# Tech Note 815 Using the ShowGraphic() Function with ArchestrA Graphics

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## Introduction

This tech note provides examples of how to use the ShowGraphic() function in ArchestrA Graphics. This function is available within any ArchestrA Graphic client script.

### **Application Versions**

- Wonderware InTouch® 10.5 and later
- · Wonderware Application Server 3.5 and later

#### **Examples**

This Tech Note includes the following examples. Each section contains script samples you can copy/paste into your Objects.

- Show/Hide Graphic
- Show Graphic in a Specific Location
- Show Multiple Graphics with One Button Click
- Show Graphic Using a Custom Property Value

## Examples

### Show/Hide Graphic

This example shows how to use the ShowGraphic() with some of its properties.

- 1. Create an ArchestrA Graphic Symbol on the Graphic toolbox (e.g. Symbol\_001).
- 2. Embed a button and name it ShowGraphic.
- 3. Select an Animation Action Script and type the script On Left Click/Key Down as shown below:

```
Dim graphicInfo as aaGraphic.GraphicInfo;
graphicInfo.Identity = 'MyMooCow';
graphicInfo.GraphicName = 'MooCow';
graphicInfo.Resizable = true;
graphicInfo.WindowEnaltivePosition = 1; '(ENUM value of 1 means using Window area)
graphicInfo.WindowEnaltivePosition = 1; '(ENUM value of 8 is Rightof the above window relative position)
graphicInfo.ScalePercentage = 150;
ShowGraphic( graphicInfo );
```

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FIGURE 1: ACTION SCRIPT ON LEFT CLICK/KEY DOWN

5. Embed another button and name it HideGraphic.

6. Select an Animation Action Script and type the script for type **On Left Click/Key Down**.

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FIGURE 2: HIDEGRAPHIC( "MyMooCow");

- 7. Create a new derived InTouchViewApp.
- 8. Create an InTouch Window call it Win1.
- 9. Embed the Symbol on the InTouch Window (Figure 3 below).



FIGURE 3: SHOW/HIDE SYMBOL ON TEST WINDOW

10. Switch to Runtime mode.

11. Click the ShowGraphic button. The MyMooCow graphic displays on the right side of the window as specified in the script (Figure 4 below).



FIGURE 4: SHOW/HIDE GRAPHIC IN RUNTIME

12. Click the HideGraphic button and the graphic disappears.

### Show Graphic in a Specific Location

This example shows how to use ShowGraphic() so you can place the symbol in a specific location.

- 1. Create an ArchestrA Graphic Symbol on the Graphic toolbox (e.g. Symbol\_002)
- 2. Embed a button and name it ShowGraphic.
- 3. Embed another button and name it HideGraphic.
- 4. Embed a rectangle called Boundary on the right side (Figure 5 below).



FIGURE 5: BLACK RECTANGLE "BOUNDARY"

5. Select an Animation Action Script on the ShowGraphic button and type the script On Left Click/Key Down.

Dim graphicInfo as aaGraphic.GraphicInfo; graphicInfo.Identity = "MyTank"; graphicInfo.GraphiCamme = "SSTantVertFill"; graphicInfo.WindowLocation = aaGraphic.WindowLocation.TopLeftCorner; graphicInfo.WindowElativePosition = aaGraphic.WindowRelativePosition.ClientAreaXY;

<pre>graphicInfo.RelativeTo = aaG graphicInfo.X = Boundary.X; graphicInfo.Y = Boundary.Y; graphicInfo.Height = Boundar ShowGraphic( graphicInfo );</pre>	raphic.RelativeTo.Cu y.Height;	stomizedWidthHeight;	
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		<pre>pim graphicinto as addraphic.Graphicinto; graphicInfo.Identity = "MyTank"; graphicInfo.GraphicName = "SSTankVertFill"; graphicInfo.WindowLocation = adGraphic.WindowLocation.TopLeftCorner; graphicInfo.WindowRelativePosition = adGraphic.WindowRelativePosition.Cl graphicInfo.RelativeTo = adGraphic.RelativeTo.CustomizedWidthHeight; graphicInfo.X = Boundary.X; graphicInfo.Y = Boundary.Y; graphicInfo.Height = Boundary.Height; ShowGraphic(graphicInfo);</pre>	.ientAreaXY;
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FIGURE 6: SHOW/HIDE WITH LOCATION

6. Select an Animation Action Script and type the script as shown below On Left Click/Key Down.



FIGURE 7: HIDEGRAPHIC( "MYTANK");

7. Create another InTouch Window and call it Win2.

8. Embed the Symbol on the InTouch Window (Figure 8 below).



FIGURE 8: WIN2 GRAPHIC

9. Switch to Runtime.

10. Click on the ShowGraphic button. The MyTank graphic is displayed on the black rectangle where you specified the location (Figure 9 below).



FIGURE 9: WIN2 RUNTIME WITH LOCATION

11. Click on the HideGraphic button to hide the MyTank graphic.

# Show Multiple Graphics with One Button Click

This example shows how to use the ShowGraphic() function to show multiple symbols with just one button click.

- 1. Create an ArchestrA Graphic Symbol on the Graphic toolbox (Symbol\_003).
- 2. Embed a button and name it Multiple ShowGraphics.
- 3. Embed another button and name it HideAll Graphics.
- 4. Embed a rectangle named Boundary (Figure 10 below).



#### FIGURE 10: SYMBOL\_003 "MULTIPLE GRAPHICS"

5. Select an Animation Action Script on the Multiple ShowGraphics button and copy/paste the following script for On Left Click/Key Down (Figure 11 below)

```
Dim i;
For i = 1 TO 8
Dim graphicInfo as aaGraphic.GraphicInfo;
graphicInfo.Identity = "ShowAll" + StringFrowIntg( i, 1);
graphicInfo.WindowLocation = AaGraphic.WindowLocation.TopLeftCorner;
graphicInfo.WindowRelativePosition = aaGraphic.WindowRelativePosition.ClientAreaXY;
graphicInfo.RelativeTo = aaGraphic.RelativeFo.CustomizedWidthHeight;
  IF i == 1 THEN
IF 1 == 1 THEN
graphicInfo.GraphicName = "AnalogMeter90DegreeBlack";
graphicInfo.WindowTitle = "AnalogMeter90Degree";
graphicInfo.X = Boundary.X;
ENDIF;
IF i == 2 THEN
graphicInfo.GraphicName = "ClockWonderware";
graphicInfo.WindowTitle = "Clock";
graphicInfo.X = Boundary.X + (Boundary.Width/4);
graphicInfo.Y = Boundary.Y;
  ENDIF;
  IF i == 3 THEN
             l == 3 THEN
graphicInfo.GraphicName = "PumpCentrifugal";
graphicInfo.WindowTitle = "Pump";
graphicInfo.X = Boundary.X + (2 * (Boundary.Width/4));
graphicInfo.Y = Boundary.Y;
  ENDIF ;
  IF i == 4 THEN
             L == 4 THEM
graphicInfo.GraphicName = "ValveAirBall";
graphicInfo.WindowTitle = "Valve";
graphicInfo.X = Boundary.X + (3 * (Boundary.Width/4));
graphicInfo.Y = Boundary.Y;
  ENDIE:
  IF i == 5 THEN
             i == 5 THEM
graphicInfo.GraphicName = "WonderButton";
graphicInfo.WindowTitle = "Button";
graphicInfo.X = Boundary.X;
graphicInfo.Y = Boundary.Y + (Boundary.Height/2);
  ENDIE:
  IF i == 6 THEN
            i == 6 THEN
graphicInfo.GraphicName = "Flames";
graphicInfo.WindowTitle = "Flame";
graphicInfo.X = Boundary.X + (Boundary.Width/4);
graphicInfo.Y = Boundary.Y + (Boundary.Height/2);
  ENDIE:
IF i == 7 THEN
graphicInFo.WindowTitle = "SkullCrossbonesSign";
graphicInFo.WindowTitle = "Skull";
graphicInFo.X = Boundary.X + (2 * (Boundary.Width/4));
graphicInFo.Y = Boundary.Y + (Boundary.Height/2);
  ENDIE:
```

1F = 8 THEN
graphicInfo.GraphicName = "HappyFace";
graphicInfo.WindowTitle = "Smily Face";
graphicInfo.X = Boundary.X + (3 * (Boundary.Width/4));
graphicInfo.Y = Boundary.Y + (Boundary.Height/2);
ENDIF:
graphigTrfo Width - (Dourdowy Width (4))
graphicinic. width = (Boundary, Width/4)/
Graphicinio, Height = (Boundary, Height/2),
ShowGraphie( graphiethio );
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	Dim 1; For i = 1 TO 8	Ê
	<pre>Dim graphicInfo as aaGraphic.GraphicInfo; graphicInfo.Identity = "ShowAll" + StringFromIntg( i, 1); graphicInfo.Windouccation = aaGraphic.WindowLocation.TopLeftCorner; graphicInfo.WindowRelativePosition = aaGraphic.WindowRelativePosition.ClientAreaXY; graphicInfo.RelativeTo = aaGraphic.RelativeTo.CustomizedWidthHeight;</pre>	
	<pre>IF i == 1 THEN     graphicInfo.GraphicName = "AnalogMeter90DegreeBlack";     graphicInfo.WindowTitle = "AnalogMeter90Degree";     graphicInfo.X = Boundary.X;     graphicInfo.Y = Boundary.Y; ENDIF:</pre>	
	<pre>IF i == 2 THEN     graphicInfo.GraphicName = "ClockWonderware";     graphicInfo.WindowTitle = "Clock";     graphicInfo.X = Boundary.X + (Boundary.Width/4);     graphicInfo.Y = Boundary.Y;</pre>	
	ENDIF;	
	<pre>IF i == 3 THEN     graphioInfo.GraphioName = "PumpCentrifugal";     graphioInfo.WindowTitle = "Pump";     graphioInfo.X = Boundary.X + (2 * (Boundary.Width/4));     graphioInfo.Y = Boundary.Y; ENDIF;</pre>	
	<pre>IF i == 4 THEN     graphicInfo.GraphicName = "ValveAirBall";     graphicInfo.WindowTitle = "Valve";     graphicInfo.X = Boundary.X + (3 * (Boundary.Width/4));     graphicInfo.Y = Boundary.Y; ENDIF;</pre>	
	<pre>IF i == 5 THEN graphicInfo.GraphicName = "WonderButton"; graphicInfo.WindowTitle = "Button"; graphicInfo.X = Boundary.X; graphicInfo.Y = Boundary.Y + (Boundary.Height/2); Une: 1 Col: 1</pre>	<u></u>
•		OK Cancel

FIGURE 11: ACTION SCRIPT FOR ON LEFT CLICK/KEY DOWN

6. Select an Animation Action Script on the HideAll Graphics button, and copy/paste the following script for On Left Click/Key Down (Figure 12 below).

Dim i; For i = 1 to 8 HideGraphic( "ShowAll" + StringFromIntg( i, 1) ); Next;

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	<pre>Dim i; For i = 1 to 8 HideGraphic( "ShowAll" + StringFromIntg( i, 1) ); Next;</pre>	
	Line: 4 Col: 6	
•		OK Cancel

FIGURE 12: ACTION SCRIPT FOR HIDEGRAPHIC ()

- 7. Create another InTouch Window call it Win3.
- 8. Embed the above Symbol on the InTouch Window (Figure 13 below).



FIGURE 13: WIN3 INTOUCH WINDOW WITH MULTIPLE GRAPHICS BUTTONS/PANEL

9. Switch to Runtime.

10. Click the Multiple ShowGraphics button. All 8 ArchestrA Graphics are displayed on the black rectangle where you specified the location (Figure 14 below).



11. Click the HideAll Graphics button and all the 8 ArchestrA Graphics will disappear.

## Show Graphic Using a Custom Property Value

This example shows how to use the ShowGraphic() function in which you can change the custom property value.

- 1. Create an ArchestrA Graphic Symbol on the Graphic toolbox (Symbol\_004)
- 2. Embed a button and name it ShowGraphic.
- 3. 3. Embed another button and name it HideGraphics.
- 4. Embed a rectangle named Boundary on the right side (Figure 15 below).



FIGURE 15: INTOUCH W/SHOW - HIDE GRAPHIC + RECTANGLE AREA

- 5. Create an InTouch tag called ValueTag of type Memory Integer.
- 6. Create an application script while running every 1000ms as shown below so that we can change the value of the meter every second (Figure 16 below).

```
IF ValueTag > 110
THEN
ValueTag = 10;
ELSE
ValueTag = ValueTag + 1;
ENDIF;
```



FIGURE 16: WHILE RUNNING APPLICATION SCRIPT

7. Select an Animation Action Script on the ShowGraphic button and copy/paste the script for On Left Click/Key Down (Figure 17 below).

	Action Scripts	Button1
Action Scripts Enabled	Key Equivalent       Ct!       Shift Key None         Irigger       type:       On Left Click/Key Down         Dim graphicInfo as aaGraphic.GraphicInfo;         Dim cpValues [3] as aaGraphic.CustomPropertyValuePair;         graphicInfo.Identity = "MyAnalogMeter";         graphicInfo.GraphicName = "AnalogMeter180Degree";         cpValues[1] = new aaGraphic.CustomPropertyValuePair("Max", 110, to         cpValues[2] = new aaGraphic.CustomPropertyValuePair("Min", 10, to         cpValues[3] = new aaGraphic.CustomPropertyValuePair("Value", "In'         graphicInfo.CustomProperties = cpValues;         graphicInfo.WindowLocation = aaGraphic.WindowLocation.TopLeftCorn         graphicInfo.RelativeTo = aaGraphic.RelativeTo.CustomizedWidthHeig         graphicInfo.RelativeTo = aaGraphic.RelativeTo.CustomizedWidthHeig         graphicInfo.Keight = Boundary.X;         graphicInfo.Height = Boundary.Height;         ShowGraphic/(archicfo.);	<pre>scripts used: 1 Every: ms foo 4 im true); rue); Touch:ValueTag", false); ner; ition.ClientAreaXY; ght;</pre>

FIGURE 17: ACTION SCRIPT ON LEFT CLICK/KEY DOWN: SHOW GRAPHIC BUTTON

8. Select an Animation Action Script and type the script as shown below On Left Click/Key Down.

HideGraphic( "MyAnalogMeter" );

```
Using the ShowGraphic() Function with ArchestrA Graphics
```

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Action Scripts Enabl	ed  Key Equivalent Ctr[ Shift Key None  Irigger type: On Left Click/Key Down HideGraphic ( "MyAnalogMeter" );	scripts used: 1 Every: ms Ko du in ministration
(6)		OK Cancel

FIGURE 18: ACTION SCRIPT ON LEFT CLICK/KEY DOWN: HIDE GRAPHIC BUTTON

- 9. Create another InTouch Window called Win4.
- 10. Embed the above Symbol on the InTouch Window (Figure 19 below).



11. Switch to Runtime.

12. Click the **ShowGraphics** button. The analog meter is displayed. In the display the max value is **110**, min value is 10 and the actual data value is changing as written in the application script. This means that the original custom property values are overwritten using the **CustomPropertyValuePair** method, which is part of the **ShowGraphic** script function.

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HideGraphic	

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#### 13. Click the HideGraphic button. The Analog meter will disappear.

Lastly you can add another InTouch Window called Main and have 5 InTouch buttons where each button shows Win1, Win2, Win3 and Win4 using the ShowWindow animation. The last button is CloseAll, which hides all the windows using the HideWindow animation (Figure 21 below).



FIGURE 21: MAIN INTOUCH WINDOW

Download and extract a published application and run InTouch WindowMaker and InTouch WindowViewer. Note that you will not be able to see the ArchestrA graphic scripting or the ArchestrA Symbol in the IDE since this is a published application. You can copy/paste all the scripts included in this Tech Note and create a duplicate of the same Managed application as the application delivered in the downloaded zip file.

#### B. Shah

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