RTPView Project
Program Example

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File Name: RTPView Example 3200T.pdf
Last Updated: 10/21/20

RTPView Project Program

This document will demonstrate the configuration of RTPView Edit Box and Picture Objects. This example will show how to create and configure of a fader with scales and pointer. In addition, it will create toggle button that displays an image based on its state. Likewise, it also show how to configure an Edit Box based on the output of the fader.

Hardware Setup

● No physical I/O hardware is required to perform this setup example. You are free to use either an RTP target node or the NetArrays built-in Simulator.

Requirement: Create a NetArrays program that contains a Float Variable named as "Fader" and Boolean Variables named as "Key". Both variables should be configured to be writable (No Read-only Variables) and the program should be running in the simulator.
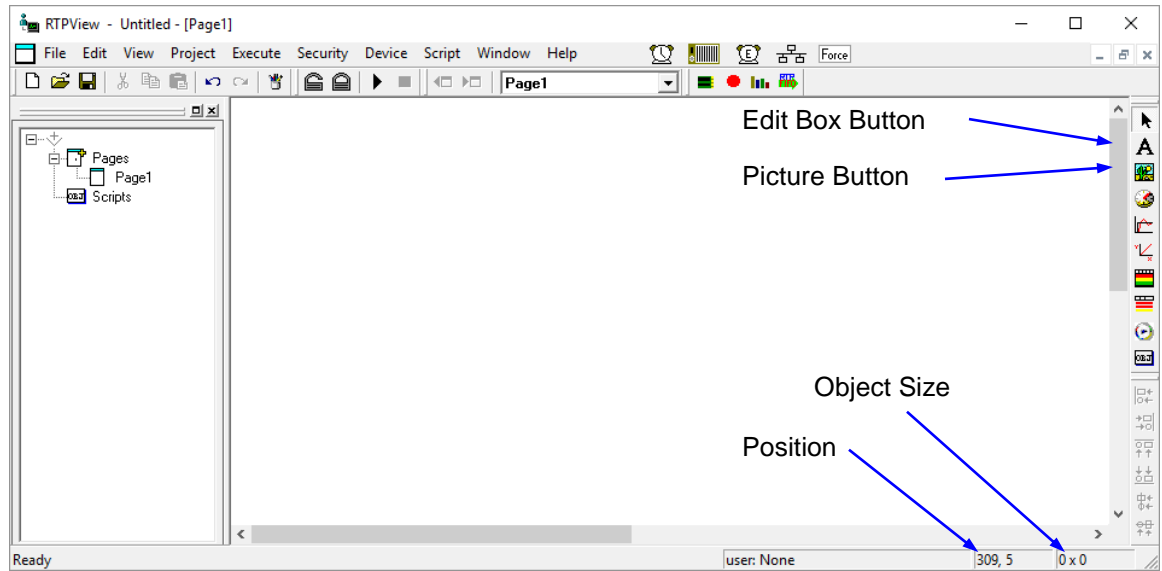
RTPView Project

● Open RTPView, click on the ☐ (New Project) button to begin a new project.
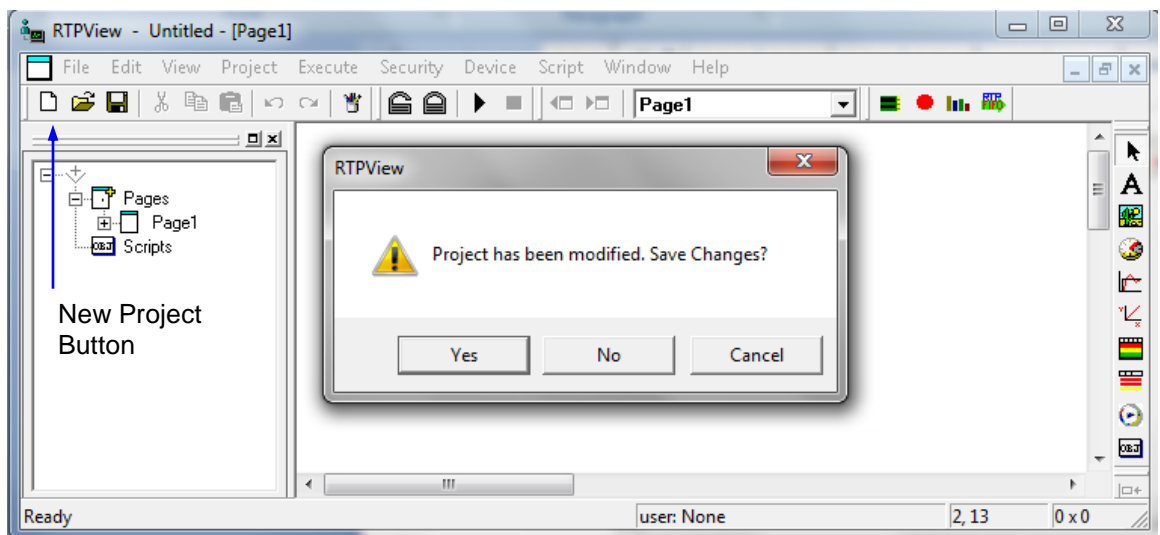
● Select **No** to the question: **Project has been modified. Save Changes?**

The icons below are going to be used in this example.

Fader Slider Bar

The Fader Slider bar consists of a static Scale picture object, a Pointer picture object, that drives a Float variable and an Edit Box object that reads this variable.
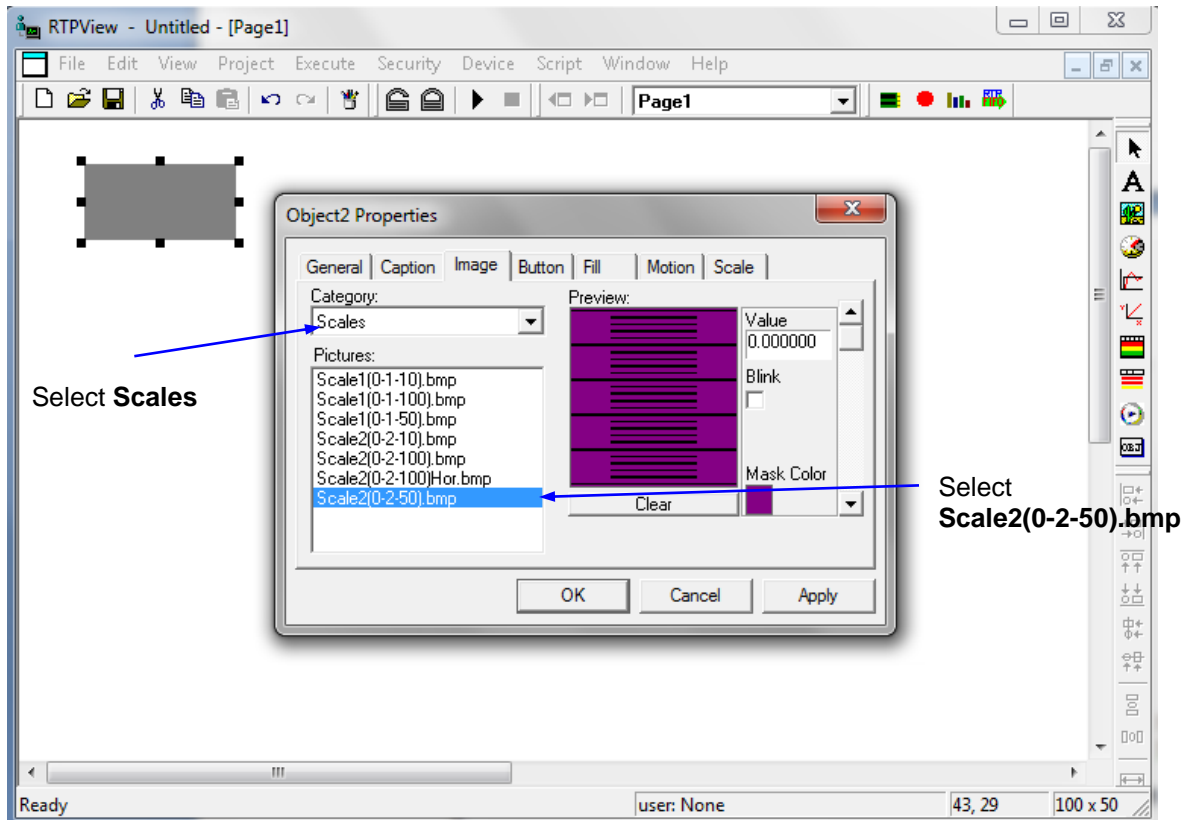
Fader Scale

- Left click on the ![Picture icon] (Picture) button in the Palette toolbar. Move the cursor near the upper left corner of the page and left click the left mouse button. A dark gray rectangle will appear on the page.

- Right-click on the rectangle and select **Object Properties** from the menu. This will display the Object Properties dialog.
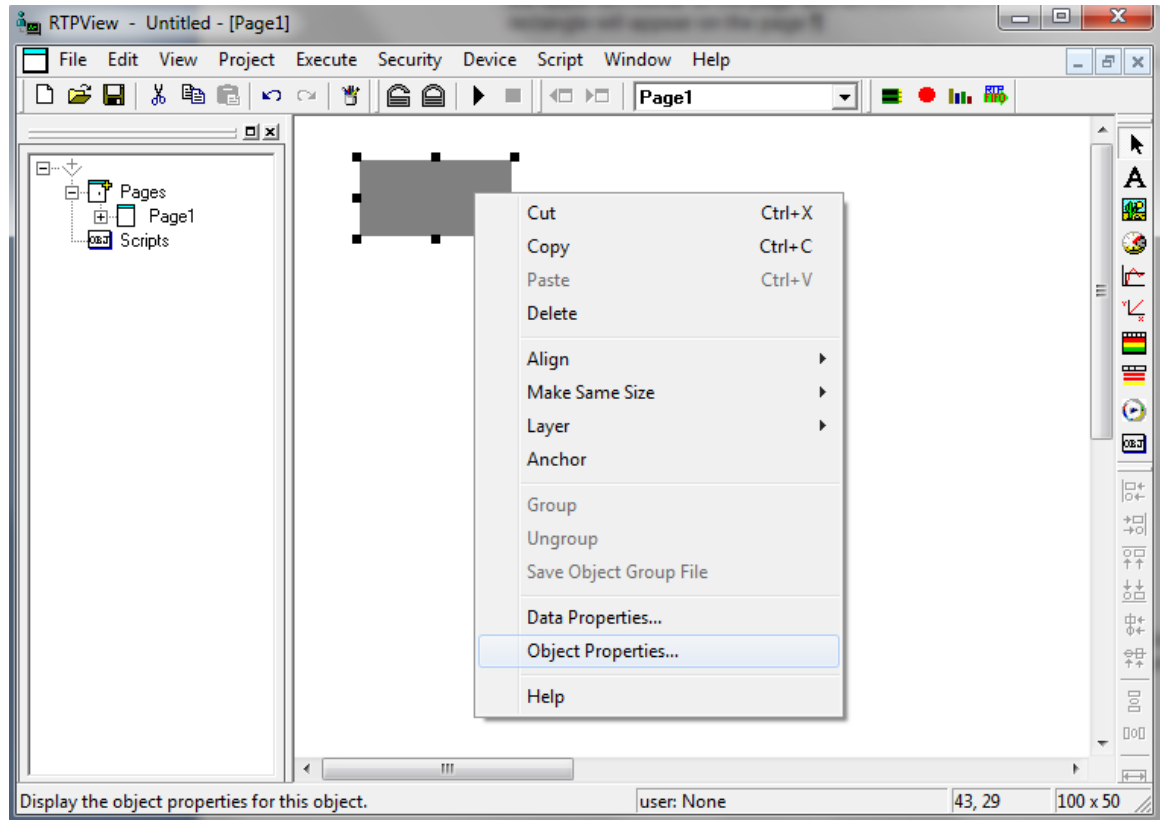

- Left click on the **Image** tab of the Properties dialog. From the Category list, select **Scales**. From the list of Pictures, select **Scale2(0-2-50).bmp**. The picture will appear in the Preview frame.

- Left click the **OK** button to close the Properties dialog.
- Select the Scale object, press and hold the Shift key, and use the arrow keys to adjust the size of the Scale to 20 x 200 pixels. Release the Shift key and use the arrow keys to position the Scale at coordinates 60, 30. It should look like the following example. The object size and coordinates can be viewed in the bottom right corner of the RTPView window.
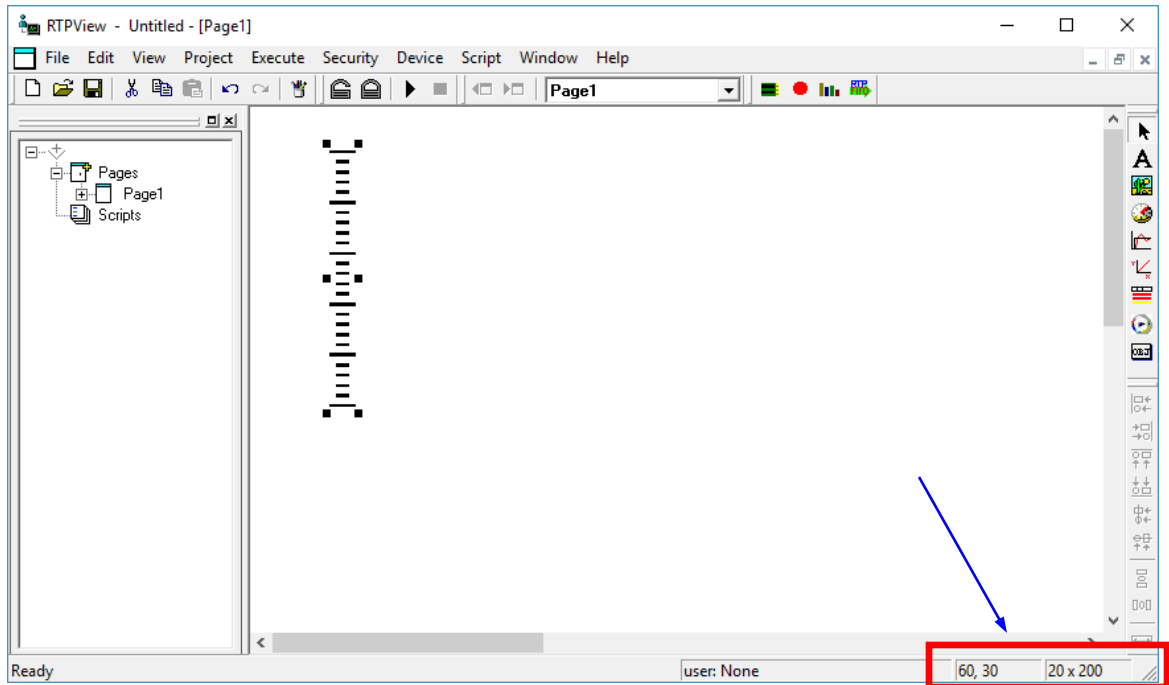
Fader Pointer

- Left click on the (Picture) button in the Palette toolbar. Move the cursor near the top of the Scale and left click the mouse button. A dark gray rectangle will appear over the scale.
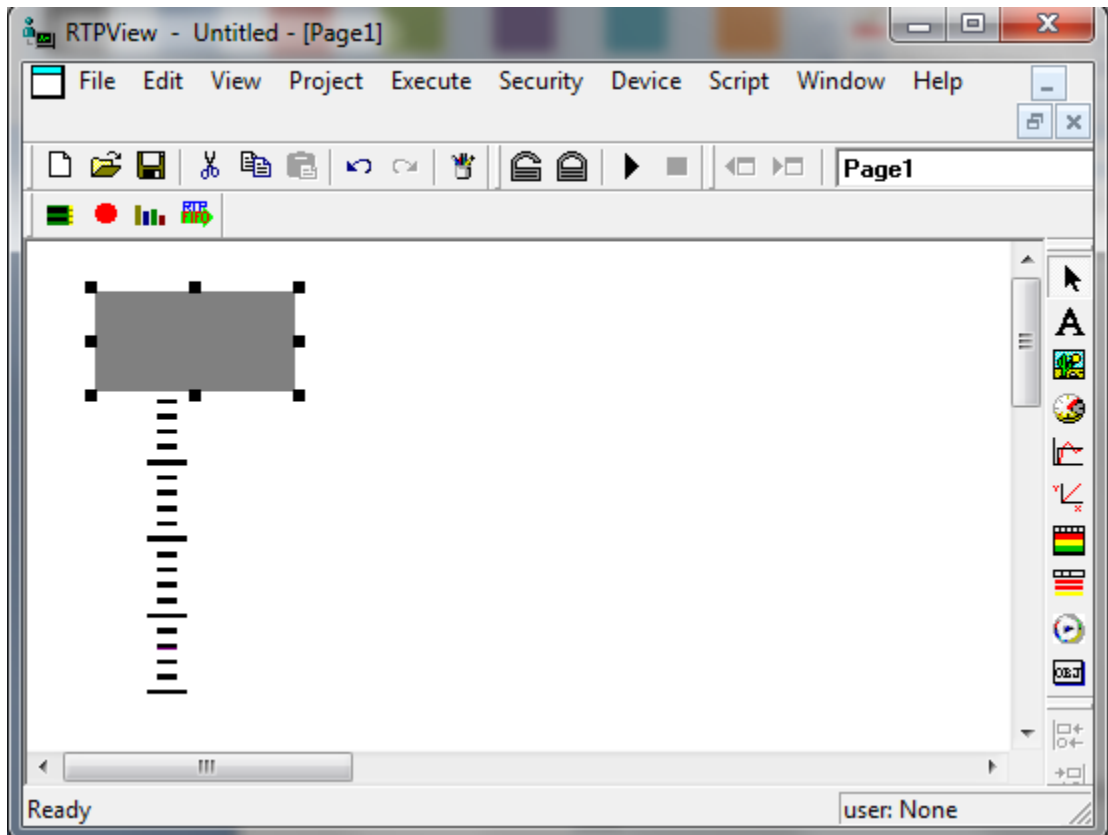
- Right-click on the rectangle and select **Object Properties** from the menu.
- In the **General** tab of the Properties dialog, select **Read/Write** as the **Data** property. Check the check box to the left of **Repeat write while mouse button is pressed**. RTPView will write the output of this object as it is being moved. Leave the **Min Value** at **0** and the **Max Value** at **100**.
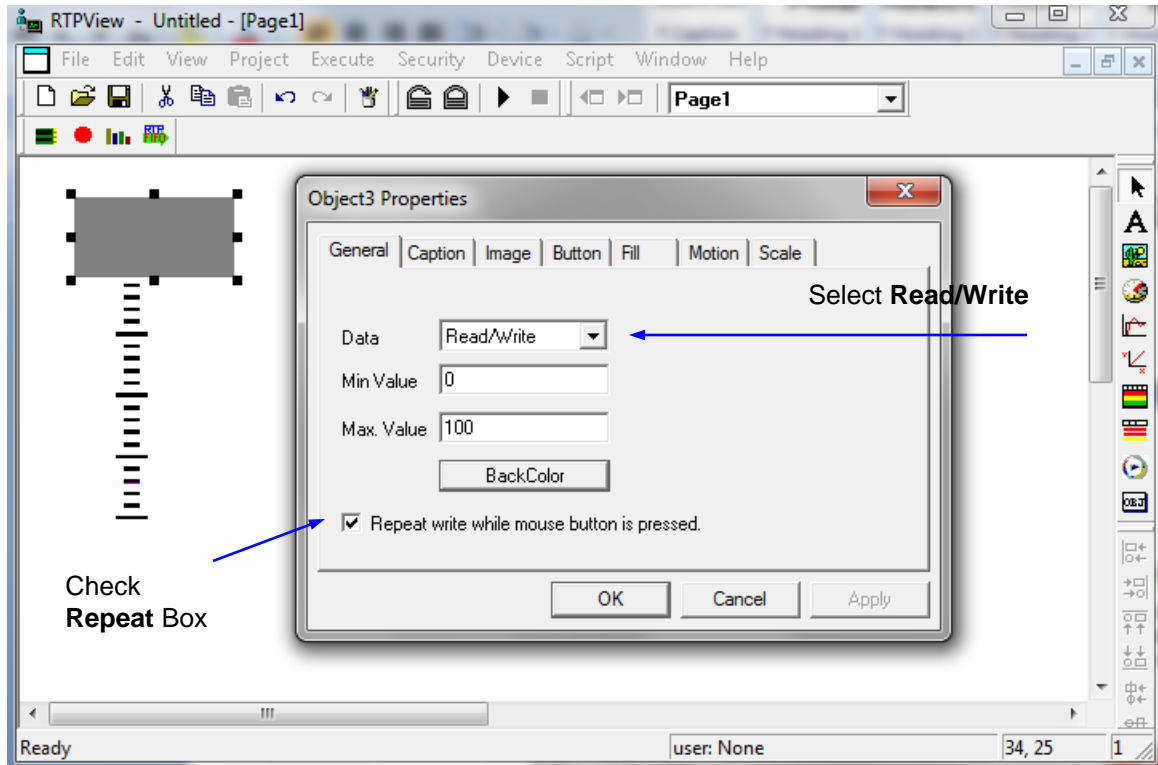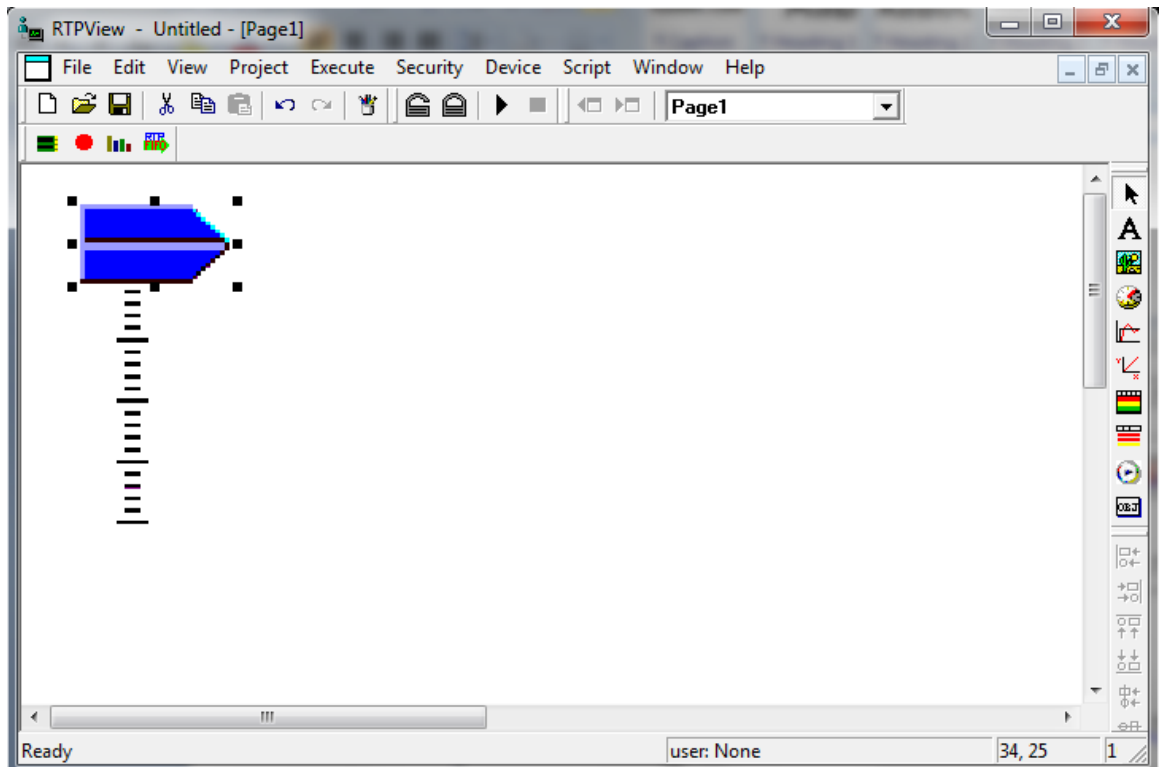

- Left click on the **Image** tab of the Properties dialog. From the list of categories, select **Misc**. From the list of Pictures, select **needleBlue.bmp**. The picture will appear in the Preview frame.
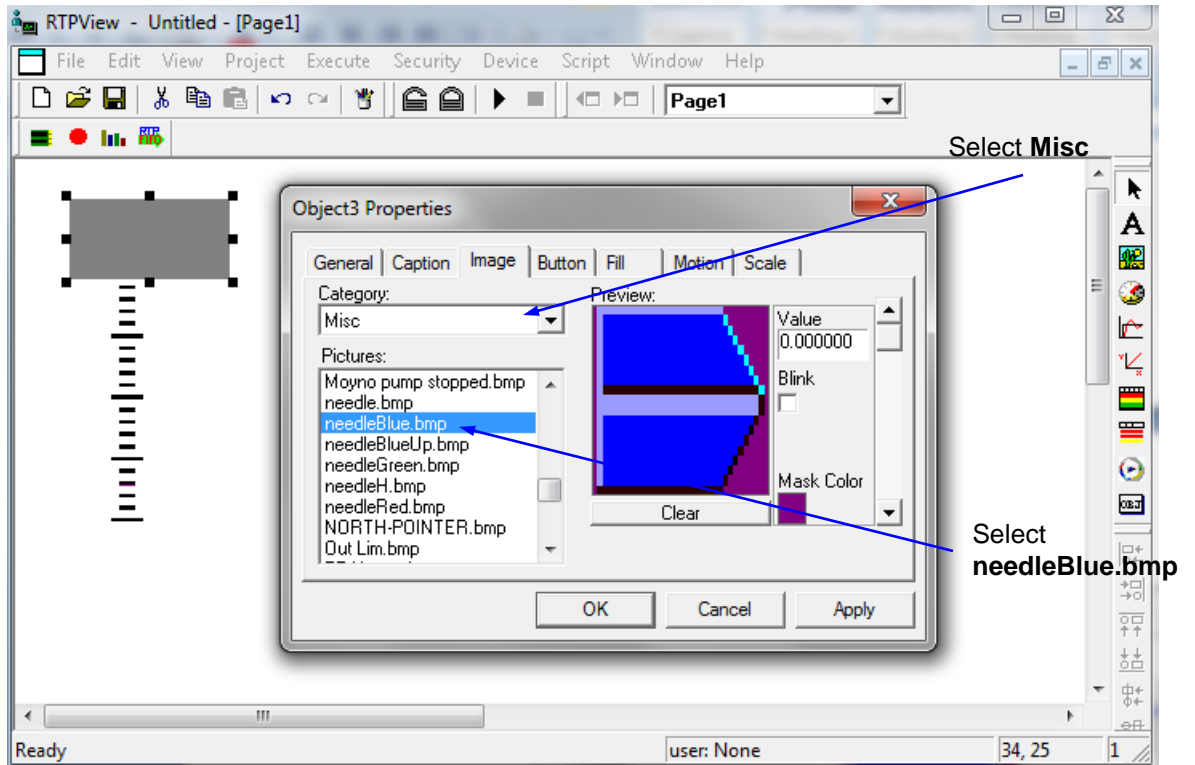
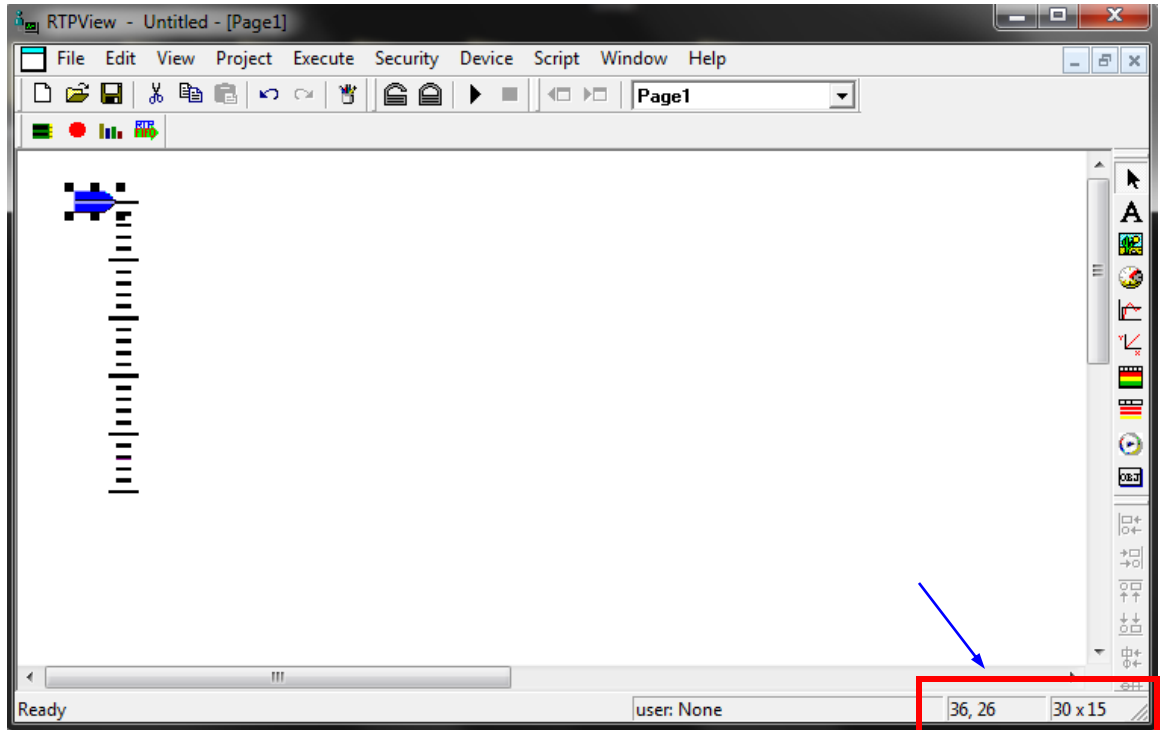- Left click the **OK** button to close the Properties dialog.

- Select the Pointer object, press and hold the Shift key, and use the arrow keys to adjust the size of the Pointer to 30 x 15 pixels. Release the Shift key and use the arrow keys to position the Pointer at coordinates 36, 26. This positions the Pointer at the top of the Scale.
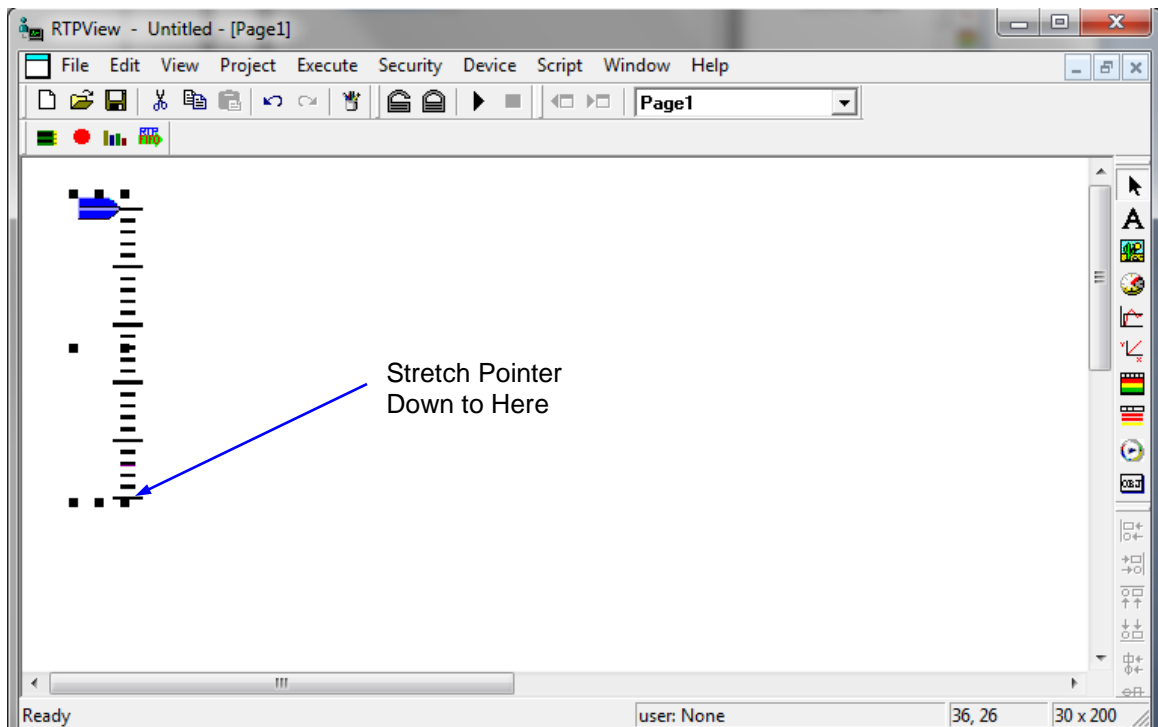

- Right-click on the Pointer object again and select **Object Properties** from the menu.

- Left click on the **Motion** tab of the Properties dialog. Check the **Enable** checkbox to enable motion control for the object. Select **Up** as the Move property
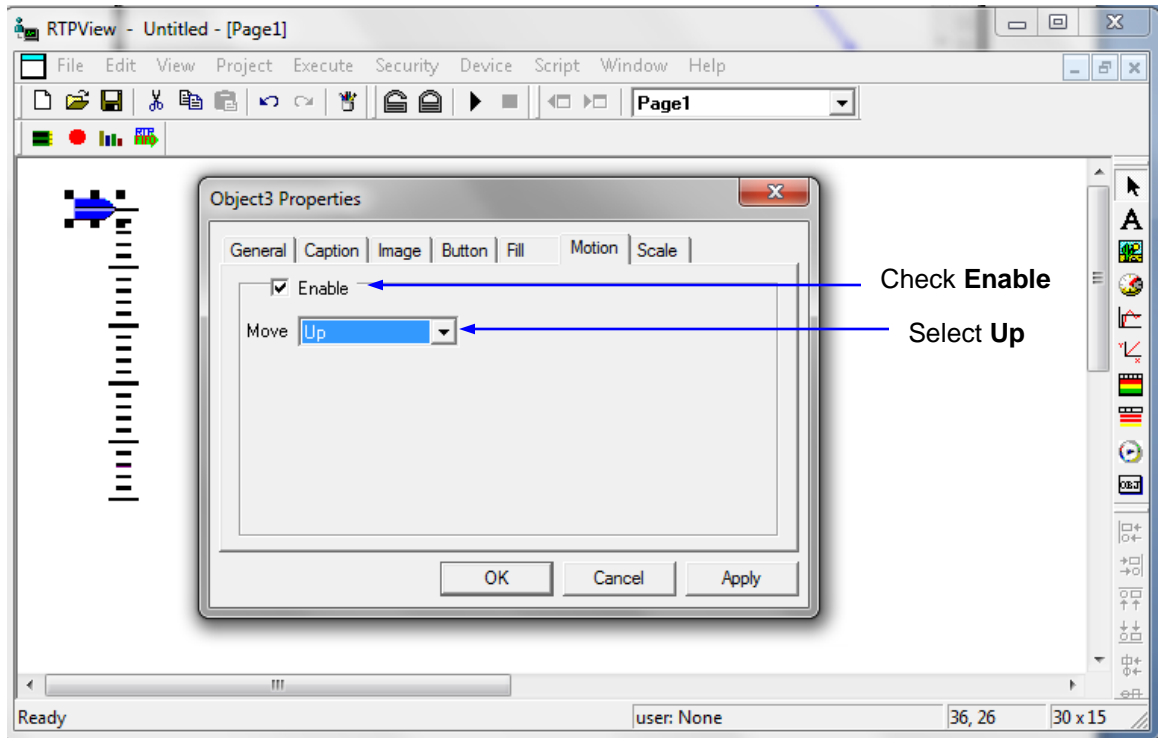
- Left click the **OK** button to close the Properties dialog.
- Drag the bottom anchor point of the Pointer down to just below the bottom of the Scale and release it. This determines the motion length for the object. In run mode, sliding the pointer up and down the track will create a value ranging from the defined minimum to the defined maximum.


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- Right-click on the Pointer object and select **Data Properties** from the menu.

- Left click on the Tag column and select **Fader** from the list of tag names. Left click the **OK** button to close the Data Properties dialog. The **Device** will automatically be set to Simulator (or the *device* with the downloaded program).
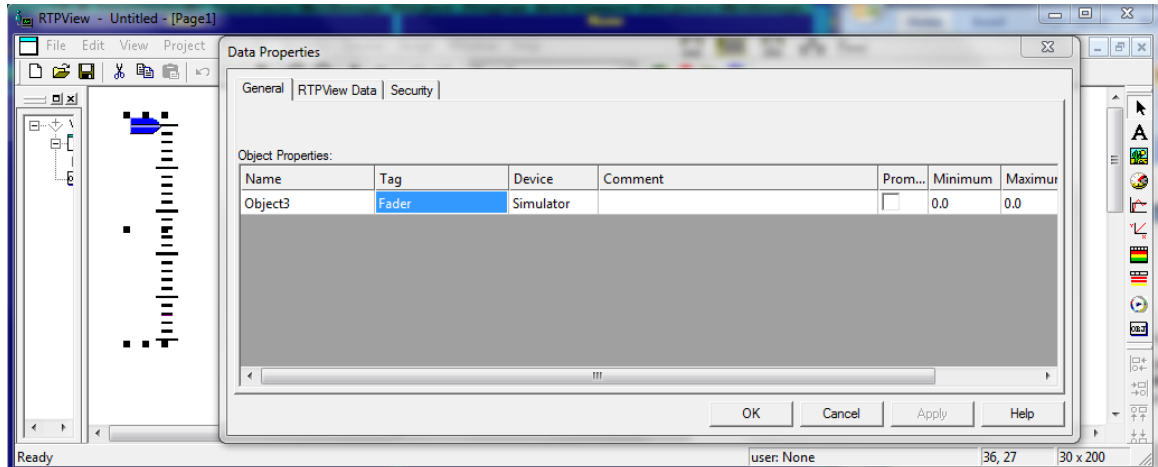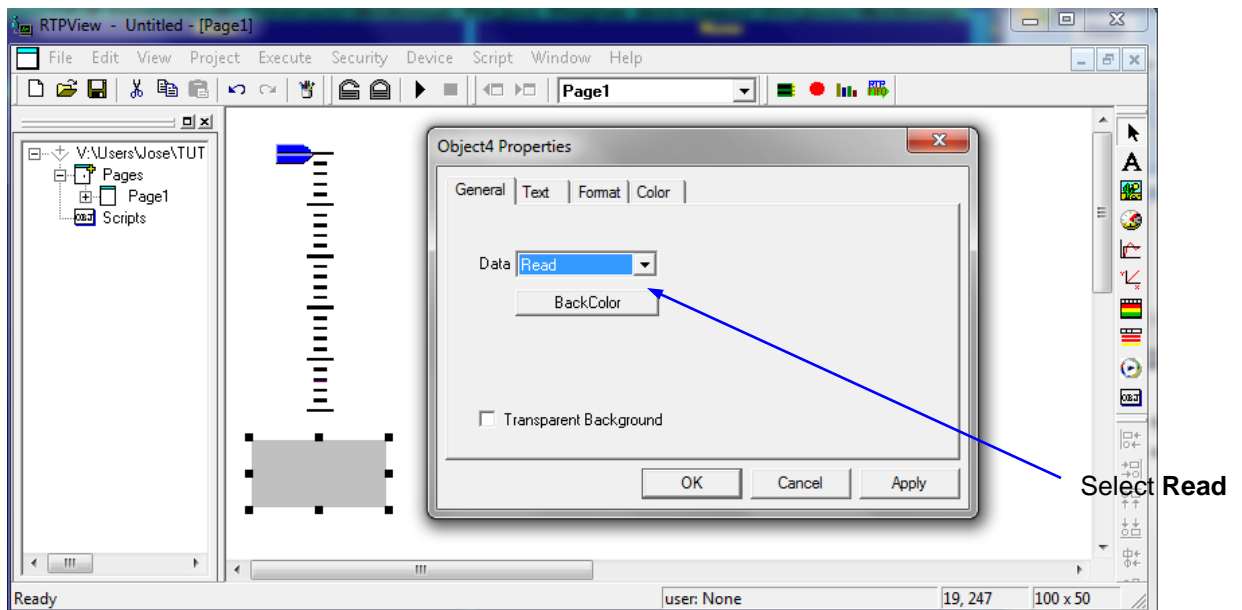

Fader Output Edit Box

- Left click on the **A** (Edit Box) button in the Palette toolbar. Move the cursor under the bottom of the Scale and left click the mouse button. A light gray rectangle will appear below the Scale.
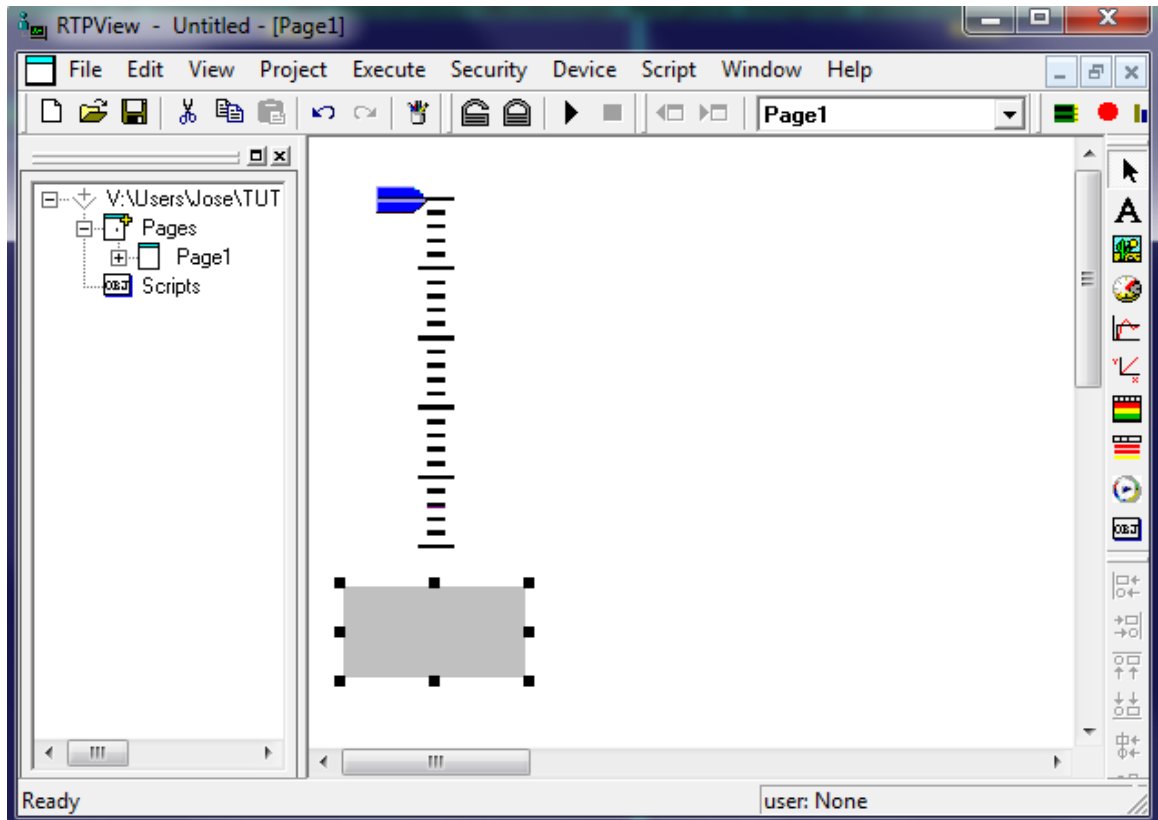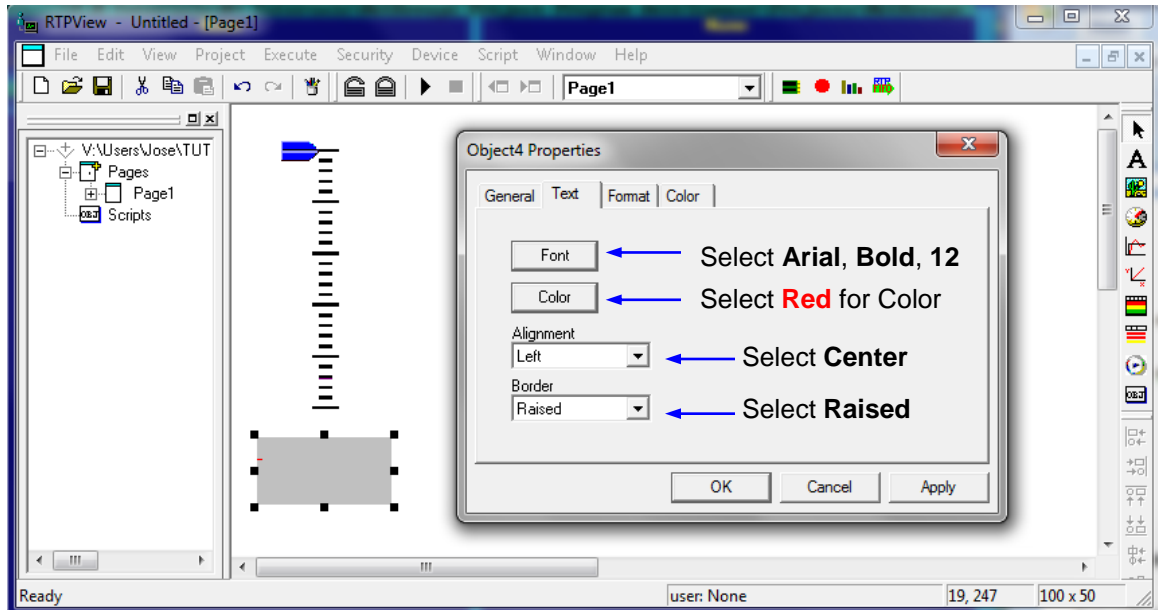
- Right-click on the rectangle and select **Object Properties** from the menu.
- In the General tab of the Properties dialog, select **Read** as the Data property.

Select **Read**

- Left click on the **Text** tab. Press the **Font** button and change the Font settings to **Arial**, **Bold**, **12**. Left click the **OK** button the close the Font dialog.

- Left click on the **Color** button and select **Red** for the text color. Left click the **OK** button the close the Color dialog.

- Select **Center** for the **Alignment** and **Raised** for the **Border** type.

- Left click on the **Format** tab. Select **Float** as the text Format, and **0** for the number of Decimal Places. Left click the **OK** button the close the Object Properties dialog.
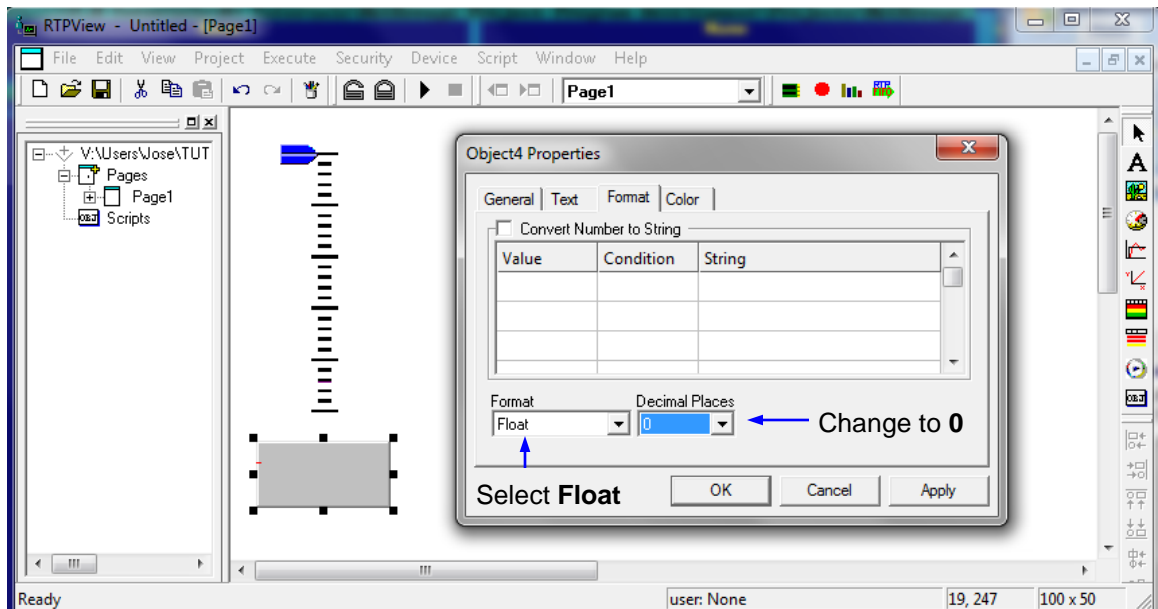

- Right-click on the Edit Box object and select **Data Properties** from the menu.

- Left click on the Tag column and select **Fader** from the list of tag names. Left click the **OK** button to close the Data Properties dialog. The **Device** will automatically be set to Simulator, if that is the *device* with the downloaded program.
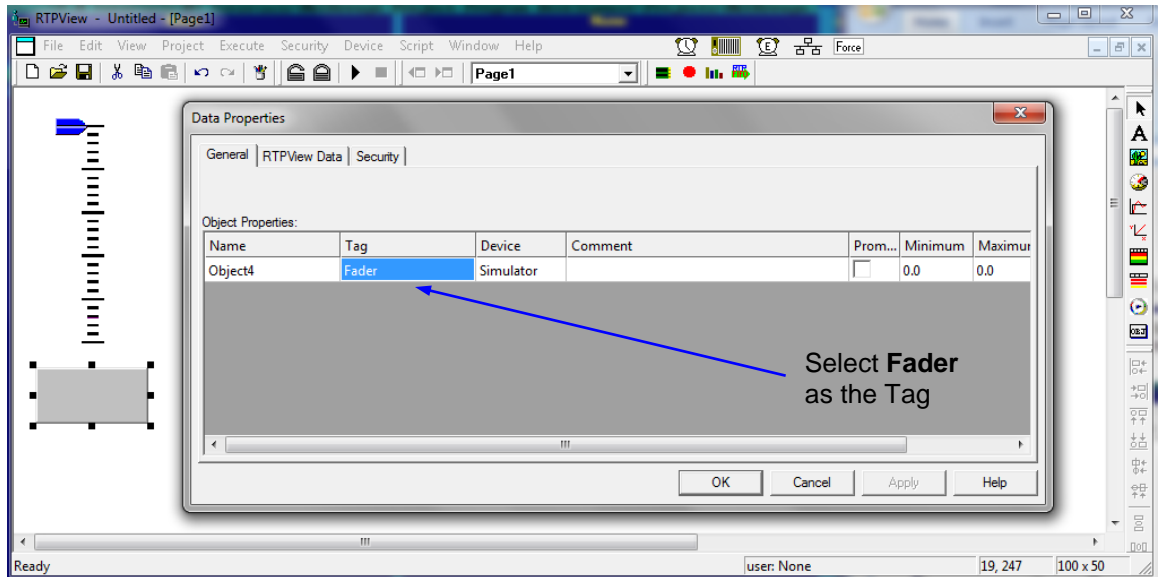
- Resize the Edit Box to about 50 x 20 pixels and position it under the center of the fader scale. The completed Fader assembly should look like the example shown below.
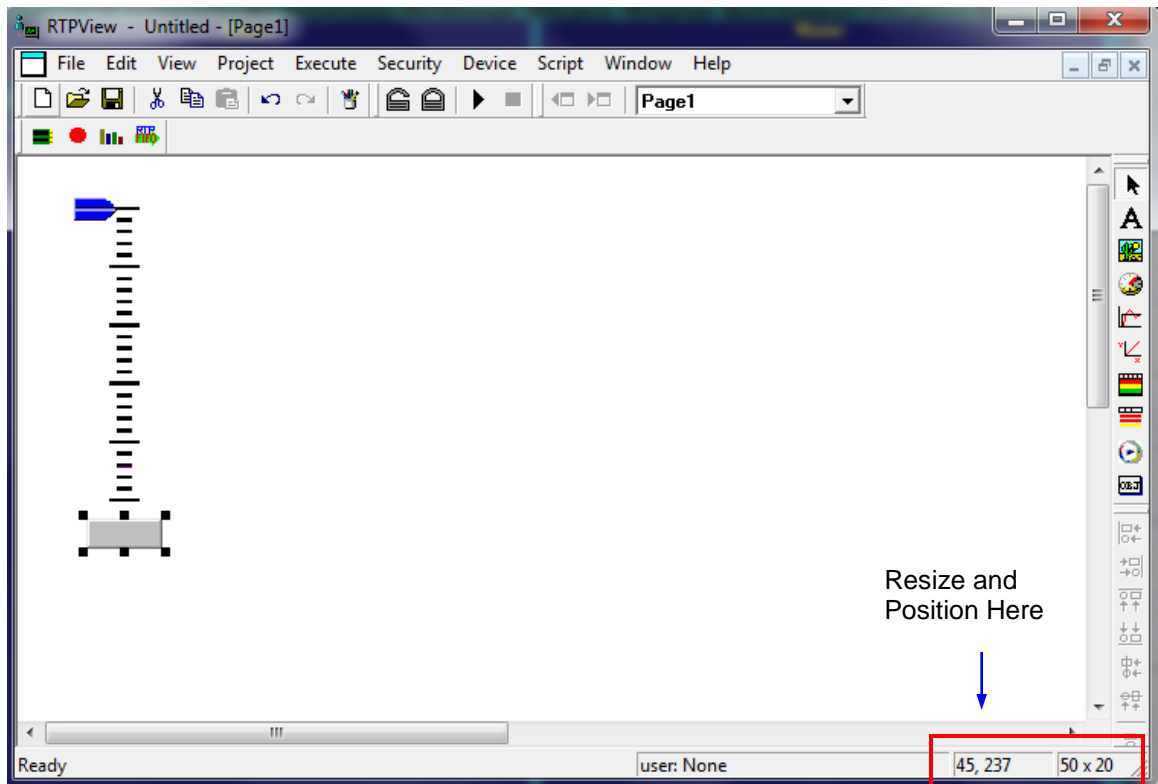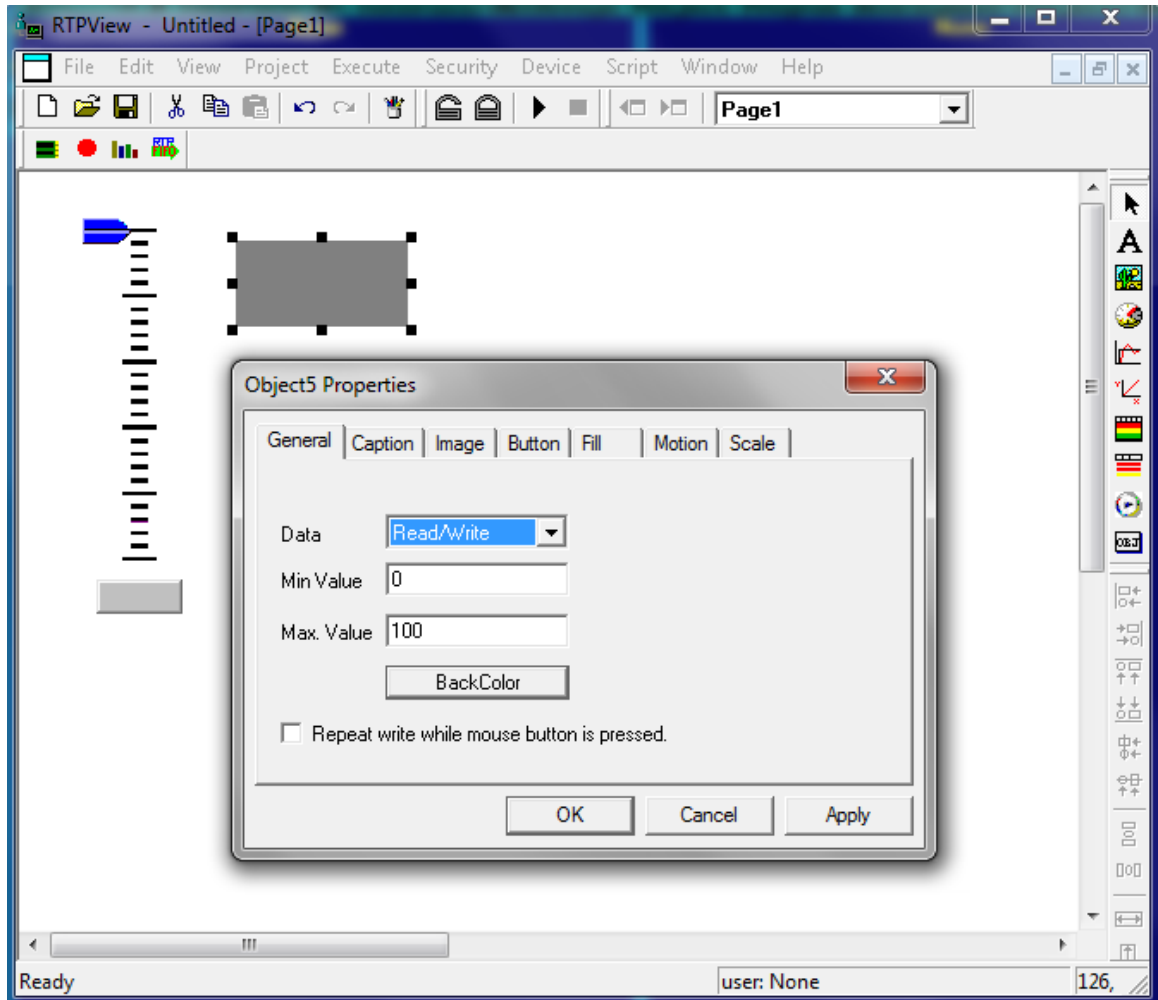
Key Switch

The Key Switch is a button Picture object that turns on and off. This is example that can be used to start any system.

- Left click on the 🎨 (Picture) button in the Palette toolbar. Move the cursor to the right of the Fader and click the left mouse button. A dark gray rectangle will appear on the page.
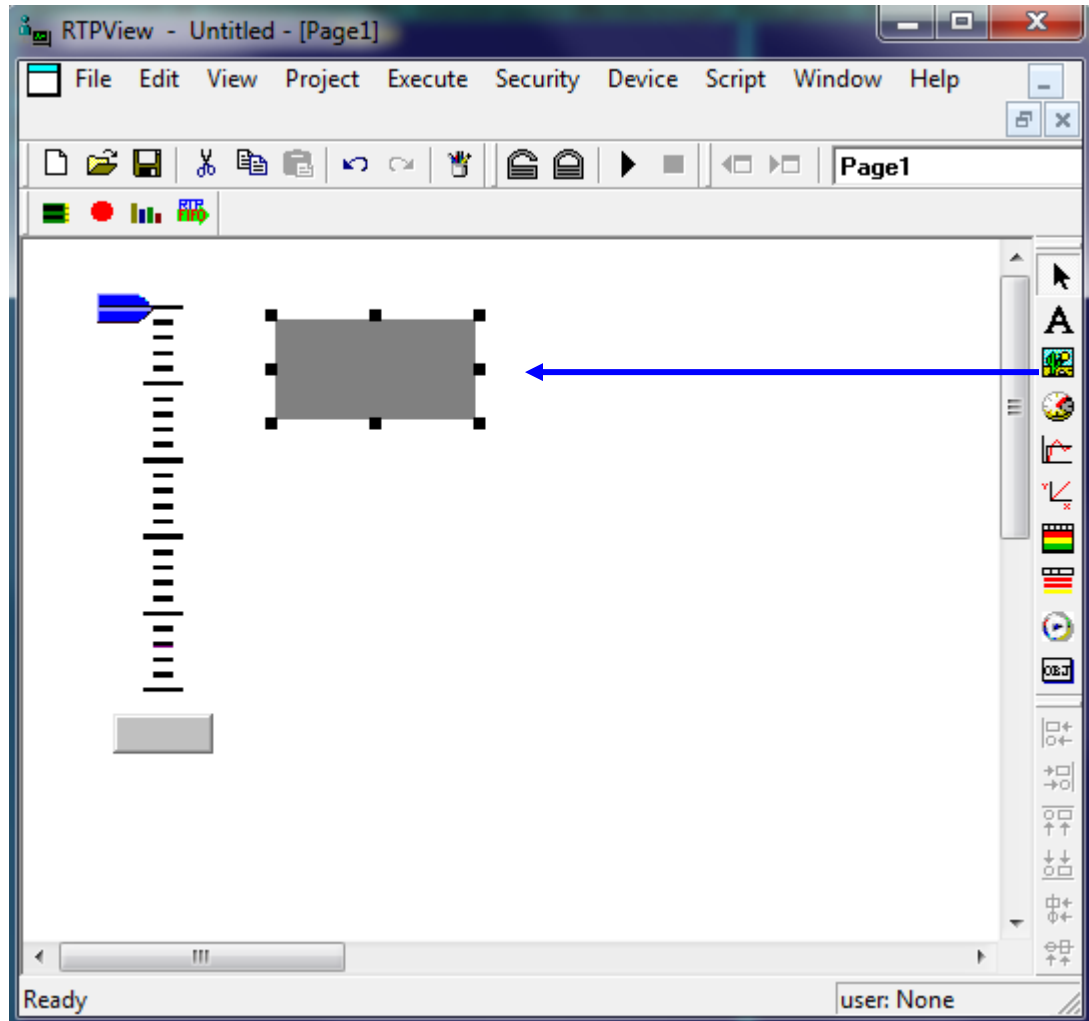

- Right-click on the rectangle and select **Object Properties** from the menu.

- In the General tab of the Properties dialog, select **Read/Write** as the Data property. This object will write a Boolean value to the NetArrays project. Leave the **Min Value** at **0** and the **Max Value** at **100**.

- Left click on the **Image** tab. Select **Buttons** as the Category. Select **8 Slot with key turned vertical.bmp** as the picture. The bitmap of the key switch will appear in the Preview frame.

Select **Buttons**

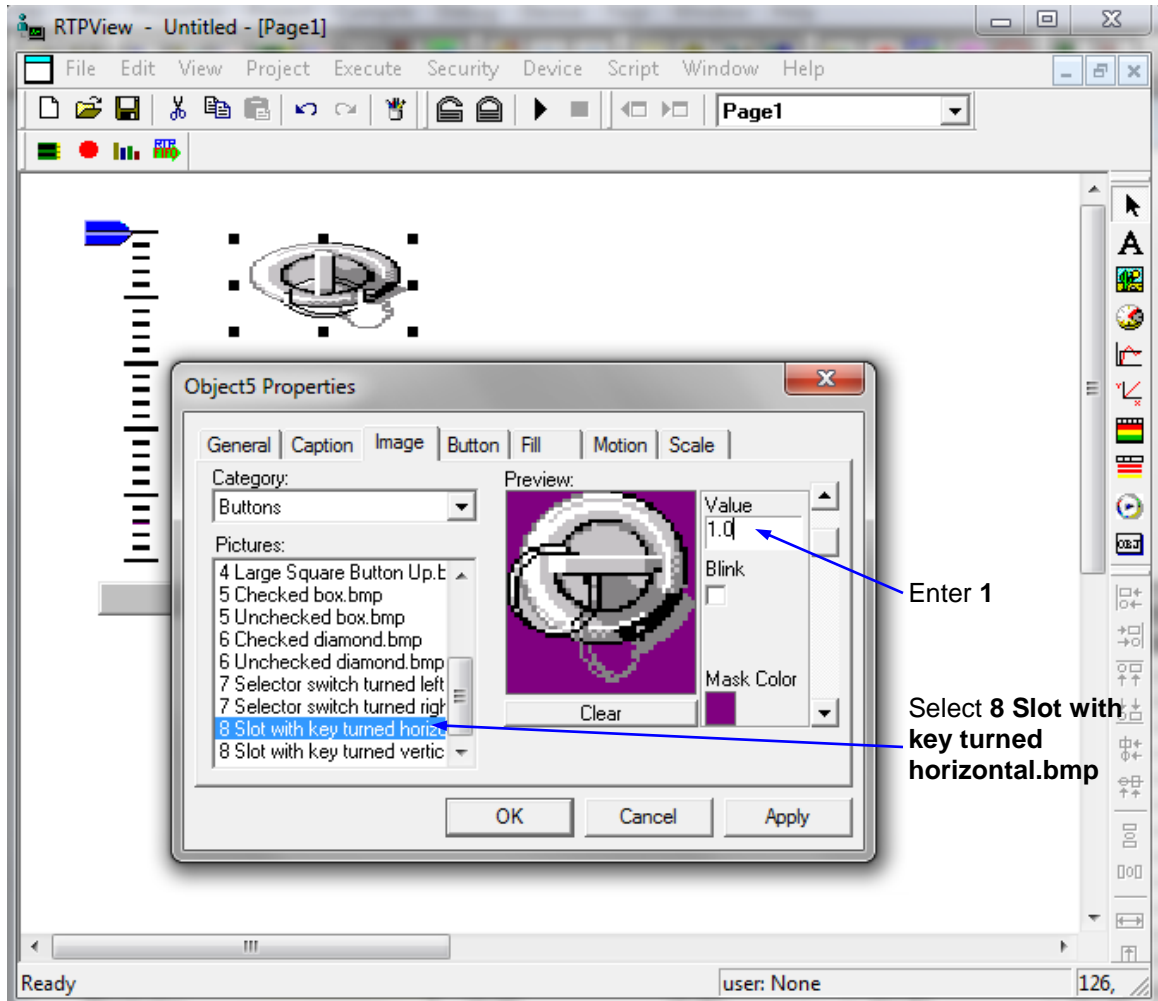Select **8 Slot with key turned vertical.bmp**
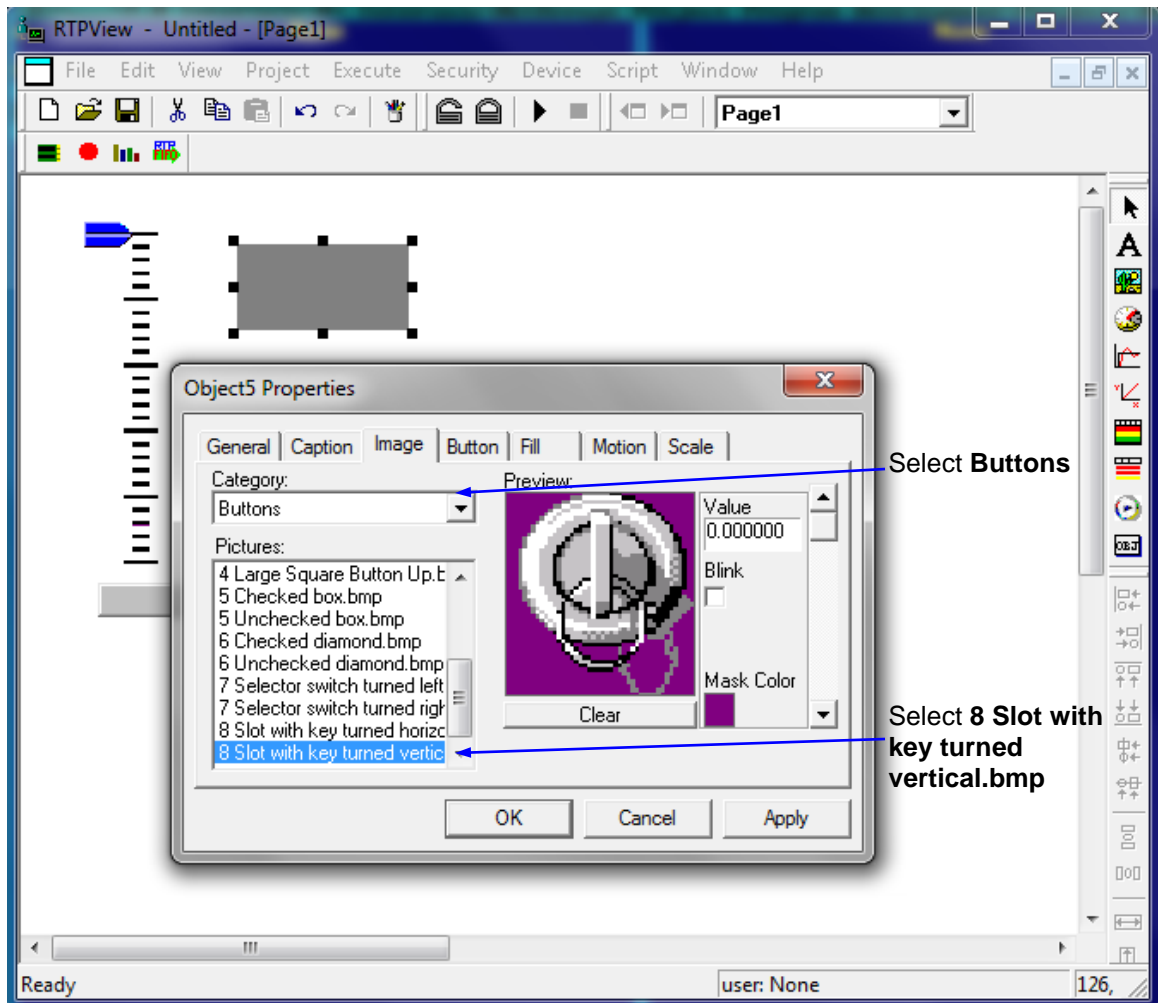
- Left click on the scroll down arrow just to the right of the Preview frame. The caption **Image #1** will appear in the Preview frame. Select **8 Slot with key turned horizontal.bmp** as the Picture. The second bitmap of the key switch will appear in the Preview frame.
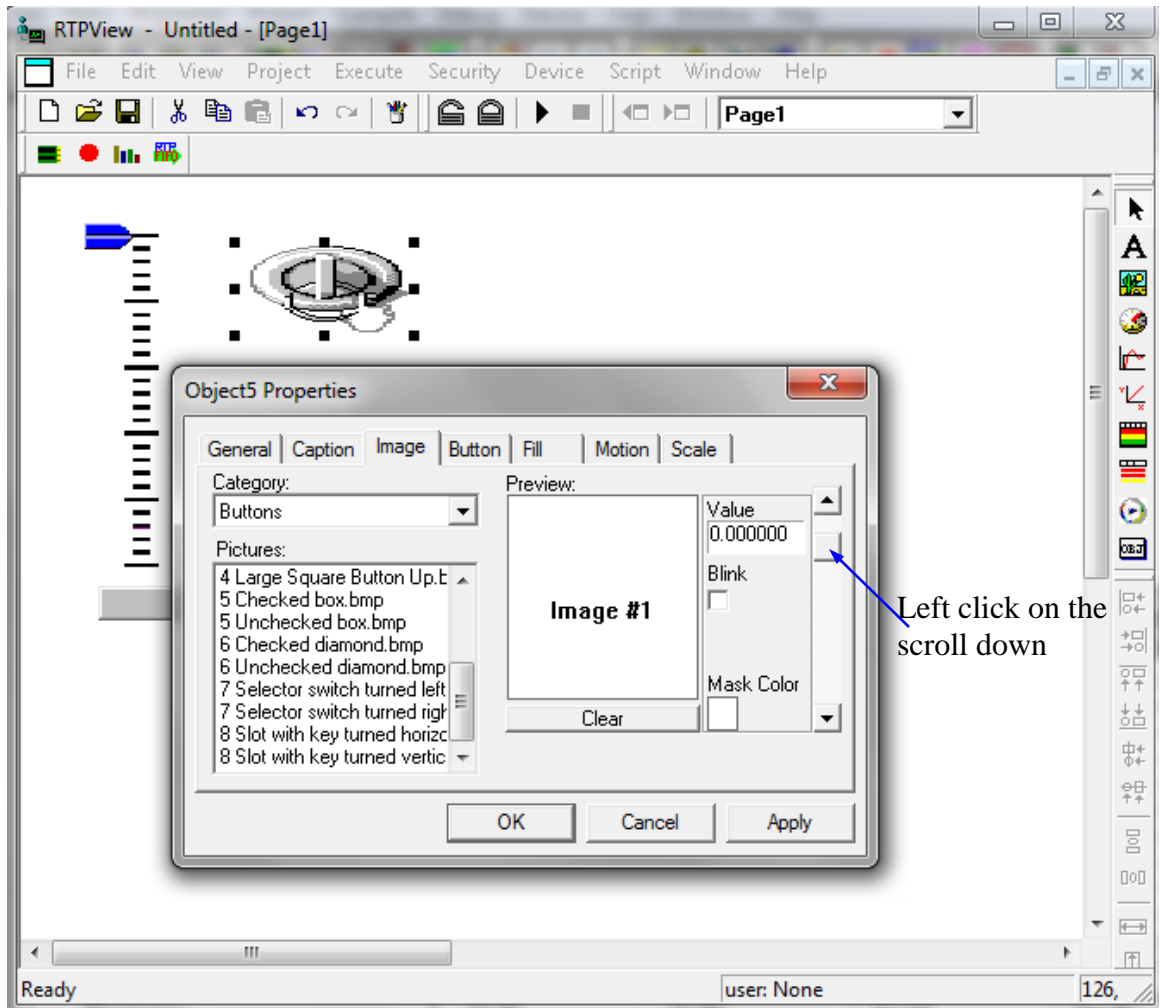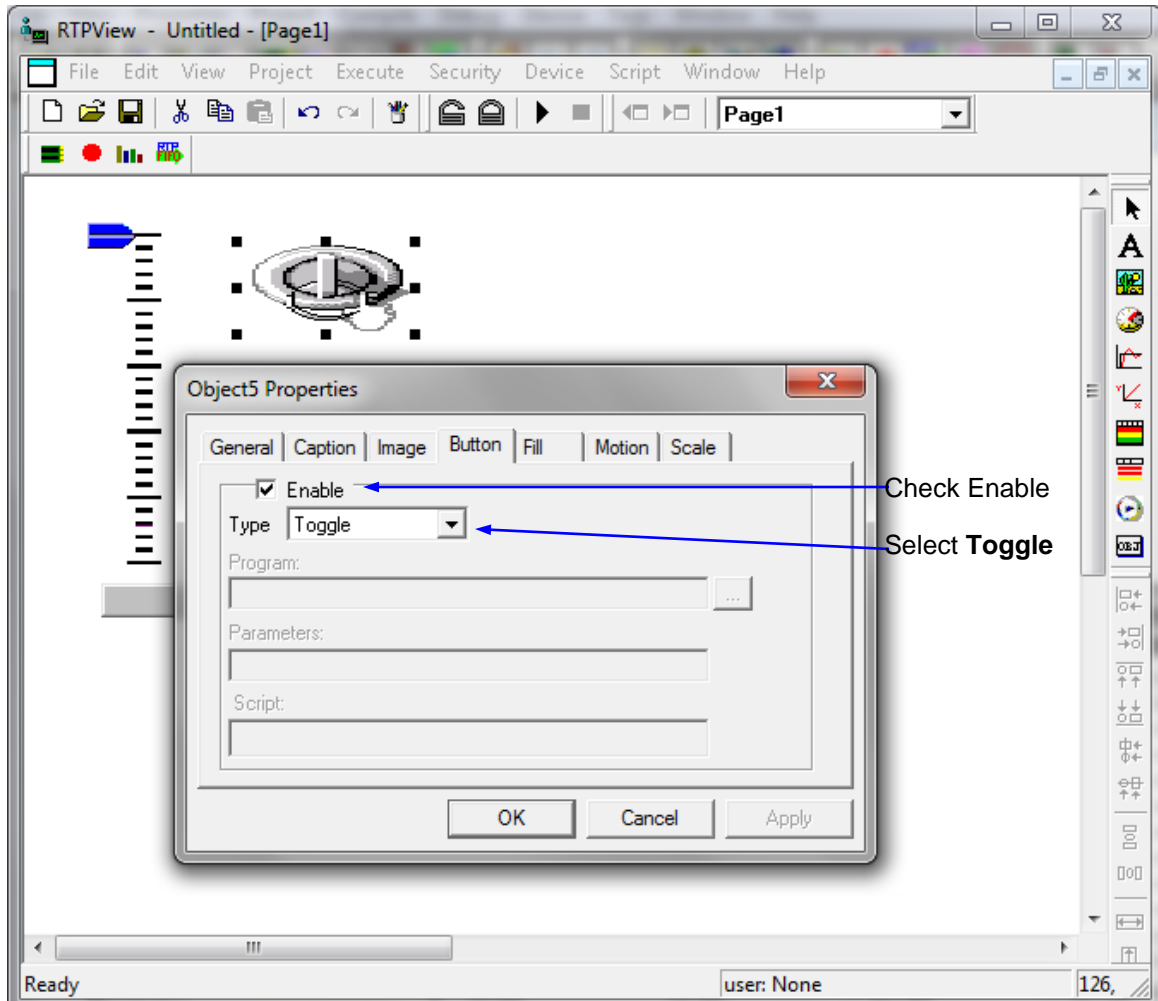
- Change the entry in the Value field below the Preview to **1**.

- Left click on the **Button** tab. Check the **Enable** checkbox to allow the picture object to function as a button. Select **Toggle** as the button Type. Each time the object is clicked, its output changes state.

- Left click on the **OK** button to close the Object Properties dialog.

- Select the key switch object and resize it to about 52 x 52 pixels. Move the object to coordinates 172, 25. It should look like the example shown below.
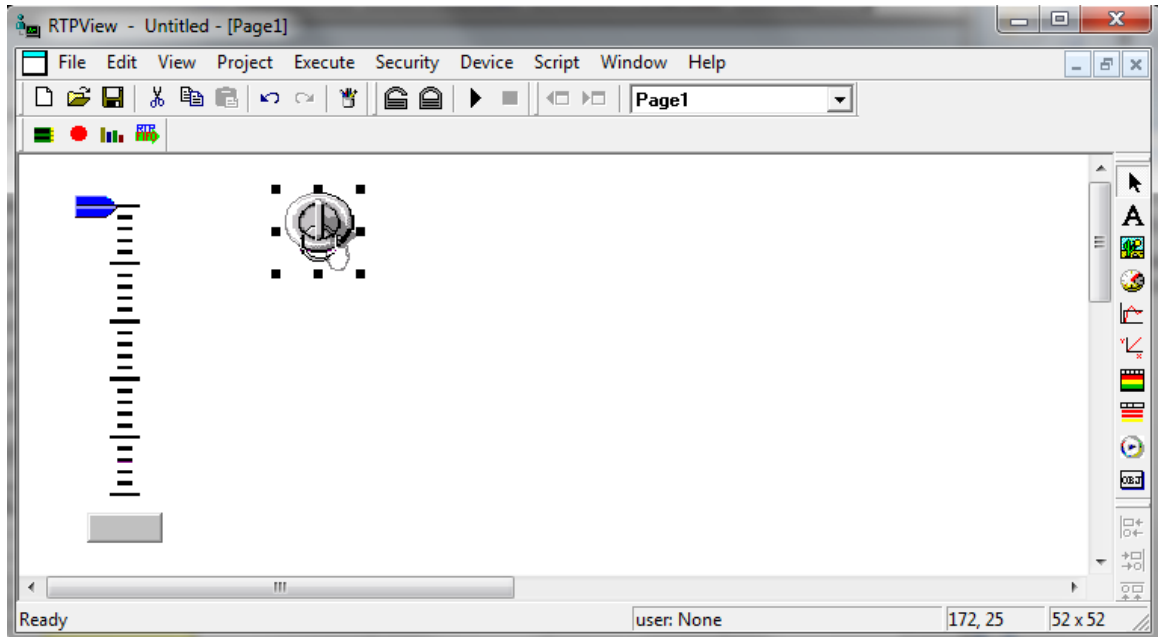
- Right-click on the Picture object and select **Data Properties** from the menu.

- Left click on the Tag column and select **Key** from the list of tag names. Left click the **OK** button to close the Data Properties dialog.