



九齊科技股份有限公司  
Nyquest Technology Co., Ltd.

# User Manual

## Q-LCD

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## NY8L Simulation

**Version 1.0**

**Aug. 31, 2017**

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## Revision History

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## 1 Introduction

Q-LCD is a tool designed to support developing projects of NY8L series which allows user to conveniently edit LCD graphical data and configure pins through simple user interface. User can check the simulation result on Q-LCD and integrate to the program via *NYASM* and *NYIDE*.

[1 Introduction](#): Introduce the basic system and hardware requirements of Q-LCD.

[2 The Main Interface of Q-LCD](#): The description of basic functions.

[3 Setting Area](#): The description and function of setting area.

[4 Simulation](#): The introduction of LCD software simulation.

### 1.1 What Is Q-LCD

Q-LCD is a LCD simulation tool developed by Nyquest Technology Corporation Limited (Nyquest). The simple graphical interface is easy and convenient for user to edit LCD setting and configure pins, and then execute LCD simulation through NY8L\_ICE.

### 1.2 Getting Started

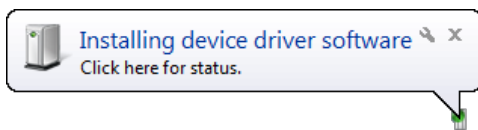
Please contact Nyquest Technology to acquire the latest version of Q-LCD to install, simply unzip the .zip file and double click the .exe file. Then, follow the instruction of the Installation Wizard to complete the installation.

- Pentium 1.3GMHz CPU or above, Windows XP/ 7/ 8 / 10.
- At least 1G of SDRAM.
- At least 2G free space on hard disc.
- A display card and monitor that support 1366x768 resolution or higher.
- Microsoft .NET Framework 4 installed.

#### 1.2.1 Install Hardware

- A NY8L In-Circuit Emulator (NY8L\_ICE).
- An USB cable (Connect PC with ICE).

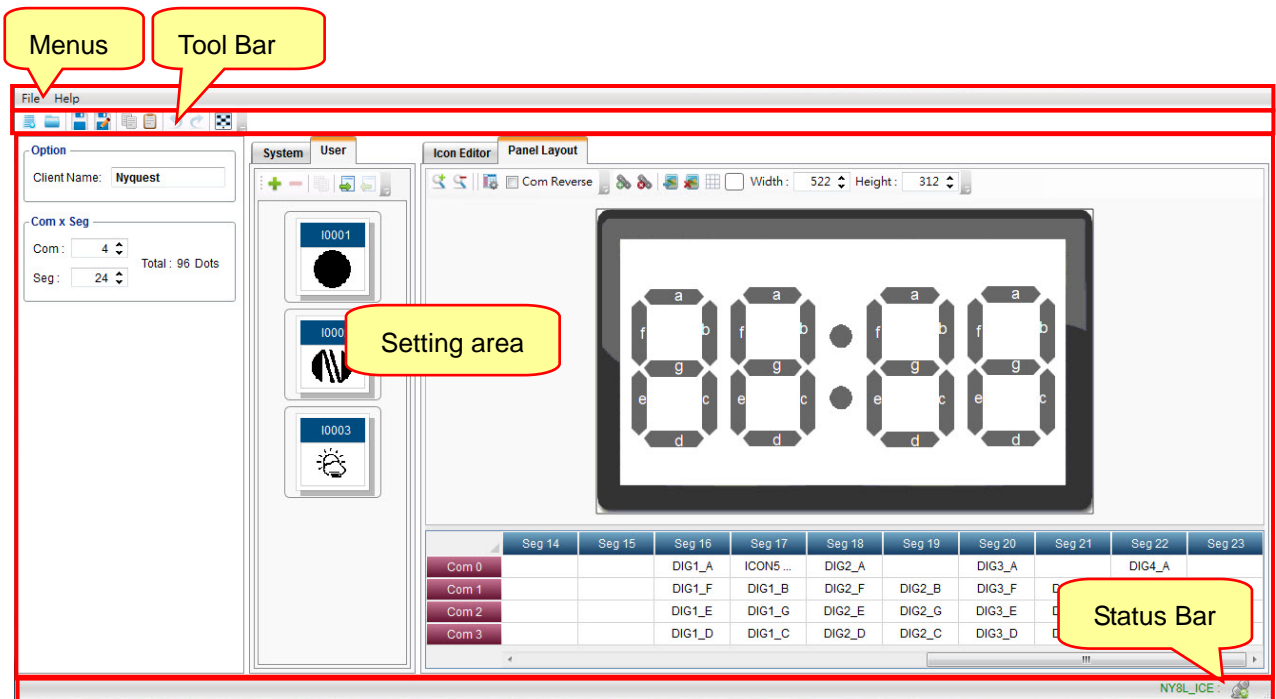
Connect a computer to ICE hardware tool through an USB cable for the first time; the computer will execute automatically to start the installation of driver



What is ICE? ICE is the abbreviation of In Circuit Emulator. When the ICE is plugged into PC by USB wire, users can download the edited program to ICE and verify the program. (About the ICE installation, please refer to *NYIDE* user manual)

## 2 The Main Interface of Q-LCD

### 2.1 Interface

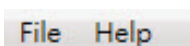


The main interface of Q-LCD is shown above, the related function descriptions please refer to the following chapters.

- **Manus:** All the Q-LCD functions.
- **Tool Bar:** The common function buttons
- **Setting Area:** The setting area contains Project Setting, User, System, Icon Editor and Panel Layout.
- **Status Bar:** Show the ICE connection status.

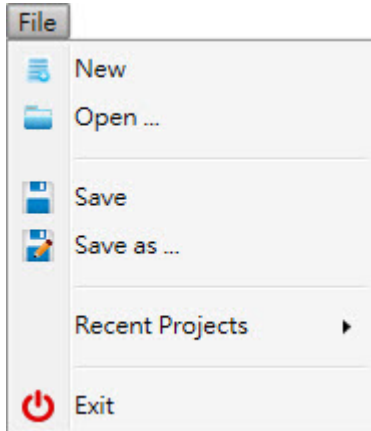
### 2.2 Menus


The function menu contains: File and Help.




### 2.2.1 File Menu

The File menu provides commands for file management. By clicking [File] on the Menu bar and the menu is shown below.



 **New:** Clear a new *Q-LCD* project file, the filename extension is *.lcdprj*.

 **Open...:** Open an existing *Q-LCD* project file *.lcdprj*.

 **Save:** Save the current editing project.

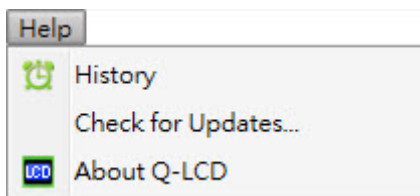
 **Save as...:** Save the current editing project as a new file name or another file path.


**Recent Projects:** Open recently opened projects.

 **Exit:** Leave *Q-LCD* °


### 2.2.2 Help Menu

By clicking [Help] on Menu Bar and the menu is shown below.



 **History:** Show the revision history.

**Check for Updates...:** Check for the latest version of *Q-LCD*. This function will connect to the Internet.

 **About Q-LCD:** Show current *Q-LCD* version and the contact information for technical support.

## 2.3 Tool Bar



**New:** Clear a new Q-LCD project file, the filename extension is .lcdprj.



**Open:** Open an existing Q-LCD project file (.lcdprj).



**Save:** Save the current editing project.



**Save As:** Save the current editing project as a new file name or another file path.



**Copy:** Copy the selected icon.



**Paste:** Paste the copied icon into the editing window.



**Undo:** Reverse the last action.



**Redo:** Redo the last undone action.



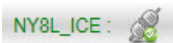
**Simulation:** Download .bin file to ICE to perform a software simulation, based on the current settings.

## 2.4 Setting Area

The setting area allows user to set the configuration of LCD panel and corresponding Com and Seg.

## 2.5 Status Bar

The Status Bar shows the current connection status of NY8L\_ICE. The status and their descriptions are below.



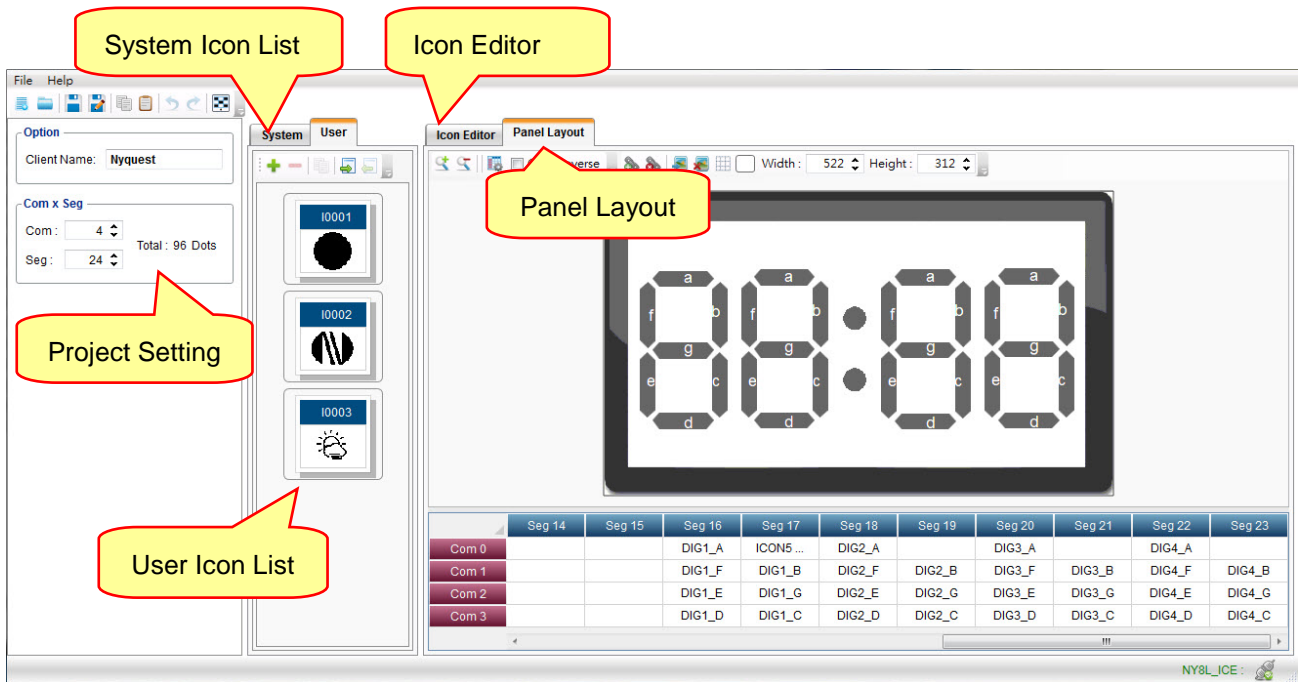
**ICE connected:** NY8L\_ICE is connected correctly and ready.



**ICE disconnected:** NY8L\_ICE is disconnected, please check hardware installations or re-connect to USB cable.

## 3 Setting Area

The setting area contains the following settings: Project Setting, User Icon List, System Icon List, Icon Editor and Panel Layout.



### 3.1 Project Setting

**Option**  
 Client Name:

**Com x Seg**  
 Com:    
 Seg:    
 Total: 96 Dots

#### 3.1.1 Option

**Option**  
 Client Name:

**Client Name:** User name or company name.



## 3.1.2 Com x Seg

Com x Seg

Com : 
Seg : 
Total : 96 Dots

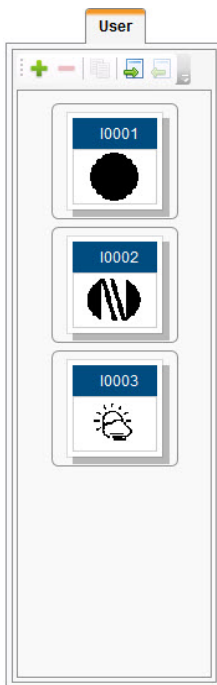
**Com:** The number of Com (the range is 1~12).

**Seg:** The number of Seg (the range is 1~64).






**Total:** Show the sum of the dots.

## 3.2 User

The [User] setting provides icon list needed by user to edit the project. The thumbnails show every icon from list. User can select an icon, and Q-LCD will import the selected icon to the Icon Editor. The tool bar of [User] provides editing operations for the list ◦

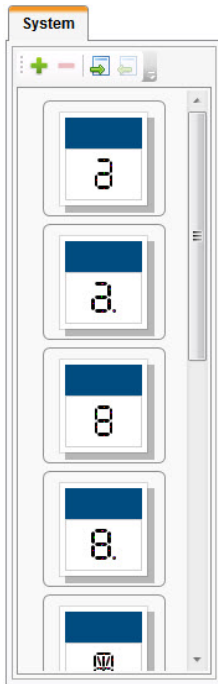


### 3.2.1 Tool Bar





-  **New:** Add a blank icon.
-  **Delete:** Remove the selected icon.
-  **Duplicate:** Copy and paste the selected icon to list.
-  **Import:** Import an existing icon file.
-  **Export:** Export the selected icon as a file.

### 3.3 System

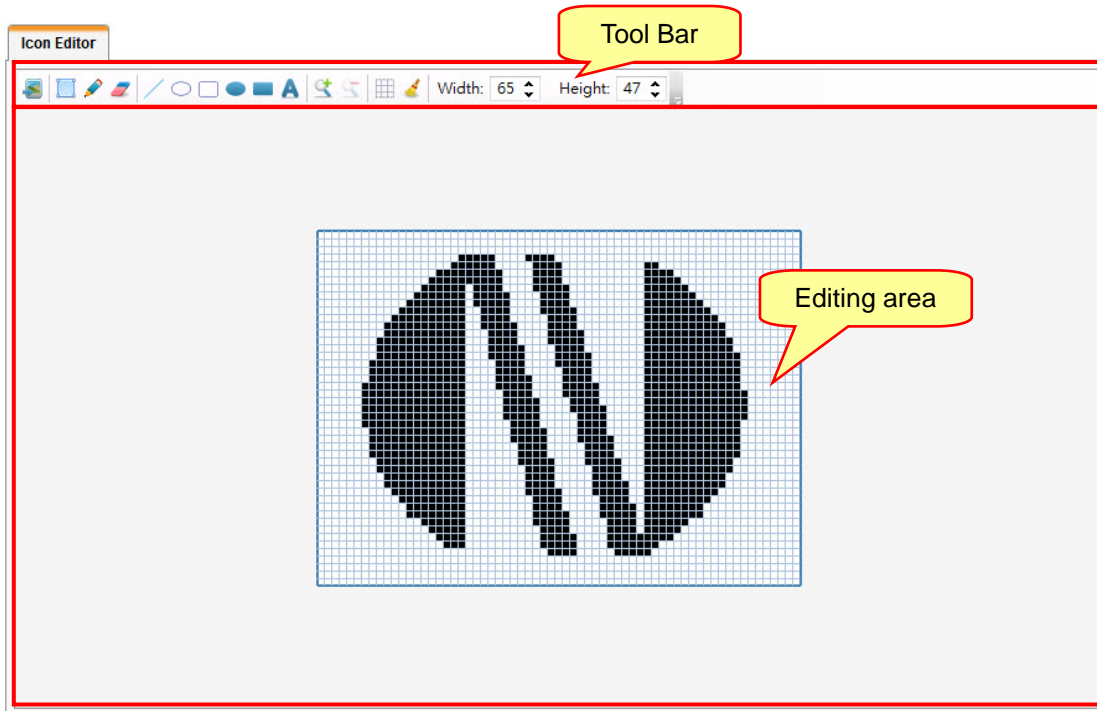
The [System] setting provides the built-in multi-segment (6 / 7 / 14-segment display...etc) in display list. Except the default items, user can add his/her own system icons if needed, and the Icon Editor will switch to System editing mode for user to edit the icons.

















#### 3.3.1 Tool Bar

-  **New:** Add a blank icon.
-  **Delete:** Delete the selected icon.
-  **Import:** Import the existed icon file.
-  **Export:** Export the selected icon as a file.

### 3.4 User Icon Editor

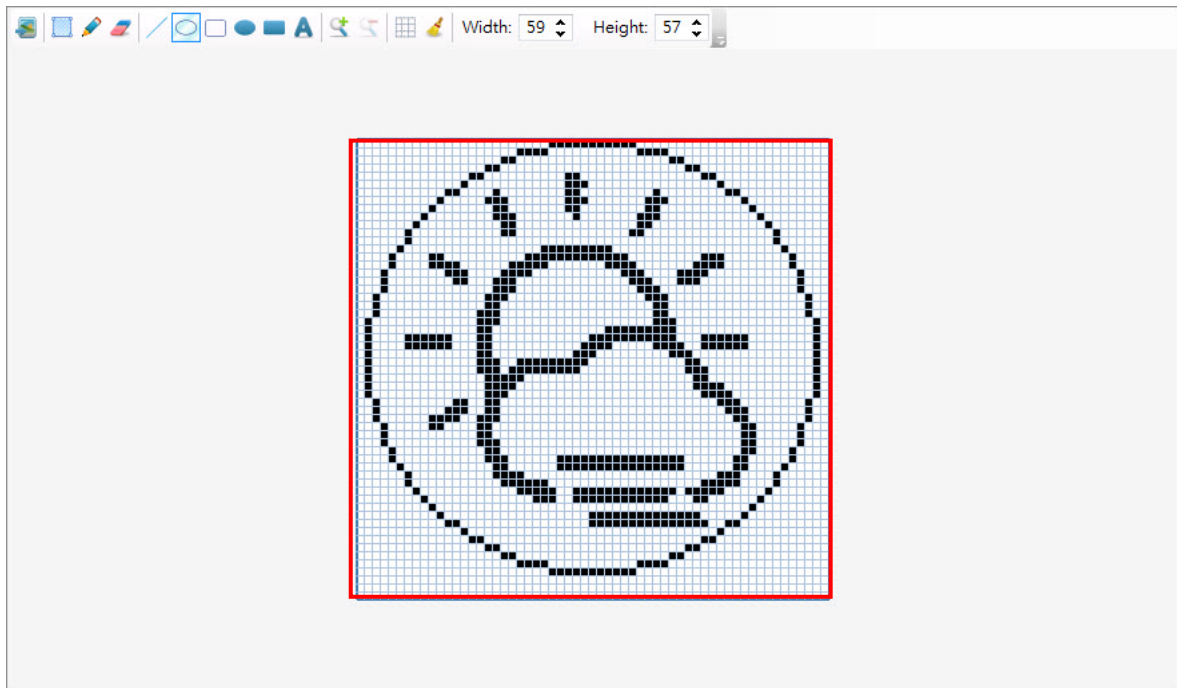


#### 3.4.1 Tool Bar

-  **Open Image:** User can open image and capture the desired area of the image.
-  **Select:** Select a region to move or copy.
-  **Pencil:** Draw any lines or curves on the editing area.
-  **Erase:** Remove parts of the area.
-  **Line:** Draw a straight line or oblique line on the editing area.
-  **Ellipse:** Draw an ellipse on the editing area.
-  **Rectangle:** Draw a rectangle on the editing area.
-  **Fill Ellipse:** Draw an ellipse on the editing area and fill with color.
-  **Fill Rectangle:** Draw a rectangle on the editing area and fill with color.
-  **Text:** Add text on the editing area.
-  **Zoom In:** Zoom in to view the icon of editing area.
-  **Zoom Out:** Zoom out to view the icon of editing area.
-  **Grid Lines:** Show or hide the gridline.
-  **Clear All:** Clear all of the editing area.
- Width:** Show and adjust the width of current icon.
- Height:** Show and adjust the height of current icon.

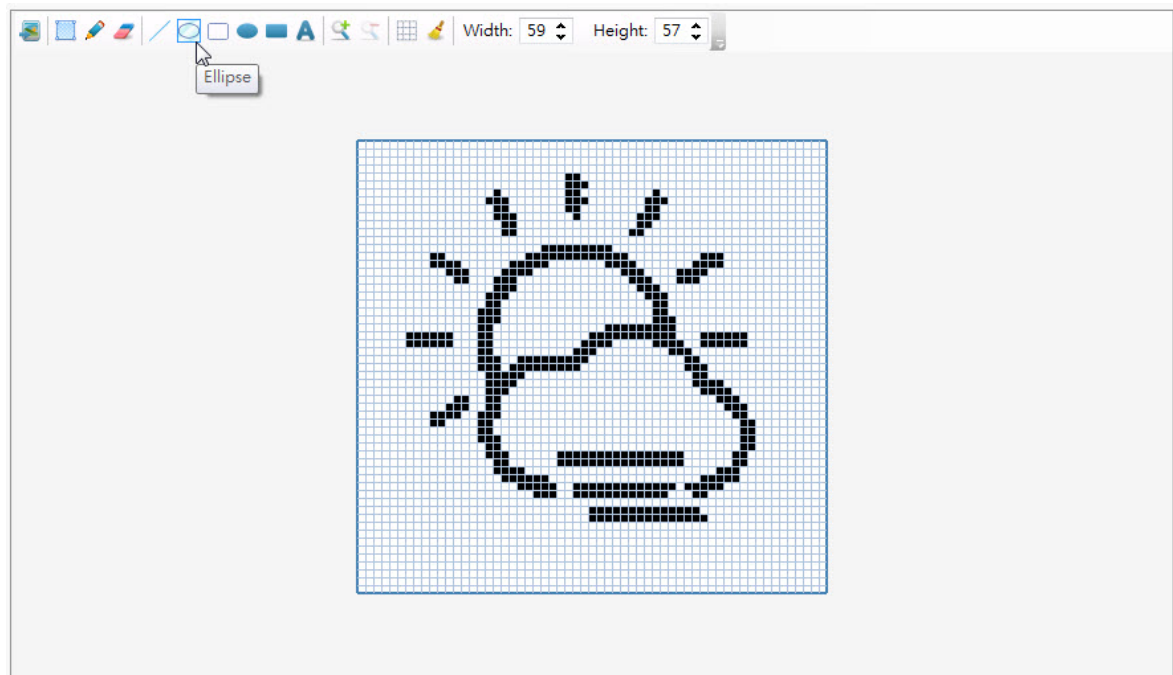
### 3.4.2 The Editing Area

User can edit the icon directly through the tools (ex. Pencil, Lin, Ellipse...etc).

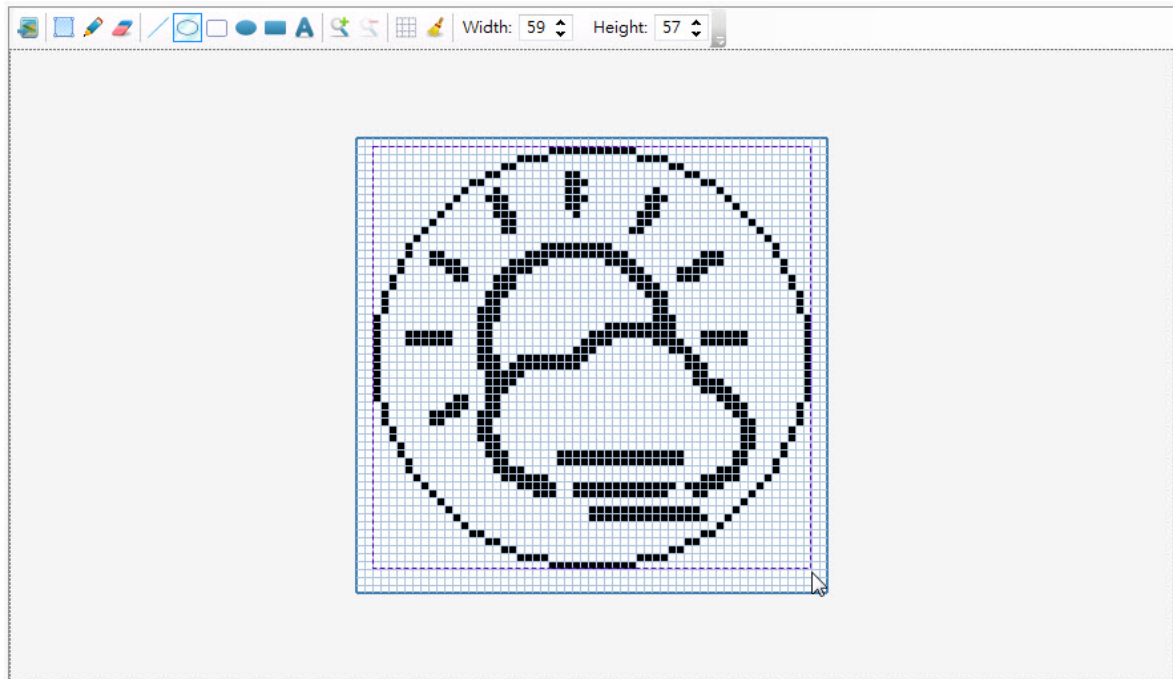


#### Example:

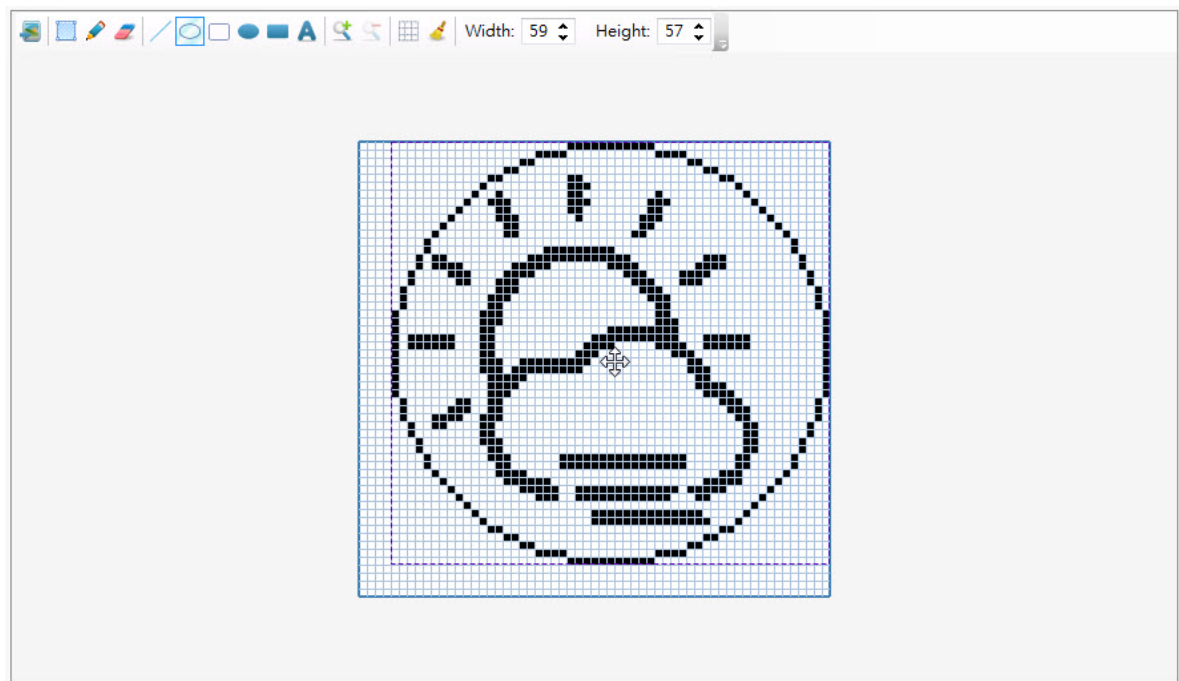
Step 1: Select the desired drawing tool.



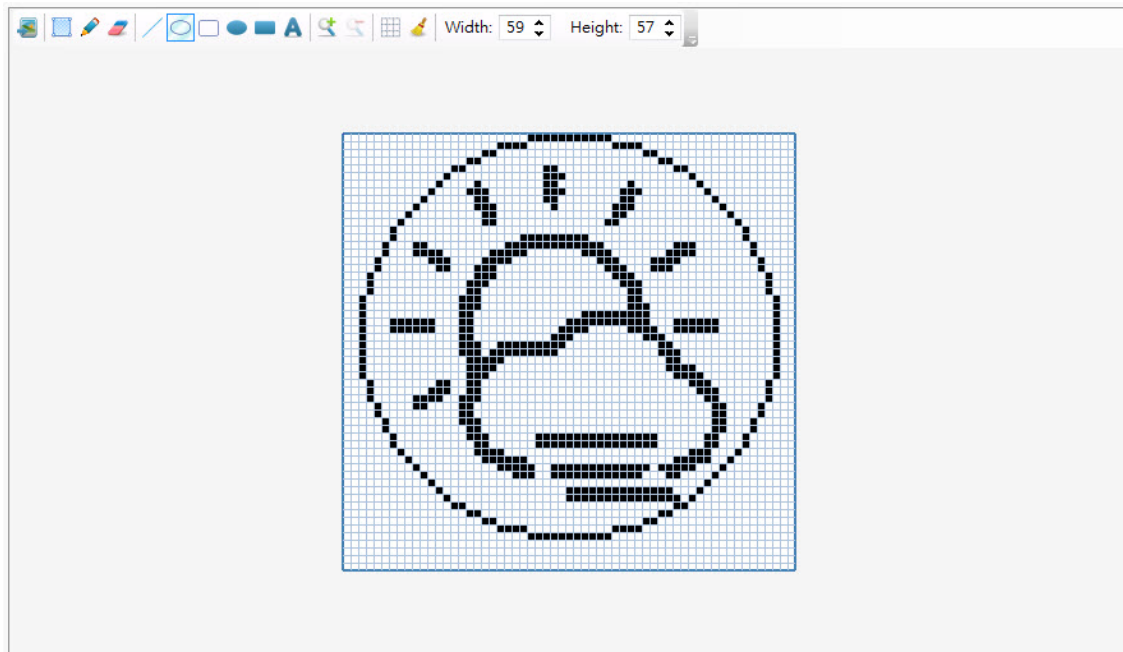
Step 2: Press the left mouse button and drag to the needed size on the editing area, then release the button, Q-LCD will show the selected area of graphic.



Step 3: User can then move the select area of graphic.

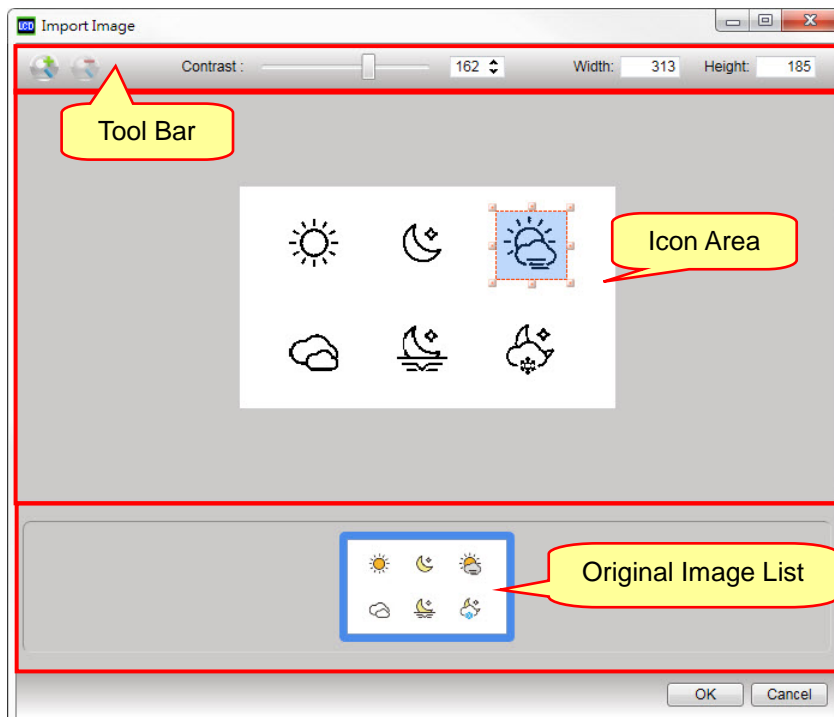


Step 4: After adjusting the position, click the left mouse button outside the selected graphic, the graphic will paste on drawing panel.



### 3.4.3 Open Image

After selected the image file, Q-LCD will show the setting window, user can adjust the size, black and white contrast and selected range.



➤ **Tool Bar**



**Zoom In:** Zoom in to view the icon area.



**Zoom Out:** Zoom out to view the icon area.

**Contrast:** Adjust the black and white contrast of icon.

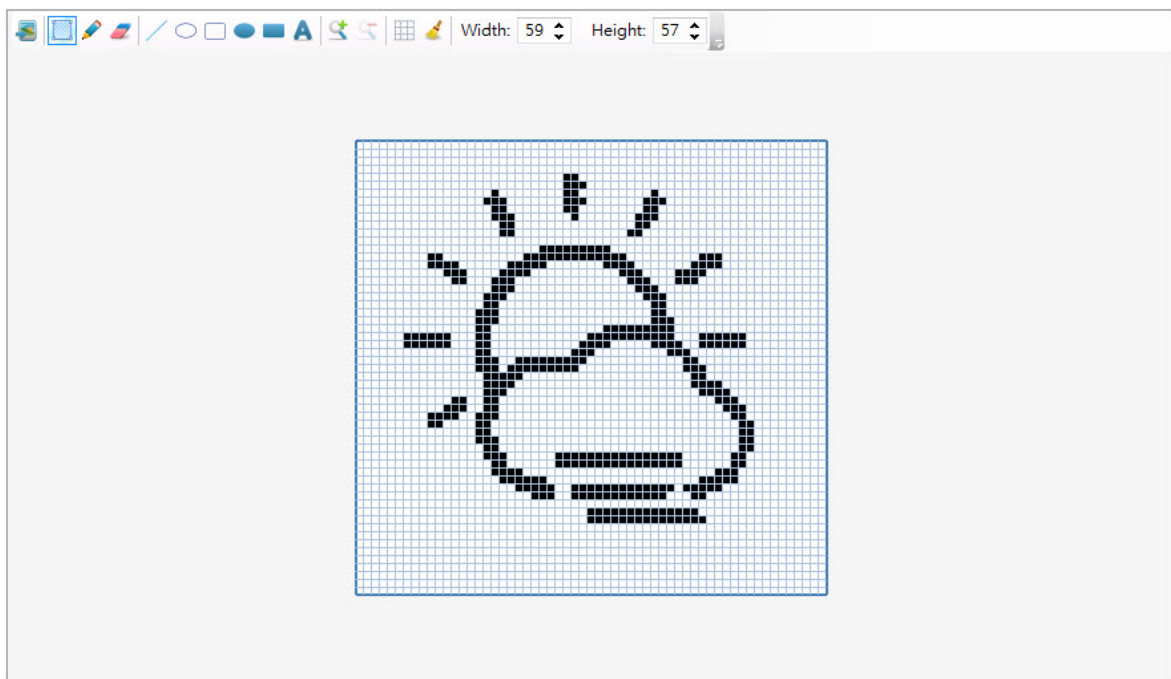
**Width:** Set the width will enlarge or reduce icon according to the width.

**Height:** Set the height will enlarge or reduce icon according to the height.

➤ **Icon Area:** The icon area shows the b/w icon, user can adjust the selected area and size.

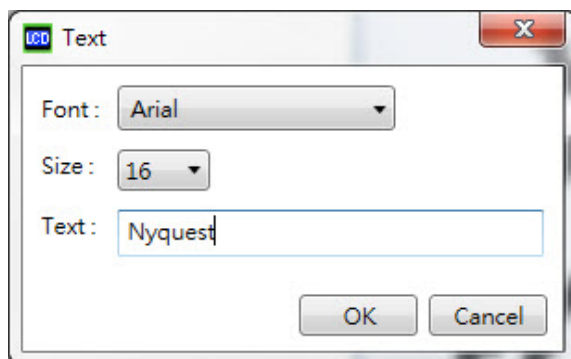
➤ **Original Image List:** The imported image will be listed and shown as thumbnails.

After pressing OK, the selected image will import to the editing area.



### 3.4.4 Add Text Icon

The Text window provides user to edit a text and also the font and size setting.



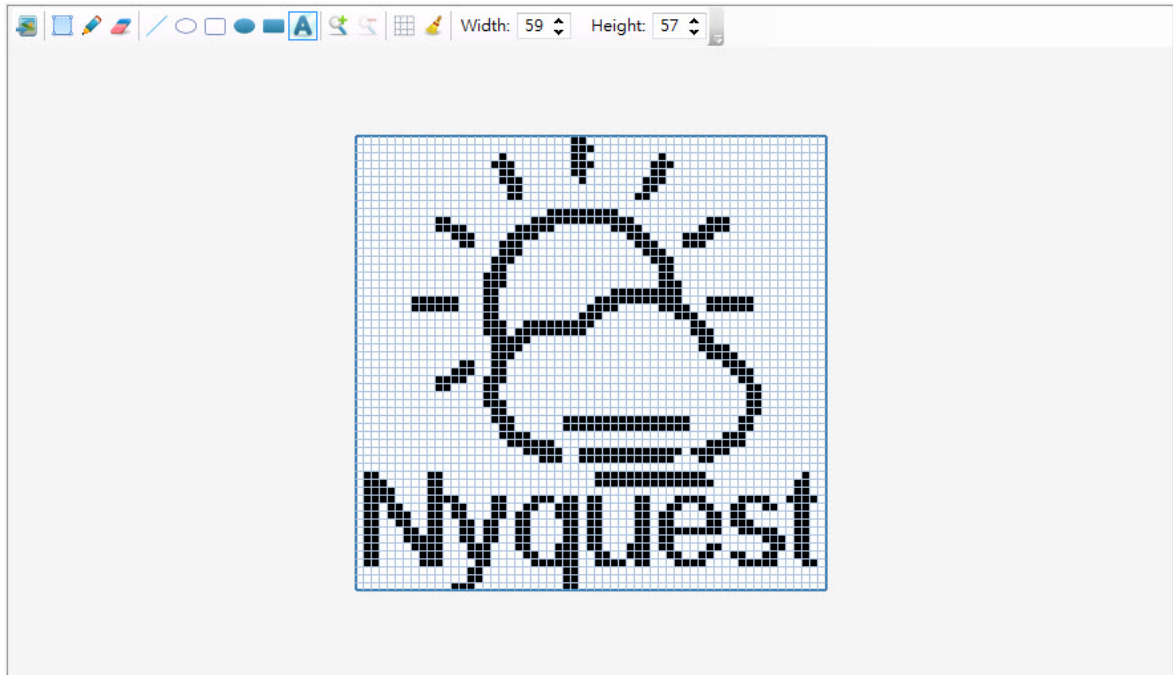


**Font:** Select the font of text.

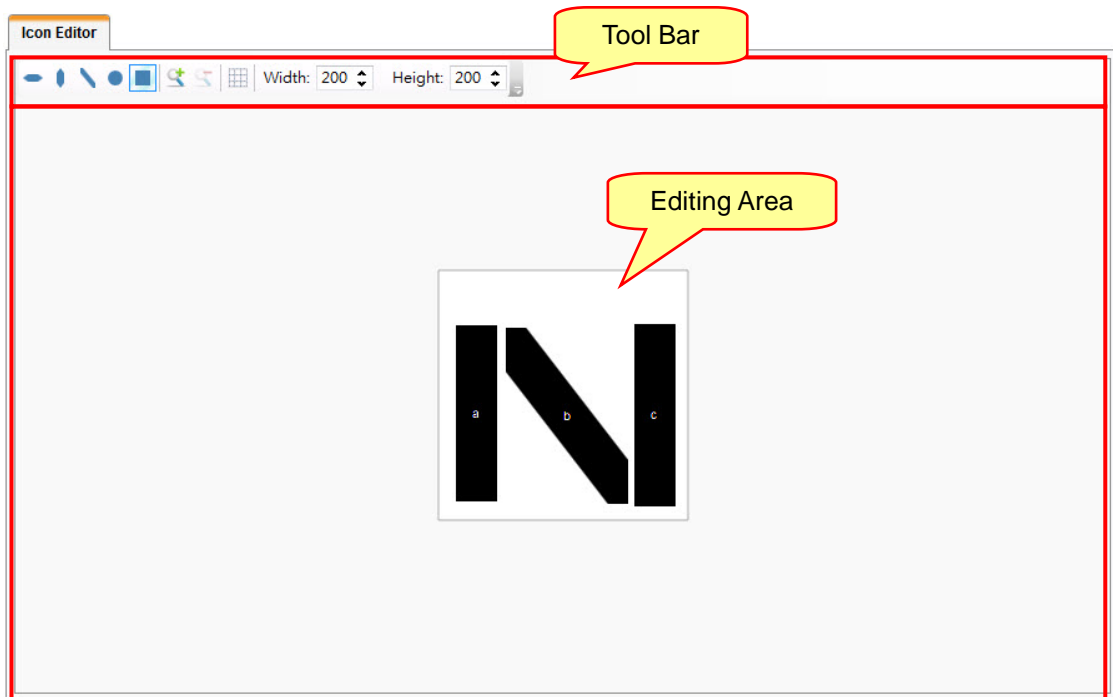
**Size:** Select the size of text.

**Text:** Key in the word.

After pressing OK, the text will be added to the editing area, user can adjust its position.











### 3.5 System Icon Editor



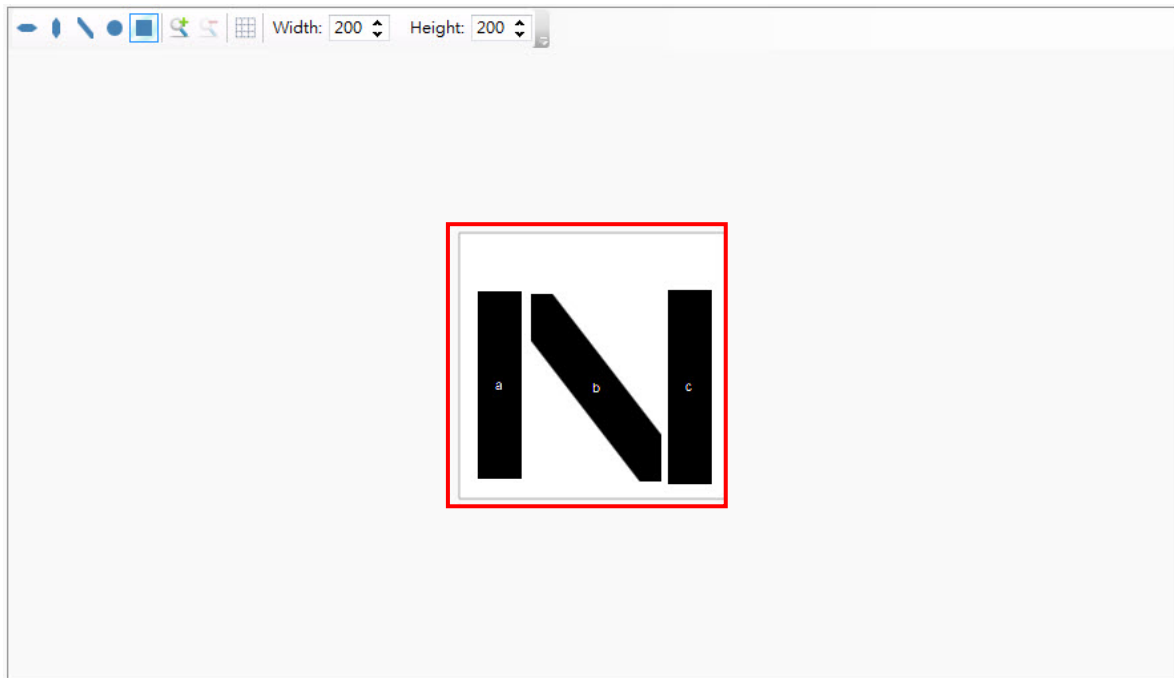


### 3.5.1 Tool Bar

-  **Horizontal:** Draw a horizontal line on the editing area.
-  **Vertical:** Draw a vertical line on the editing area.
-  **Slash:** Draw a slash on the editing area.
-  **Ellipse:** Draw an ellipse rectangle on the editing area.
-  **Rectangle:** Draw a rectangle on the editing area.
-  **Zoom In:** Zoom in to view the icon of editing area.
-  **Zoom Out:** Zoom out to view the icon of editing area.
-  **Grid Lines:** Show or hide the gridlines.
- Width:** Show and adjust the width of current icon.
- Height:** Show and adjust the height of current icon.

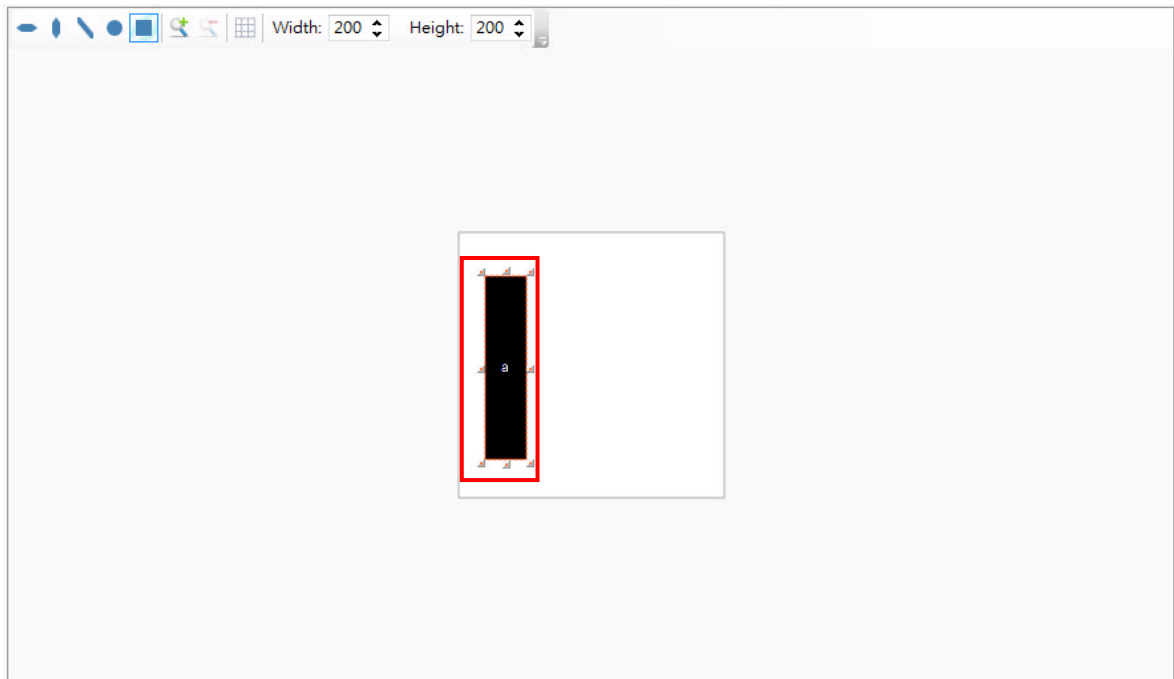
### 3.5.2 The Editing Area

User can edit the segments of icon directly through the tools.

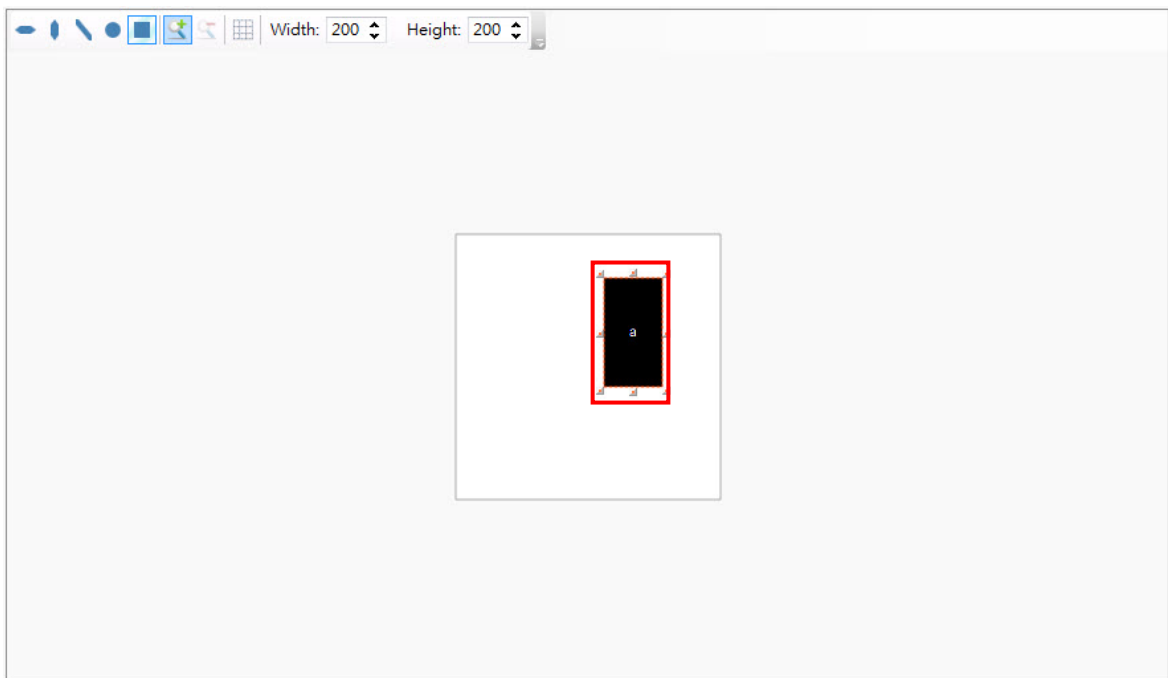


**Example:**

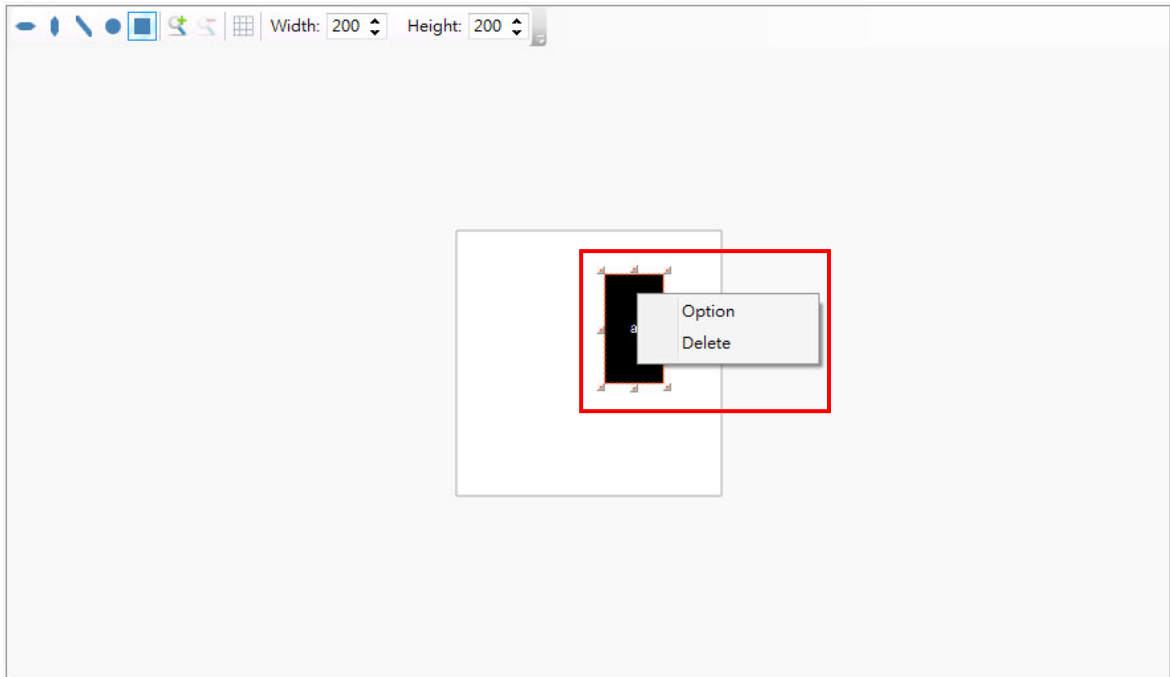
Step 1: Use select tool, press the left mouse button and drag it to the needed size on the editing area, then release the button, Q-LCD will show the selected segment.



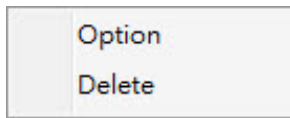
Step 2: The size and position of selected segment can be adjusted.



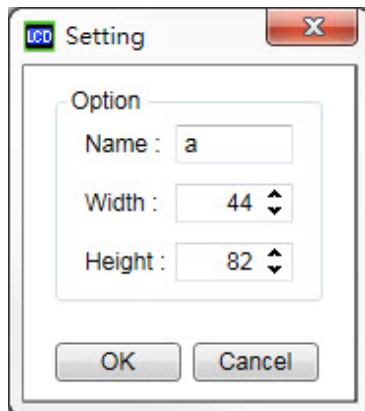
Step 3: Press the right mouse button on the selected segment, a context menu will pop up. User can adjust or delete the icon through the popup menu.



**The descriptions of popup menu:**



- **Option:** Provide user to adjust the segment and its size. The setting window is shown below.



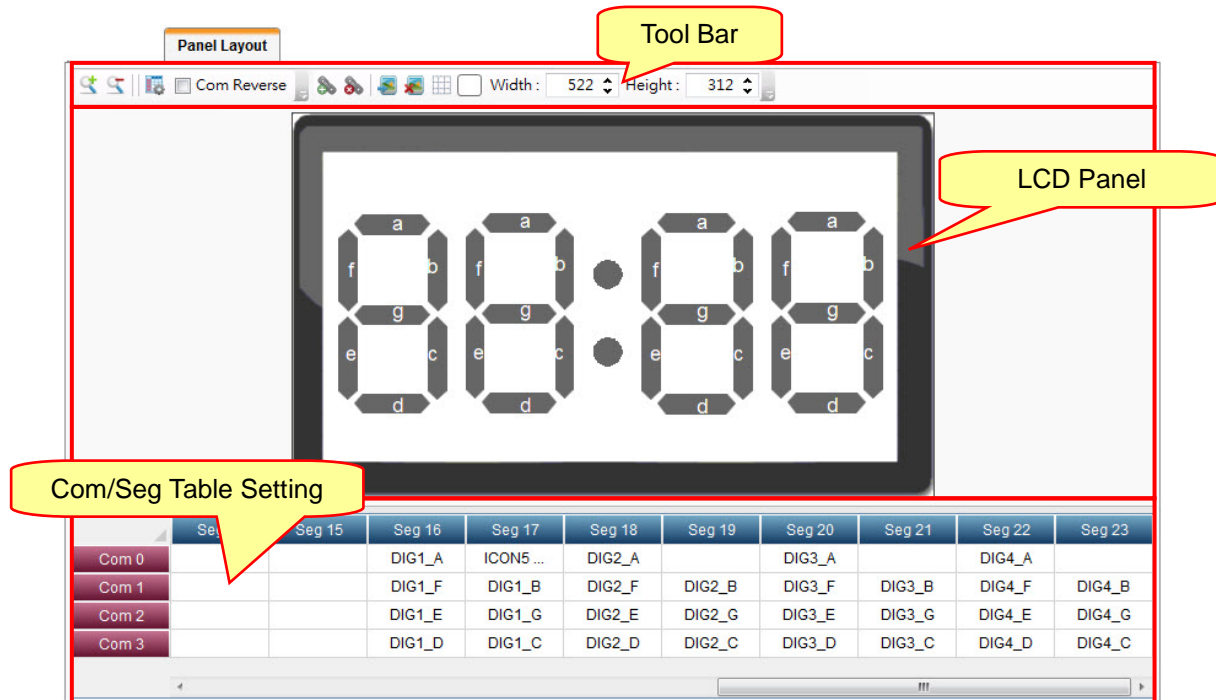
Name: Input the name of segment.

Width: Set the width of segment.













Height: Set the Height of segment.

- **Delete:** User can delete the selected segment.

### 3.6 Panel Layout



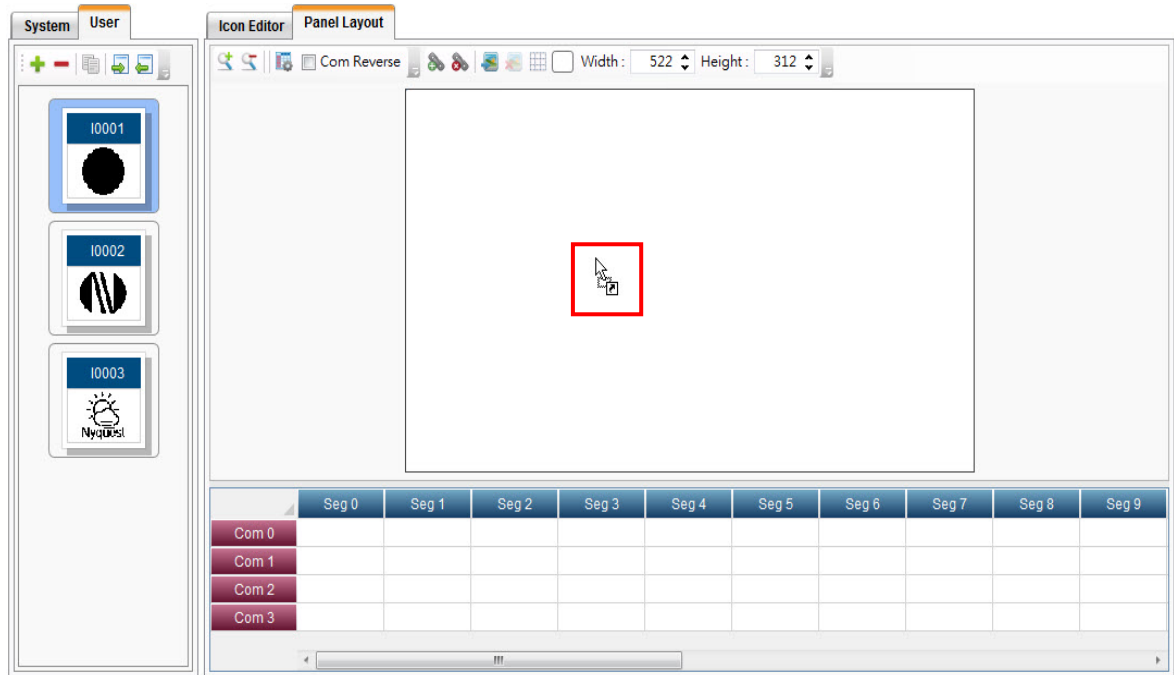
#### 3.6.1 Tool Bar

-  **Zoom In:** Zoom in to view the LCD panel.
-  **Zoom Out:** Zoom out to view the LCD panel.
-  **Com/Seg Table Setting:** Provide user to set the Com/Seg.
-  **Com Reverse:** Reverse the Com pins order of Com/Seg table.
-  **Copy:** Copy the selected icon.
-  **Paste:** Paste the copied icon to LCD panel.
-  **Group:** Select multiple icons as a group.
-  **Ungroup:** Ungroup the selected group.
-  **Import Background:** Set the imported image as the background image of LCD panel.
-  **Clear Background:** Clear the background image of LCD panel.
-  **Grid Lines:** Enable or disable the grid lines.
-  **Background Color:** Set the background color of LCD panel.
- Width:** Set the width of LCD panel °
- Height:** Set the height of LCD panel.

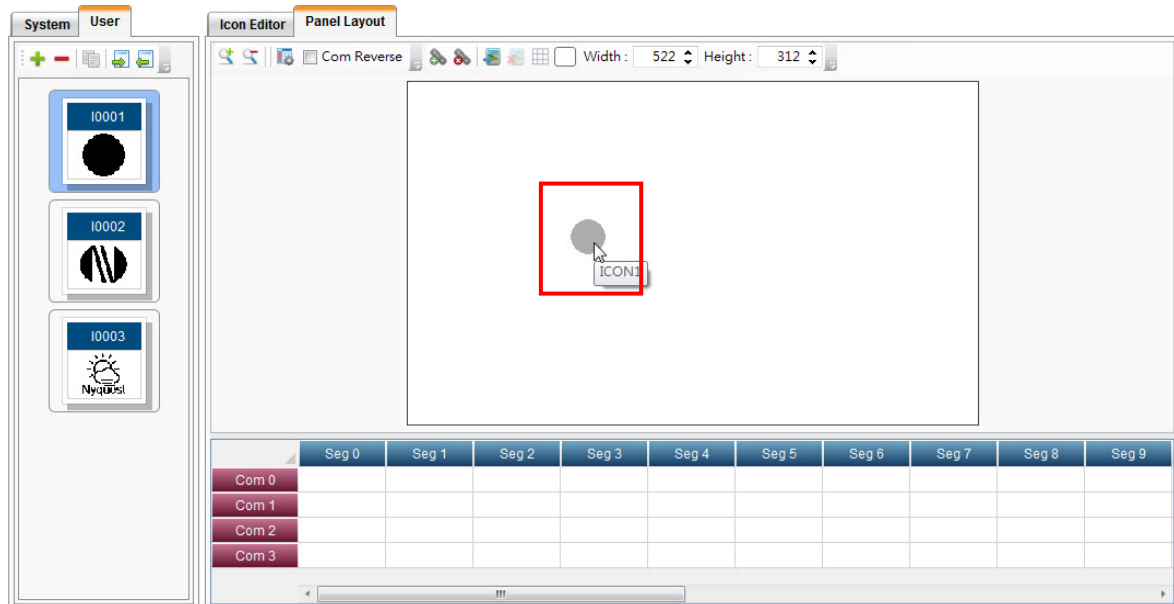
### 3.6.2 LCD Panel Setting

**Add icon:** User can drag the needed icon from [User] or [System] tab to LCD panel.

- Select the needed icon and press the left mouse button to drag to LCD panel.

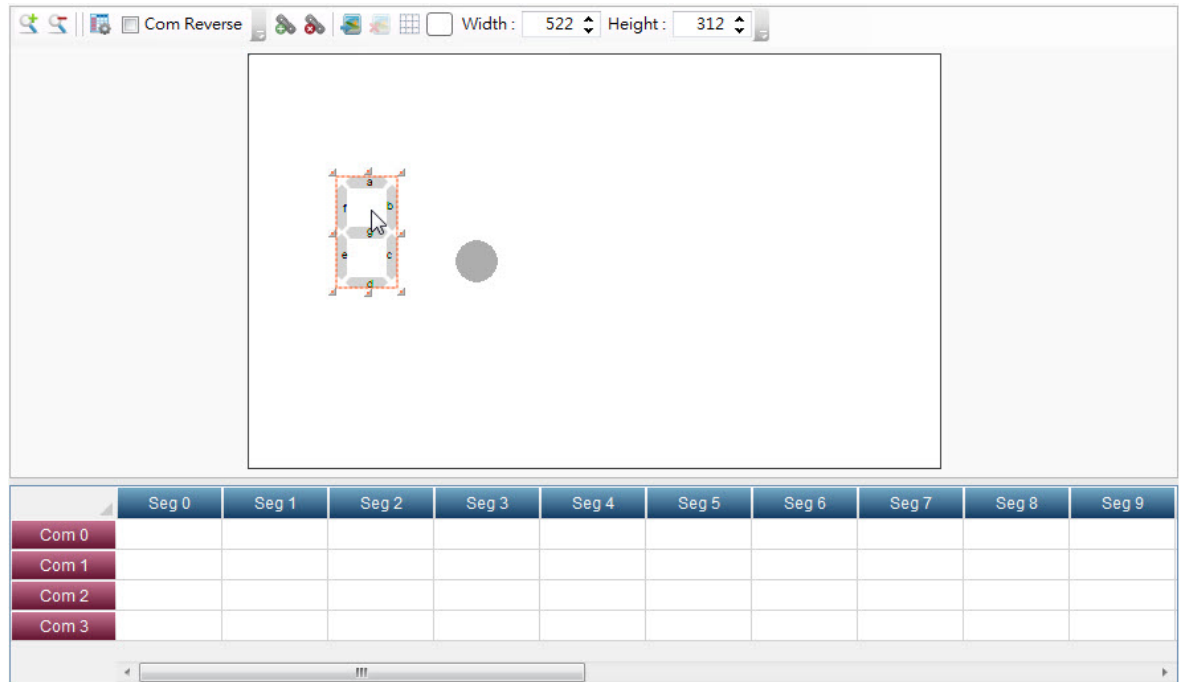


- Release the left mouse button, the selected icon will be shown on the LCD panel.

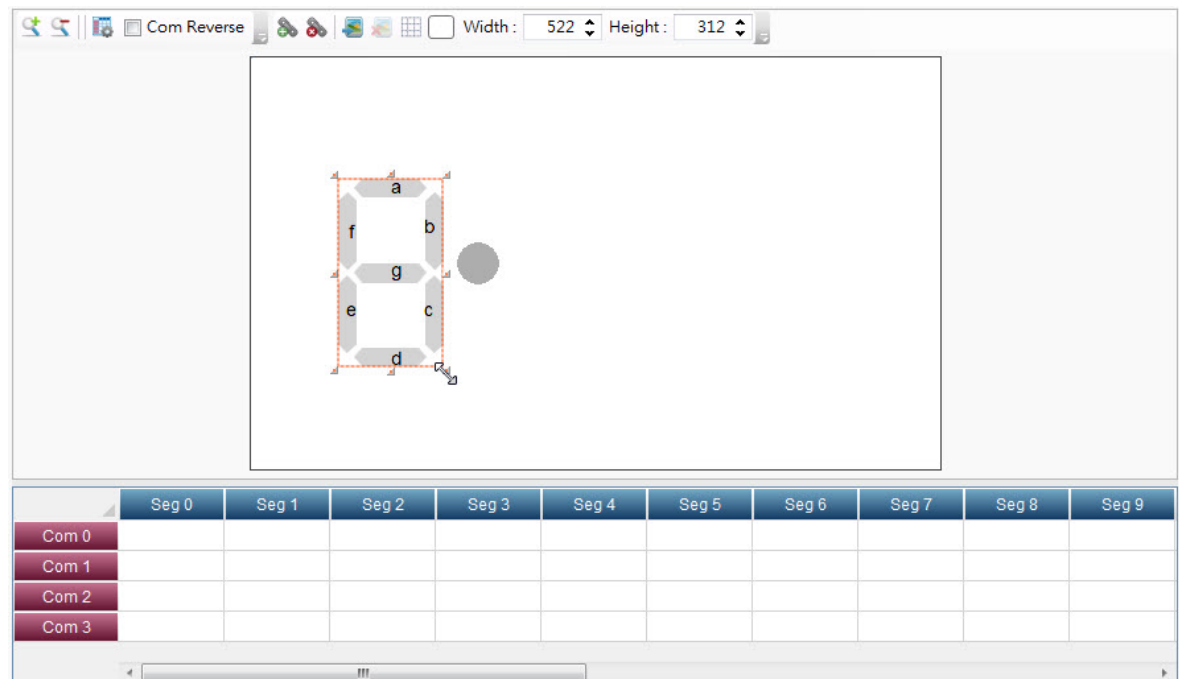


**Adjust the size and position of icon:**

- After selecting icon, press the left mouse button to move the position of icon.

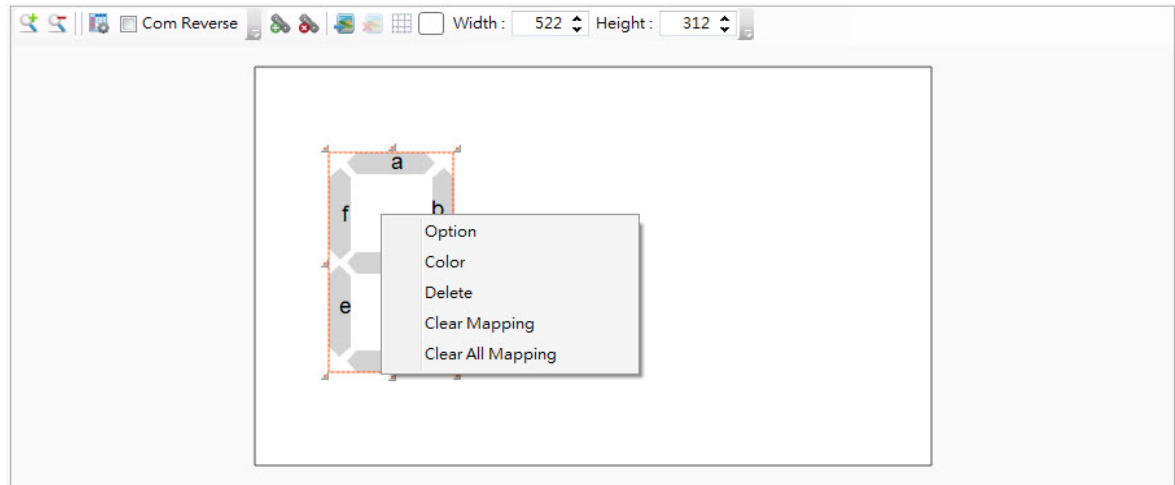


- After selecting icon, a bounding box will show and user may adjust the icon size, user can also set the adjustment through the context menu.

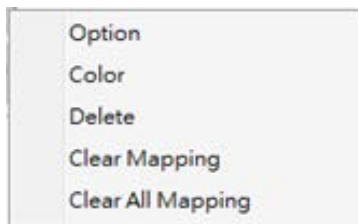


## Adjust icon setting:

- Press the right mouse button on the selected icon, the context menu will pop up.



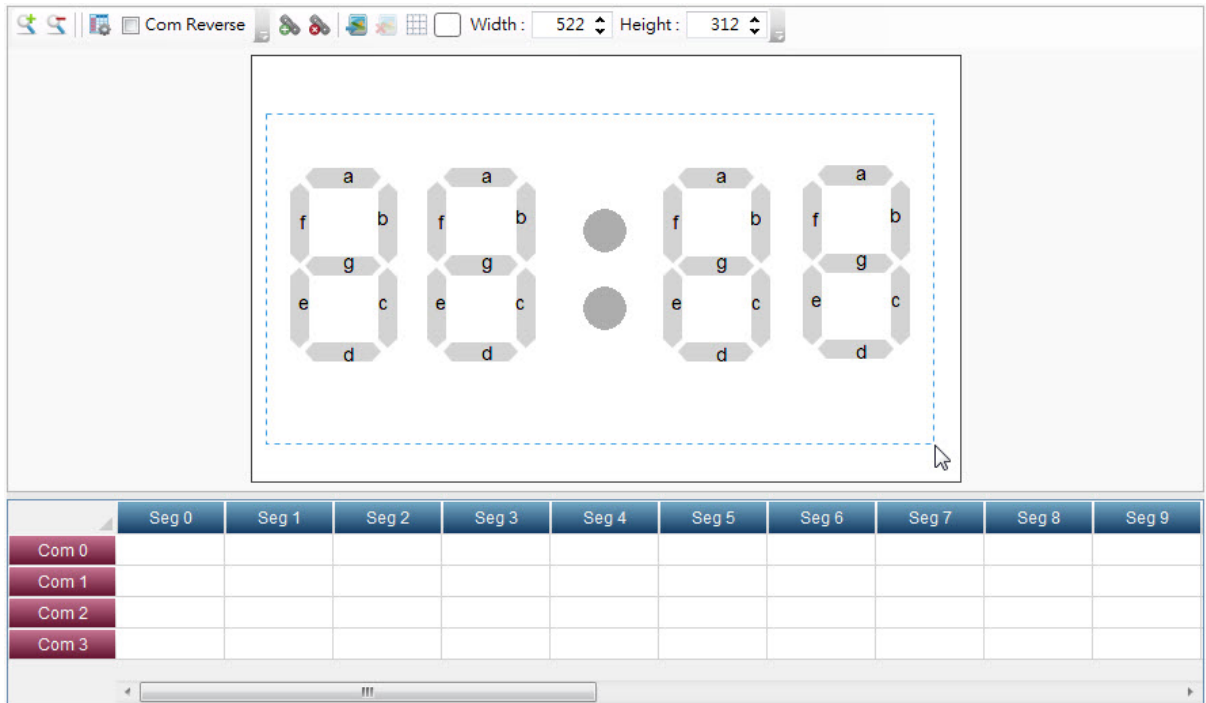
## Context Menu:



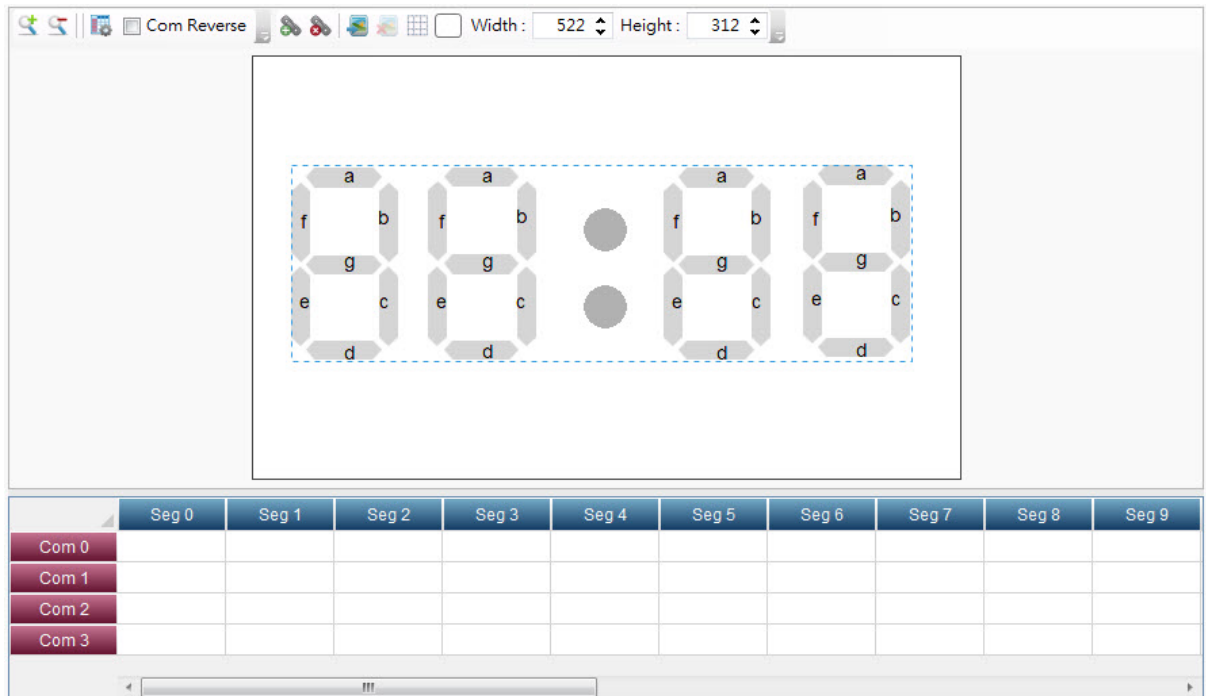
- **Option:** Change the property setting of the selected icon.
- **Color:** Change the color of the selected icon..
- **Delete:** Delete the selected icon.
- **Clear Mapping:** Clear the mapping pin at the position of mouse.
- **Clear All Mapping:** Clear all the mapping pins of icon.

**Enclosed icons:**

- Press the left mouse button and drag to select the desired area on LCD panel.

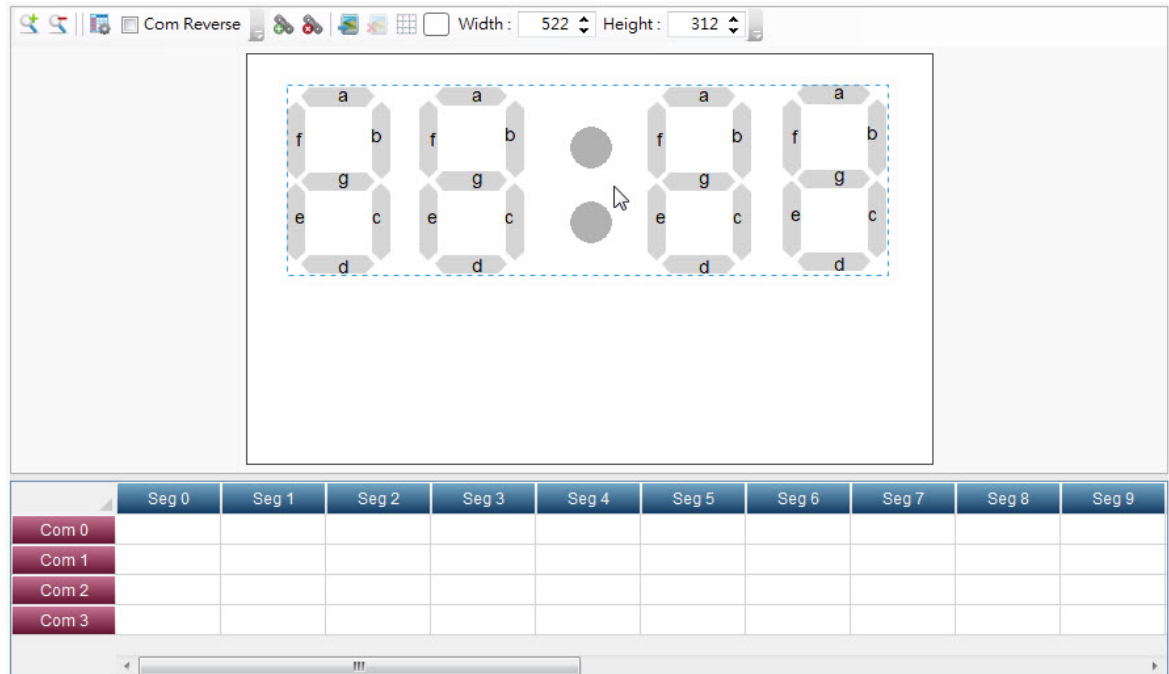


- Release the left mouse button, Q-LCD will show the enclosed icons.



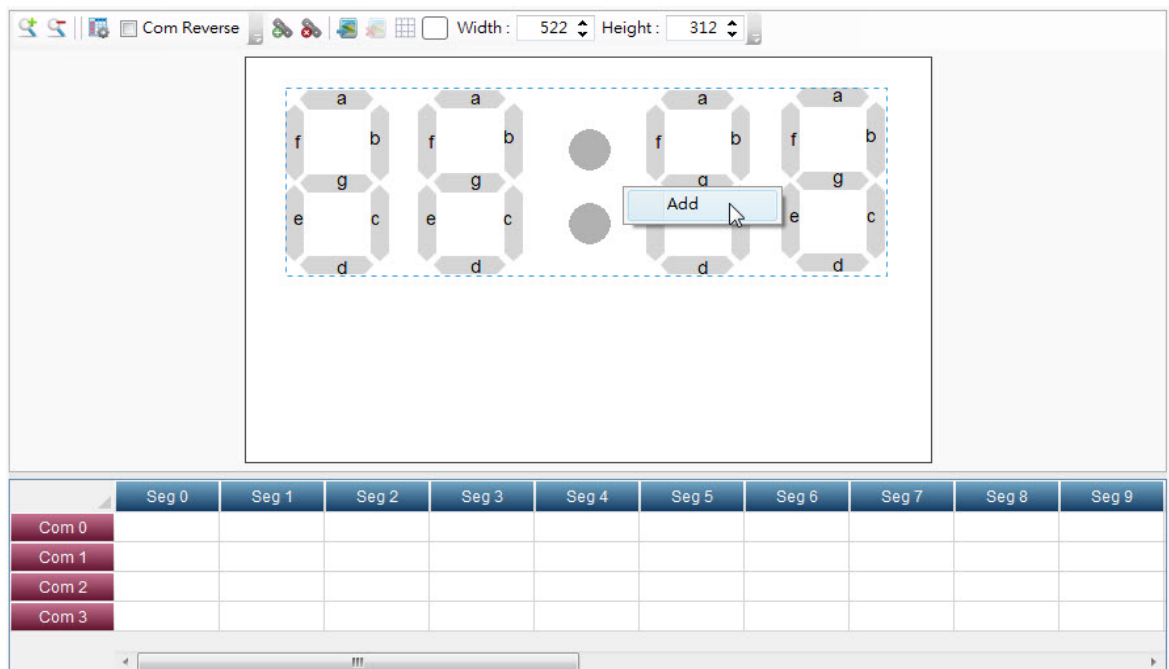


- Move the position by pressing the left mouse button in the enclosed area and drag to new position.

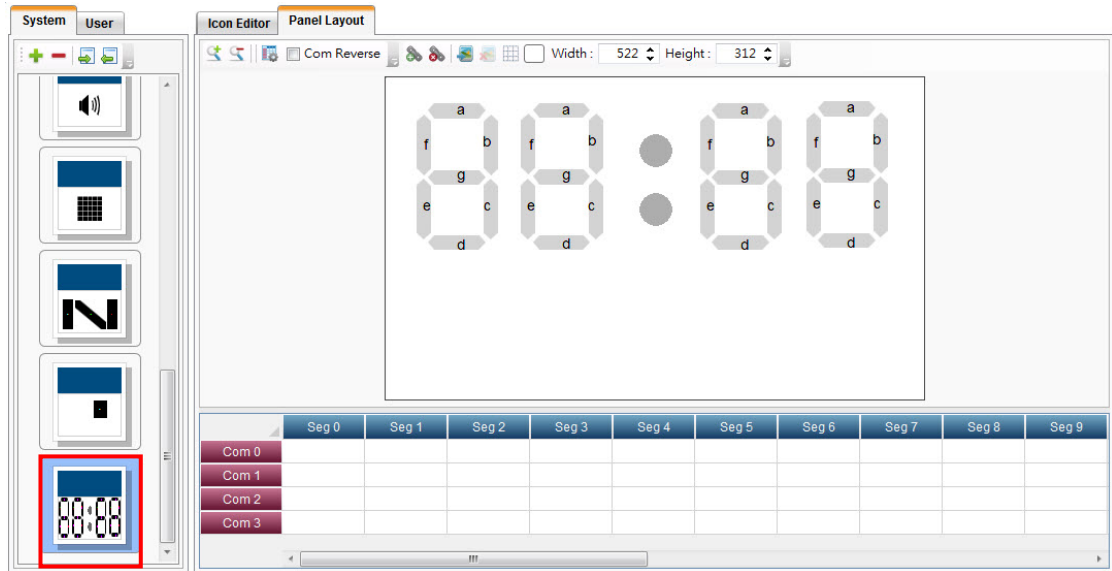


### Context Menu:

- **Add:** Provides user to select multiple segments for adding a new custom icon.



- The custom icon is added to [System] tab.



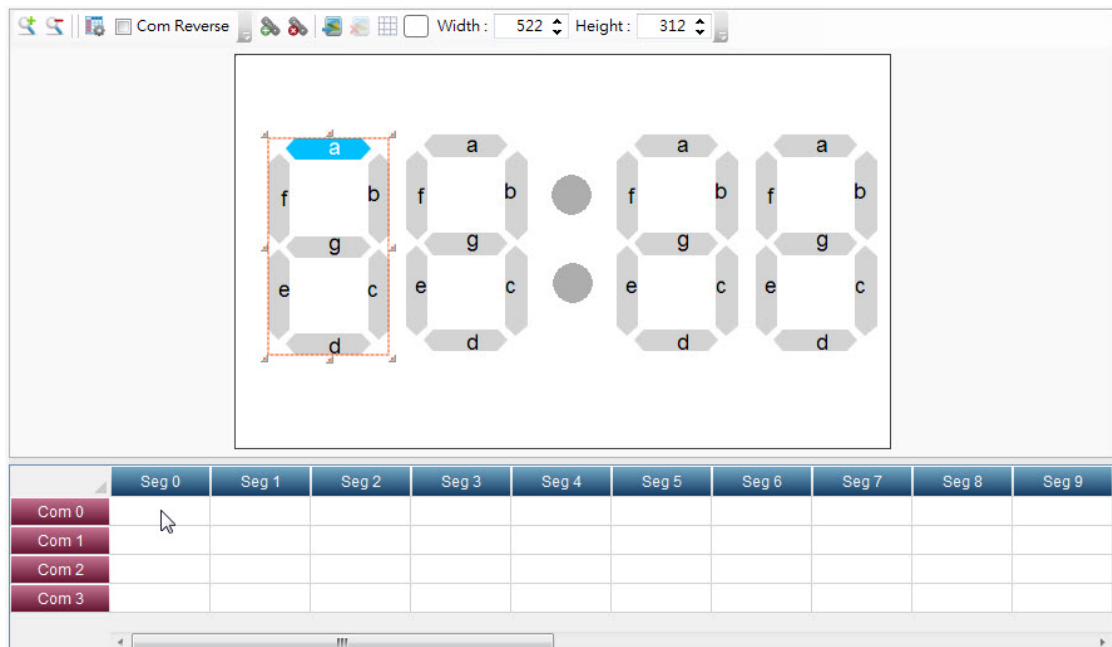
### 3.6.3 Com/Seg Table Setting

User can map icon with Com/Seg pin. The table will adjust the number of Com and Seg based on project setting.

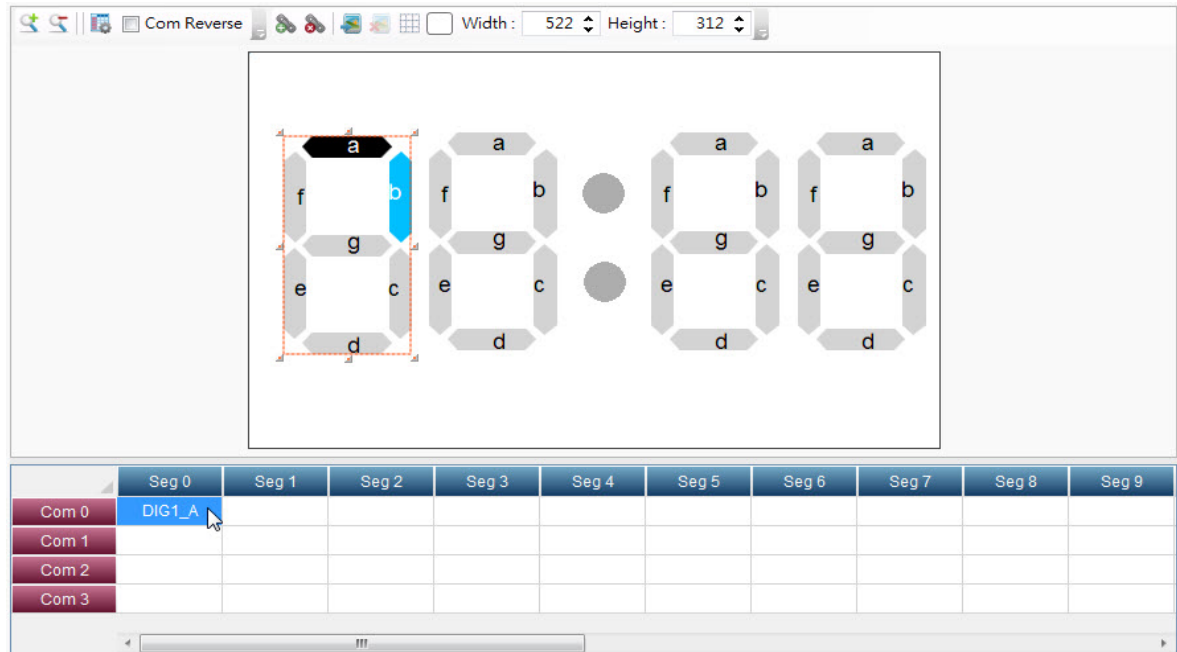
|       | Seg 0 | Seg 1 | Seg 2 | Seg 3 | Seg 4 | Seg 5 | Seg 6 | Seg 7 | Seg 8 | Seg 9 |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Com 0 |       |       |       |       |       |       |       |       |       |       |
| Com 1 |       |       |       |       |       |       |       |       |       |       |
| Com 2 |       |       |       |       |       |       |       |       |       |       |
| Com 3 |       |       |       |       |       |       |       |       |       |       |

#### Set pin mapping:

- Select the icon on LCD panel, then click on the Com/Seg to configure corresponding pin.

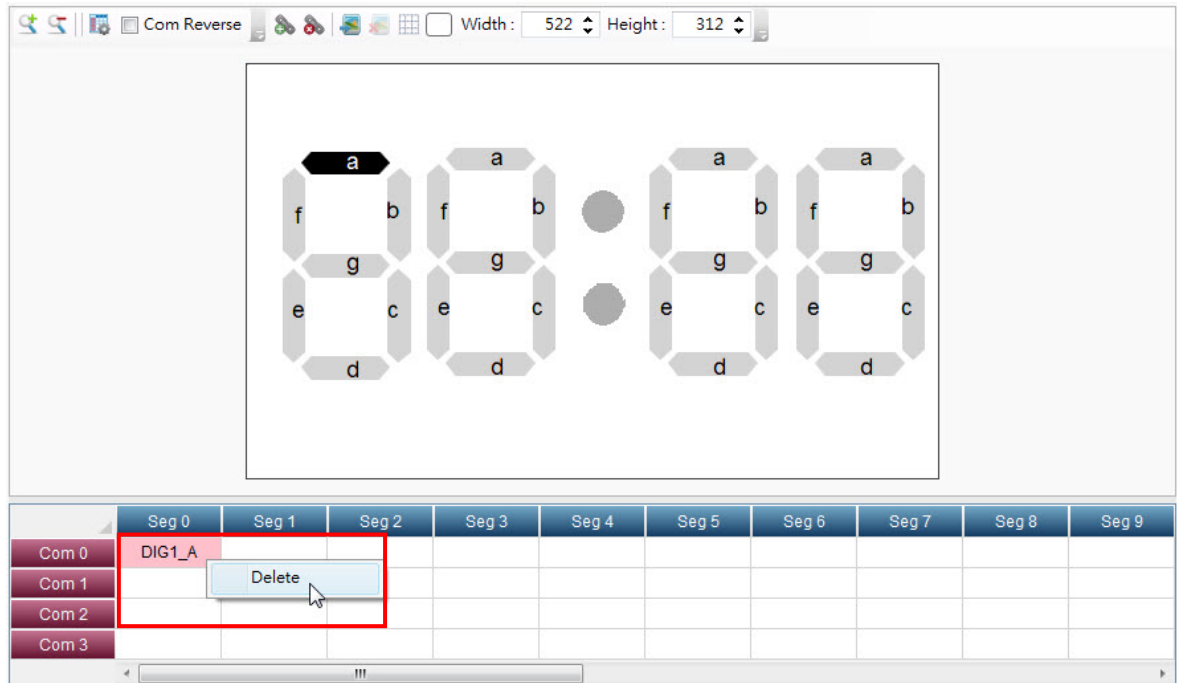


- Press the left mouse button on the corresponding position to set pin, the table will show the name of segment, and the color of selected segment is highlighted simultaneously.

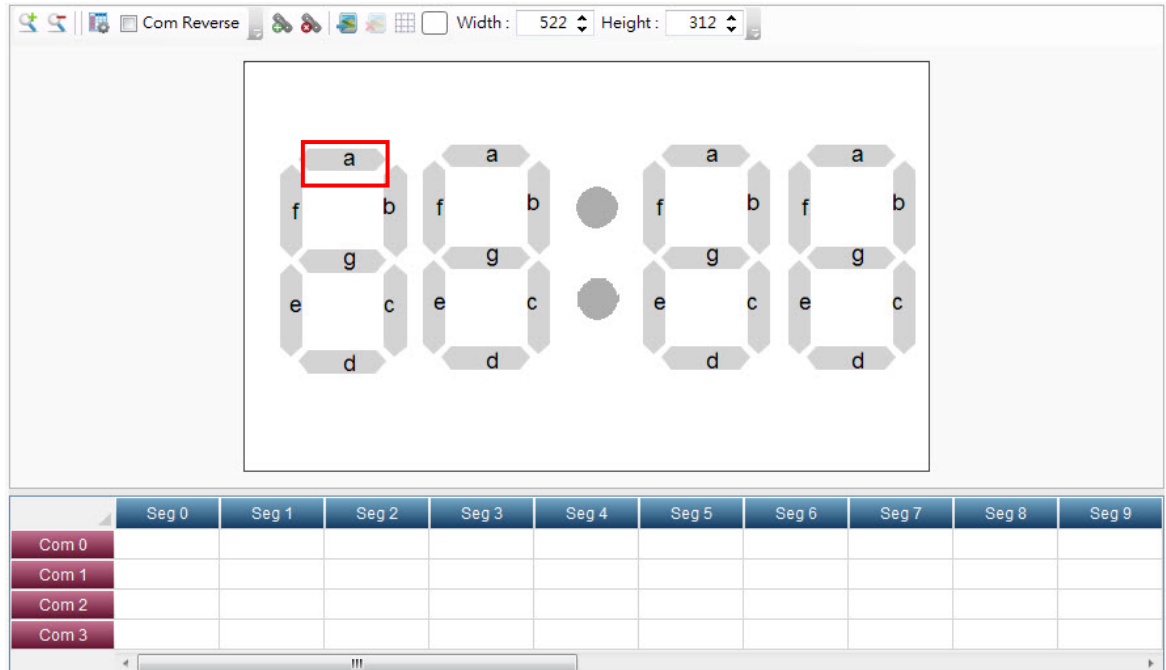


#### Delete pin mapping:

- Select the target column and press the right mouse button to open the context menu, then select [Delete] to clear the mapping pin.



- After deleting the mapping, the icon color is restored.

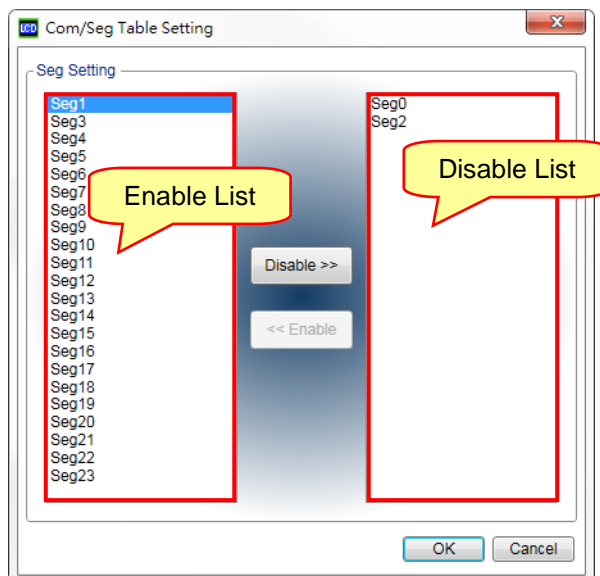


### 3.6.4 Enable / Disable Seg Setting

Press the [Com/Seg Table Setting] button on tool bar, the setting window is shown as the following illustration.



The left side of Seg Setting is the enabled seg list, the right side is the disabled seg list. Select the needed items in single list, then press Enable / Disable button to change the selected items.

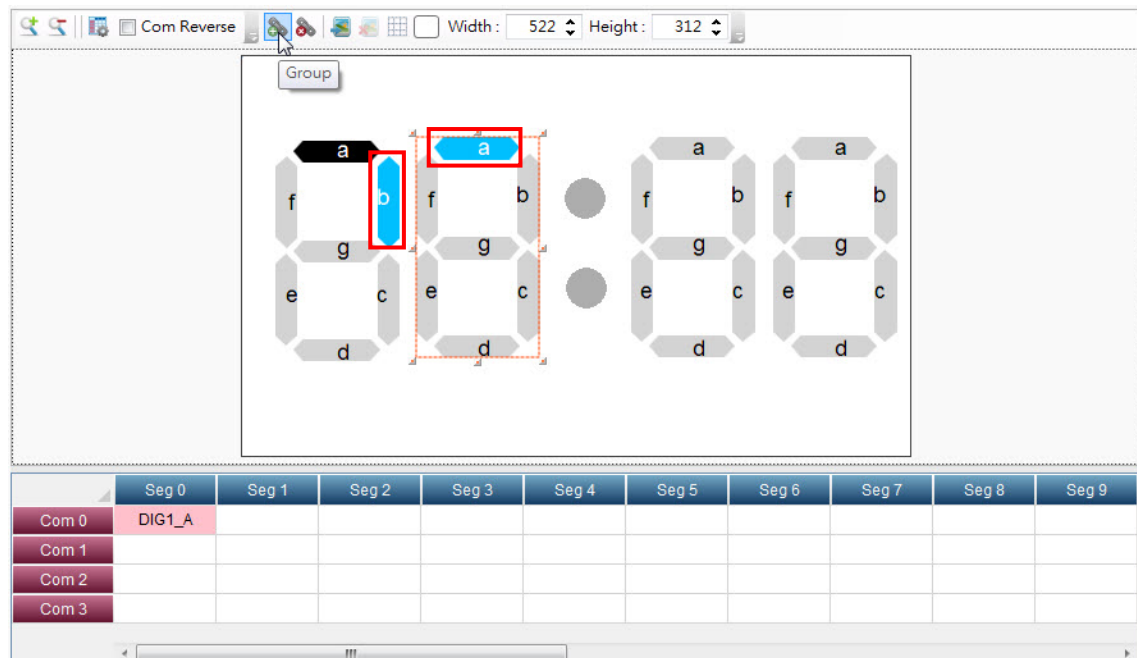


The Com/Seg table will update immediately as shown below.

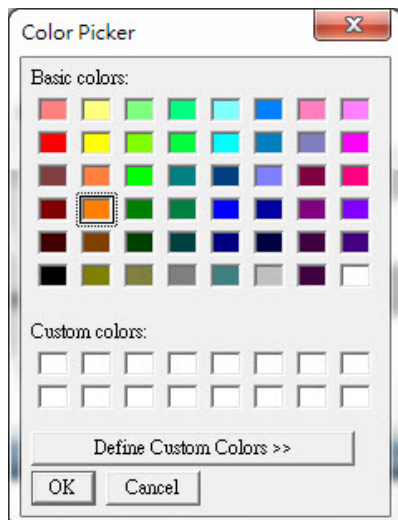
|       | Seg 1 | Seg 3 | Seg 4 | Seg 5 | Seg 6 | Seg 7 | Seg 8 | Seg 9 | Seg 10 | Seg 11 |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|--------|--------|
| Com 0 |       |       |       |       |       |       |       |       |        |        |
| Com 1 |       |       |       |       |       |       |       |       |        |        |
| Com 2 |       |       |       |       |       |       |       |       |        |        |
| Com 3 |       |       |       |       |       |       |       |       |        |        |

### 3.6.5 Group Setting

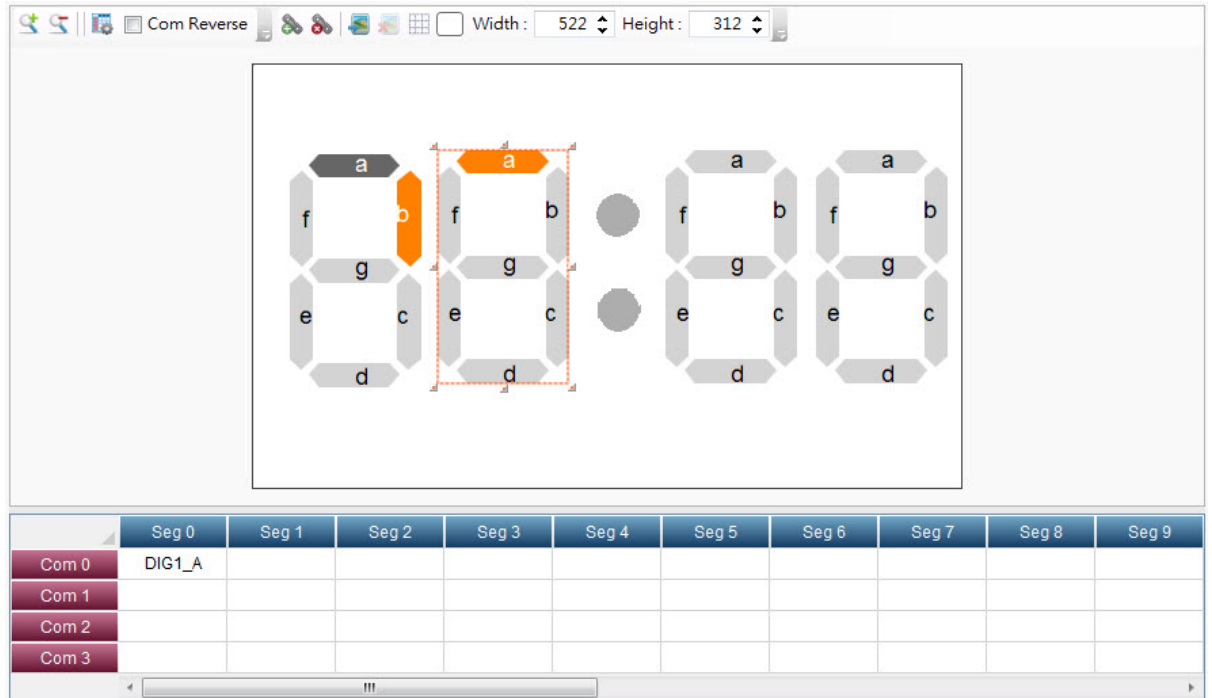
- **Group:** Select the needed icons as a group, then press the [Group] button.



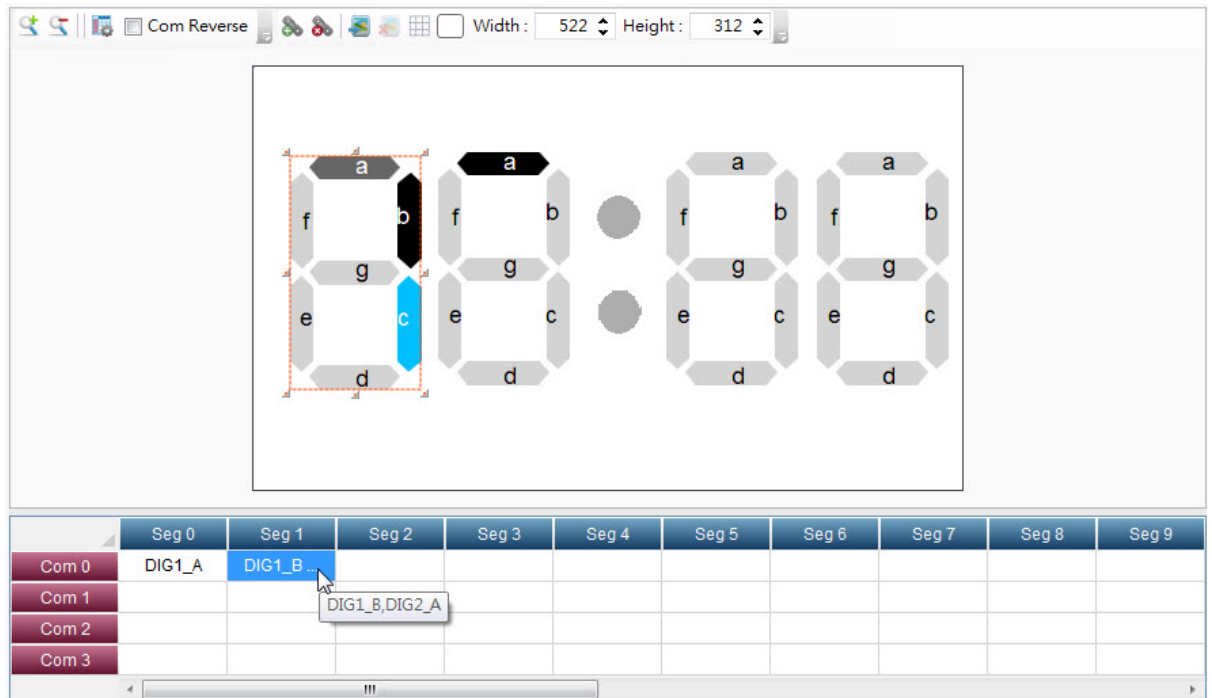
- A palette will show for setting the group color.



- Press OK after selecting color, the icons in the group will be changed to the selected color. Just click any icon in the group, other icons of the group will be selected at the same time.

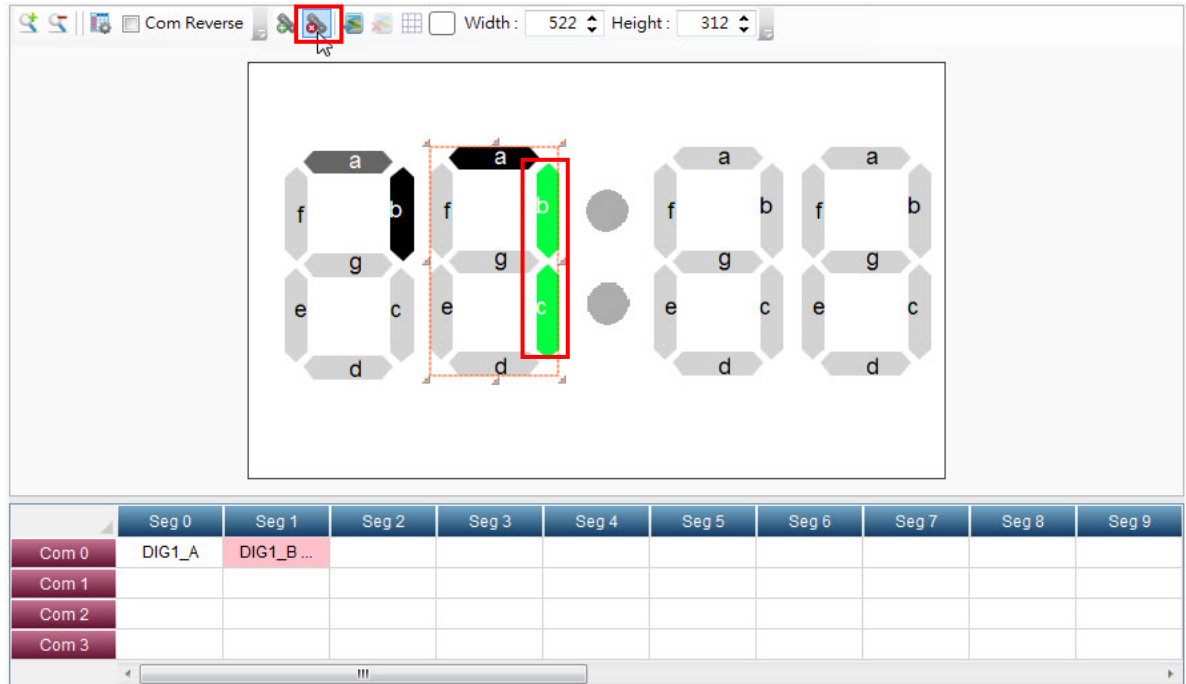


- The icons of the group will be set as one pin while setting the pin mapping.

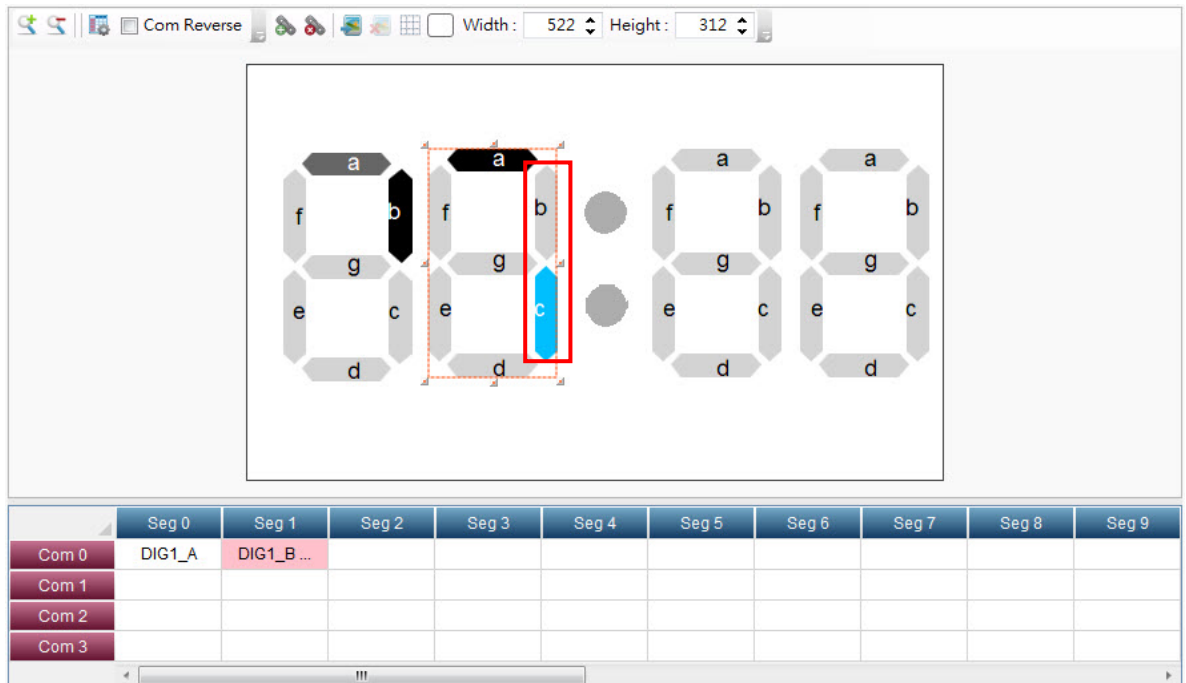


**UnGroup:**

- Select the icons from the same group, then press [UnGroup] button.

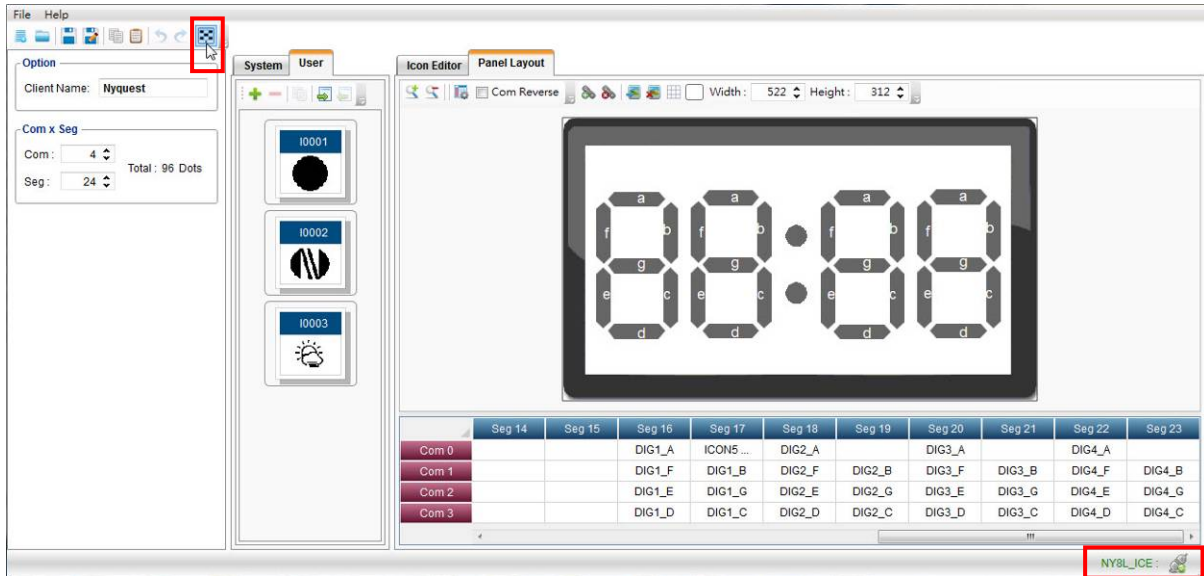


- After pressing the [UnGroup] button, it cancels the grouped icons.

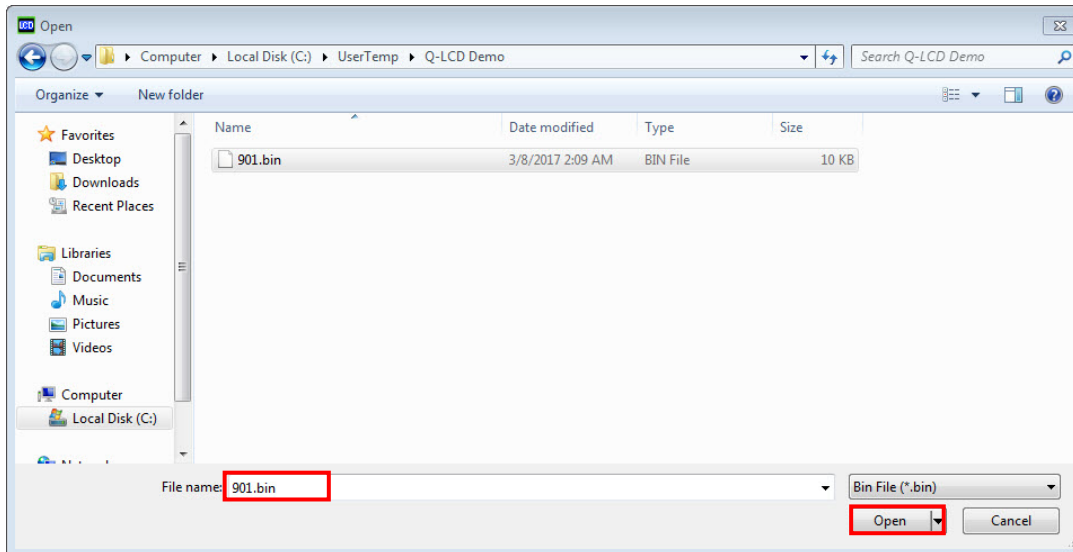


## 4 Simulation

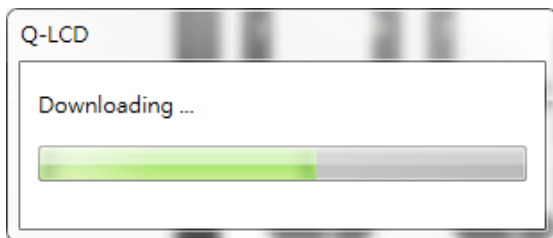
After mapping the icons of LCD panel with Com/Seg pin, connect NY8L\_ICE with PC, then press the simulation button from the tool bar.



Please select the related NY8L program .bin file of the LCD setting. Then press Open.

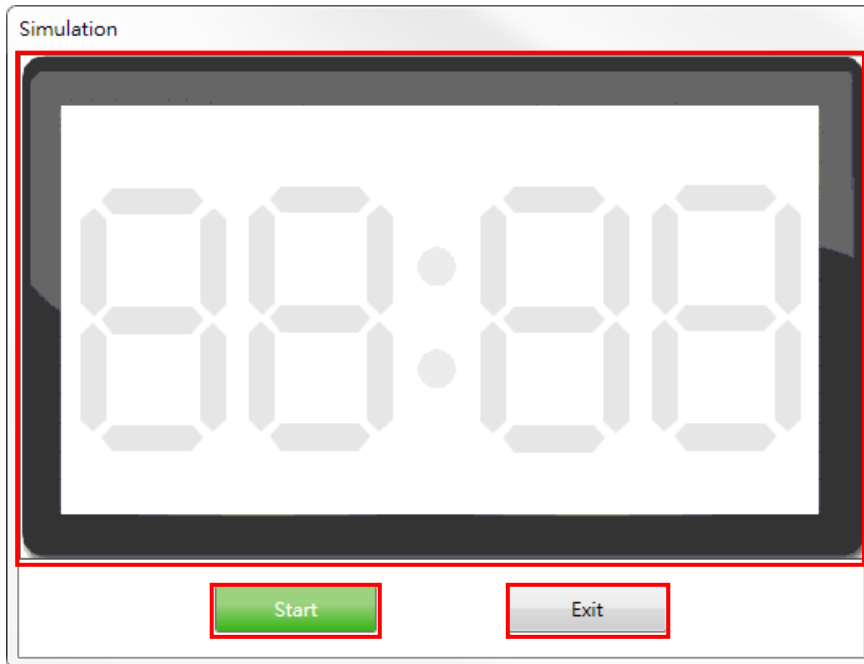


After opening the .bin file, Q-LCD shows the downloading progress.

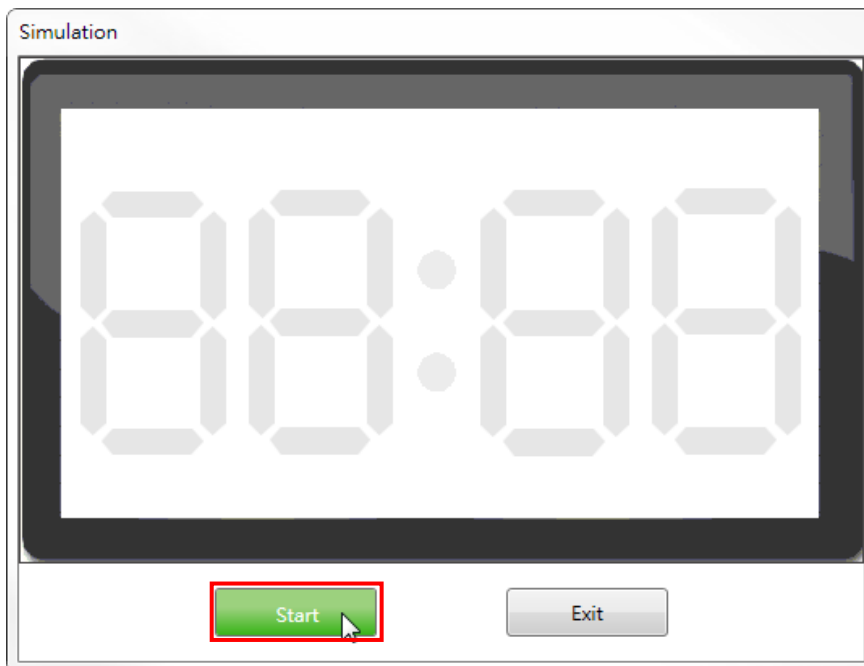




After completing download, Q-LCD will show the Simulation window. The Simulation window contains LCD panel, the Start / Stop and Exit button.



Press the Start button to execute the program from NY8L\_ICE and simulate the LCD by accessing LCD memory data.



Press the Stop button to pause the simulation action.



Press the Exit button to stop the simulation and leave the Simulation window.

