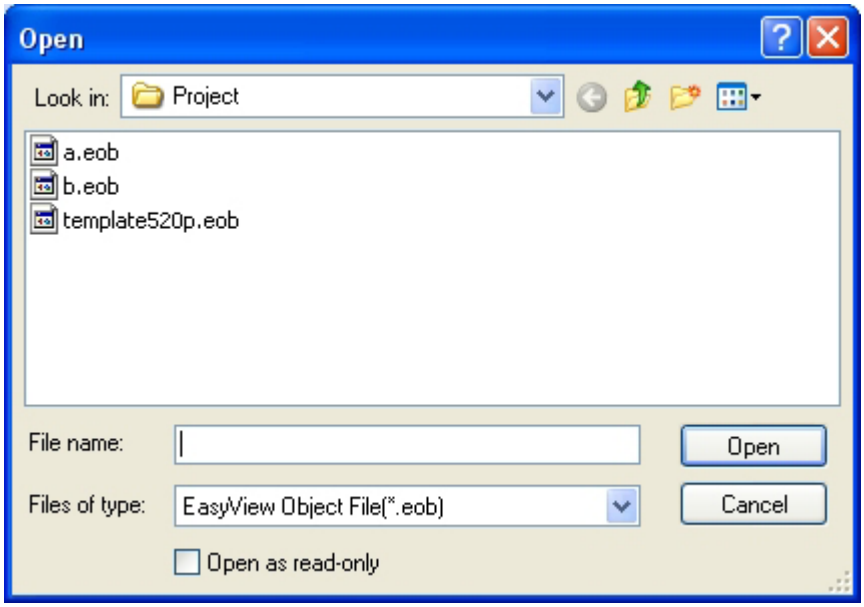
The EasyBuilder version and copy right are illustrate in the message box.

3.6 On-line Simulation

EB500 supports on-line simulation. The result of simulation ran on PC only with PLC is the same as that with both HMI and PLC. Two methods to execute on-line simulation: Through Simulator from EasyManager and the other is Simulator under EB500 (standard toolbar). The simulator directly retrieve the data from the PLC to simulate MT500 operation. By using on-line simulator when testing, it's save time caused for the repeated download. Before simulation, make sure the right connections between MT500 and the PLC and set the COM port and all parameters in the Easy Manager.

1) Simulator from EasyManager.

Enter EasyManager, set the all parameters and click Online Simulator, the following dialog pups up:



Select the project and the click Open. Here we choose the existing a.eob file and a pop-up screen appears as follows:

Realize on-line simulation like this.

2) On-line simulation under EB500

Enter EB500,and open the project you are going to simulate. Select Save /Compile in the Edit menu and select On-line simulator in the Tools menu or click  icon.

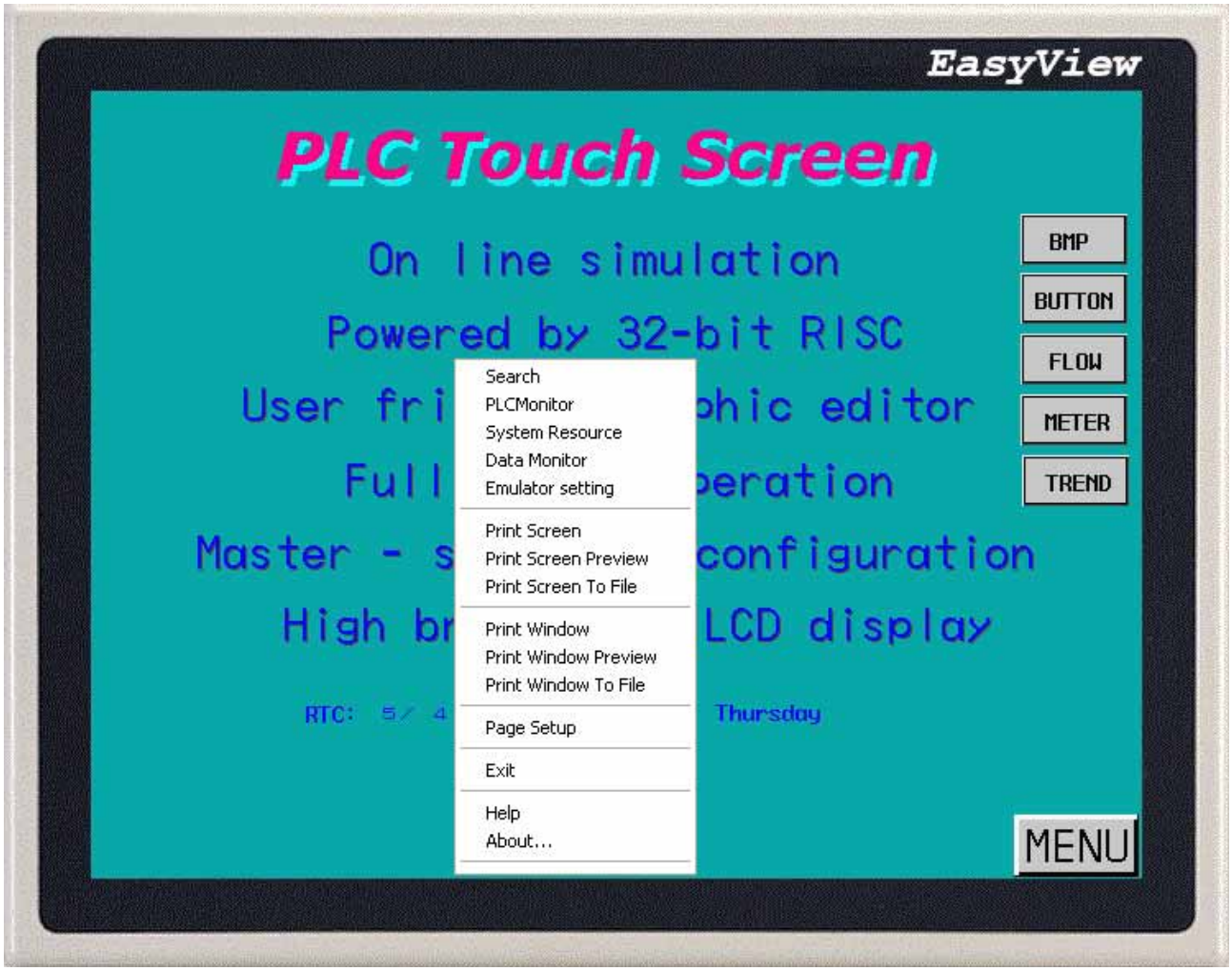
3.7 Off-line Simulation

EB500 supports Off-line simulation. Off-line simulation will not get the data from PLC, read the data only from the local address, so all datas are static. Off-line simulation can be execute from EB500 or from EasyManager.

From EB500, Save the file first and then compile it. Select Off-line Simulator from Tools menu or click  icon to run the simulation. From EasyManager, select Offline Simulator to emulates the operation of a project on the PC screen.

3.8 Assistant Tools

EasyBuilder500 provides a set of powerful on-line Assistant Tools. Right click anywhere in the simulation screen, the pop-up movable menu appears:

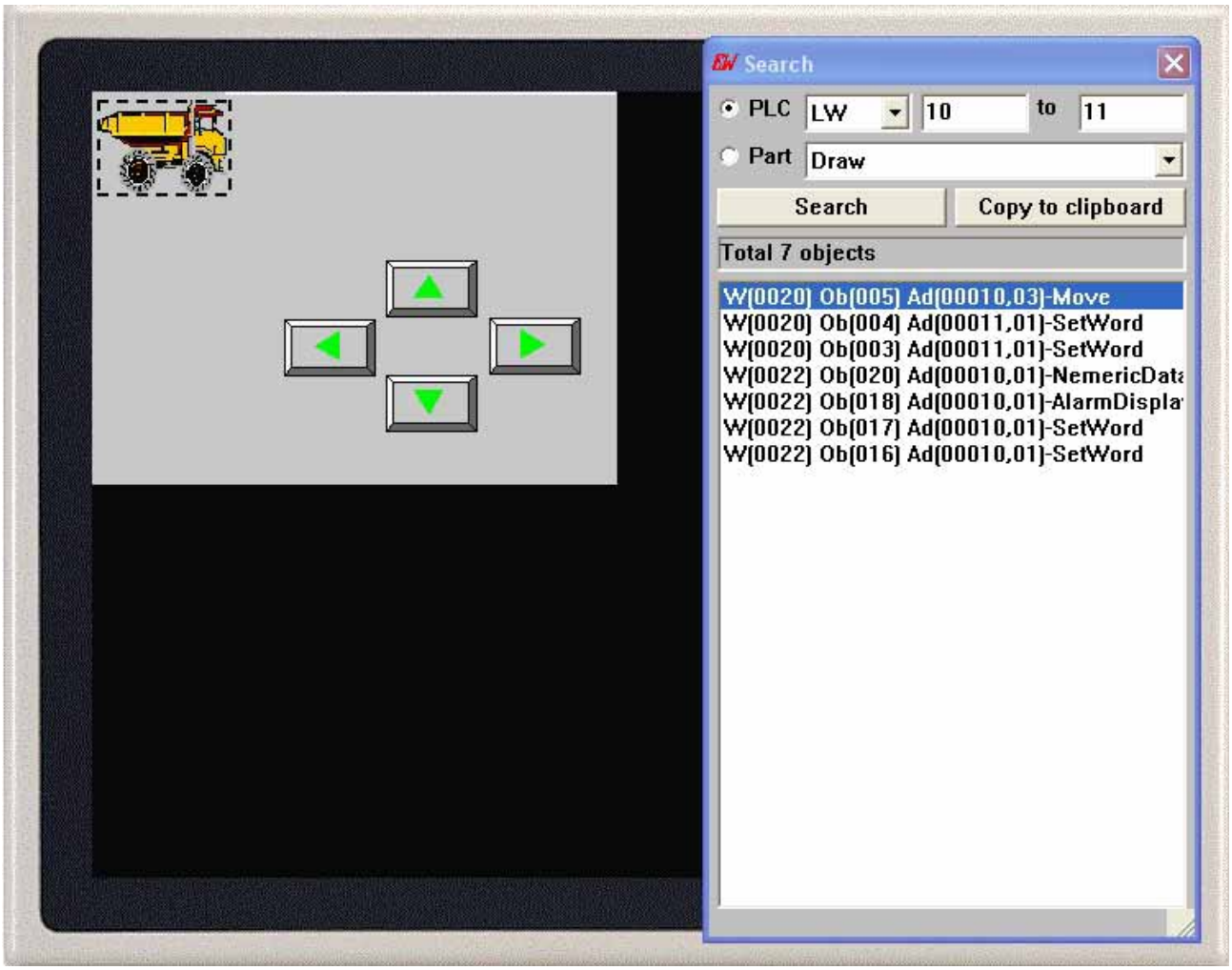


The following explain these functions in detail.

1. Search

Click Search， the following pop-up dialog appears:

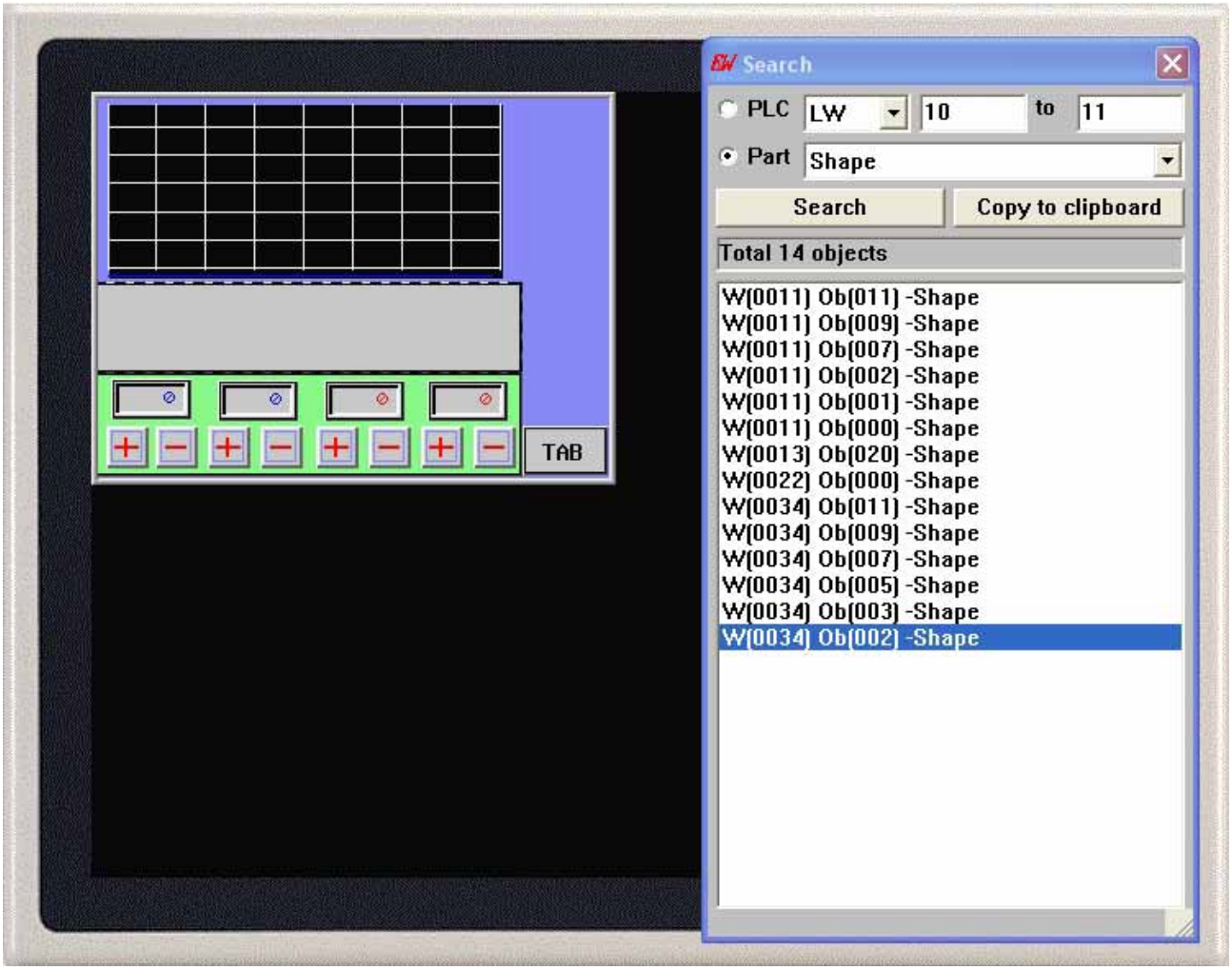
Check PLC checkbox and input PLC device and the range of the address. Click Search which shows all the objects using the specific PLC address.



"W[0020] Ob[005] Ad[00010,03]-Move indicates:window No.[0020],object No.[005],address and bits[00010, 03]-Move indicates Object name. Double clicking the highlighted data turns the display to the window on which the object is. The object is encompassed by white dotted line.

In this way, any address of the object can be found.

Similarly, select Part and choose the type you are looking for. Click Search and the display shows as below:

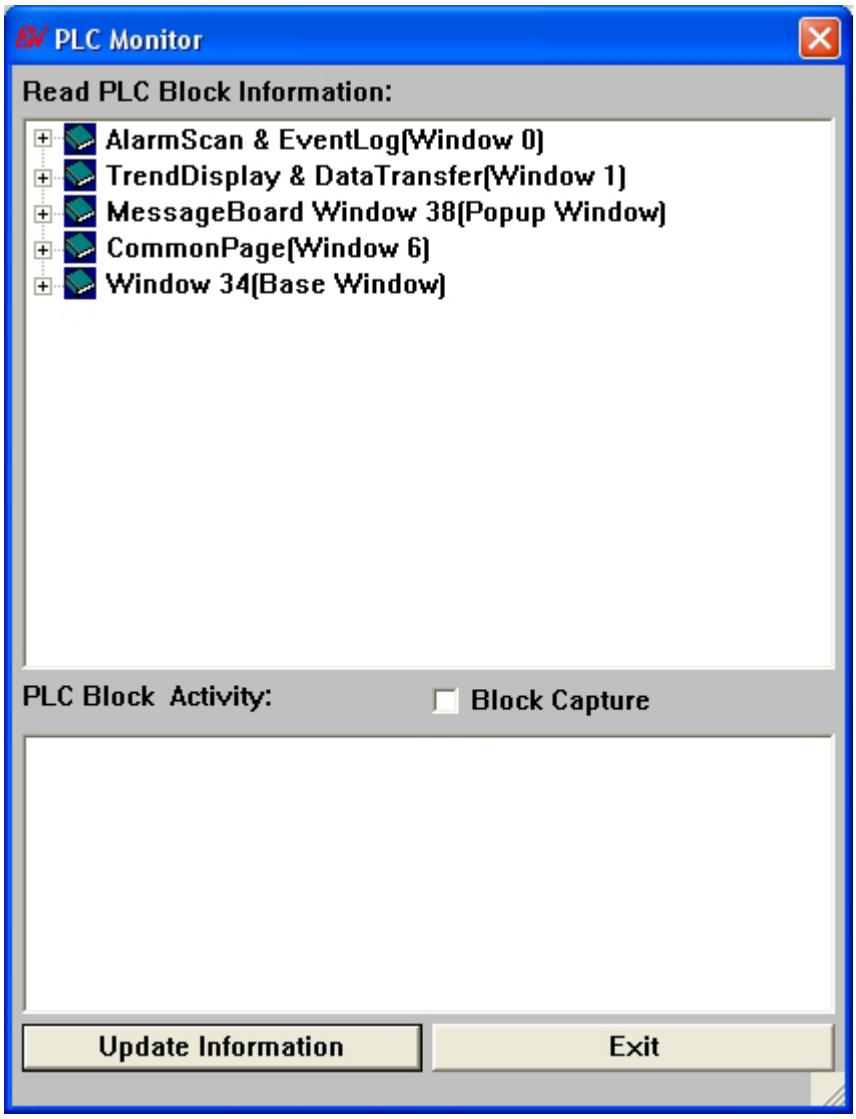


Double clicking the highlighted data turns the display to the window on which the object is and show it.

Click [on Copy to clipboard] , Object searching for now is duplicated to scrapbook,In this way you can clip and paste in any place.

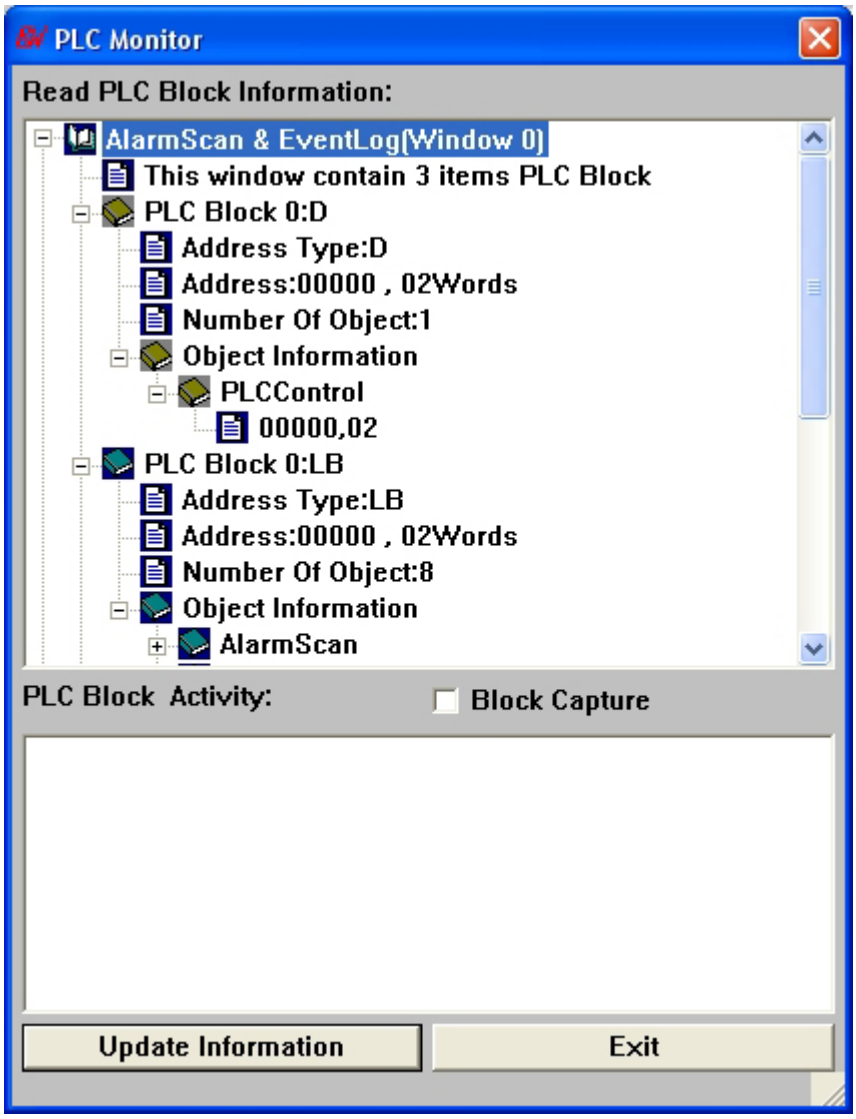
2. PLC Monitor

Select PLC Monitor and the following dialog pops up:



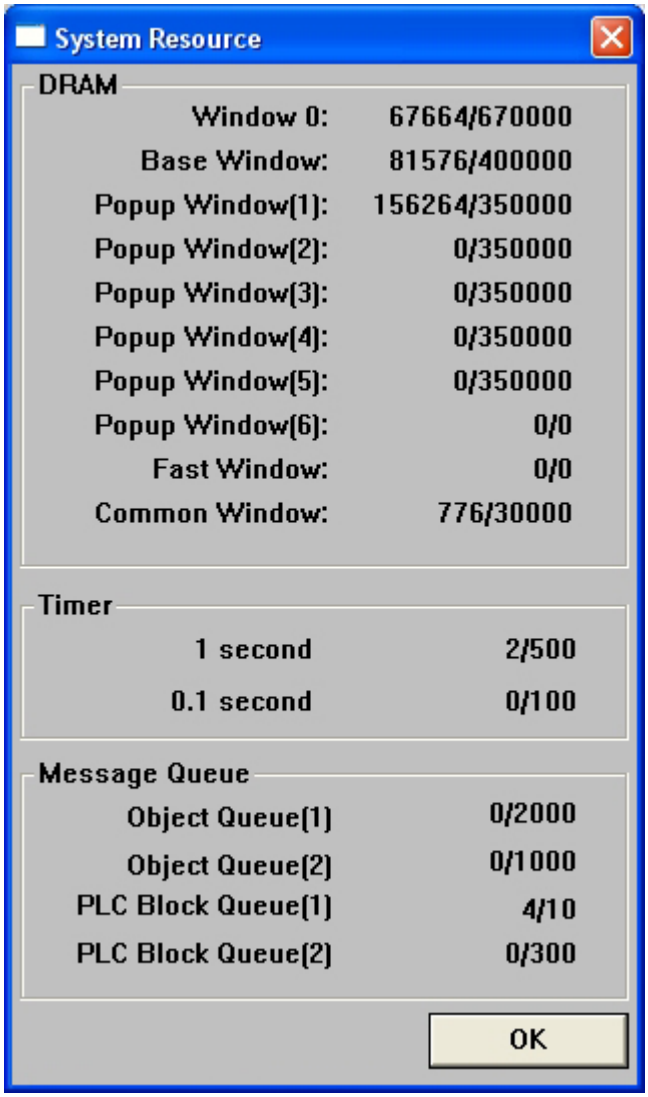
All current operating windows and the content are displayed by clicking on [Update Information]. If this procedure log-in AlarmScan and EventLog among them, then window 0 will run all the time. So long as AlarmScan and EventLog happen , the system will be dealt with at once. If use TrendDisplay or Data Transfer then window 1 will run all the time , in order to obtain the information that TrendDisplay or Data Transfer need. If use Message Board, because the information of the message board needs keeping all the time, the message board window will exist all the time. If use Common Window, then window 6 must exist all the time. In the graphic presentation above window 34, it is Open window at present. Open every item "+ ", there are 2 kinds of to show the color all contents, among them a yellow one is the touch-sensitive screen to send the data to COM port, a getting blue one data that inside punish.

Block Capture: Display the communication data with PLC.



3. System resource

Select System resource to view all resources allocation of the inner system.



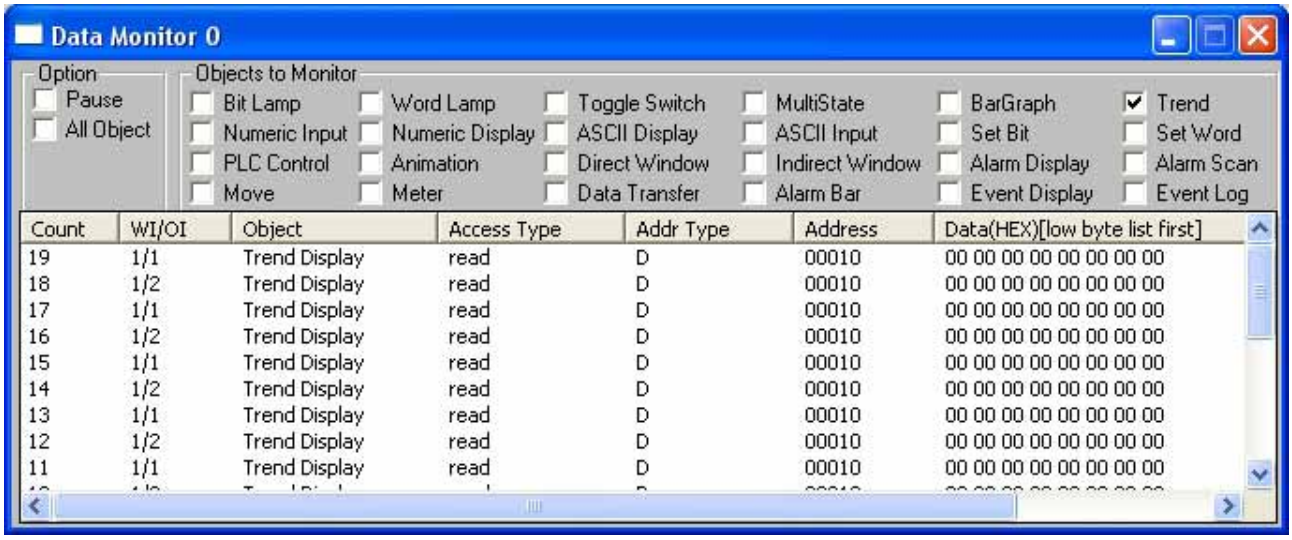
MT500 adopts static resource allocation among them each basic window occupies 400kb, each pop-up window occupies 350kb,each fast window occupies 100kb,each common window occupies30kb,window 0 occupies 320kb. So how many components every window can be put at most should regard resource taken up in window as the accurate one in order to exceed.

Timer taking one second as unit can't exceed 500 at most, taking 0.1 seconds as unit can't exceed 100.

Message Quene is the running condition of commands in the system. Sequence(2) is prior to sequence(1).

4. Data Monitor

Select [Data Monitor] can monitor the situation of the data.



As the graph above,Pause is stop,All Objects is in order to monitor the operation of all,and can show the information of these objects to choose any kind or several kinds of object in Monitor Object, count is information ID.

[WI/OI]:window number/object number.

[Object]:object name.

[Access Type]:Visit way(Read or Write).

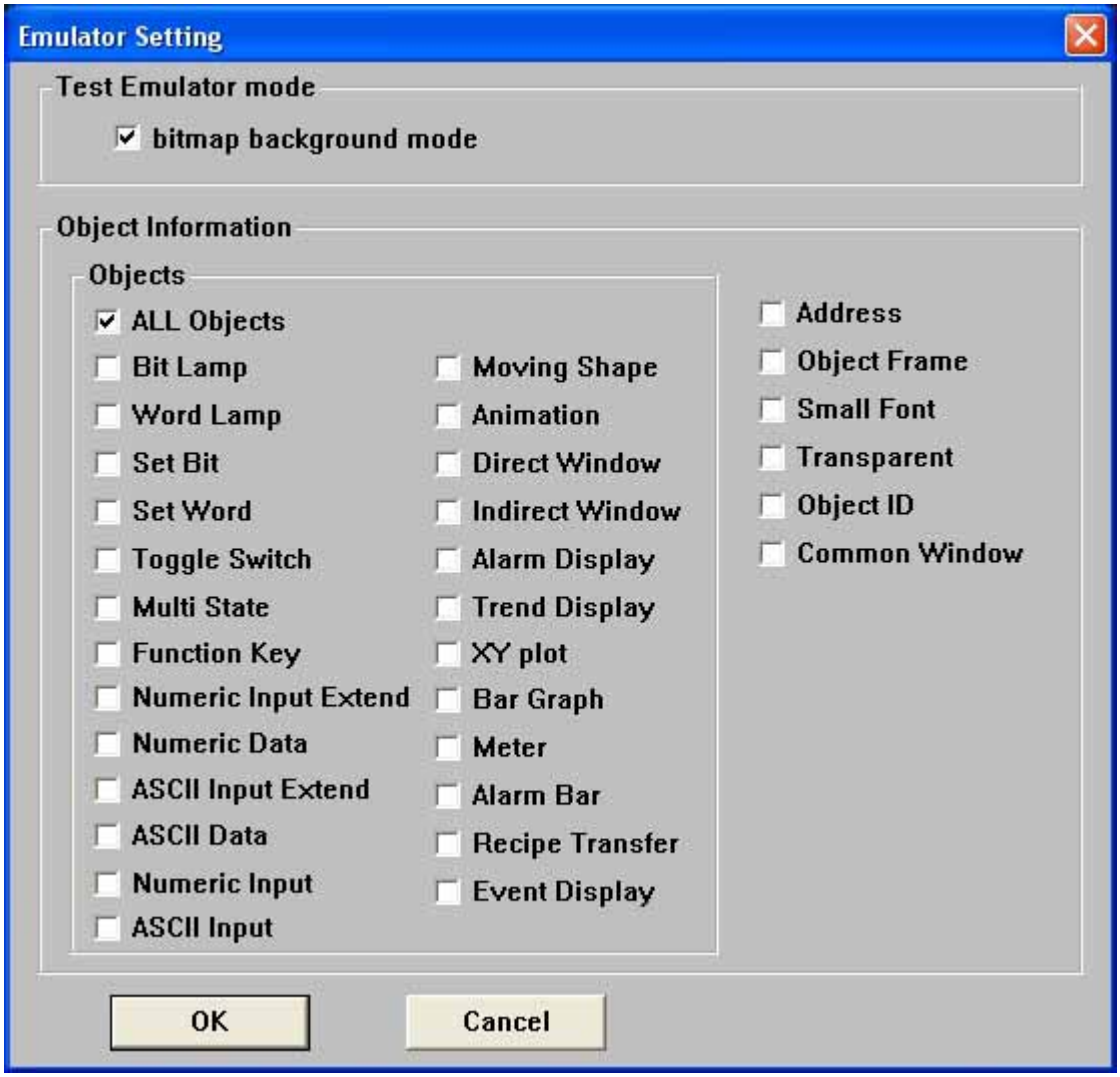
[Address Type]:Device name.

[Address]:Device address.

{Data(HEX)[low byte list first]}:Data format(Hexadecimal)[low byte list first/high byte list back end]

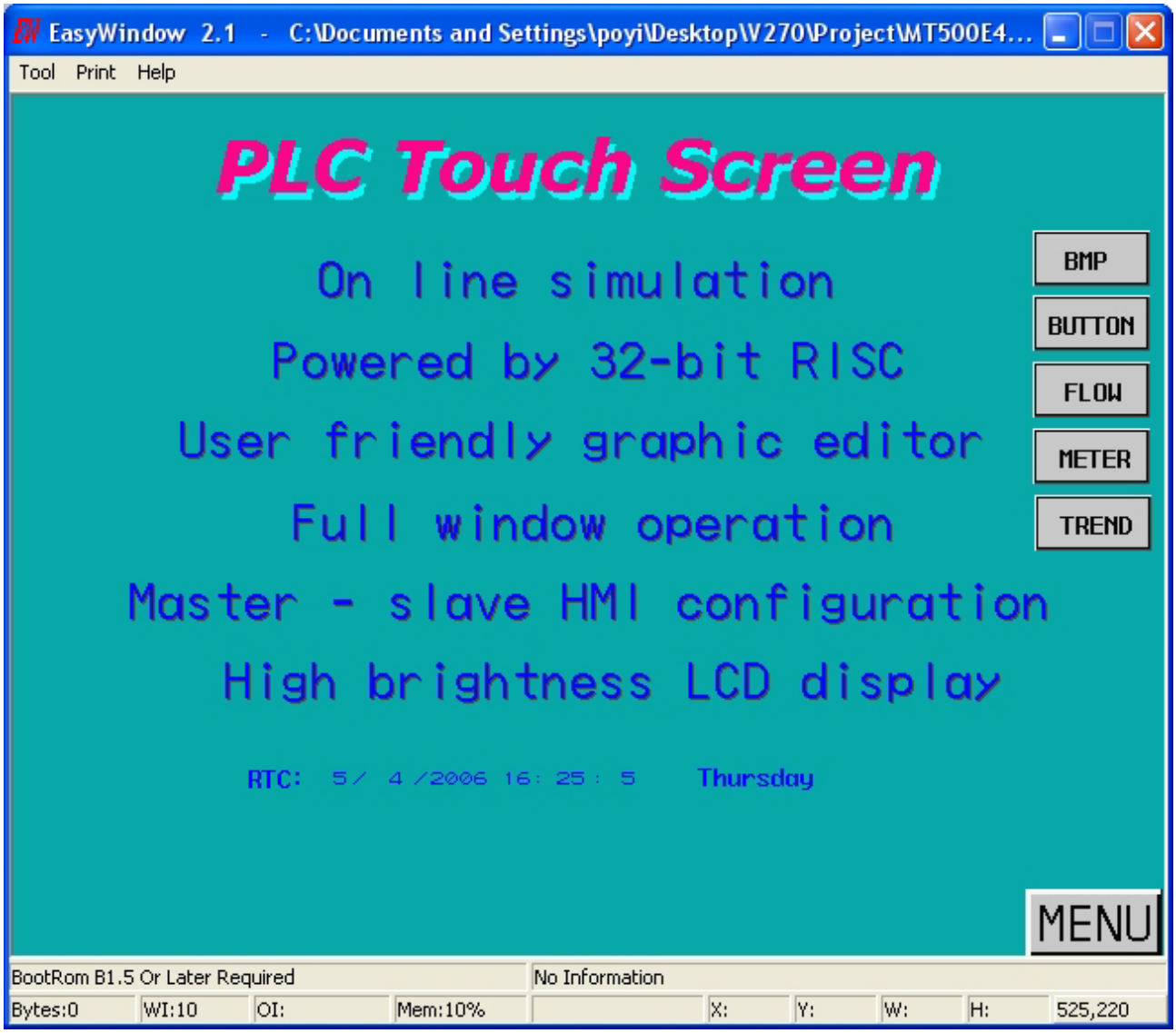
5. Emulator Setting

Select [Emulator Setting] to set the simulation display.



If bitmap background mode is selected, the display is as the following:

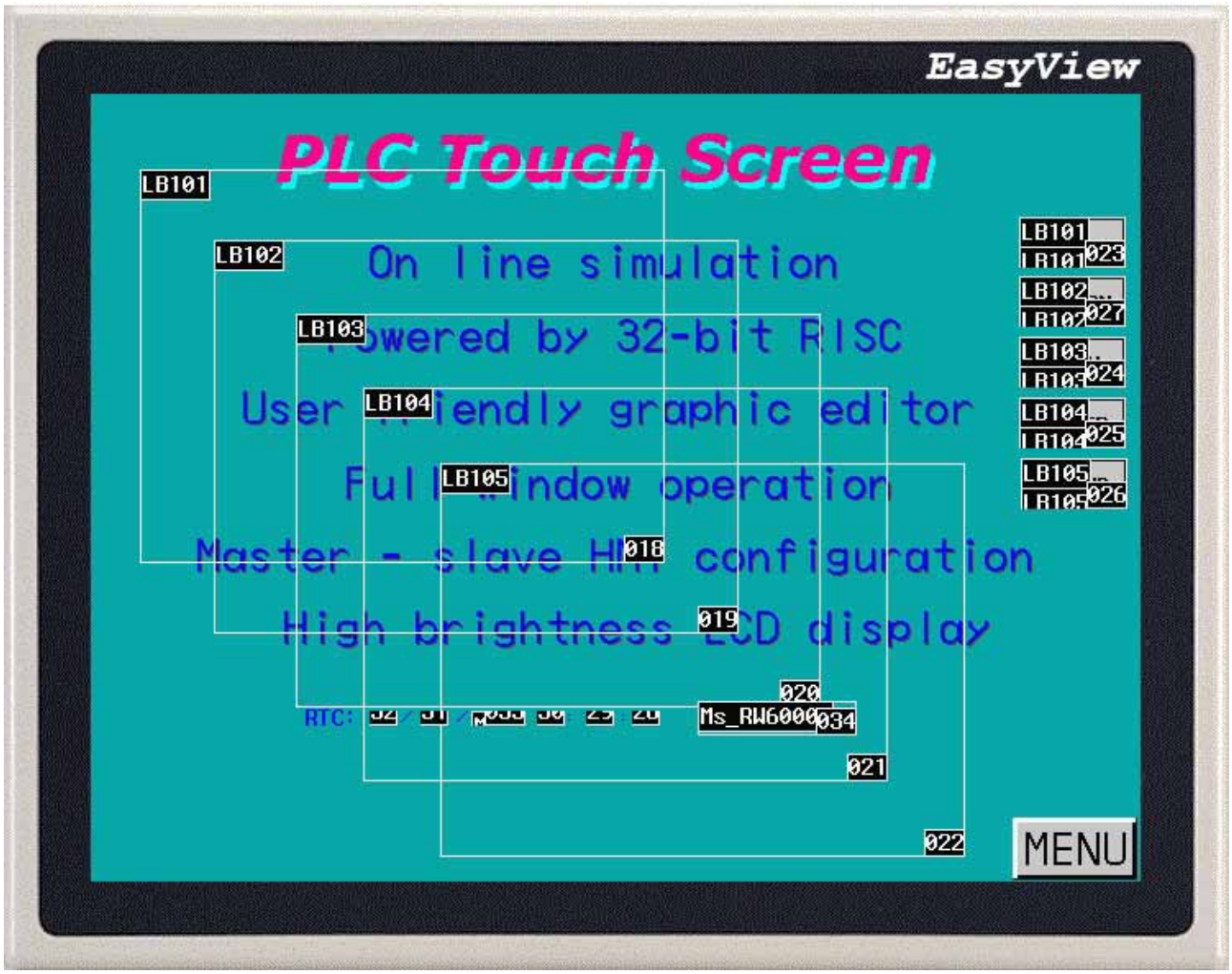
If bitmap background mode is canceled, the display is as the following:



All the displayed are the same.

On the right of the Object Information, the types of the object are set; on the right, (Address)/(Frame)/(Small Font)/(Transparent)/(Object ID)/(Common Window)

If Address, Frame and Object ID are selected, the display shows as below:



6. Print

Print Screen：Print the current screen.

Print Screen Preview：Print preview the current screen.

Print Screen to File：Save the current screen as a *.bmp file.

Print Window：Print the current window(s).

Print Window Preview：Print preview the current screen.

Print Window to File：Save the current window as a *.bmp file.

Page Setup：Set up the print format.

Note: Al the printings are printed through Windows.

7. Exit: Exit the current simulation screen or press Blank key to exit the program.

8. Help: Can open the theme of helping.

9.About: The explanation of the EB500 and copyright.