9 | Draw (Figure/Text)
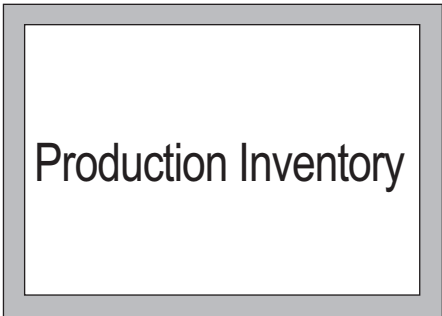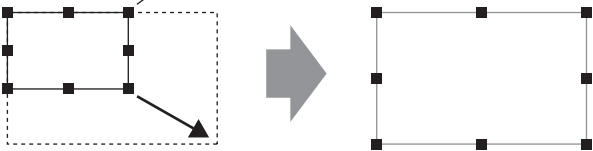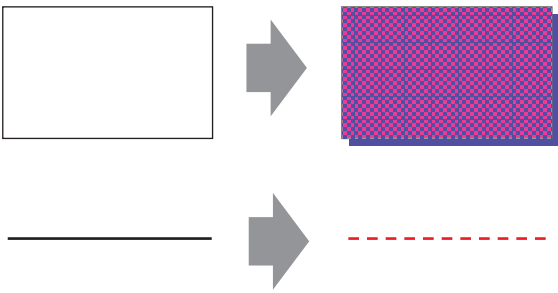
This chapter explains basic features of "Draw (Pictures & Text)" in GP-Pro EX and basic ways of operating the Draw/Edit Tool and the drawing feature.
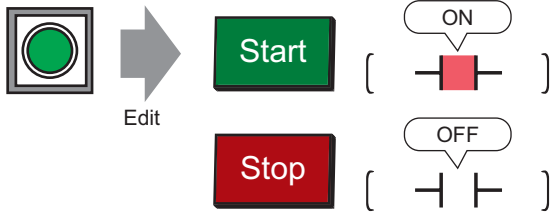Please start by reading "9.1 Settings Menu" (page 9-2) and then turn to the corresponding page.
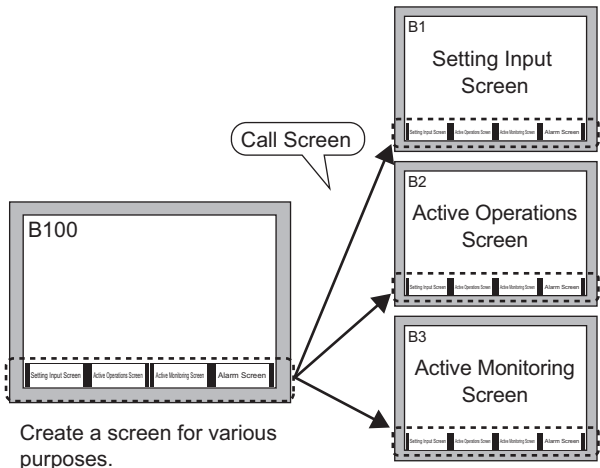
9.1 Settings Menu

Drawing Pictures

Draws a line, rectangle, and other pictures.

) "9.2.1 Drawing Pictures List" (page 9-6)

Writing Text

Production Inventory

Places text on the screen.

) Setting Procedure (page 9-23)

Editing Objects

Enlarging/Reducing   Handle

Drag it to a desired size.

Moving an Object   Handle

Drag it to a desired position.

Edits (enlarges/reduces or moves) screens.

) "9.4.1 Introducing Edit Tools" (page 9-26)

Changing Colors, Line Types and Patterns
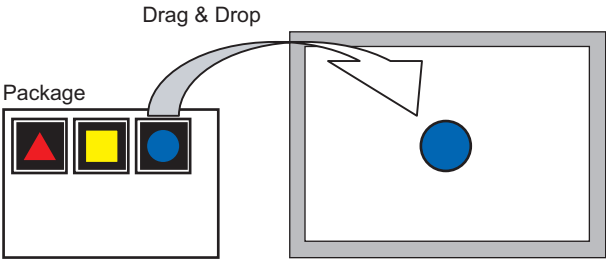
Changes a picture's color, line type, and pattern.

☞ "9.5 Changing Colors, Line Types and Patterns" (page 9-34)

Editing a Part

Lamp

Edit

Start

Stop

ON

OFF

You can change a part's shape, color, and label.

☞ "9.6.1 Editing Parts" (page 9-37)

Using a Screen for Various Purposes

Call Screen

B100

Setting Input Screen   Active Operations Screen   Active Monitoring Screen   Alarm Screen

Create a screen for various purposes.

B1
Setting Input Screen

B2
Active Operations Screen

B3
Active Monitoring Screen

You can call and display various screens.

☞ Setting Procedure (page 9-49)

Editing the Same Picture on Another Screen

Drag & Drop

Package

Objects registered in
a package

You can place it on the screen
and edit it.

☞ "9.8.1 Placing Pictures Registered in the Package" (page 9-52)

☞ "9.8.2 Created ObjectPictures in the Package" (page 9-54)
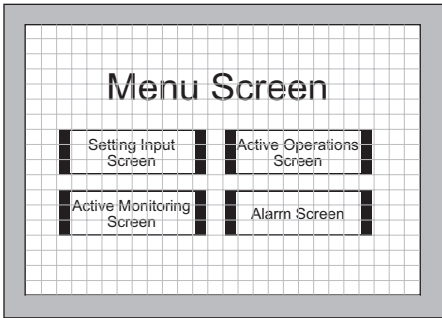
Setting up Grids

Menu Screen

Setting Input
Screen

Active Operations
Screen

Active Monitoring
Screen

Alarm Screen
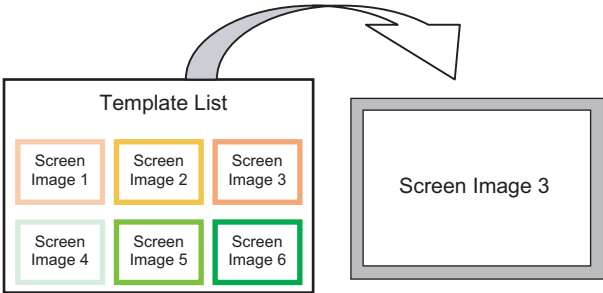
You can display an equally spaced grid on the editing screen
and place a part with reference to an intersecting point.

☞ Setting Procedure (page 9-56)

☞ Detail (page 9-56)

Selecting a Screen from Template

Select a template.

Template List

Screen
Image 1

Screen
Image 2

Screen
Image 3

Screen
Image 4

Screen
Image 5

Screen
Image 6

Screen Image 3

You can save the trouble by editing screens
from a template screen.

☞ "9.9.2 Selecting a Screen from Template" (page 9-59)

Pasting an Image

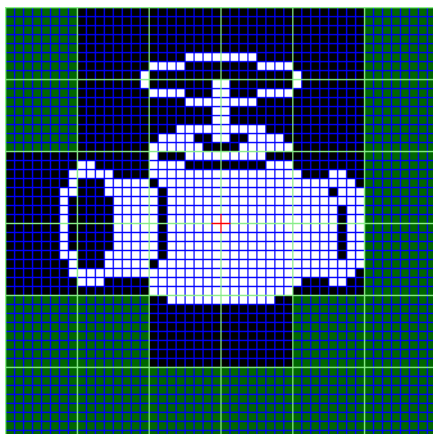|	
Pro-face BMP, JPEG, etc. ➡ **Pro-face** Converts image data and places it on the screen.	) Setting Procedure (page 9-63)) Target Image (page 9-62)

Drawing a Detailed Picture

 You can draw a picture by the dot.	) Setup Procedure (page 9-65)) Details (page 9-65)

9.2 Drawing Pictures

9.2.1 Drawing Pictures List

Picture		Description
Dot	▪	Draws a dot. ☞ "9.2.2 Drawing Dots" (page 9-7)
Line/Polyline	╱	Draws a line/polyline. ☞ "9.2.3 Drawing Line/Polyline" (page 9-8)
Rectangle	▢	Draws a rectangle. ☞ "9.2.4 Drawing Rectangles" (page 9-10)
Polygon	⬠	Draws a polygon. ☞ "9.2.7 Drawing Polygons" (page 9-16)
Circle/Oval	◯	Draws a circle/oval. ☞ "9.2.5 Drawing Circles/Ovals" (page 9-12)
Arc/Pie	⌒	Draws an arc/pie. ☞ "9.2.6 Drawing Arcs/Pies" (page 9-14)
Scale	▮	Draws the graph scales. ☞ "9.2.8 Drawing Scales" (page 9-18)
Table	▦	Draws a table. ☞ "9.2.9 Drawing Tables" (page 9-20)

9.2.2 Drawing Dots

One to five dots can be drawn at a time.

Click the [Draw (D)] menu - [Dot (D) command or click ▪ to place a dot on the screen.If you click 🔸 and double-click the placed [Dot], the following dialog box will be displayed.
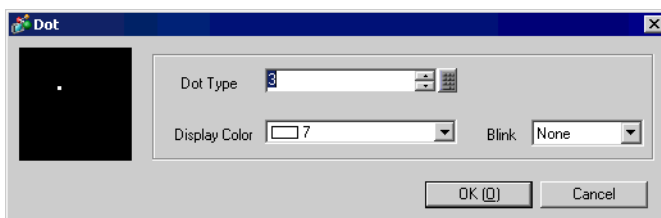
☞ For display colors, refer to "9.5.1 Setting Colors" (page 9-34)
☞ For blinking, refer to "9.5.2 Setting Blinks" (page 9-36)

9.2.3 Drawing Line/Polyline

To draw a line, drag from the start to the end. To draw a polyline, click the start, the angle, and the end and then commit by right-clicking.

Click the [Draw (D)] menu - [Line (L)] or [Polyline (U)]command, or click ╱ or ⤳ to place a line/polyline on the screen. If you click ⊿ and double-click the placed [Line] or [Polyline], the following dialog box will be displayed.

| NOTE | • If you press and hold the [Shift] key while placing a line, you can draw a line at an angle of 0 degrees and 90 degrees.
• If you place a line while pressing the [Ctrl] key, you can draw a line extending from the center. If you place a line while pressing the [Ctrl] and [Shift] keys at the same time, you can draw a line of 0 degrees or 90 degrees extending from the center.
• If you need to edit lines or polylines after placing them, click on the selected straight line to display an yellow handle. You can change the shape of the straight line by dragging on any line.
• For polylines, you can hand-draw by dragging while you left-click. |

Setting	Description
Line Type	Select the line type from [Solid Line], [Dashed Line], [Dash Line], [Chain Line], or [Two-Dot Chain Line]. ☞ "9.5.3 Setting Line Types" (page 9-36)
Line Thickness	Set the line thickness within the range of 1 to 9 dots. **NOTE** • When line types other than [Solid Line] are selected in [Line Type], the setting range is 1 to 2 dots.
Arrow Shape	Select the arrow shape from ━, ⬅, ◀, ■━ or ●━.
Arrow Direction	Select the arrow direction from [Start], [End], or [Both Ends].
Display Color	Set the line's color. ☞ "9.5.1 Setting Colors" (page 9-34)
Pattern Color	Select the pattern's color. This function can be used only when line types other than [Solid Line] are selected in [Line Type].

Continued

Setting	Description
Blink	Select whether or not the Part will blink, and the blink speed. You can choose different blink settings for the Part's [Display Color] and [Pattern Color]. NOTE • There are cases where you can and cannot set Blink depending on the Main Unit and System Settings' [Color Settings]. ☞ "9.5.1 Setting Colors" (page 9-34)

9.2.4 Drawing Rectangles

You can draw a rectangle by dragging from one corner to its diagonally opposite corner.
Click the [Draw (D)] menu - [Rectangle (R)] command or click □ to place a rectangle on the screen.
Click it to place it on the screen. If you click ⌐| and double-click the placed [Rectangle],the
following dialog box will appear.

NOTE
- If you press and hold the [Shift] key while placing an object, you can draw a square.
- If you place a rectangle while pressing the [Ctrl] key, you can draw a rectangle spreading out from the center. If you place a rectangle while pressing the [Ctrl] and [Shift] keys at the same time, you can draw a square spreading out from the center.

Setting		Description
Border	Line Type	Select the line type from [Solid Line], [Dashed Line], [Dash Line], [Chain Line], or [Two-Dot Chain Line]. ☞ "9.5.3 Setting Line Types" (page 9-36)
	Line Thickness	Set the line thickness within the range of 1 to 9 dots. NOTE • When other line types than [Solid Line] are selected in [Line Type], the line thickness is fixed at 1 dot.
	Display Color	Set the border's color. ☞ "9.5.1 Setting Colors" (page 9-34)
	Pattern Color	Select the pattern's color. This function can be used only when line types other than [Solid Line] are selected in [Line Type]. ☞ "9.5.4 Setting Pattern" (page 9-36)
	Blink	Select whether or not the Part will blink, and the blink speed. You can choose different blink settings for the Part's [Display Color] and [Pattern Color]. NOTE • There are cases where you can and cannot set Blink depending on the Main Unit and System Settings' [Color Settings]. ☞ "9.5.1 Setting Colors" (page 9-34)

Continued

Setting		Description
Fill	Pattern	Set a background pattern for the rectangle. ☞ "9.5.4 Setting Pattern" (page 9-36)
	Display Color	Set a color for the rectangle. ☞ "9.5.1 Setting Colors" (page 9-34)
	Pattern Color	Set the background pattern's color for the rectangle. ☞ "9.5.4 Setting Pattern" (page 9-36)
	Blink	Select whether or not the Part will blink, and the blink speed. You can choose different blink settings for the Part's [Display Color] and [Pattern Color]. NOTE • There are cases where you can and cannot set Blink depending on the Main Unit and System Settings' [Color Settings]. ☞ "9.5.1 Setting Colors" (page 9-34)
Shadow	Direction	Select the shadow direction from [Top Left], [Bottom Left], [Top Right], or [Bottom Right].
	Color	Set the shadow's color. ☞ "9.5.1 Setting Colors" (page 9-34)
	Shadow Width	Set the width of the picture and its shadow within the range of 1 to 16.
Chamfer		Select the shape of the beveled corner: [None], [Line], or [Circle].
No. of Dots		Designate the number of dots for the chamfer from 1 to 999. Set the number of dots in this space.

9.2.5　Drawing Circles/Ovals

To draw a circle or oval, drag from the center and define the circumference.

Click the [Draw (D) menu - [Circle/Oval (C)] command or click ○ to place a circle/oval on the screen. If you click ⌗ and double-click the placed [Circle/Oval], the following dialog box will be displayed.

NOTE
- If you press and hold the [Shift] key while placing an object, you can draw a circle.
- If you place a circle/oval while pressing the [Ctrl] key, you can draw a circle/oval spreading out from the center. If you place a circle/oval while pressing the [Ctrl] and [Shift] keys at the same time, you can draw a circle spreading out from the center.

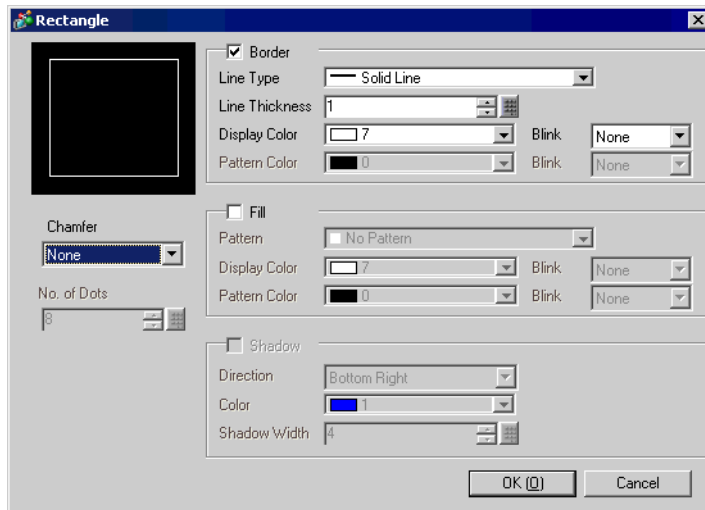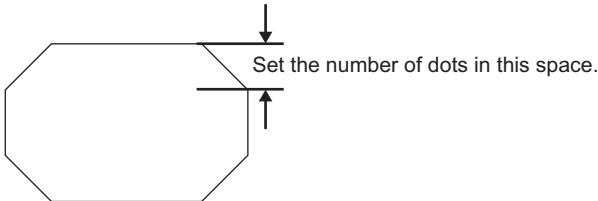| Setting		Description
Border	Line Type	Select the line type from [Solid Line], [Dashed Line], [Dash Line], [Chain Line], or [Two-Dot Chain Line]. ☞ "9.5.3 Setting Line Types" (page 9-36)
	Line Thickness	Set the line thickness within the range of 1 to 9 dots. NOTE • When other line types than [Solid Line] are selected in [Line Type], the line thickness is fixed at 1 dot.
	Display Color	Set the border's color. ☞ "9.5.1 Setting Colors" (page 9-34)
	Pattern Color	Select the pattern's color. This function can be used only when line types other than [Solid Line] are selected in [Line Type]. ☞ "9.5.4 Setting Pattern" (page 9-36)
	Blink	Select whether or not the Part will blink, and the blink speed. You can choose different blink settings for the Part's [Display Color] and [Pattern Color]. NOTE • There are cases where you can and cannot set Blink depending on the Main Unit and System Settings' [Color Settings]. ☞ "9.5.1 Setting Colors" (page 9-34)

Continued

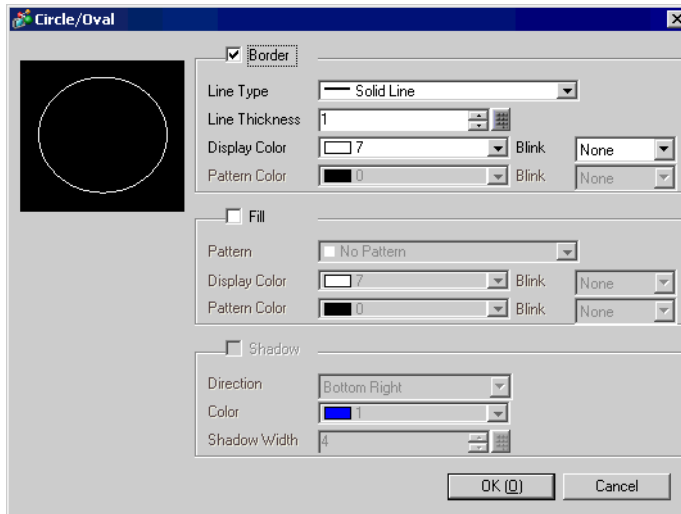| Setting		Description
Fill	Pattern	Set the background pattern for the circle/oval. ☞ "9.5.4 Setting Pattern" (page 9-36)
	Display Color	Set a color for the circle/oval. ☞ "9.5.1 Setting Colors" (page 9-34)
	Pattern Color	Set the background pattern color for the circle/oval. ☞ "9.5.4 Setting Pattern" (page 9-36)
	Blink	Select whether or not the Part will blink, and the blink speed. You can choose different blink settings for the Part's [Display Color] and [Pattern Color]. **NOTE** • There are cases where you can and cannot set Blink depending on the Main Unit and System Settings' [Color Settings]. ☞ "9.5.1 Setting Colors" (page 9-34)
Shadow	Direction	Select the shadow direction from [Top Left], [Bottom Left], [Top Right], or [Bottom Right].
	Color	Set the shadow's color. ☞ "9.5.1 Setting Colors" (page 9-34)
	Shadow Width	Set the width of the circle/oval and its shadow within the range of 1 to 16.

NOTE • You can set the width and height of a circle/oval in the [Properties Window (P)]. However, if you set the width or height to an even number, it will be drawn with one less dot on the GP.

In GP-Pro EX   On the GP

(0,0)   (0,0)

Height, width 100 dots   Height, width 99 dots

(99,99)   (99,98)

9.2.6 **Drawing Arcs/Pies**

To draw an arc or a pie, specify the center point and drag to the circumference, and then spec-ify the start and end angles on the circumference. You can select the arc or the pie.
Click the [Draw (D)]menu - [Arc/Pie (A)]command or click 〈 to place an arc/pie on the screen. If you click ⌐| and double-click the placed [Arc/Pie], the following dialog box will be displayed.

NOTE
• If you press and hold the [Shift] key while placing an object, you can draw a circle arc.
• If you place an arc/pie while pressing the [Ctrl] key, you can draw a circle/oval's arc spreading out from the center. If you place an arc/pie while pressing the [Ctrl] and [Shift] keys at the same time, you can draw a circle's arc spreading out from the center.
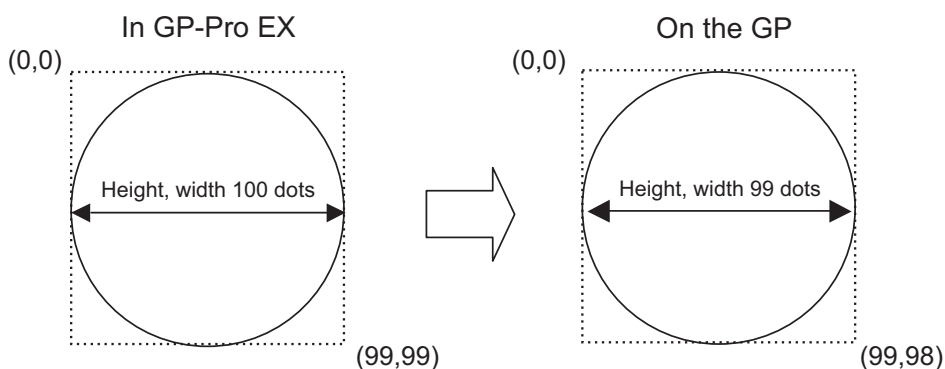• If you edit an arc/pie after placing it, you can change the arc/pie's start angle and end angle by operating the yellow handle in the selected state.
• You can set the width and height of an arc/pie in the [Properties Window (P)]. However, if you set the width or height to an even number, it will be drawn with one less dot on the GP.

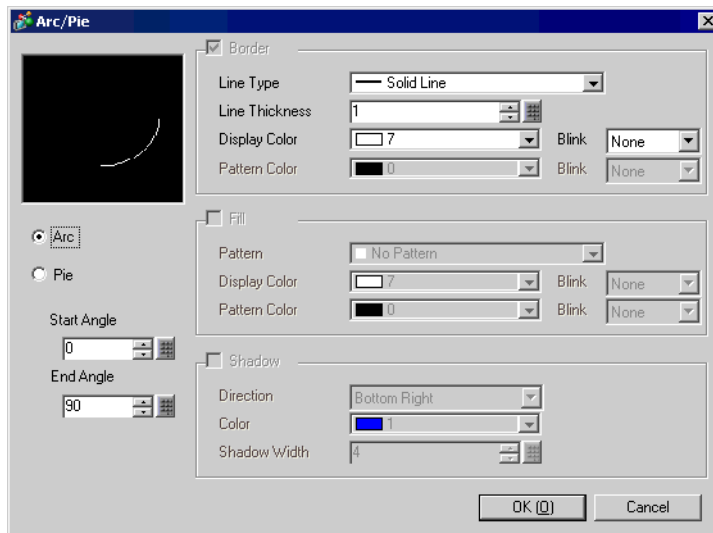| Setting		Description
Border	Line Type	Select the line type from [Solid Line], [Dashed Line], [Dash Line], [Chain Line], or [Two-Dot Chain Line].
	Line Thickness	Set the line thickness within the range of 1 to 9 dots. **NOTE** • When other line types than [Solid Line] are selected in [Line Type], the line thickness is fixed at 1 dot.
	Display Color	Set the arc/pie's border color.
	Pattern Color	Select the pattern's color. This function can be used only when line types other than [Solid Line] are selected in [Line Type].
	Blink	Select whether or not the Part will blink, and the blink speed. You can choose different blink settings for the Part's [Display Color] and [Pattern Color]. **NOTE** • There are cases where you can and cannot set Blink depending on the Main Unit and System Settings' [Color Settings].) "9.5.1 Setting Colors" (page 9-34)
Fill	Pattern	Select a background pattern for the pie.
	Display Color	Set the pie's color.
	Pattern Color	Set the background pattern's color for the pie.
	Blink	Select whether or not the Part will blink, and the blink speed. You can choose different blink settings for the Part's [Display Color] and [Pattern Color]. **NOTE** • There are cases where you can and cannot set Blink depending on the Main Unit and System Settings' [Color Settings].) "9.5.1 Setting Colors" (page 9-34)
Shadow	Direction	Select the shadow direction from [Top Left], [Bottom Left], [Top Right], or [Bottom Right].
	Color	Set the shadow's color.
	Shadow Width	Set the width of the arc/pie and its shadow within the range of 1 to 16.
Arc/Pie		Select from [Arc] or [Pie].
Start Angle/End Angle		Set the [Start Angle] or [End Angle].

9.2.7 Drawing Polygons

To draw a polygon, click each apex and right-click to define a polygon.

Click the [Draw (D)] menu - [Polygon (P)]command or click ⬡ to place a polygon on the screen. If you click ⌇ and double-click the placed [Polygon], the following dialog box will be displayed.

NOTE
• If you want to edit the shape after drawing the graphic, click on one of the lines while the polygon is selected and to display yellow handles. You can change the shape of the polygon by dragging on any line.

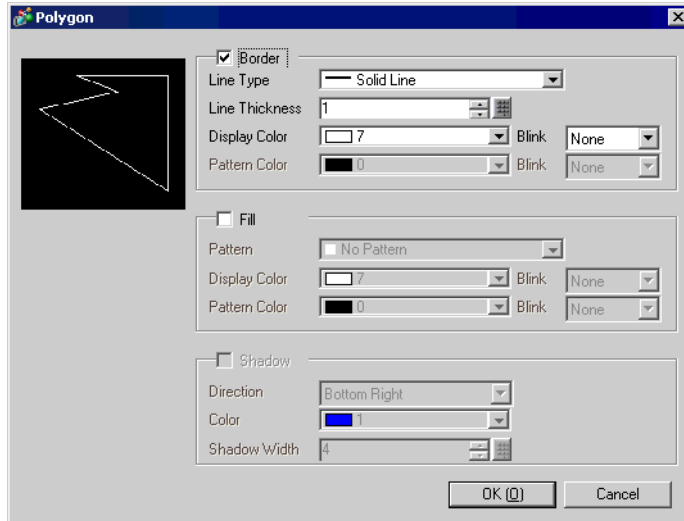| Setting		Description
Border	Line Type	Select the line type from [Solid Line], [Dashed Line], [Dash Line], [Chain Line], or [Two-Dot Chain Line]. ☞ "9.5.3 Setting Line Types" (page 9-36)
	Line Thickness	Set the line thickness within the range of 1 to 9 dots. **NOTE** • When other line types than [Solid Line] are selected in [Line Type], the line thickness is fixed at 1 dot.
	Display Color	Set the border's color. ☞ "9.5.1 Setting Colors" (page 9-34)
	Pattern Color	Select the pattern's color. This function can be used only when line types other than [Solid Line] are selected in [Line Type]. ☞ "9.5.4 Setting Pattern" (page 9-36)
	Blink	Select whether or not the Part will blink, and the blink speed. You can choose different blink settings for the Part's [Display Color] and [Pattern Color]. **NOTE** • There are cases where you can and cannot set Blink depending on the Main Unit and System Settings' [Color Settings]. ☞ "9.5.1 Setting Colors" (page 9-34)

Continued

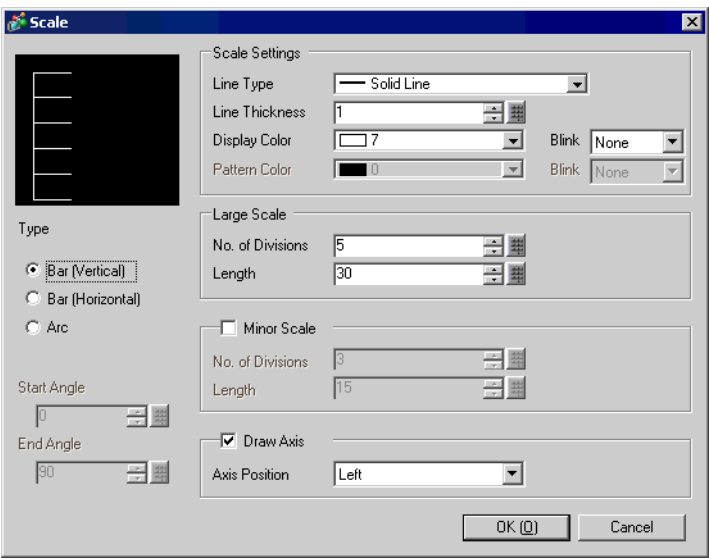| Setting		Description
Fill	Pattern	Set a background pattern for the polygon.) "9.5.4 Setting Pattern" (page 9-36)
	Display Color	Set a color for the polygon.) "9.5.1 Setting Colors" (page 9-34)
	Pattern Color	Set a background pattern's color for the polygon.) "9.5.4 Setting Pattern" (page 9-36)
	Blink	Select whether or not the Part will blink, and the blink speed. You can choose different blink settings for the Part's [Display Color] and [Pattern Color]. NOTE • There are cases where you can and cannot set Blink depending on the Main Unit and System Settings' [Color Settings].) "9.5.1 Setting Colors" (page 9-34)
Shadow	Direction	Select the shadow direction from [Top Left], [Bottom Left], [Top Right], or [Bottom Right].
	Color	Set the shadow's color.) "9.5.1 Setting Colors" (page 9-34)
	Shadow Width	Set the width of the polygon and its shadow within the range of 1 to 16.

9.2.8 Drawing Scales

Draw a scale by selecting two diagonally opposite points. Set up details in the following dialog box.

Click the [Draw (D)] menu - [Scale (S)]command or click ▐ to place a polygon on the screen. If you click ⸴| and double-click the placed [Scale], the following dialog box will be displayed.
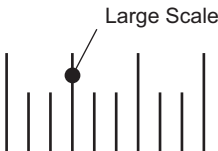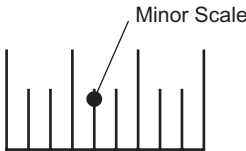
> NOTE
> • To edit a scale after placing it, click the line in the selected state to make it a yellow handle. You can change the scale type by operating the yellow handle axis.

Setting		Description
Scale Settings	Line Type	Select the line type from [Solid Line], [Dashed Line], [Dash Line], [Chain Line], or [Two-Dot Chain Line]. ☞ "9.5.3 Setting Line Types" (page 9-36)
	Line Thickness	Set the line thickness within the range of 1 to 9 dots. **NOTE** • When line types other than [Solid Line] are selected in [Line Type], the setting range is 1 to 2 dots.
	Display Color	Select the scale color. ☞ "9.5.1 Setting Colors" (page 9-34)
	Pattern Color	Select the pattern's color. This function can be used only when line types other than [Solid Line] are selected in [Line Type]. ☞ "9.5.4 Setting Pattern" (page 9-36)
	Blink	Select whether or not the Part will blink, and the blink speed. You can choose different blink settings for the Part's [Display Color] and [Pattern Color]. **NOTE** • There are cases where you can and cannot set Blink depending on the Main Unit and System Settings' [Color Settings]. ☞ "9.5.1 Setting Colors" (page 9-34)

Continued

Setting		Description
Large Scale	No. of Divisions	Select from 1 to 999 large-scale axis divisions. Large Scale
	Length	Select the large scale's length from 2 to 3072.
Minor Scale	No. of Divisions	Select from 2 to 999 minor-scale axis divisions. Minor Scale
	Length	Select the minor scale's length from 1 to 3071.
Draw Axis		Select the scale's direction from the axis from [Left] or [Right].
Type	Bar (Vertical)	Displays the scale for a vertical bar graph.
	Bar (Horizontal)	Displays the scale for a horizontal bar graph.
	Arc	Displays the scale for a circle graph. NOTE • You can set the width and height of a scale in the [Properties Window (P)]. However, if you set the width or height to an even number, it will be drawn with one less dot on the GP.
Start Angle/End Angle		Set the [Start Angle] or [End Angle].

9.2.9　　Drawing Tables

Draw a table by specifying two diagonally opposite points. Set up the details, including the number of lines and columns, in the following dialog box.
When you click [Table (T)] in the [Draw (D)] menu, or click ⊞ and place it on the display and then double click it, the following dialog box will appear.

NOTE
- To edit the table after placing it, click a line of the table in the selected state to make it a yellow handle.You can change the table's inside border spacing by operating the yellow handle.
- Click ⊞ to drag and select the number of divisions in the table. Move ⌐ to the screen editor to place the table with the defined number of divisions.

Setting		Description
Outer Border	Line Type	Select the line type from [Solid Line], [Dashed Line], [Dash Line], [Chain Line], or [Two-Dot Chain Line]. ☞ "9.5.3 Setting Line Types" (page 9-36)
	Line Thickness	Set the line thickness within the range of 1 to 9 dots. **NOTE** • When other line types than [Solid Line] are selected in [Line Type], the line thickness is fixed at 1 dot.
	Display Color	Set the outer border color for the table. ☞ "9.5.1 Setting Colors" (page 9-34)
	Pattern Color	Select the pattern's color. This function can be used only when line types other than [Solid Line] are selected in [Line Type]. ☞ "9.5.4 Setting Pattern" (page 9-36)
	Blink	Select whether or not the Part will blink, and the blink speed. You can choose different blink settings for the Part's [Display Color] and [Pattern Color]. **NOTE** • There are cases where you can and cannot set Blink depending on the Main Unit and System Settings' [Color Settings]. ☞ "9.5.1 Setting Colors" (page 9-34)
Inside Border	Line Type	Select the line type from [Solid Line], [Dashed Line], [Dash Line], [Chain Line], or [Two-Dot Chain Line]. ☞ "9.5.3 Setting Line Types" (page 9-36)
	Line Thickness	Set the line thickness within the range of 1 to 9 dots. **NOTE** • When other line types than [Solid Line] are selected in [Line Type], the line thickness is fixed at 1 dot.
	Display Color	Set the inside border color for the table. ☞ "9.5.1 Setting Colors" (page 9-34)
	Pattern Color	Select the pattern's color. This function can be used only when line types other than [Solid Line] are selected in [Line Type]. ☞ "9.5.4 Setting Pattern" (page 9-36)
	Blink	Select whether or not the Part will blink, and the blink speed. You can choose different blink settings for the Part's [Display Color] and [Pattern Color]. **NOTE** • There are cases where you can and cannot set Blink depending on the Main Unit and System Settings' [Color Settings]. ☞ "9.5.1 Setting Colors" (page 9-34)

Continued

Setting		Description
Fill	Pattern	Select a background pattern for the table. ☞ "9.5.4 Setting Pattern" (page 9-36)
	Display Color	Set the table's color. ☞ "9.5.1 Setting Colors" (page 9-34)
	Pattern Color	Set the background pattern's color for the table. ☞ "9.5.4 Setting Pattern" (page 9-36)
	Blink	Select whether or not the Part will blink, and the blink speed. You can choose different blink settings for the Part's [Display Color] and [Pattern Color]. **NOTE** • There are cases where you can and cannot set Blink depending on the Main Unit and System Settings' [Color Settings]. ☞ "9.5.1 Setting Colors" (page 9-34)
Interval		Select from [Equal Spacing] or [Free]. • Equal Spacing The row width and column width are automatically made equal. • Free The row width and column width can be adjusted freely.
No. of Divisions		Designate the number of rows [Vertical] and number of columns [Horizontal] in the table from 1 to 30.

9.3 Writing Text
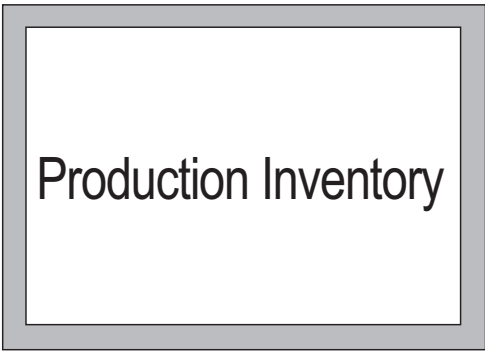
Draw text on the drawing screen.

To draw text in order to switch the screen's display languages or display content while operating the GP, use a text table. For the settings, refer to "15.4 Changing Languages (Multilanguage)" (page 15-15) .
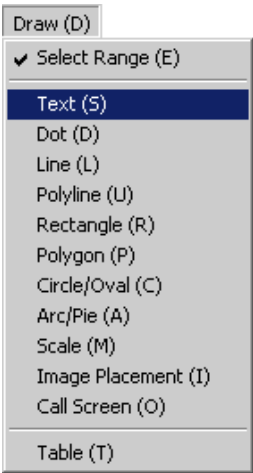
9.3.1 Setup Procedure

NOTE
• Please refer to the settings guide for details.
☞ "9.12.1 Text Settings Guide" (page 9-75)

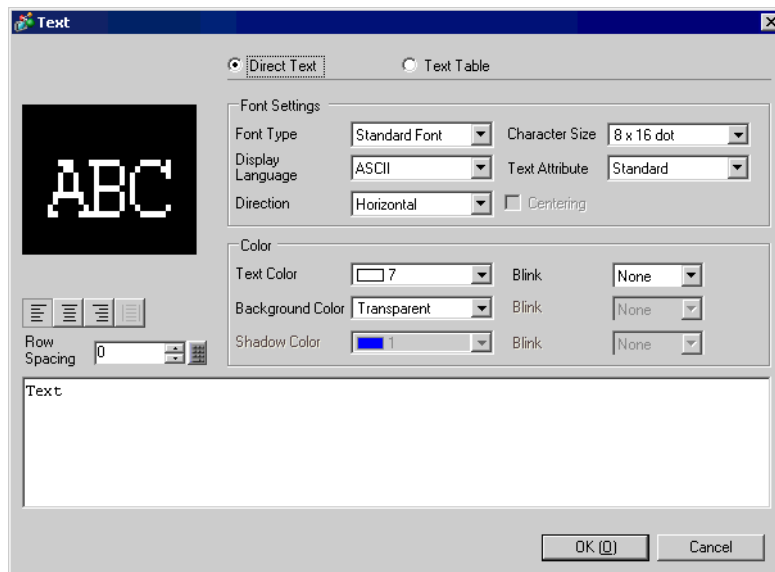Place the text "Production Inventory" on the drawing screen.

Production Inventory

1 Select the [Draw (D)] menu - [Text (S)] command or click **A** to place text on the screen.

Draw (D)
✔ Select Range (E)
Text (S)
Dot (D)
Line (L)
Polyline (U)
Rectangle (R)
Polygon (P)
Circle/Oval (C)
Arc/Pie (A)
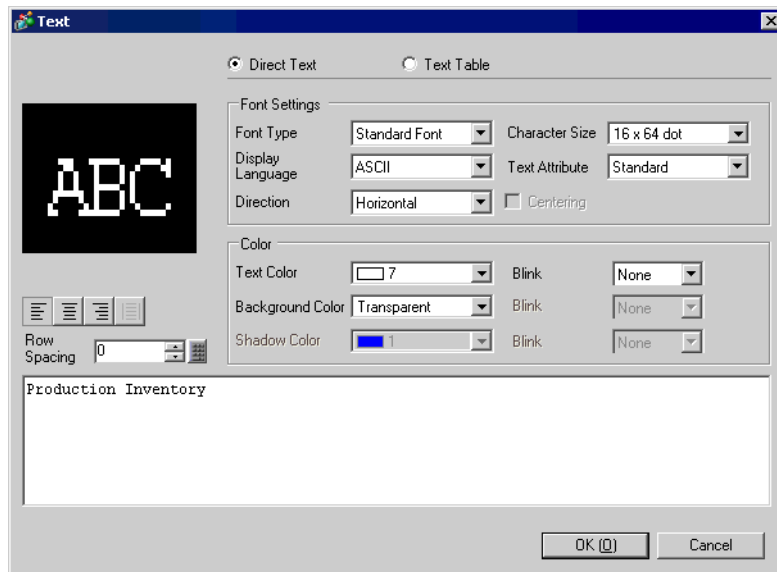Scale (M)
Image Placement (I)
Call Screen (O)

Table (T)

2 Click ⚡ and then click the placed text. When the text size border is displayed, adjust the size and place the text.

3 Double-click the placed text and the [Text] dialog box will be displayed.

4 Designate the font and size and input text to place in the Input Text border.

5 Click [OK] and the inputted text "Production Inventory" will be placed.

9.4 Editing Objects

9.4.1 Introducing Edit Tools

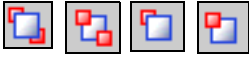| Setting	Description
Cut ✂	Cut of an object (part, text, or figure). You can place the object on the display by using the [Paste]. Operation Procedure You can cut an object by selecting a desired object and click [Cut] in the [Edit] menu.
Copy 🔲	You can copy an object and place it on the screen by using the [Paste]. Operation Procedure You can copy by selecing a desired object and click [Copy] in the [Edit] menu.
Paste 📋	Pastes the copied or cut object onto a screen. Operation Procedure You can paste the object you copied or cut by clicking [Paste] in the [Edit] menu.
Duplicate 🔲	Copies multiple pictures at a time. When duplicating parts, you can automatically assign the next consecutive address after the source part's address to the destination part. ☞ "9.4.5 Duplicate" (page 9-29)
Delete ✕	Deletes an object. Operation Procedure You can delete by selecting the desired object and clicking [Delete (D)] in the [Edit] menu.
Select All	Selects all the objects on the screen. You can also drag to enclose multiple objects in the specified coordinates. ☞ "9.4.2 Selection Method" (page 9-27)
Edit Vertex 🔲	You can edit, delete or insert each vertex coordinate of a polyline or polygon. ☞ " ■ Edit Vertex" (page 9-30)
Group 🔲	You can group multiple objects together and treat them as one unit. ☞ "9.4.7 Grouping (Ungrouping)" (page 9-31)
Order 🔲 🔲 🔲 🔲	You can change the order of placed overlapping objects. ☞ "9.4.8 Order" (page 9-31)
Place/Align 🔲 🔲 🔲 🔲 🔲 🔲 🔲	You can adjust the positions of multiple objects (Align Right, Align Left, Align Center, etc.). ☞ "9.4.9 Aligning" (page 9-32)

<div align="right">Continued</div>

| Setting	Description
Rotate/Flip	• Rotate Rotates the object by 90 degrees. ☞ "9.4.10 Rotating right or left" (page 9-32) • Flip Flips the object horizontally or vertically. ☞ "9.4.11 Reversing X-axis (vertical)/Y-axis (horizontal)" (page 9-32)
Others	Sets a grid and guidelines to align a part with another one. ☞ "9.9 Creating a Screen from a Template" (page 9-56)

9.4.2 Selection Method

You can either click on one object, or drag to enclose multiple objects in the specified range.

NOTE
• To select one of the overlapping objects, click the object while pressing the [Ctrl] key. Each object becomes in the selective state in turn, and you can select the target object.
• To release a particular object from the selected objects, click the target object while pressing the [Shift] key.
• To add a particular object to the selected objects, click the target object while pressing the [Shift] key.

9.4.3 Enlarging and Reducing the Size

Select a desired object and move the cursor on the handle. When the cursor becomes ↔, you can drag the object to enlarge or reduce to the desired size.

Handle

Drag it to a desired size.
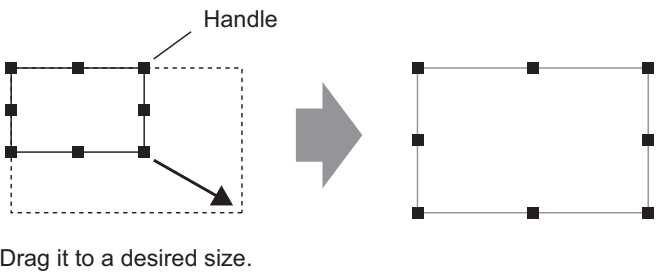
NOTE
• If you select an object and move the four-cornered handles while pressing the [Shift] key, you can enlarge/reduce it with the same horizontal to vertical ratio.
• If you use the [↑], [→], [←], and [↓] keys with the cursor on the object handle, you can enlarge/reduce the object by the dot.

9.4.4　Moving Objects

Select a desired object and move the cursor on the object. When the cursor becomes ⊕, you can drag the object to drag to the desired location.
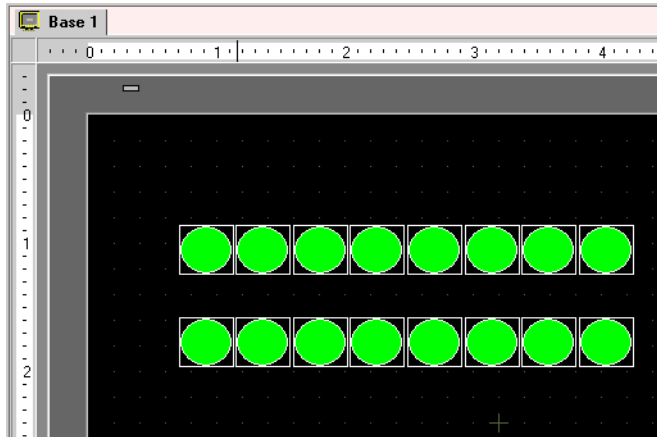
Handle

Drag it to a desired position.
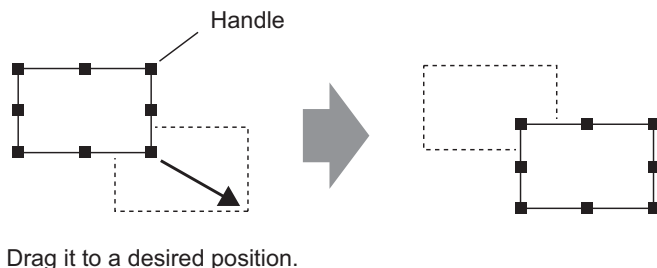
| NOTE	• If you move while pressing the [Shift] key, you can move the object horizontally or vertically.
	• If you use the [↑], [→], [←] , and [↓] keys with the object selected, you can move the object by the dot.
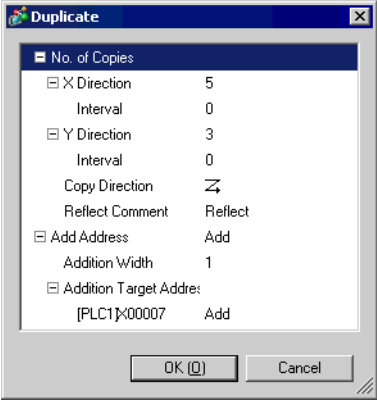
9.4.5 Duplicate

Copies multiple pictures at a time.
To duplicate, right-click while selecting the object and click [Duplicate (W)].

NOTE • When duplicating parts, you can automatically assign the next consecutive address after the source part's address to the destination part.

Duplicate	Description
	• X Direction Set the number of display positions in the X direction from 1 to 99. • Interval Set the interval between objects within the range of 1 to 99 dots.
	• Y Direction Set the number of display positions in the Y direction from 1 to 99. • Interval Set the interval between objects within the range of 1 to 99 dots.
	• Copy Direction Select the display direction from $\boxed{Z}$, $\boxed{\Sigma}$, $\boxed{\Xi}$, $\boxed{Z}$, $\boxed{N}$, $\boxed{M}$, $\boxed{M}$ or $\boxed{N}$. NOTE • When you add addresses, sequential addresses are assigned in the specified direction according to the address addition width.
	• Reflect Comment The copy source's comment is reflected in the copy destination.
	• Add Address You can assign sequential addresses from the copy-from addresses according to the [Addition Width]. • Addition Width Designates an address interval. When the copy-from addresses are bit addresses, addresses are added by the bit. And when the copy-from addresses are word addresses, addresses are added by the word.
	• Addition Target Address When multiple addresses are set to one object, you can designate whether or not to add each address.

9.4.6 Changing Attributes

You can change an object's attributes such as color or address.
To change attributes, double-click the object while selecting it or select [Change Attributes
(M)] from the [Edit] menu.

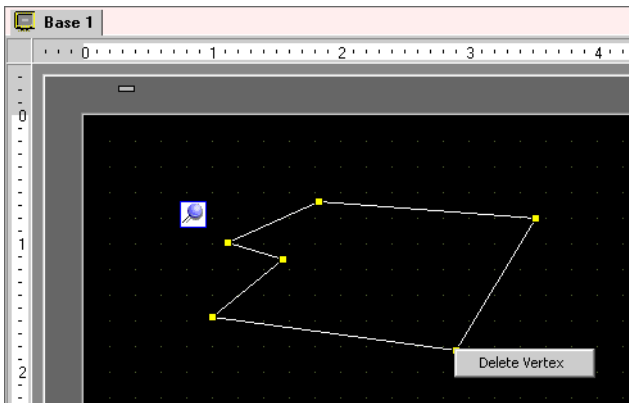NOTE • When multiple objects are selected, you cannot change attributes.
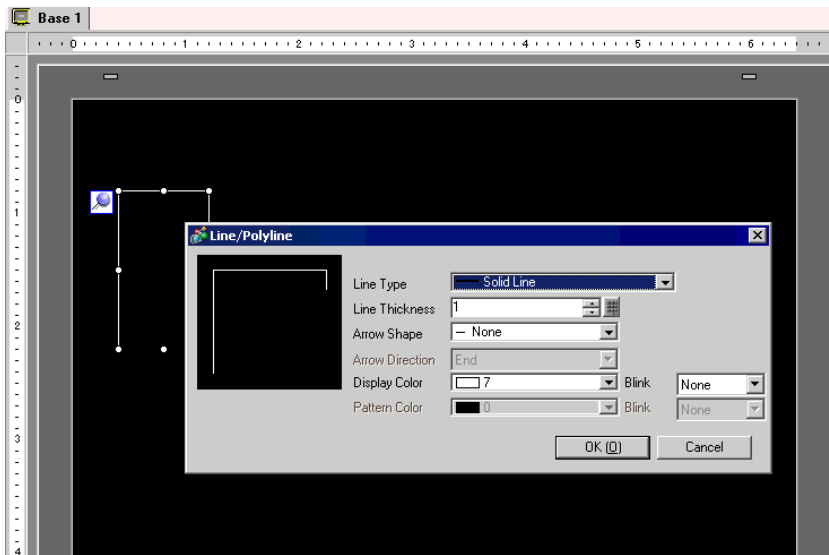
■ Edit Vertex

You can edit, delete, or insert each vertex coordinate of a polyline or polygon.
To edit a vertex after placing it, click the line while it's selected to display yellow handles.
You can change the object shape by dragging on any line. To delete a vertex, right-click on
the vertex and click [Delete Vertex].

9.4.7   Grouping (Ungrouping)

You can group multiple objects and handle them as one object. To do so, right-click while selecting multiple objects and click [Group (E)]. To ungroup, click [Ungroup (G)].
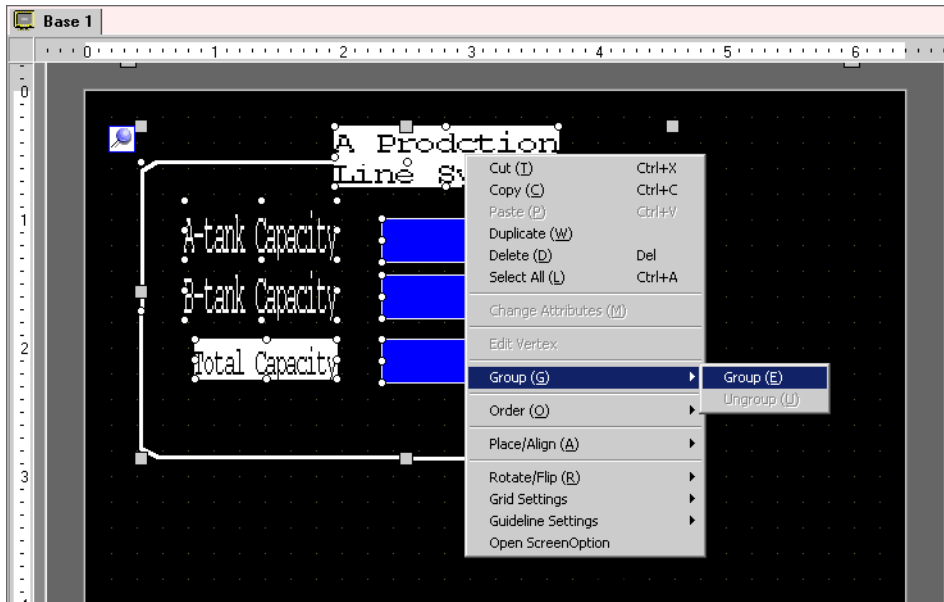
9.4.8   Order

When the placed objects are overlapping, you can change the placement order. Select and right-click the object whose order you want to change, click [Order (O)], and select the object order from [Bring to Front], [Send to Back], [Move Forward], or [Move Backward]. In the following example, the oval is moved backward.
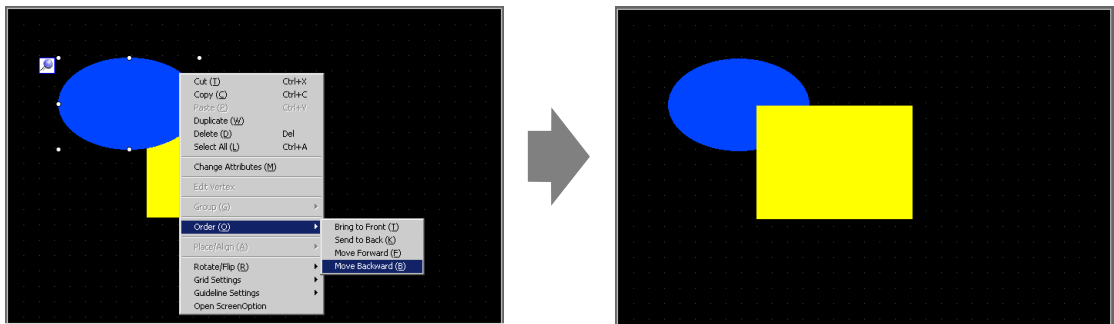
9.4.9 Aligning

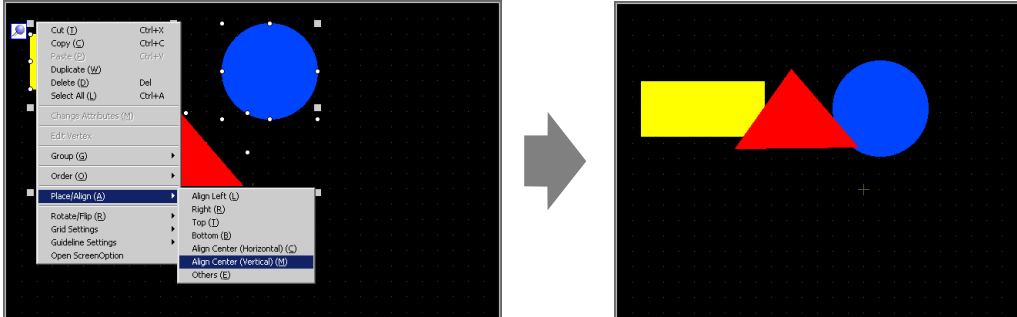You can align the position of multiple objects. Select the multiple objects that you want to align, right-click, and then select [Align Left (L)], [Right (R)], [Top (T)], [Bottom (B)], [Align Center (Horizontal) (C)], [Align Center (Vertical) (M)], or [Others (E)] from [Place/Align (A)]. In the following example, the rectangle, polygon, and circle are all aligned to the top.


9.4.10 Rotating right or left

You can rotate the object 90 degrees right or left. Select the object you want to rotate, right-click, and then select [Rotate Right (E)] or [Rotate Left (I)] from [Rotate/Flip (R)]. In the following example, the polygon is rotated right.
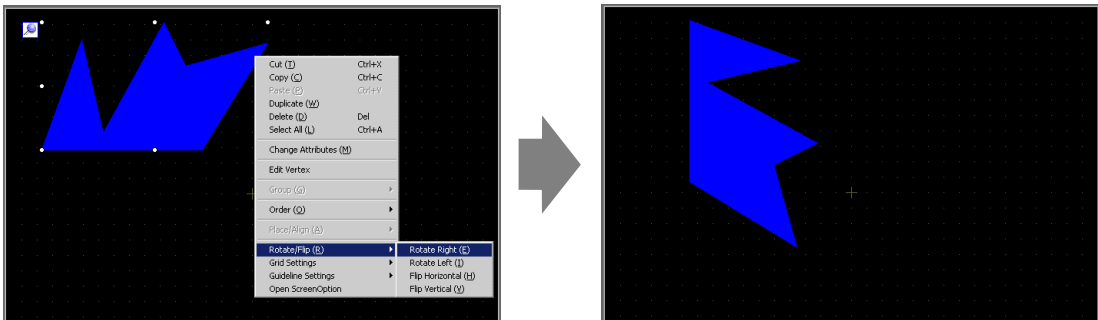
9.4.11 Reversing X-axis (vertical)/Y-axis (horizontal)

You can reverse the object symmetric with respect to the X-axis (vertical) or symmetric with respect to the Y-axis (horizontal) based on the central line of the object. Right-click while selecting the desired object and select [Flip Horizontal (H)] or [Flip Vertical (V)] from the [Rotate/Flip (R)]. The following example shows the position when a polygon is flipped horizontally. Please note that only the display position of the screen, marks, parts, and texts are reflected.
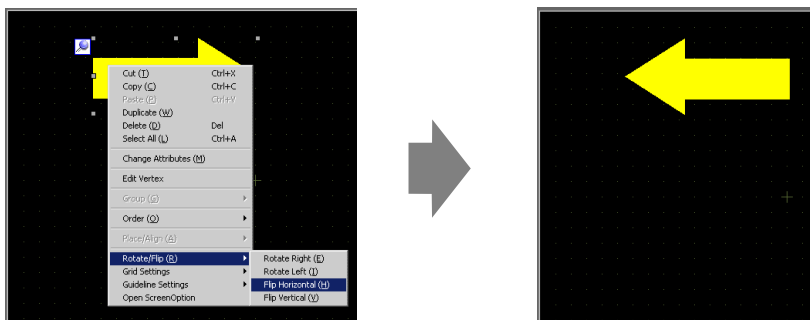
9.4.12 Changing Coordinates

You can change the object's position and size by designating a coordinate in the [Properties Window (P)]. The reference of the coordinate is the top left of an object.

Properties Window	☒
Filled Polygon	

🐾 🐾 🕂

Attribute Name	Setting Value
▪ Coordinate	
Top Left X-Coordin	140
Top Left Y-Coordin	140
Width	140
Height	100
▼ Polygon	
Border	ON
▼ Shape of Border	
Line Type	▬ Solid Line
Width	1
Display Color	▭ 7
Blink	None
Fill	OFF
Decoration	
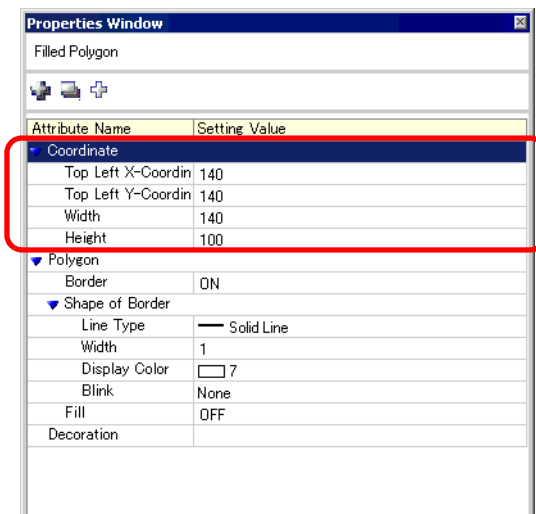
NOTE • If the [Properties Window] tab is not displayed in either the work space or the screen drawing area, select the [View (V)] menu - [Work Space (W)] command - [Properties Window (P)] option.

9.5 Changing Colors, Line Types and Patterns

9.5.1 Setting Colors

■ List of Available Colors

Model	Display Device	Display Color[*1][*2]	Designated No. of Colors in Drawing
AGP-3302B	Blue-mode Monochrome LCD	16 Levels, 3-Speed Blink	16 Levels
AGP-3301L	Monochrome LCD	Monochrome 16 Levels 3-Speed Blink	Monochrome 16 Levels
AGP-3301S	STN Color LCD	4096 Colors 3-Speed Blink	256 Colors
AGP-3300L	Monochrome LCD	Monochrome 16 Levels 3-Speed Blink	Monochrome 16 Levels
AGP-3300S	STN Color LCD	4096 Colors, 3-Speed Blink	256 Colors
AGP-3300T	TFT Color LCD	65536 Colors No Blink 16384 Colors 3-Speed Blink	256 Colors
AGP-3400S	STN Color LCD	4096 Colors, 3-Speed Blink	256 Colors
AGP-3400T	TFT Color LCD	65536 Colors, No Blink 16384 Colors 3-Speed Blink	256 Colors
AGP-3500T	TFT Color LCD	65536 Colors, No Blink 16384 Colors, 3-Speed Blink	256 Colors
AGP-3500L	Monochrome LCD	Monochrome 16 Levels 3-Speed Blink	Monochrome 16 Levels
AGP-3500S	STN Color LCD	4096 Colors, 3-Speed Blink	256 Colors
AGP-3600T	TFT Color LCD	65536 Colors, No Blink 16384 Colors, 3-Speed Blink	256 Colors
AGP-3450T	TFT Color LCD	65536 Colors, No Blink 16384 Colors, 3-Speed Blink	256 Colors
AGP-3550T	TFT Color LCD	65536 Colors, No Blink 16384 Colors, 3-Speed Blink	256 Colors
AGP-3650T	TFT Color LCD	65536 Colors, No Blink 16384 Colors, 3-Speed Blink	256 Colors
AGP-3750T	TFT Color LCD	65536 Colors, No Blink 16384 Colors, 3-Speed Blink	256 Colors

*1 Objects with blink setting blink on the GP. You can set the blink speed to three stages (3-speed).
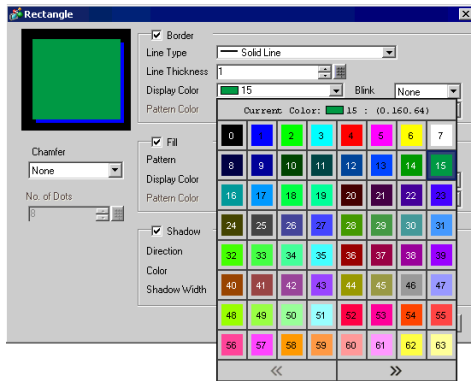☞ "9.5.2 Setting Blinks" (page 9-36)

*2 On monochrome LCD models and STN Color LCD models, when you set a tiling pattern on the screen's background settings and use the blink setting, some drawing components that do not have the blink setting may blink. Please confirm the display on the GP in advance.
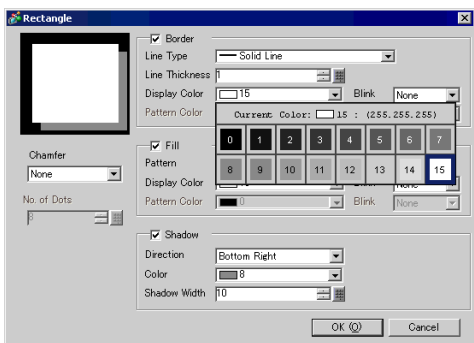
■ Color Designation

Set the object's colors. Setting items, such as colors of a border, fill, shadow or label, differ depending on the part type.

For a 256-color supported model   For a monochrome 16-level supported model

---

NOTE
- For 256-color supported models, you can move to the next palette with the scroll button at the bottom of the color palette.
- You can only select [Transparent] for the [Pattern Color] for a Switch Lamp that does not use the [Lamp Feature] or for a Key that has a [Pattern] set in the settings dialog box.

IMPORTANT
- For a monochrome 16-level model, there are some cases where color distinction is difficult or where flicker is caused. Use this after confirming the colors.


◆ Color Pallet
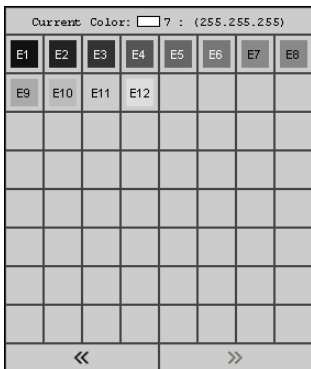
9.5.2   Setting Blinks

You can make an object blink on the GP with this function. The blink speed can be set to three stages (Low, Medium, and High).
[High] is twice the speed of [Medium] and [Low] is half the speed of [Medium]. If you select [None], the object will not blink.

NOTE
• For dark color blink, refer to "5.13.6 [System Settings Window] Settings Guide ■ [Main Unit Settings] Settings Guide ◆ Display Settings" (page 5-100)
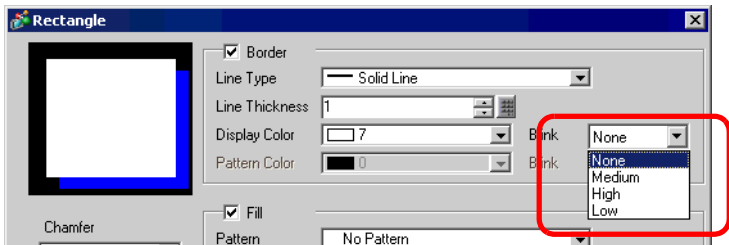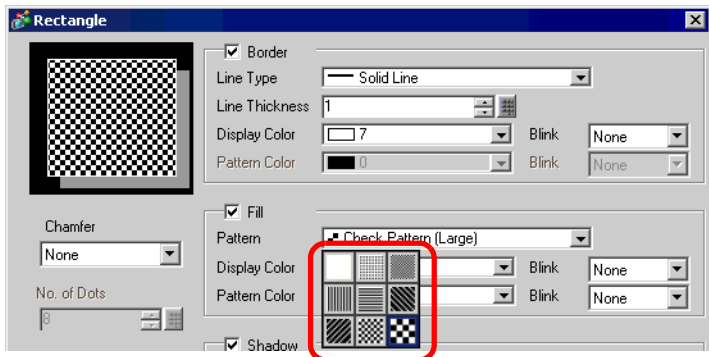
9.5.3   Setting Line Types

You can select the line type from five types: [Solid Line], [Dashed Line], [Dash Line], [Chain Line], or [Two-Dot Chain Line].
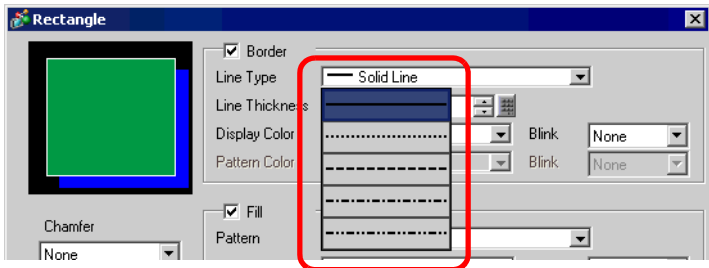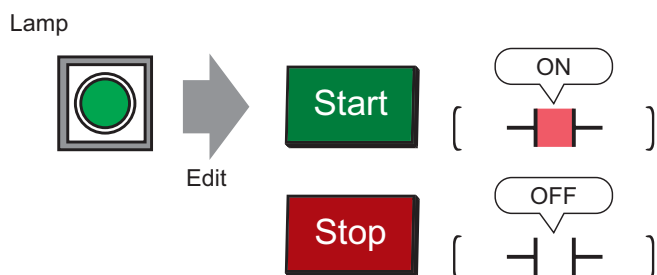
9.5.4   Setting Pattern

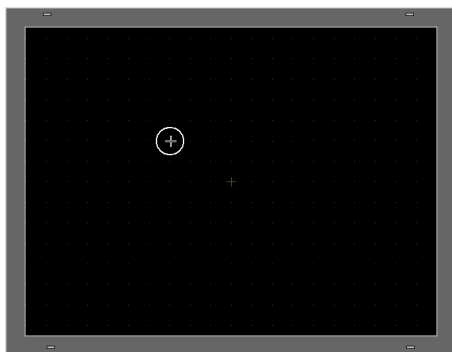The pattern type can be selected from the nine following types.
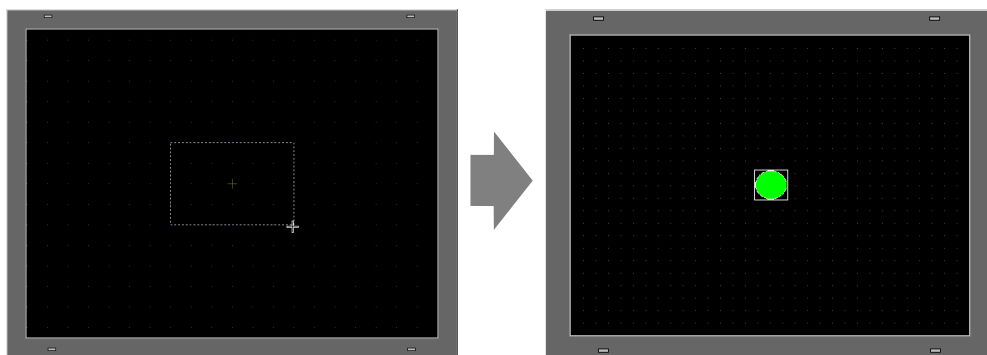
9.6   Editing a Part
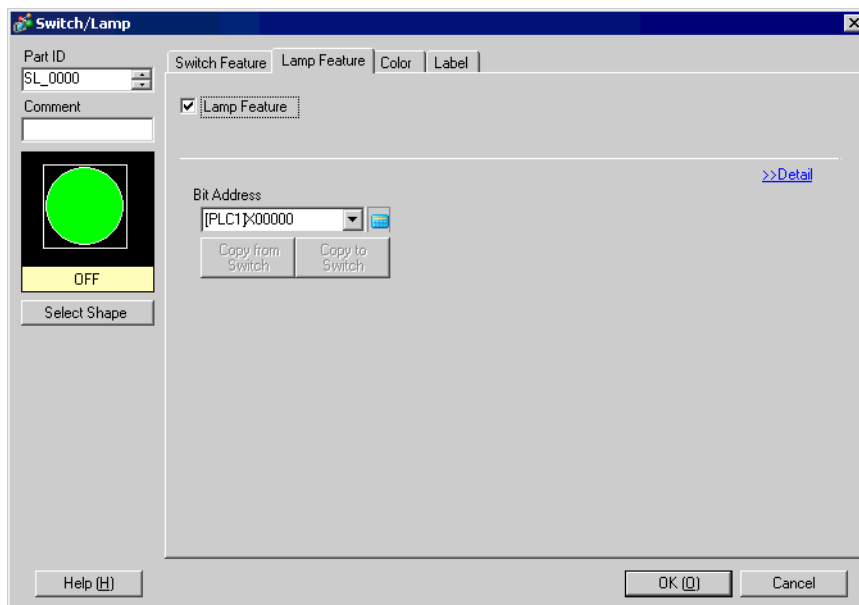
9.6.1   Editing Parts

Lamp

1 Select the [Part (P)] menu - [Switch Lamp (C)] option - [Lamp (L)] command or click 💡 .
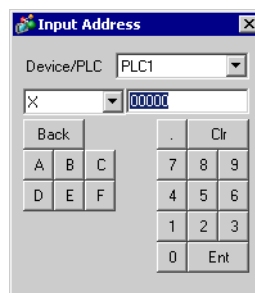
2 Move ⸱⎮ to the drawing screen and it becomes ➕ .

3 Drag where you want to place the switch. The switch will be displayed in the dragged area.

4 Double-click the placed Lamp and the settings dialog box opens.

5 Click and enter the bit address in the [Input Address] dialog box.
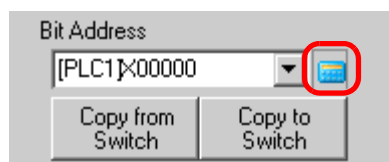
6 Click ▼ and select the [Device/PLC] and [Device]. Input an address from the key-pad.(e.g.M100)

NOTE
• Input the address with the keypad. If you input it directly with the PC keyboard, it may not be recognized as an address.

7 Click [Select Shape].

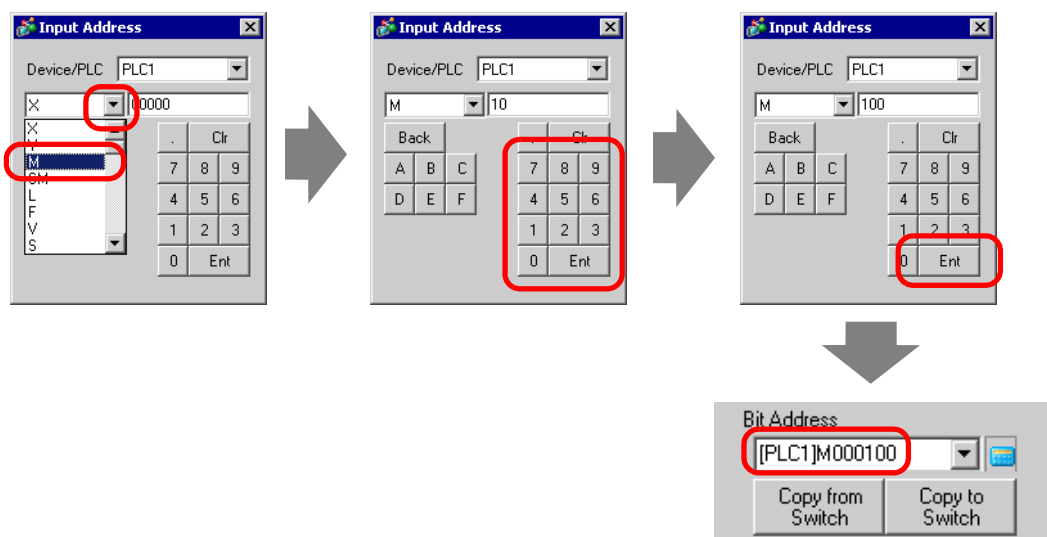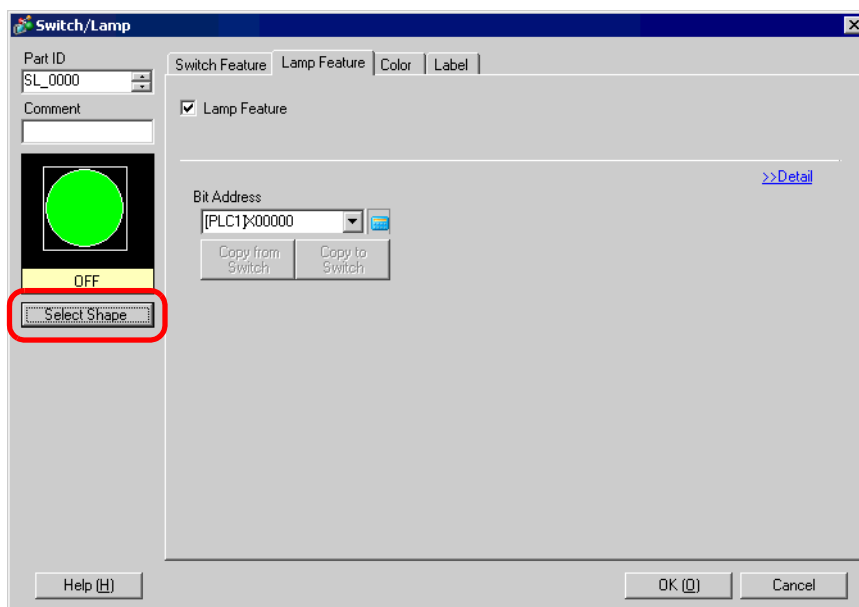8 [Select State Window] is displayed. Select [State 0] and click [Open].
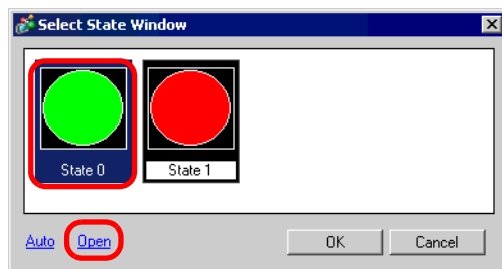
9 Select "Standard Parts" from the Part Palette. Next select the [Part No.]
SW_3D202_OFFpicture.
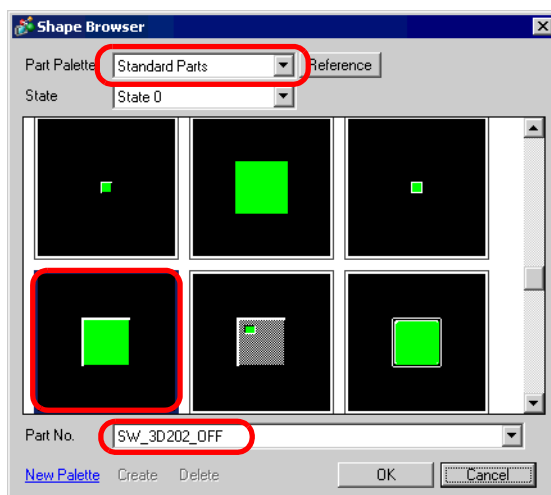
NOTE • You can select various pictures by switching the [Part Palette].

10 Click [OK] and the display returns to the [Select State Window]. Select [State 1] and click
[Open].
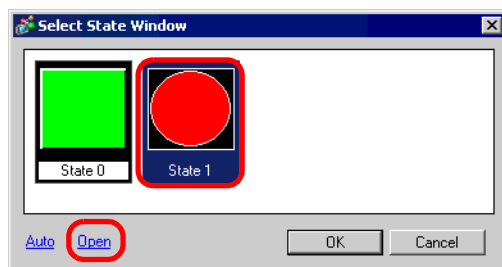
11 Select Standard Partsfrom the [Part Palette]. Next select the [Part No.] SW_3D202_ON picture and click [OK].
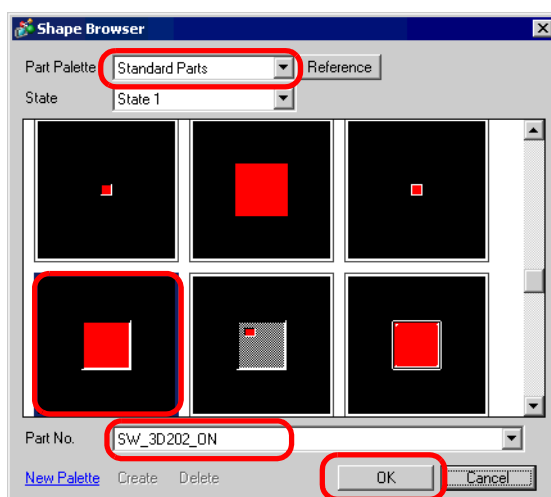
12 The pictures at [State 0] (OFF) and at [State 1] (ON) are displayed in the [Select State Window]. Click [OK].
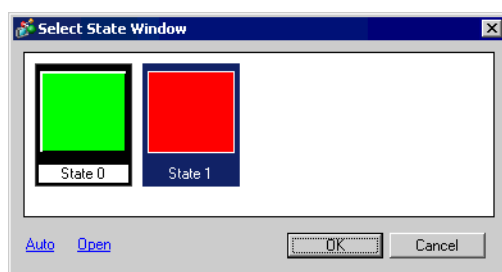
13 Click the [Color] tab. Confirm that [Select State] is OFF and set the color of the switch for When OFF. Click ▼ in [Display Color] and select the display color from the color palette.
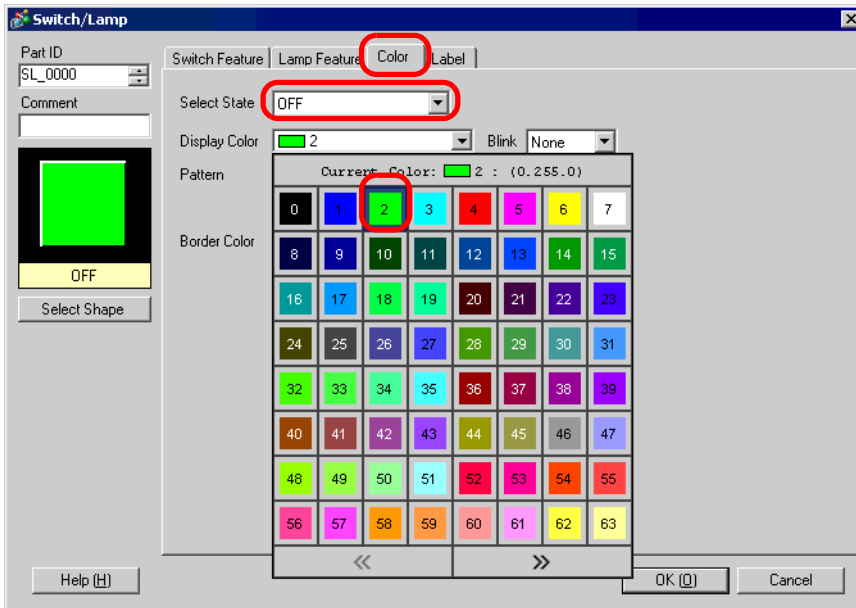
NOTE • You cannot edit the color for the Switch/Lamp's image parts.

14 Select ON in [Select State] and set the color of the switch for When ON.
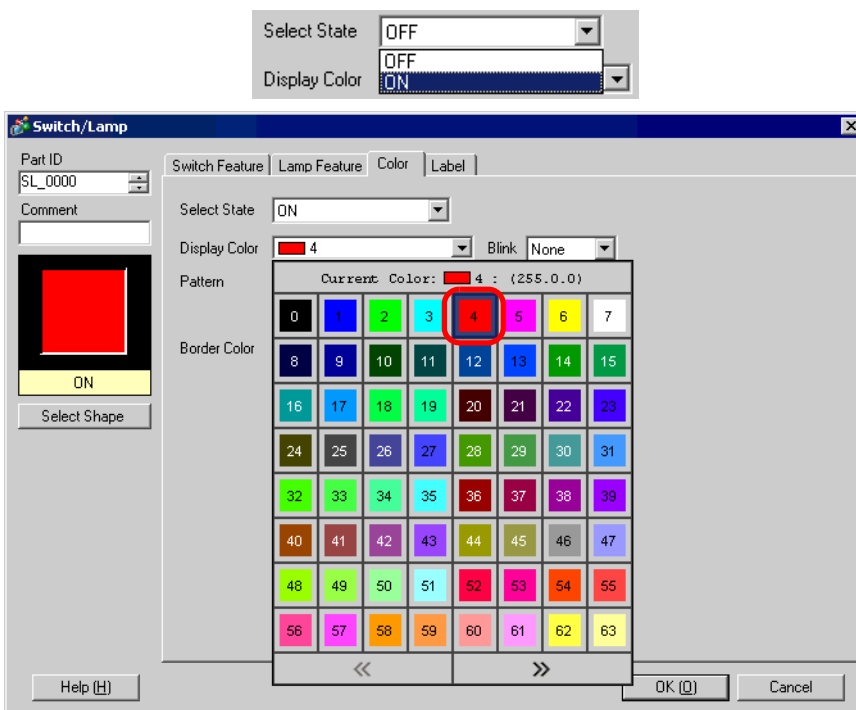
NOTE • You cannot edit the color for the Switch/Lamp's image parts.

15 Select the [Label] tab. Select [OFF] in [Select State] and input the text to display on the switch in the OFF state. (e.g.: START)
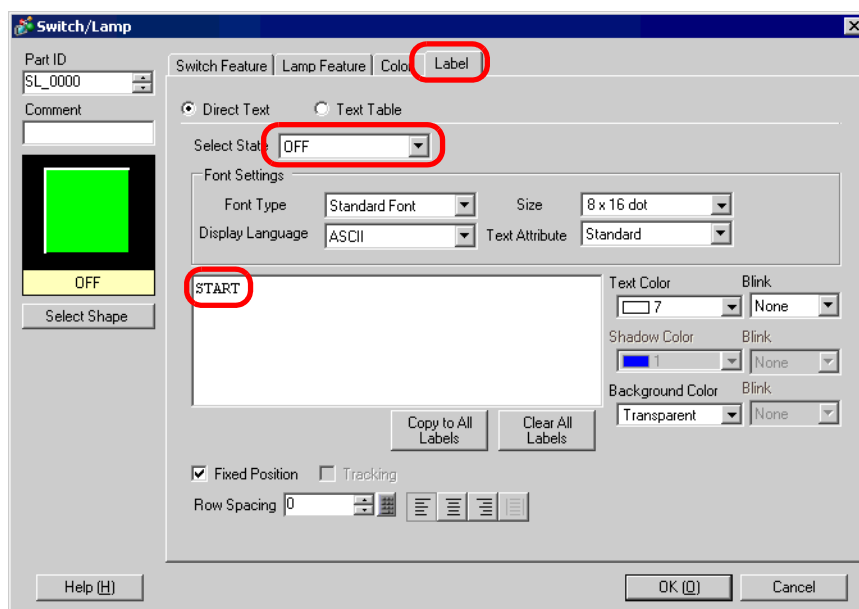
16 Select [ON] in [Select State] and input the text to display on the switch in the ON state. (e.g.: STOP)
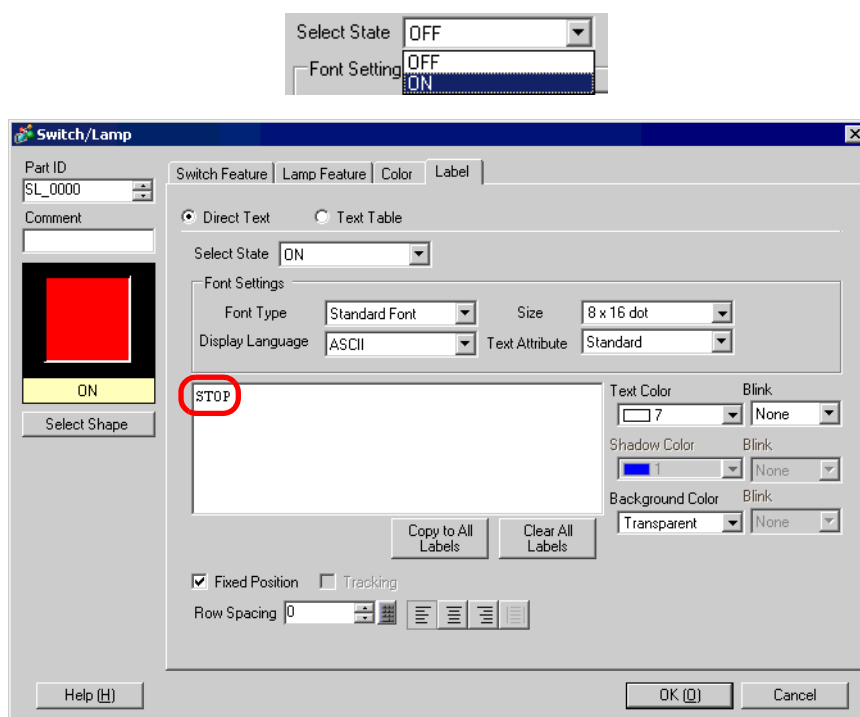
17 Click [OK] when all the settings are complete.

9.6.2 Registering New Part Image

You can register new images for parts.

1 Double-click the part you want to register a new image for, and the settings dialog box opens. Click [Select Shape]. (Example: Switch)
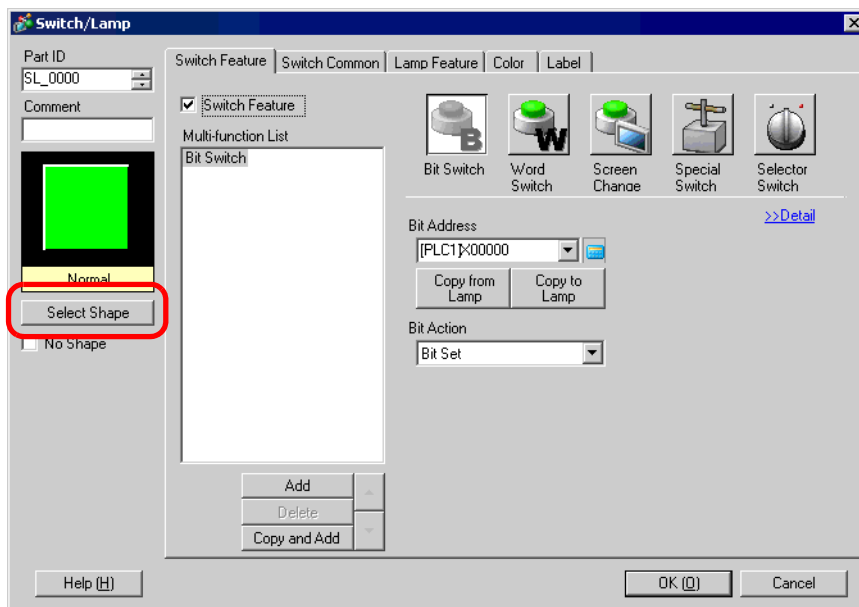
2 The [Shape Browser] dialog box opens. Click [New Palette].
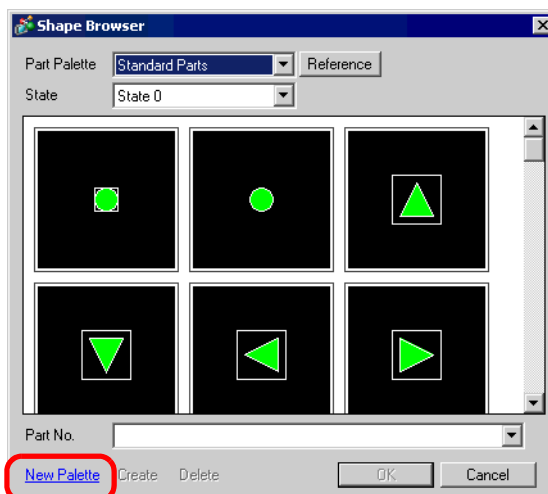
3 The [Save As] dialog box opens. Set the new palette's [Save in] and [File name], and click [Save].
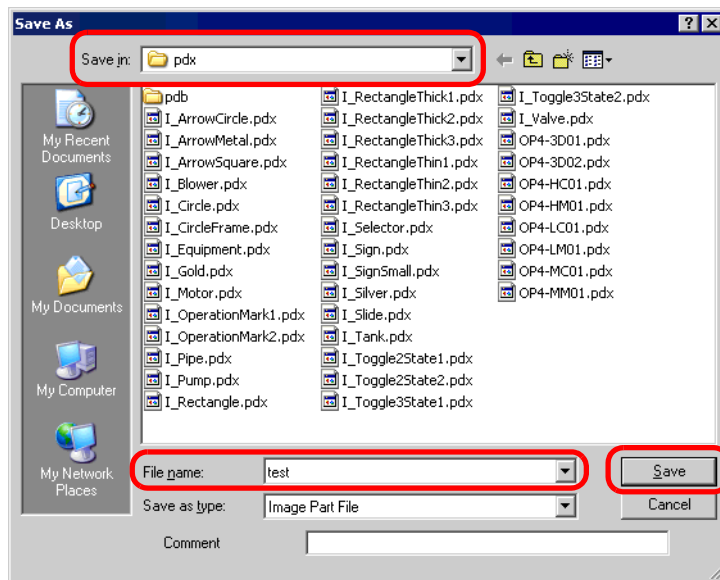
4 When the following message appears, click [Yes (Y)].
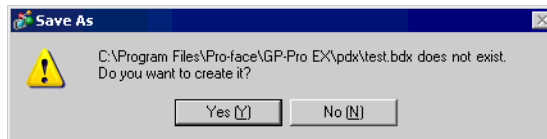
5 The newly registered [Shape Browser] dialog box will appear. Click [Create].
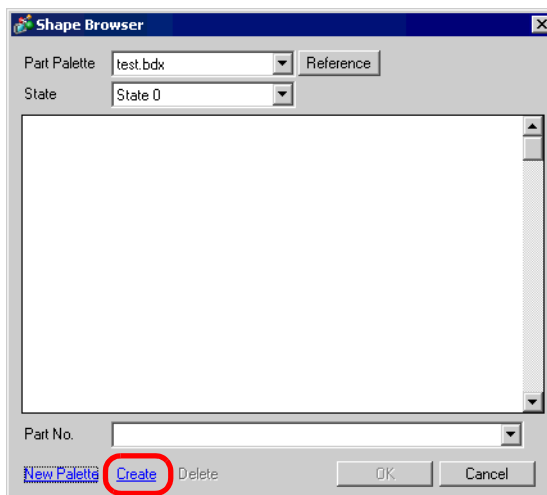
6 The [Register Part] dialog box appears. Select [State 0], and click [Select].
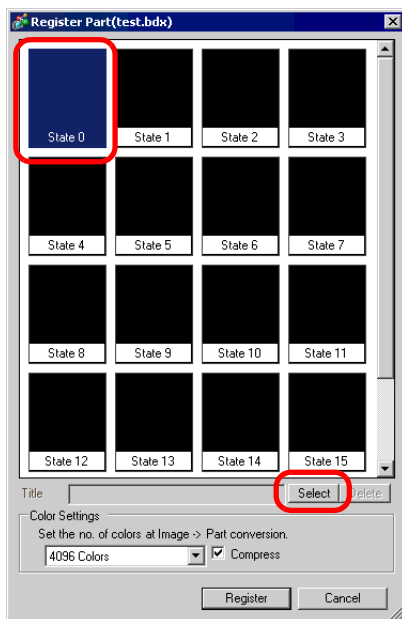
7 When the [Open File] dialog box appears, set the new image's [Look in] and [File name] and click [Open].
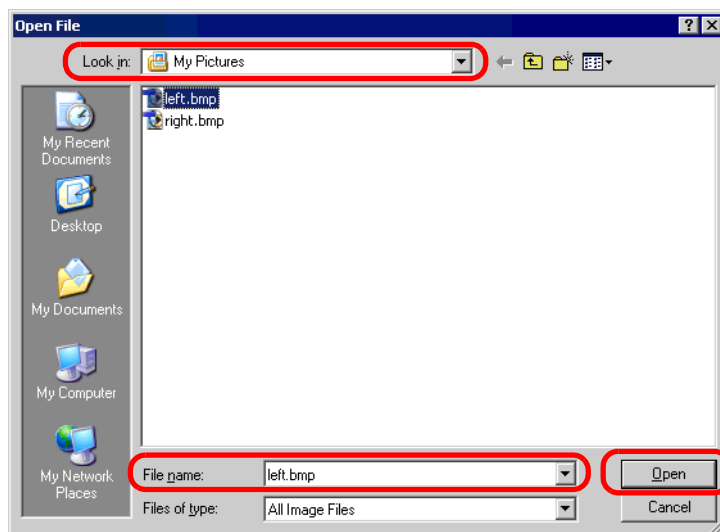
8 The image will be registered in the [Register Part] dialog box's [State 0].
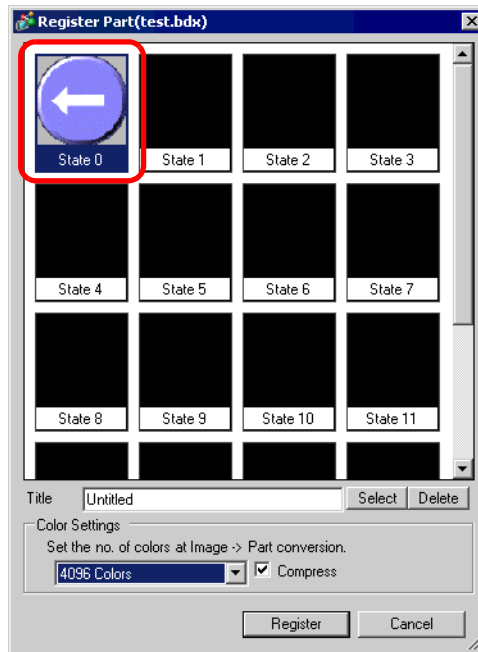
9 As needed, in [Title] and [Color Settings], set the part number and number of colors for the image to register, click [Register], and the process is complete.

NOTE
- To call a registered image, open the parts dialog box and click [Select Shape]. When the [Shape Browser] dialog box appears, select the pallet name registered in the [Part Palette]. When the registered image appears, select it and click [OK].
- If you click "Create" while a previously registered part is selected, you can edit that part image. To create a new image, click the "Create" button while no previously registered part is selected.
- Image parts can be registered with a maximum size of 160×160 dots.
- Parts which use registered images are a main cause of large project file sizes. It is recommended you set [Compress] in the [Color Settings].
- You can register up to 200 image parts in a single BDX file.
- Image parts that have been enlarged or reduced may display differently on the GP and in Pro-EX.
- When the registered image's size is different depending on the state, the larger image will remain the same, and the smaller image will be enlarged.
- You cannot register or delete a previously-prepared PDX file.
- The types of image file that can be registered to a part are bitmap, JPEG, DPD, and PNG.

9.6.3 Fix/Unfix Objects

◆ Fixing Objects

Place drawings and parts, and a blue fixed pin will appear on the top-left of objects on the screen.Click on the pin and it will turn red ; the object can not be selected or edited. (When you put the cursor over the object, a "lock" mark will appear to its right, indicating that the placement position is fixed.)

Click the blue fixed pin

The fixed pin turns red, the part is locked
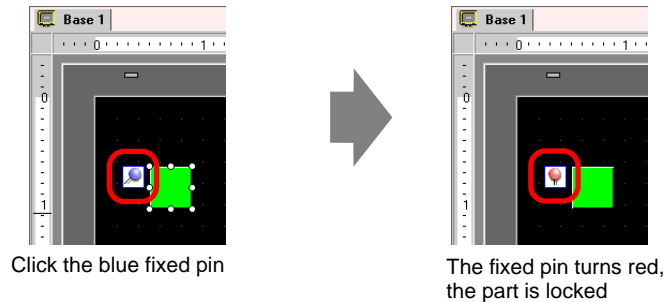
◆ Releasing Fixed Pins

- Releasing an individual object
  Releasing an individual object Double-click a drawing or part, click and the pin returns to blue.

- Releasing all fixed pins on the screen
  Select the [Edit (E)] menu - [Release All Fixed Pins (K)] command.

9.7 Using a Screen for Various Purposes

9.7.1 Setup Procedure

Call Screen

B100

Create a screen for various purposes.

B1
Setting Input Screen

B2
Active Operations Screen

B3
Active Monitoring Screen

You can call and display various screens.
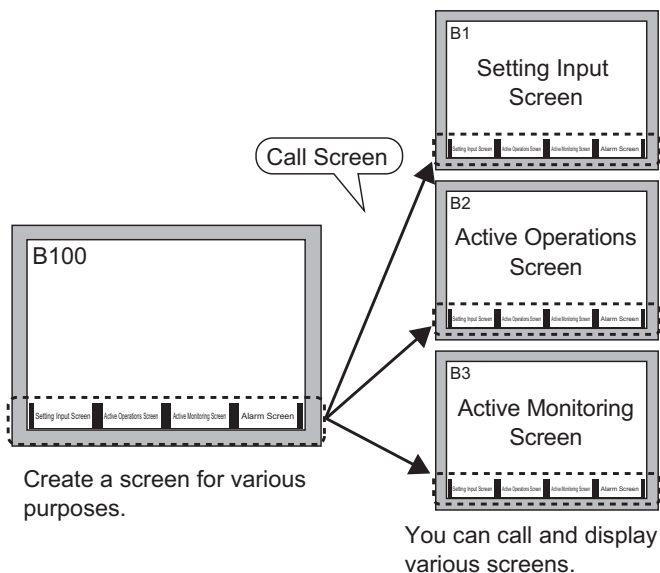
1 When you select [New Screen (N)] from the [Screen (S)] menu, the following [New Screen] dialog box appears. Click [New] to create a new base screen (Example: Bese Screen 2)
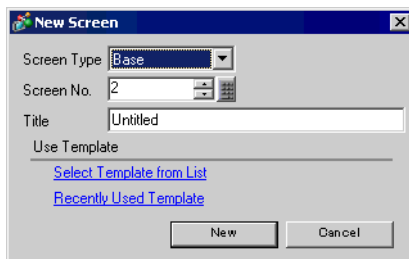
2 Select [Call Screen (O)] in the [Draw (D)] menu, or click ⊞.
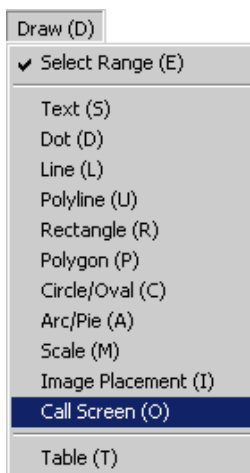
3 When you drag on the working screen, a dashed line frame will be placed and [Call Screen] dialog box will appear.
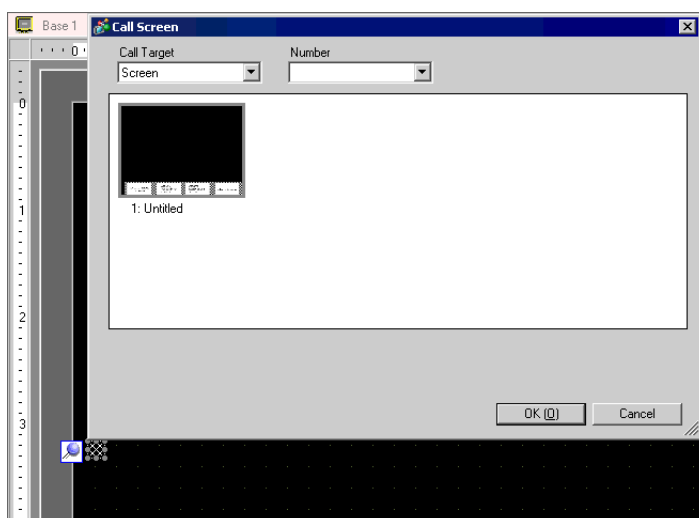
4 Select the target image from [Call Target].

Screen	Previously created base screeens are displayed.
Image (Main Unit)	The image data registered in "Image Registration" is displayed.
Image (CF)	The CF-card image data registered in "Image Registration" is displayed.
Mark	The marks registered in "Mark Registration" are displayed.
Keypad	The keypads registered in "Keypad Registration" are displayed.
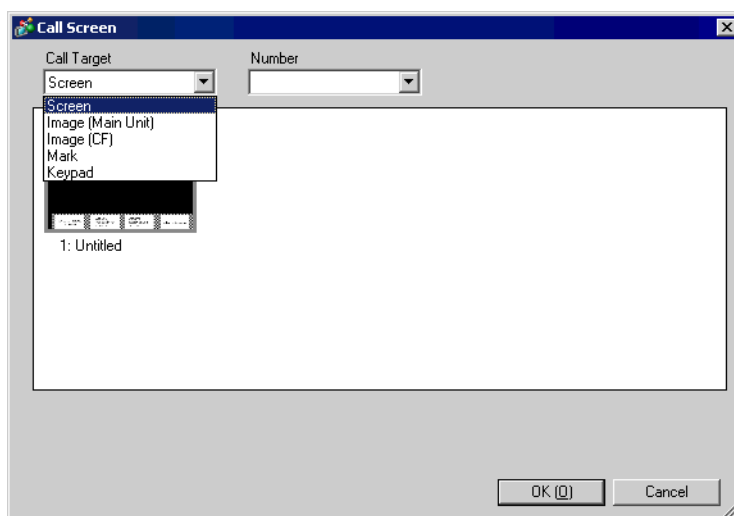
NOTE • When you call a [Screen], call and place it in the center of the screen.

5 Select an image and click [OK] to display the designated image.
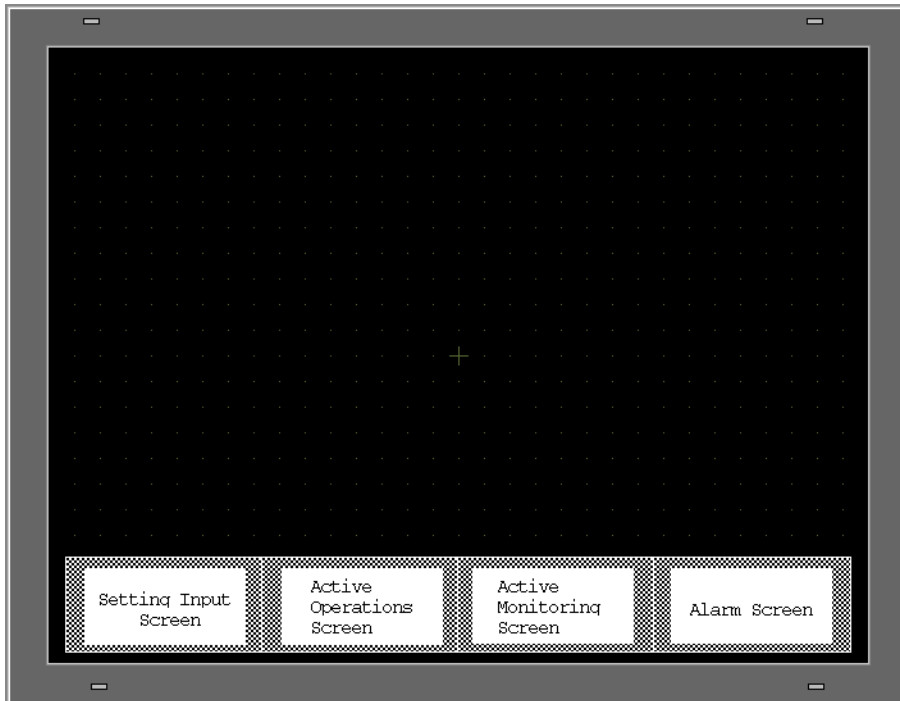
9.8 Editing the Same Picture on Another Screen

9.8.1 Placing Pictures Registered in the Package

You can drag & drop pictures that are registered in the package and place them on the screen.

Drag & Drop

Package

Objects registered in a package

You can place it on the screen and edit it.
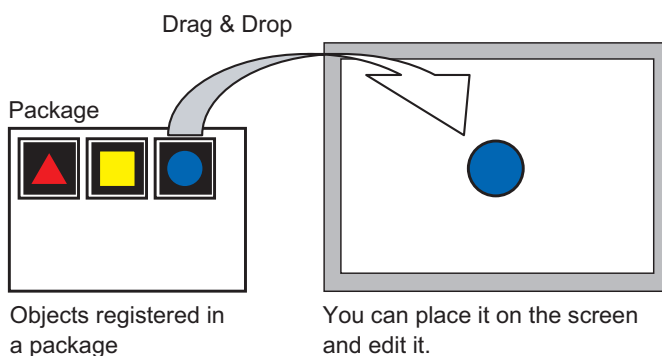
1 Display the registered picture list. Click the [View (V)] menu - [Package (P)] command.
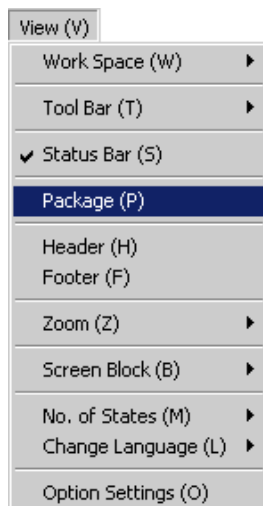
2 The [Package List] dialog box is displayed. Select the picture to place and click [Open]. (e.g.: figure)
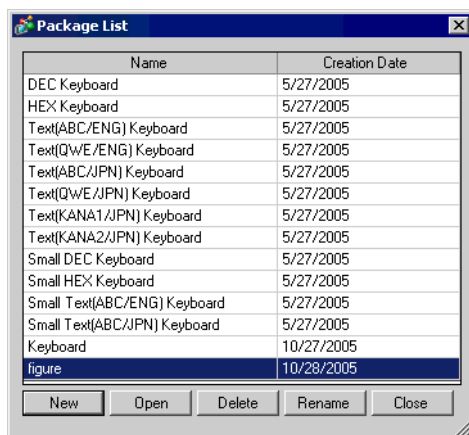
3 The [Package] dialog box is displayed. Select a picture and drag it to the drawing screen to place it.
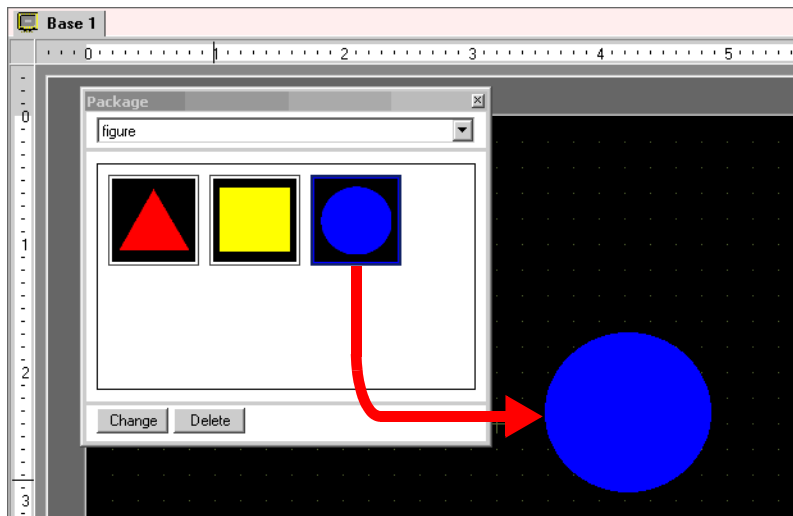
9.8.2 Created ObjectPictures in the Package

You can register a created object. You can also register a combination of multiple objects.

1 Click the [View (V)] menu - [Package (P)] command or click 🔧.

2 The [Package List] dialog box is displayed. Select a package name and click [Open]. (e.g.: figure)
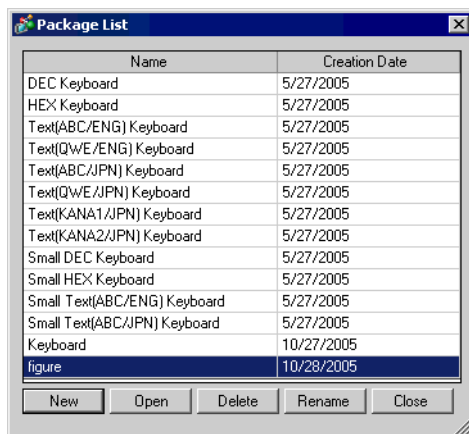
NOTE
• To register pictures in a new package, click [New].

3 The [Package] dialog box, which displays a registered package list, is displayed.
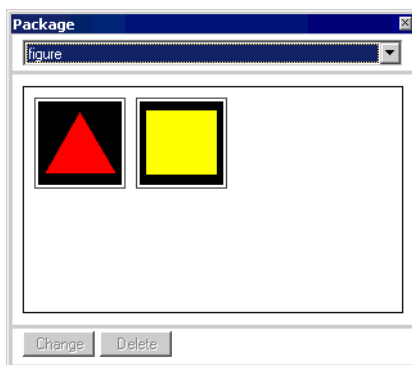
4 Select a picture you want to register and drag it to the [Package] dialog box.
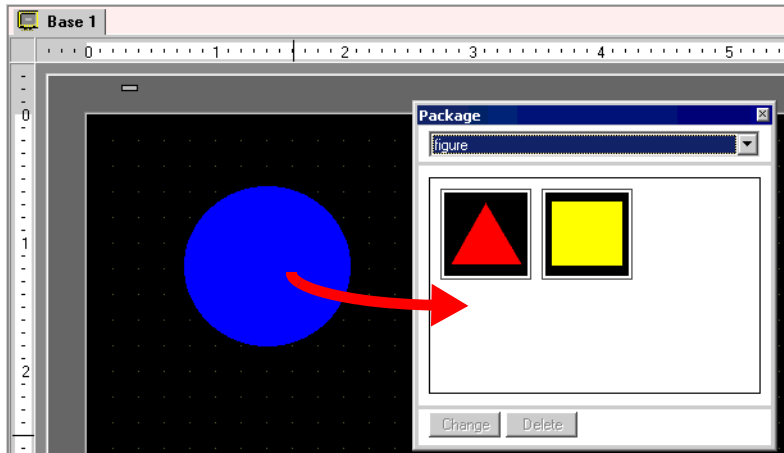
5 The pictures have been registered in a package.
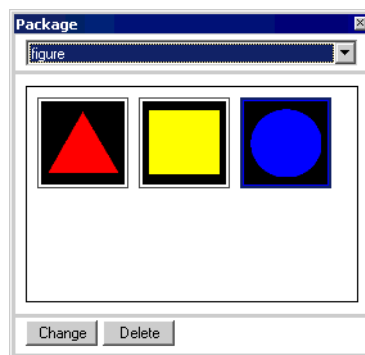
9.9 Creating a Screen from a Template

9.9.1 Setting up Grids

■ Details

You can display a grid with dots or lines on the drawing screen to place multiple objects. The position of each object is determined according to the grid's intersecting point, which saves you the trouble of fine adjusting the positions.
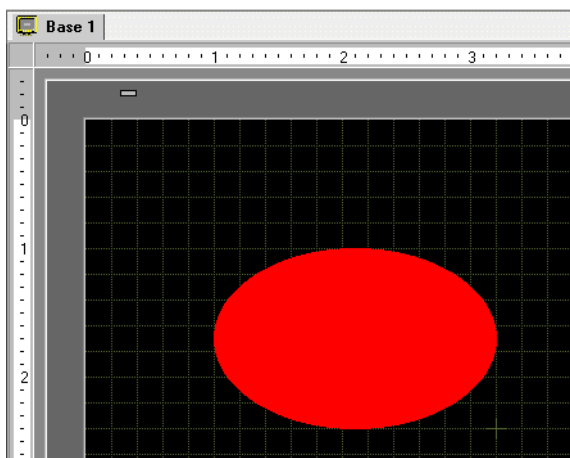
■ Setup Procedure

NOTE   • Please refer to the settings guide for details.
        ☞ "9.12.2 Options Settings [Screen Edit Style] Settings Guide" (page 9-77)

Display a lined grid on the drawing screen and set the environment for placing an object along a line.
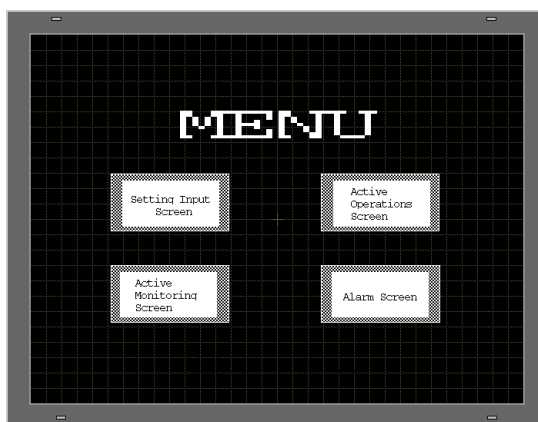
1 Click the [View (V)] menu - [Option Settings (O)] command.

2 The [Option Settings] dialog box is displayed. Select [Screen Edit Style].
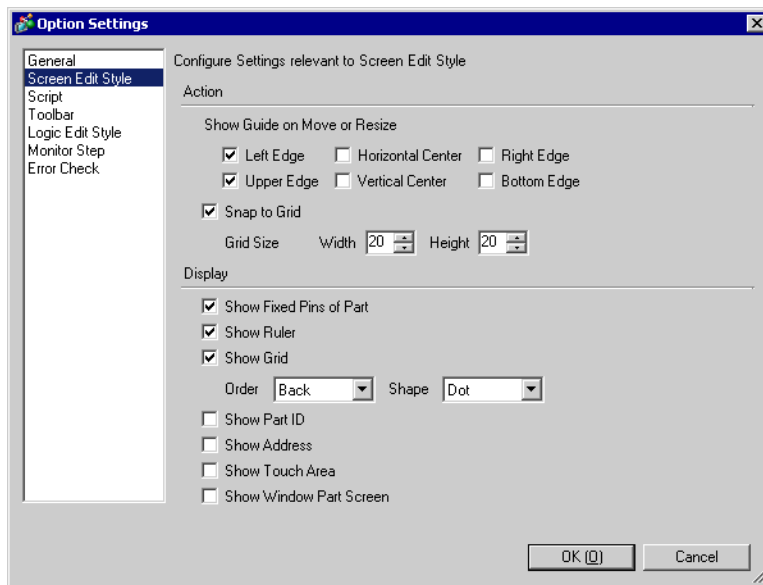
3 Set the Action to align objects with intersecting points. Put a check mark next to the [Snap to Grid] box. Set the grid spacing in [Grid Size] (by the dot). (e.g.: [Width] 20, [Height] 20)
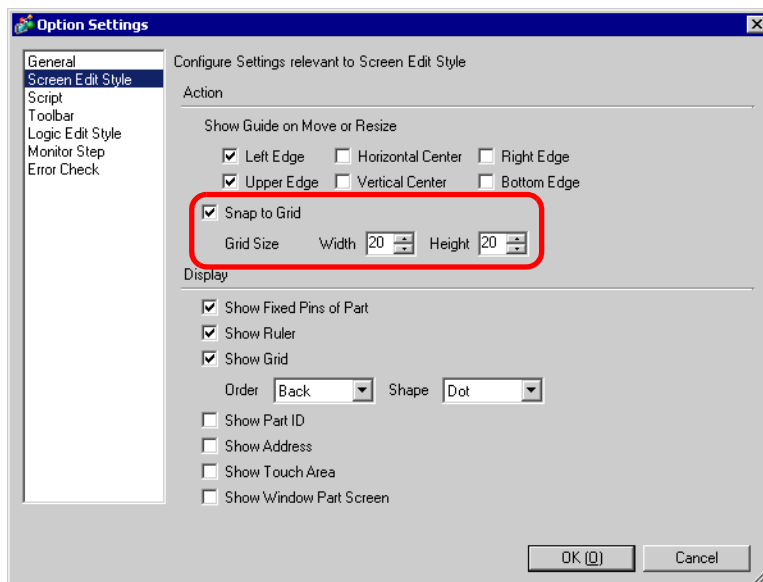
4 Configure settings to select dots or lines for a grid on the drawing screen. Put a check mark in the [Show Grid] box. Designate the grid's display order and select [Grid] for the shape. Click [OK]. (e.g.: [Order] Back, [Shape] Grid)
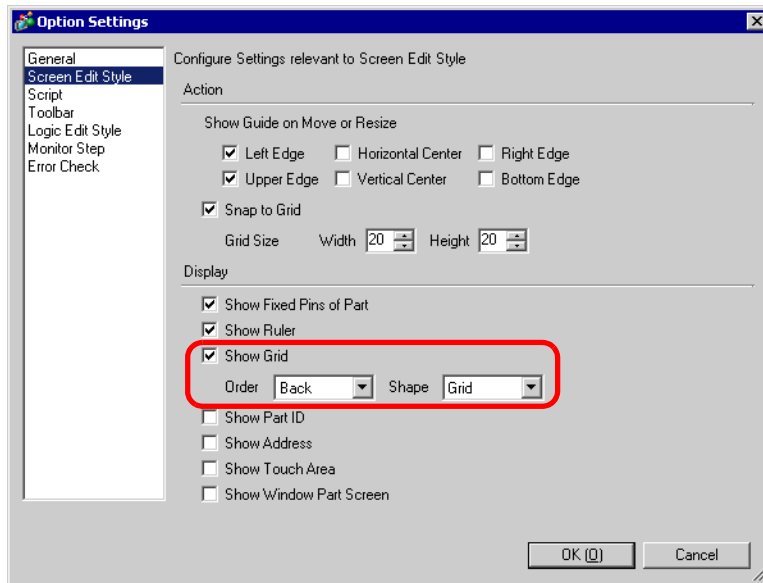
9.9.2 Selecting a Screen from Template

You can reduce the number of drawing processes by editing in a screen registered in the templates.

Select a template.

Template List

Screen Image 1	Screen Image 2	Screen Image 3
Screen Image 4	Screen Image 5	Screen Image 6

Screen Image 3
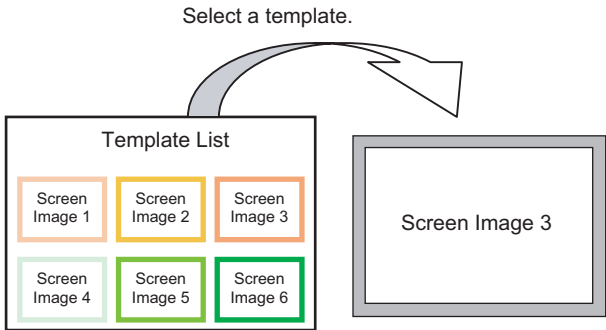
■ **Placing a Picture Registered in Templates**

1 Select the [Screen (S)] menu - [New Screen (N)]command.

Screen (S)

New Screen (N)
Open Screen (O)
Close Screen (C)

Screen Information (I)
Change View (V) ▶

Template Registration (T)
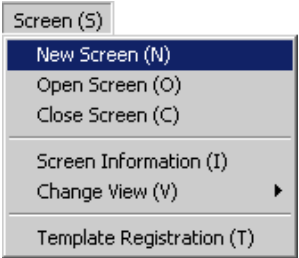
2 The following [New Screen] dialog box is displayed. Click [Select Template from List].

New Screen

Screen Type Base
Screen No. 2
Title Untitled
Use Template
Select Template from List
Recently Used Template

New   Cancel
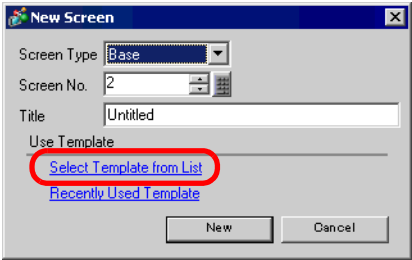
3 The registered templates are displayed. Select a screen you want to use again and click [OK].

Select Template

Screen No.2 Untitled

⊗Delete ✎ Rename

OK (O)   Cancel

4 The template is placed.

Setting Input Screen

Active Operations Screen

Active Monitoring Screen

Alarm Screen
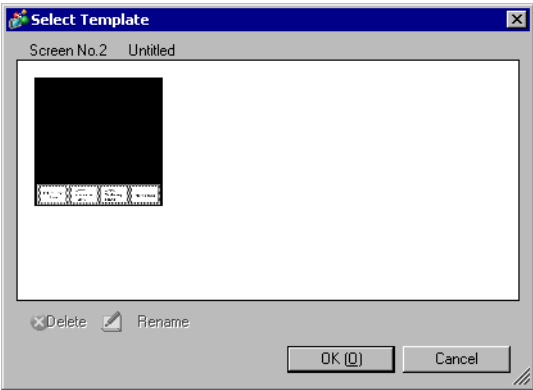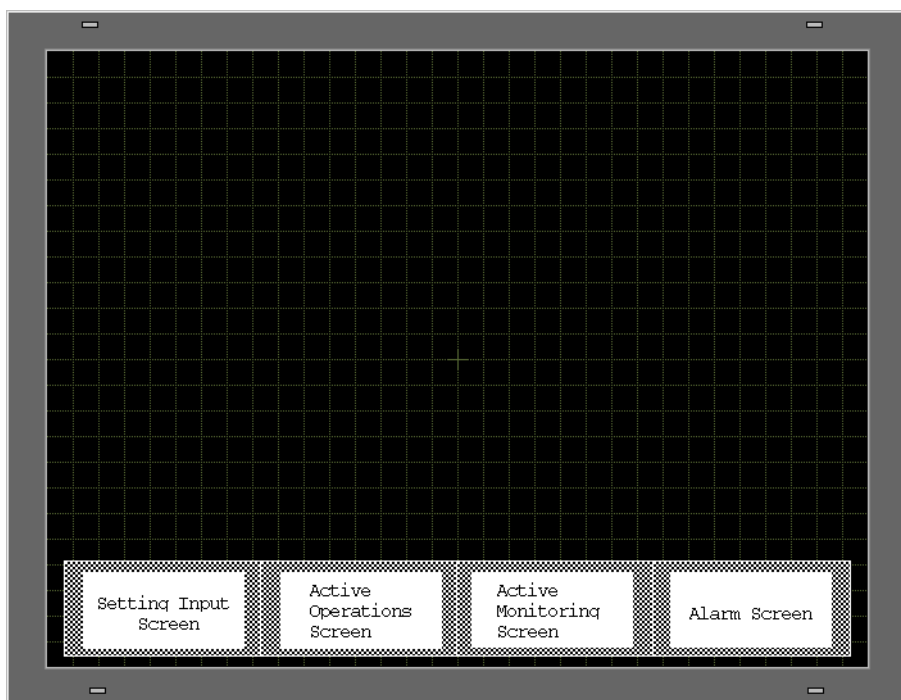
■ **Registering to Template**

You can register created screens as templates and use them again. You can register created screens from the [Screen (S)] menu - [Template Registration (T)] command.
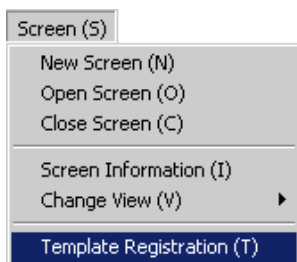
9.10   Pasting an Image

9.10.1   Target Image

Image data that can be displayed on the GP screen is as follows.

Image	Pasting Method	Description
Bit Map, JPEG, DPD, PNG File	Directly placing an image on the screen	Directly pastes bit map, JPEG, DPD, or PNG on the screen. **NOTE** • In using the same image on the multiple screens, you can hold down the screen capacity by registering the original image in "Image". • You can call the base screen with an image already placed onto another base screen. ☞ "9.10.2 Pasting Bitmap/JPEG Procedure" (page 9-63)
	Registering an image in "Image (Main Unit)" and using Call Screen	Registers a bit map, JPEG, DPD, or PNG file as the "Image" and displays it on the base screen by using Call Screen. **NOTE** • You can hold down the screen capacity by registering an image file in "Image" and using the same image on the multiple screens. ☞ "9.7 Using a Screen for Various Purposes" (page 9-49)
	Registering an image in "Image (CF)" and using Call Screen	Calls and displays the image data stored in the CF-Card on the base screen. ☞ "9.7 Using a Screen for Various Purposes" (page 9-49)
	Calling the base screen's image	Calls and displays the base screen's already created image data on the base screen. ☞ "9.7 Using a Screen for Various Purposes" (page 9-49)
Mark	Image registered in "Mark"	Calls and displays the dotted image data registered in "Mark" on the base screen. ☞ "9.11 Drawing a Detailed Picture" (page 9-65)
Keypad	Image registered in "Keypad"	Calls and displays the keypad registered in "Keypad" on the base screen. ☞ "9.7 Using a Screen for Various Purposes" (page 9-49)] **NOTE** • You can call one keypad from a [Call Screen] part on a Base Screen.

9.10.2   **Pasting Bitmap/JPEG Procedure**

To directly paste the image on the screen:

Converts image data and
places it on the screen.

1 Select the [Draw (D)] menu - [Image Placement (I)] command, or click the [icon] icon.
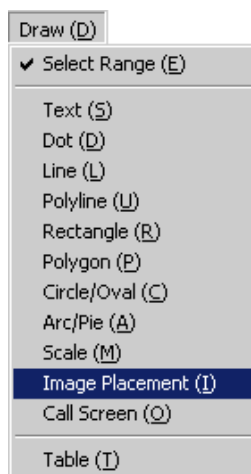
2 Move the cursor to the drawing area and the cursor becomes cross shaped. Click the screen
and the [Open Original File] dialog box is displayed. Set the [Look in] and [File name] for
the image to paste.
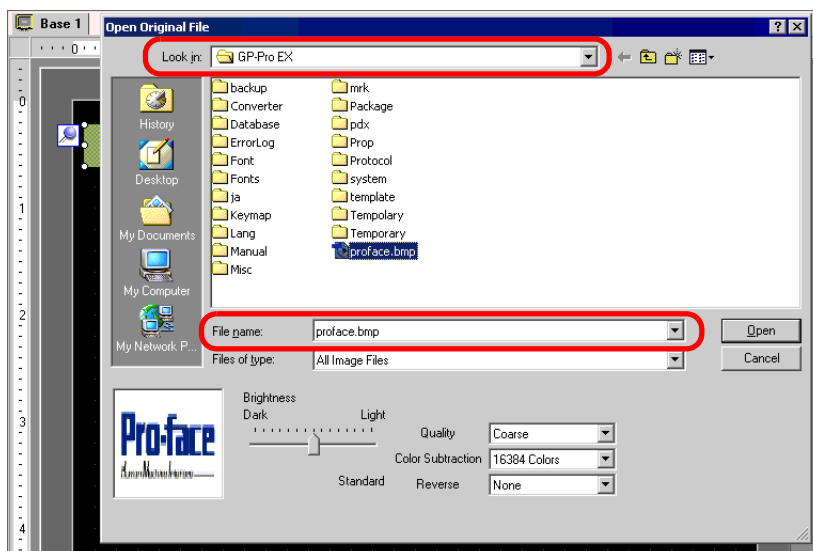
3 Adjust the image's quality and number of colors, and click [Open].
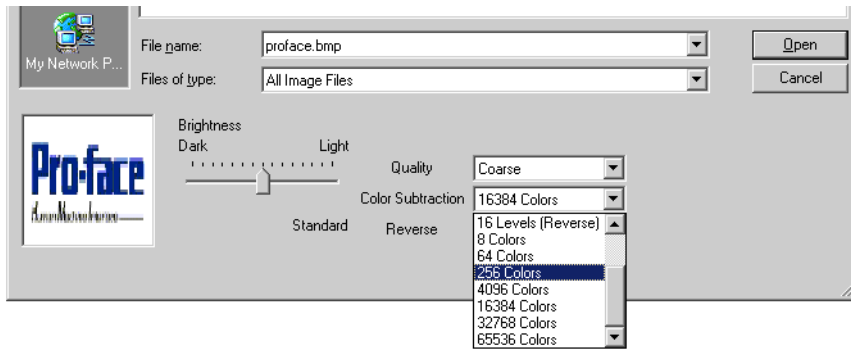
4 The following [Image] dialog box is displayed. Set the size and blink for the image to paste.
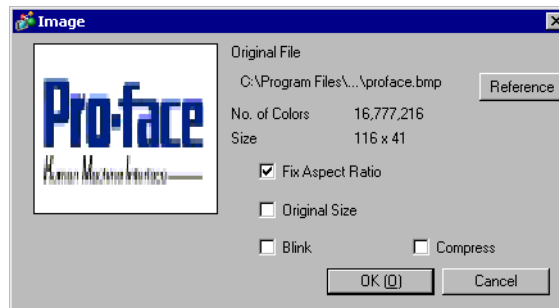
NOTE
• When [Original Size] is selected, an image is placed with the same size as the original image. You cannot change the image's size after placing it.
• When [Fix Aspect Ratio] is selected, an image is placed with the original image's horizontal to vertical ratio fixed.

5 Click [OK] and the designated image will be placed.
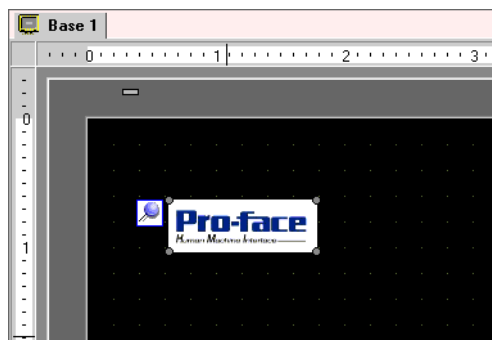
9.11 Drawing a Detailed Picture

9.11.1 Drawing a Valve

■ Details

You can call and display image data created with marks to the base screen. In the Mark, you can draw your own simbols or pictures with dots.
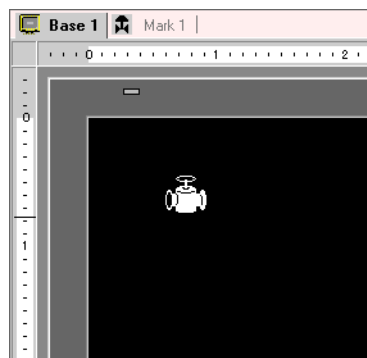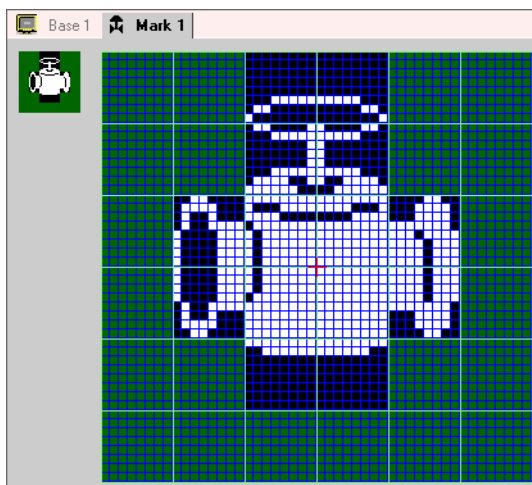
■ Setup Procedure

NOTE • Please refer to the settings guide for details.
☞ "9.12.3 Common Settings (Mark Registration) Settings Guide" (page 9-79)

To draw a valve with dots:
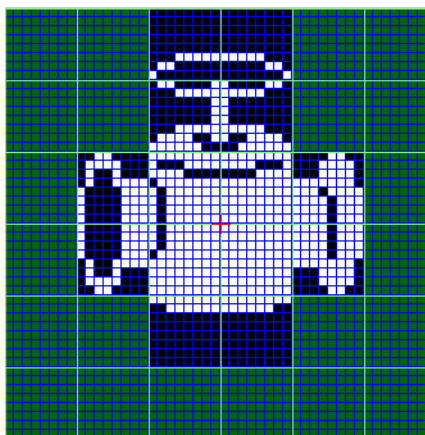
1 Click [Mark Registration (M)] in the [Common Settings(R)] menu. Select [New] and enter [Number] and [Comment] and click [New] (Example: [Number]1, [Comment] Mark)
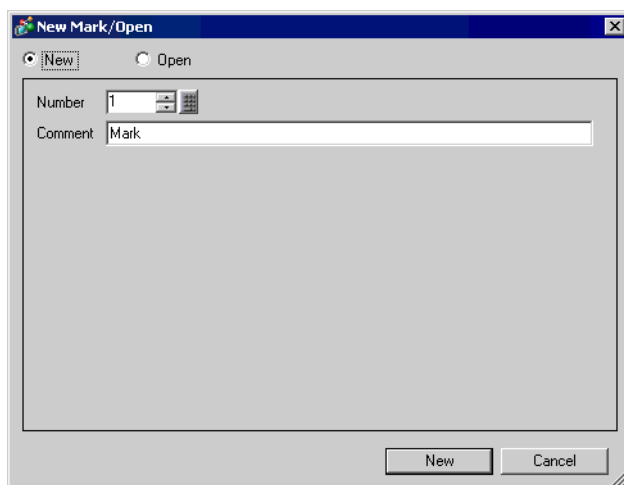
2 Create a summary of the main unit of a bulb. Click [Filled Rectangle (T)] in the [Draw (D)] menu. You can adjust size and location of the rectangle by dragging.
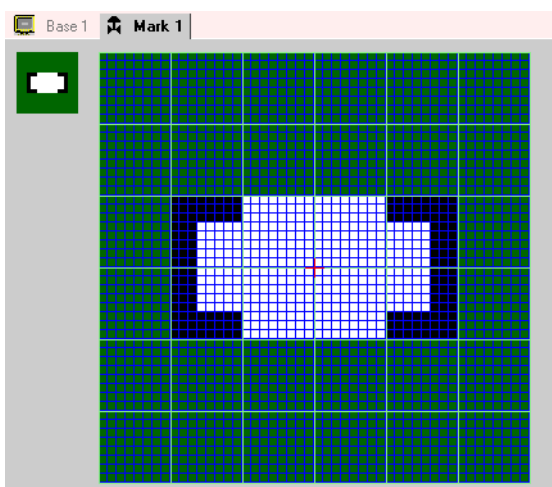
NOTE   • Click [Undo (U)] from the [Edit] menu to undo the command.

3 Create a bulb opening with an oval. Click [Filled Circle/Ellipse (I)] in the [Draw (D)] menu and draw an oval by dragging. Adjust the size and the location before placing it.
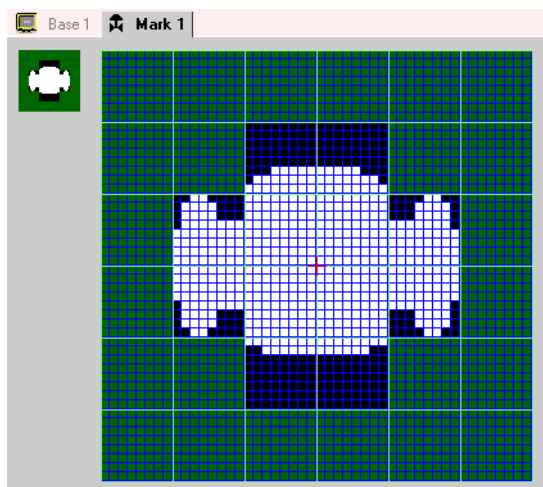
4 Outline the bulb opening using the [Color Inversion]. Click [Color Inversion (Y)] in the [Edit (E)] menu to invert dots in the canvas. In this state, click [Filled Circle/Ellipse (I)] in the [Draw (D)] menu and draw an oval by dragging. Adjust the size and the location before placing it. When finished, click [Color Inversion (Y)] again to return the canvas state.
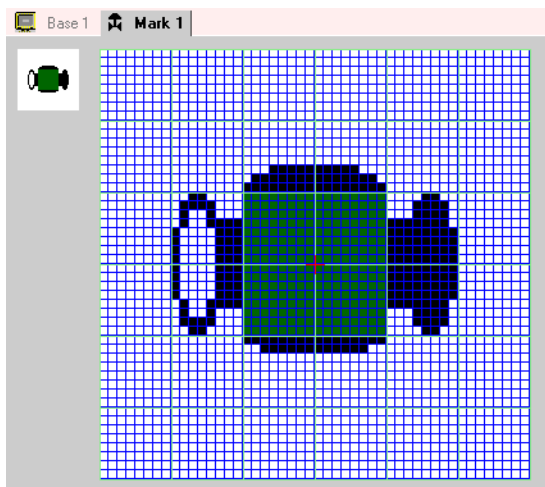
5 Create a handle using an ellipse and a rectangle. Click [Circle/Ellipse (I)] or [Filled Rectangle (T)] in the [Draw (D)] menu and draw an oval or a rectangle by dragging. Adjust the size and the location before placing it.
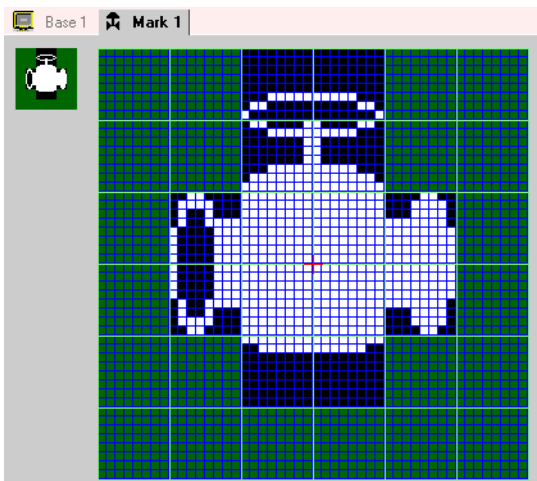
6 Fine tune each part using dots. Click [Dot (D)] in the [Draw (D)] menu. To draw, you can click to turn ON (white) and right-click to turn OFF (black).
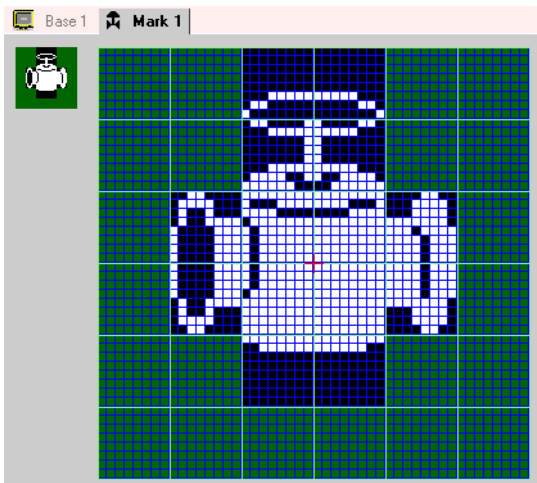
7 Click the [Base 1] tab and open a base screen to place the mark. Click the [Draw (D)] menu - [Call Screen (O)] command.

Draw (D)

✓ Select Range (E)

   Text (S)
   Dot (D)
   Line (L)
   Polyline (U)
   Rectangle (R)
   Polygon (P)
   Circle/Oval (C)
   Arc/Pie (A)
   Scale (M)
   Image Placement (I)
   Call Screen (O)

   Table (T)
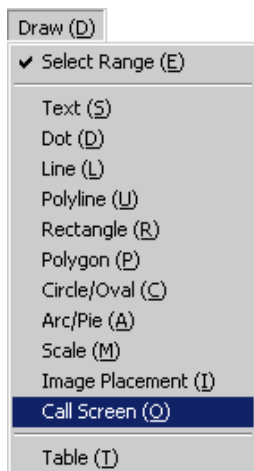
NOTE
• If you click the [Screen (S)] menu - [New Screen (N)] command, you can create a new base screen.

8 Click the drawing screen and the dotted border is placed and the [Call Screen] dialog box is displayed.
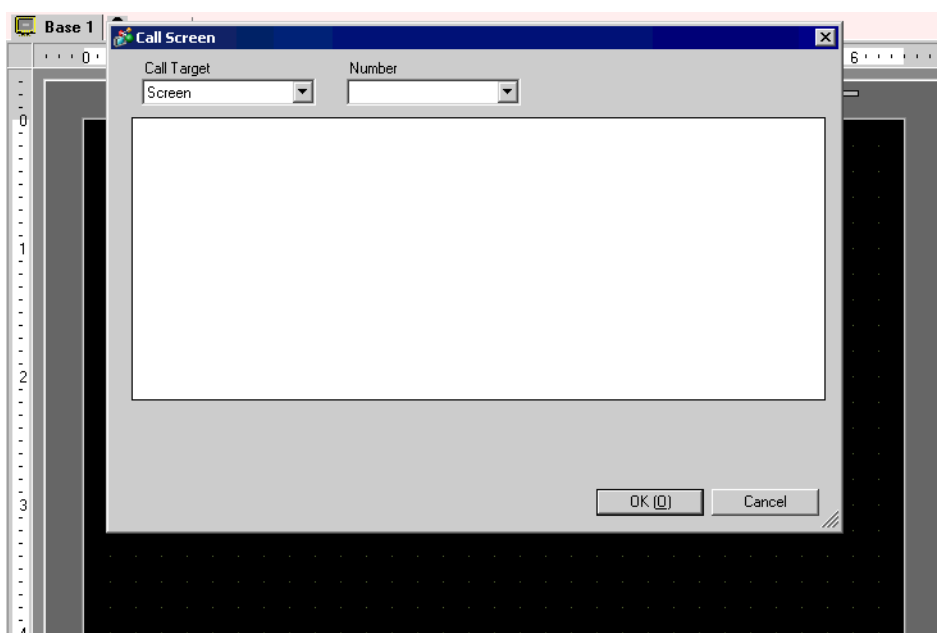
9 Select [Mark] from [Call Target] and select the mark number registered in [Number]. (e.g.: 1)
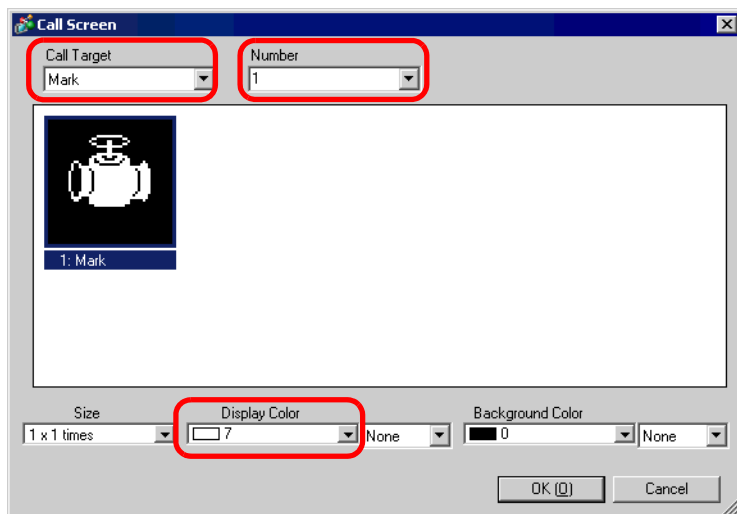
NOTE • You can designate the created mark's display color.

10 Select an image and click [OK] to display the designated image.
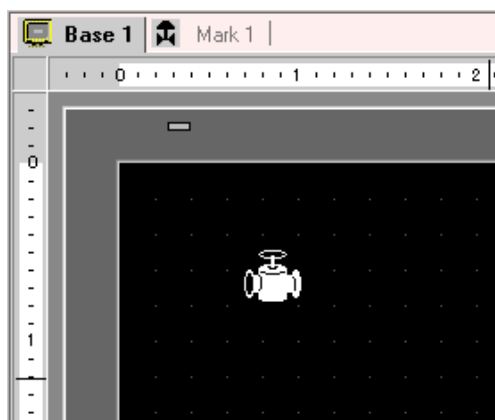
9.11.2　Displaying a Character that is not Included in the Character Code

Draw an external character with dots in Mark. You can display registered external characters on the screen.
You can register external characters only when selecting the European standard font (bit map font) and the font size of 8×16 dots or larger.

Mark　　　　　　　　　　　　　　　　　　　GP
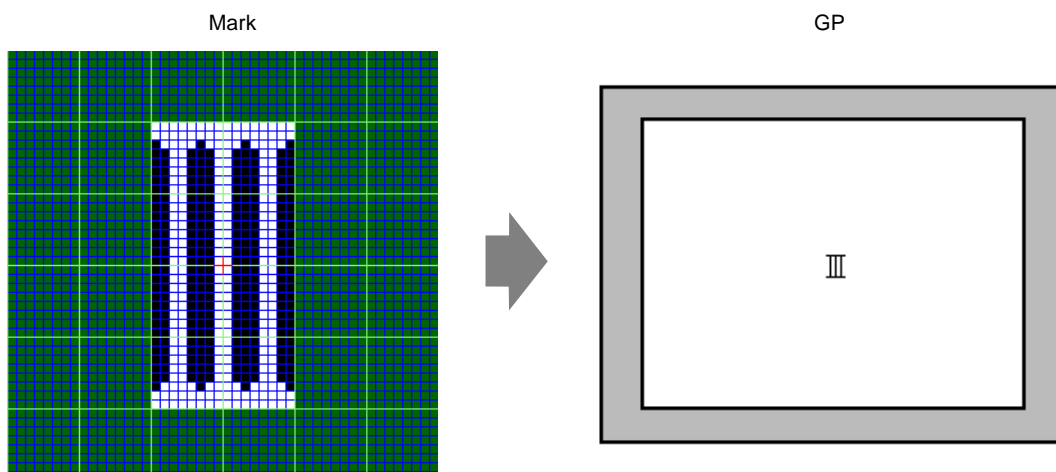
■ Setup Procedure

You can display the created character on the screen by replacing a character in the frame in the character code table with it. The following is the procedure for replacing the character ë (89h) in the character code table (Code Page 850) with the character "III", which was created with dots, and displaying the character "III" on the GP screen.

◆ Character Code List

The following is the character code table of Code Page 850, the character code used on the GP.

89h corresponds to "ë".

1 Click [Mark Registration (M)] in the [Common Settings (R)] menu. Select [New] and enter the mark number "8010" in the [Number] which corresponds to the character ë (89h) in the character code table. Click [New].

☞ " ■ Input Code Table" (page 9-74)
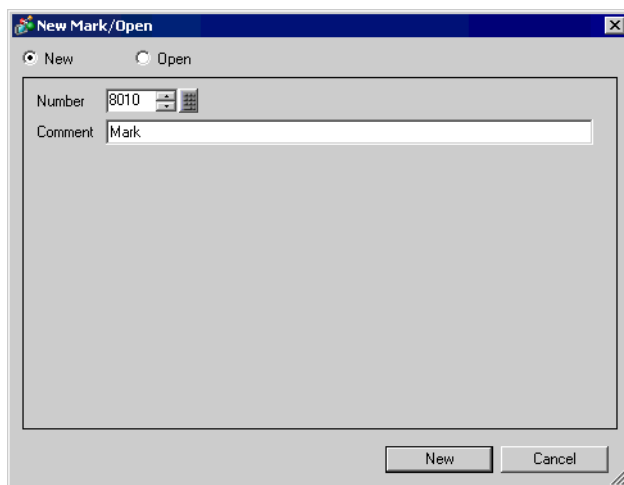
2 Draw a special character. Create "III" to display on the screen.
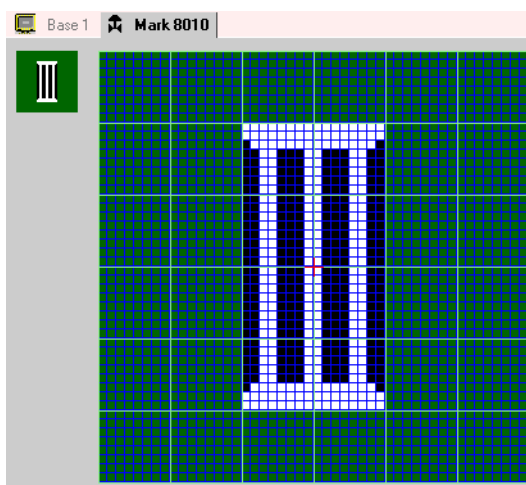
3 Click the [Base 1] tab and click [Text (S)] in the [Draw (D)] menu.
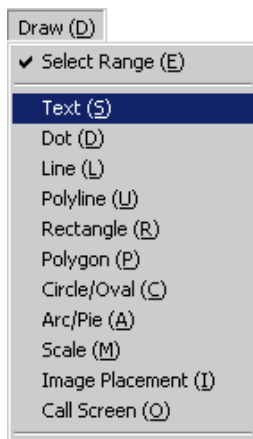
4 Place the text on the screen, and double-click it to open the [Text] dialog box.
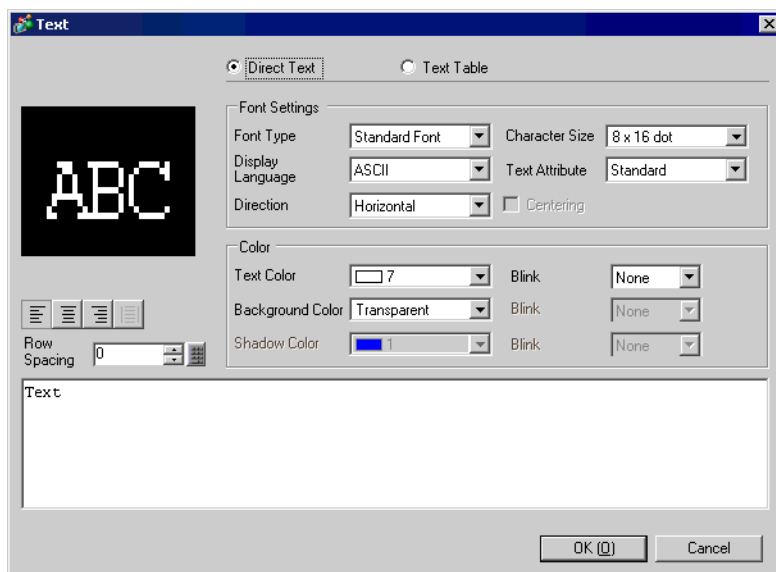
5 In the following text input area, input the"Input Code""0235", which corresponds to the text code (89h), while pressing the [Alt] key. "ë" has been inputted. Click [OK].

) " ■ Input Code Table" (page 9-74)
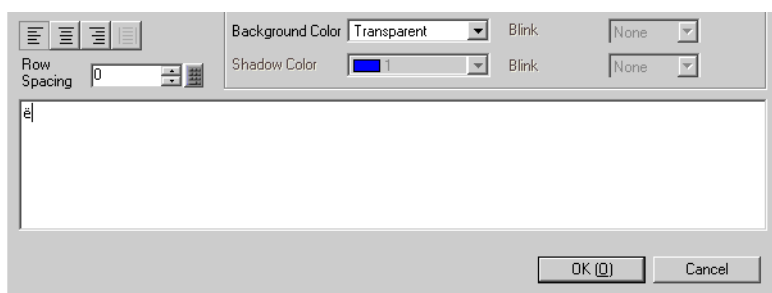
NOTE • The character placed on the drawing screen is ëbut on the screen transferred to the GP, "III" is displayed.

■ How to Display Characters not Found in the Character Code List

The marks drawn for the mark numbers from 8001 to 8128 are treated as the characters of the character codes from 80h to FFh. For example, 8001 corresponds to 80h, and 8002 to 81h. If you create marks for these mark numbers, they will be registered as external characters. By inputting the input code corresponding to a mark number on the base screen, the character displayed on the base screen is displayed as a registered external character on the GP.

■ Input Code Table

| Mark Number	Text Code Code Page 851	Input Code (Alt + Code)	Mark Number	Text Code Code Page 851	Input Code (Alt + Code)	Mark Number	Text Code Code Page 851	Input Code (Alt + Code)
8001	80h	0199	8049	B0h	0130	8097	E0h	0211
8002	81h	0252	8050	B1h	0131	8098	E1h	0223
8003	82h	0233	8051	B2h	0132	8099	E2h	0212
8004	83h	0226	8052	B3h	0133	8100	E3h	0210
8005	84h	0228	8053	B4h	0134	8101	E4h	0245
8006	85h	0224	8054	B5h	0193	8102	E5h	0213
8007	86h	0229	8055	B6h	0194	8103	E6h	0181
8008	87h	0231	8056	B7h	0192	8104	E7h	0254
8009	88h	0234	8057	B8h	0169	8105	E8h	0222
8010	89h	0235	8058	B9h	0135	8106	E9h	0218
8011	8Ah	0232	8059	BAh	0136	8107	EAh	0219
8012	8Bh	0239	8060	BBh	0137	8108	EBh	0217
8013	8Ch	0238	8061	BCh	0138	8109	ECh	0253
8014	8Dh	0236	8062	BDh	0162	8110	EDh	0221
8015	8Eh	0196	8063	BEh	0165	8111	EEh	0175
8016	8Fh	0197	8064	BFh	0139	8112	EFh	0180
8017	90h	0201	8065	C0h	0140	8113	F0h	0173
8018	91h	0230	8066	C1h	0141	8114	F1h	0177
8019	92h	0198	8067	C2h	0142	8115	F2h	0159
8020	93h	0244	8068	C3h	0143	8116	F3h	0190
8021	94h	0246	8069	C4h	0144	8117	F4h	0182
8022	95h	0242	8070	C5h	0145	8118	F5h	0167
8023	96h	0251	8071	C6h	0227	8119	F6h	0215
8024	97h	0249	8072	C7h	0195	8120	F7h	0184
8025	98h	0255	8073	C8h	0146	8121	F8h	0176
8026	99h	0214	8074	C9h	0147	8122	F9h	0168
8027	9Ah	0220	8075	CAh	0148	8123	FAh	0183
8028	9Bh	0248	8076	CBh	0149	8124	FBh	0185
8029	9Ch	0163	8077	CCh	0150	8125	FCh	0179
8030	9Dh	0216	8078	CDh	0151	8126	FDh	0178
8031	9Eh	0128	8079	CEh	0152	8127	FEh	0247
8032	9Fh	0129	8080	CFh	0164	8128	FFh	0160
8033	A0h	0225	8081	D0h	0240			
8034	A1h	0237	8082	D1h	0208			
8035	A2h	0243	8083	D2h	0202			
8036	A3h	0250	8084	D3h	0203			
8037	A4h	0241	8085	D4h	0200			
8038	A5h	0209	8086	D5h	0153			
8039	A6h	0170	8087	D6h	0205			
8040	A7h	0186	8088	D7h	0206			
8041	A8h	0191	8089	D8h	0207			
8042	A9h	0174	8090	D9h	0154			
8043	AAh	0172	8091	DAh	0155			
8044	ABh	0189	8092	DBh	0156			
8045	ACh	0188	8093	DCh	0157			
8046	ADh	0161	8094	DDh	0166			
8047	AEh	0171	8095	DEh	0204			
8048	AFh	0187	8096	DFh	0158			

9.12 Settings Guide

9.12.1 Text Settings Guide

Setting	Description
Direct Text	Input text into the Input Text window and place it directly as fixed text.
Text Table	Use text from a previously saved Text Table.) "15.4 Changing Languages (Multilanguage)" (page 15-15)
Font Type	When [Direct Text] is selected: • Standard Font You can select a bit map font from [Japanese], [Western], [Chinese (Traditional)], [Chinese (Simplified)], or [Korean]. IMPORTANT • The standard font will become bit map font. The display speed is faster than with other fonts, but characters may have jagged outlines or get out of shape if enlarged/reduced too much. • Standard fonts of Japanese and Western are transferred to GP as normal. If you want to use standard fonts of Chinese (Simplified), Korean, or Chinese (Traditional), add the language in the [System Settings Window/Font Settings].) "6.2 Stroke Font, Standard Font" (page 6-3)

Continued

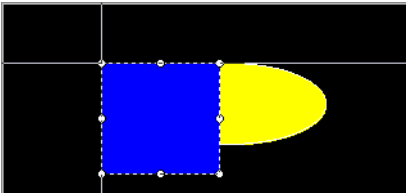| Setting	Description

Font Type	• Stroke Font
	  You can select a vector font from [Japanese], [Western], [Chinese (Traditional)], [Chinese (Simplified)], [Korean], [Cyrillic], or [Thai].
	
	IMPORTANT
	
	• The standard font will become vector font. Characters are displayed with smooth outlines if enlarged, but the display speed is slower than with the standard font.
	• Western stroke fonts are transferred to GP as normal. If you want to use stroke fonts of Japanese, Chinese (Simplified), Korean, Chinese (Traditional), Cyrillic, or Thai, add the language in the [System Settings Window/Font Settings].
	) "6.2 Stroke Font, Standard Font" (page 6-3)
	
	• Image Font
	  Displays a Windows font as bit map data.
	) "6.3 Image Font" (page 6-15)
	
	When [Text Table] is selected:
	Select between Standard Font and Stroke Font.

Display Language	Select a text display langage from [Japanese], [Western], [Chinese (Traditional)], [Chinese (Simplified)], [Korean], [Cyrillic], or [Thai].
Direction	Select from [Vertical] or [Horizontal].

Character Size	Select the text size. Each font type has a different size range.
	• Character Size
	  Standard Font: 8×8 dot standard unit, 1 to 8 times (8×8 to 64×64 dot)
	  8×16 dot standard unit, 1 to 8 times (8×16 to 64×128 dot)
	  Stroke Font: 6 to 127
	• Fixed Size
	  You can select this option only when the [Standard Font] is selected.
	  Select from [6×10 dots], [8×13 dots], or [13×23 dots].
	
	IMPORTANT
	
	• When the [Fixed Size] is "6×10 dot", you cannot select [Bold] for the [Text Attribute].

Text Attribute	Each font type has a different range of styles. Standard Font: Choose from [Standard], [Bold], [Shadow] Stroke Font: Choose from [Standard], [Bold], [Outline]
Centering	When selecting "Vertical", align the center of text with single-byte and two-byte characters.
Text Color	Set the display color for the text.
Background Color	Set the background color for the text.
Shadow Color	When the [Font Type] is [Standard Font] and the [Text Attribute] is [Shadow], choose a color for the shadow.
Row Spacing	Set a value from 0 to 255. This is only applicable when the text is multiple lines. This option cannot be used when the [Font Type] is set to [Image Font].
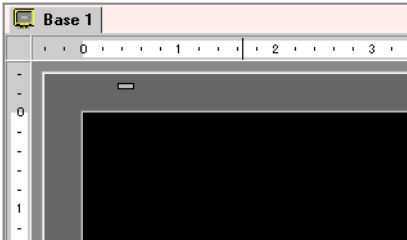
9.12.2 Options Settings [Screen Edit Style] Settings Guide

Click the [View (V)] menu - [Option Settings (O)]command to display the following [Option Settings] dialog box. Select [Screen Edit Style] in the left window.
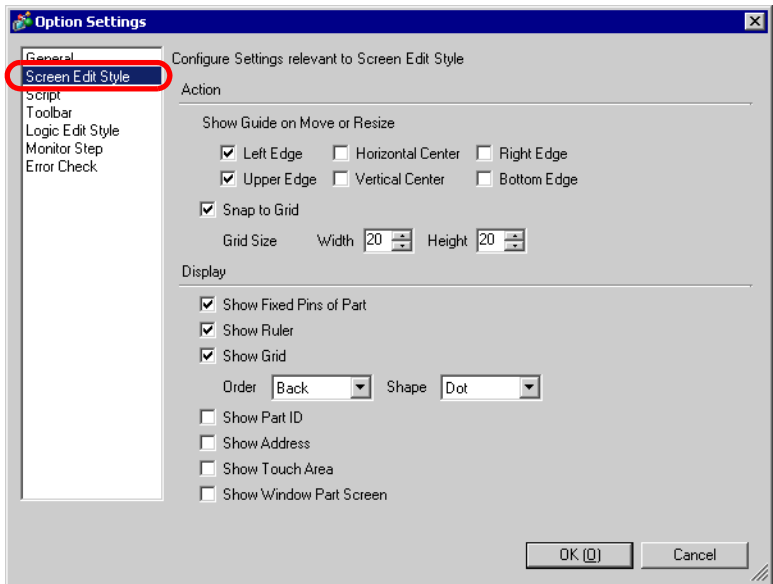
Setting		Description
Action	Show Guide on Move or Resize	This function is valid when aligning an object with a previously placed object. Guidelines are displayed at the designated points (the left edge and upper edge, etc.).
	Snap to Grid	The cursor position is determined from the grid size, you don't have to fine tue the position. ☞ "9.9 Creating a Screen from a Template" (page 9-56)
	Grid Size	Designate the grid interval by the dot.

Continued

Setting		Description
Display	Show Fixed Pins of Part	Designate whether or not to show the pin mark when an object is selected. **NOTE** • If you click the pin mark, the Move and Edit Object functions will be locked and the pin mark will be red.
	Show Ruler	Shows rulers at the top and the left side of the screen.
	Show Grid	Designate whether or not to show a grid.
	Show Part ID	Designate whether or not to show the part ID number of the placed part.
	Show Address	Designate whether or not to show the address set to the part.
	Show Touch Area	Designate whether or not to show a touch input valid area. **IMPORTANT** • Place each object so that the touch areas do not overlap each other.
	Show Window Part Screen	Designate whether or not to show a window part screen.

9.12.3 Common Settings (Mark Registration) Settings Guide

■ Create

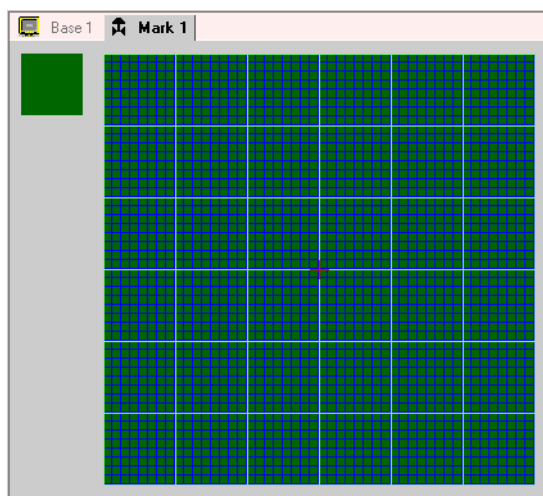| Setting	Description
New	Creates a new [Mark Registration] screen.
Open	Opens a previously created [Mark Registration] screen.
Number	Set the [Mark Registration] screen No. to any value between 1 and 8999.
Comment	Enter a comment of up to 30 characters for the [Mark Registration] screen.

■ Open

Setting	Description
New	Creates a new [Mark Registration] screen.
Open	Opens a previously created [Mark Registration] screen.

Continued

Setting		Description
List of marks		Displays the list of the [Mark Registration] screens in the project file.
Number		Displays the number of each [Mark Registration] screen.
Comment		Displays the comment for each [Mark Registration] screen.
Mark preview		Provides a preview display of the marks in the [Mark Registration] screen selected in the mark list.
	Number	Displays the number of the [Mark Registration] screen selected in the mark list.
	Comment	Displays the comment for the [Mark Registration] screen selected in the mark list.

■ Mark Registration

| Setting	Description
Preview area	Provides a preview display of the mark's on-screen display size.
Drawing area	Used to draw marks using the drawing operations below, which can be selected from the menu and toolbar. • [Dot] • [Line] • [Rectangle] • [Circle/Oval] • [Filled Rectangle] • [Filled Circle/Ellipse] • [Fill] • [Text] • [Draw Size] The following items are displayed in the drawing area: • Origin • 48 × 48 dot grid • Quadrant (8 × 8 dot area) borders • DotON, DotOFF (Black), DotOFF (Transparent)

9.13 Restrictions

## 9.13.1 Restrictions for Drawing (Text)

- When text is enlarged or rotated, the thickness of some letters may change.
- For characters with a character code (0×80 to $0 \times FF$), the characters' shape will change due to differences in font between GP-Pro EX and the GP.

9.13.2 Restrictions for Pasting Bit Map/JPEG

- If you set the background color to the screen used for a call screen, the objects placed on the screen are not displayed on the GP.
- For a color data image screen, the data capacity is large, but the display speed on the GP is fast. For a monochrome data image screen, the display speed on the GP is somewhat slow, but the data capacity can be saved. Convert screens depending on the purpose.
- If an image screen is placed beyond the drawing area, the part that is outside the area is not displayed on the GP.

Drawing Area
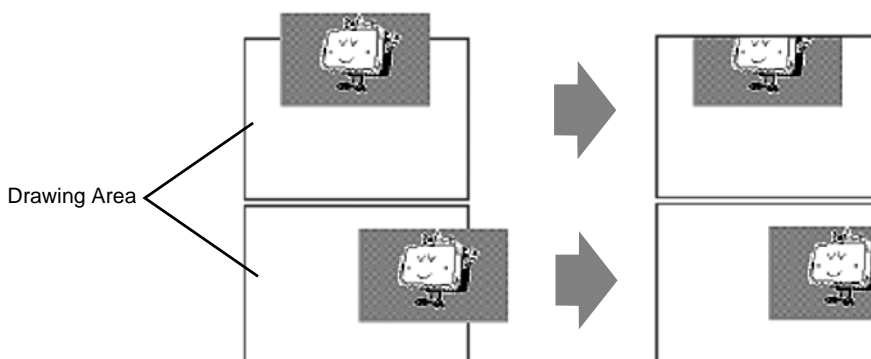
- Up to 10-layer (11-fold) nesting (calling hierarchy) is available. However, if the remaining memory in the PC decreases in operation, the display on the screen may be omitted. When transferred, the nested objects are normally displayed on the GP.
  e.g.: Double-layer (threefold) nesting

B100   B10   B1

Call screen B100   Call screen B10
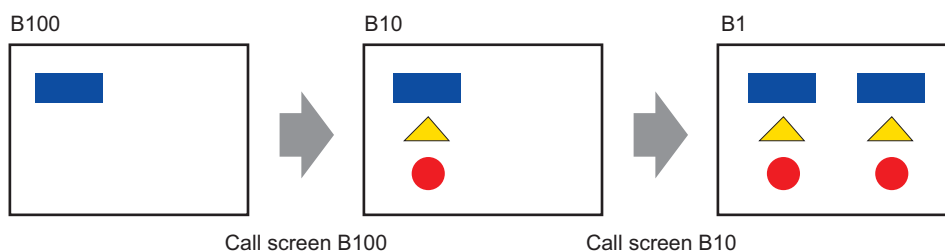
9.13.3　Restrictions on Package Registration

- Package registration is saved when exiting the GP-Pro EX.
- Up to 200 objects can be registered in one package. To register more than 200 objects, create a new package and register them in a new category.

9.13.4　Restrictions on Marks

- Confirm a registered external character on the GP after the screen data transmission. The character corresponding to the inputted text code is displayed on the GP-Pro EX.
- External characters can be registered only when the English standard font with a font size of 8×16 dot or larger is selected. 8×8 dot is not supported.
- To create an external character, draw it with single-byte characters (within 8×16 dot) with reference to the origin of the mark creating area (0,0).
- External characters cannot be rotated.
- When you print text in Alarm, external characters are not outputted. The results depending on printer types are as follows:
  For NEC PR201, EPSON ESC/P, HP Laser Jet, and Text ASCII,
  Direct code output of the text codes.
  For EPSON PM/Stylus,
  Image output of Code Page 850 characters.
- If you were using the Charcer code (0x80 to 0xFF) of the Western standard fonts in a CSV file while registering extended marks, and you want to display the marks in the Special Data Display [CSV Display] and [CSVData Transmission]on GP, they will be converted to the extended charagters that were registered in the mark screen.

9.13.5　Restrictions for Screen Display

- When you reduce the screen edit area with the zoom function, some drawings may not display correctly, depending on the magnification.