

Lab Exercise – Using an Analog Pop-Up (Optional)

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This module supports **TotalPlant** Solution (TPS) system network.

TPS is the evolution of TDC 3000^X.

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Lab Exercise 8

Introduction

In the previous exercises you inserted a digital popup dialog into a GUS display. You now have a useful addition to your object library, along with a great deal of programming skill in building and scripting displays.

To support analog points, you need to have a popup dialog that behaves the same way. In the following optional lab exercise, we will not ask you build an analog controller because many of the same concepts you encountered in the digital popup dialog are also used there. Rather, you will insert a pre-built dialog and target to support an analog controller point.

You may wish to spend some time reviewing some of the script of the analog controller relating to display behavior such as mode changes (Auto, Man, Norm, etc.) as well as script that responds to specific algorithm types (such as that which use a Bias). The following example is based upon a real world application that you may decide to incorporate in some fashion into your own displays.

Objectives

At the end of this lab exercise, you will be able to do the following:

- Insert an analog popup dialog that supports analog controller points.
- Interpret script that responds to analog point specific behavior (such as mode changes and bias).
- Build a display that supports an analog popup dialog.

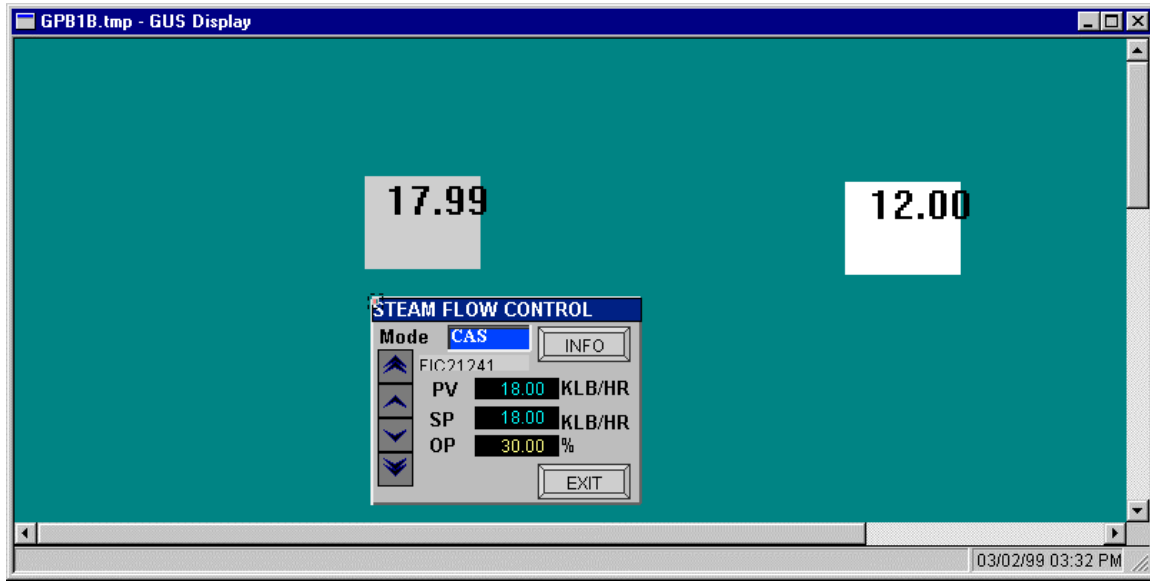
Design Criteria

Insert an analog controller into a new display. You will also need to insert an analog target to support the analog controller.

Insert two display objects into your display that can represent process values. The display objects, for this lab exercise, can be two text objects that represent a control point's PV.

Next, position your analog target behind the text objects. In this display, you use an analog target which is a rectangle that supports some analog parameters not currently in the digital target.

This graphic shows approximate locations of the text objects and analog targets in the finished runtime display. The analog controller is shown below one of the targets at runtime. When the other target is selected, the analog controller moves and is displayed under that target.



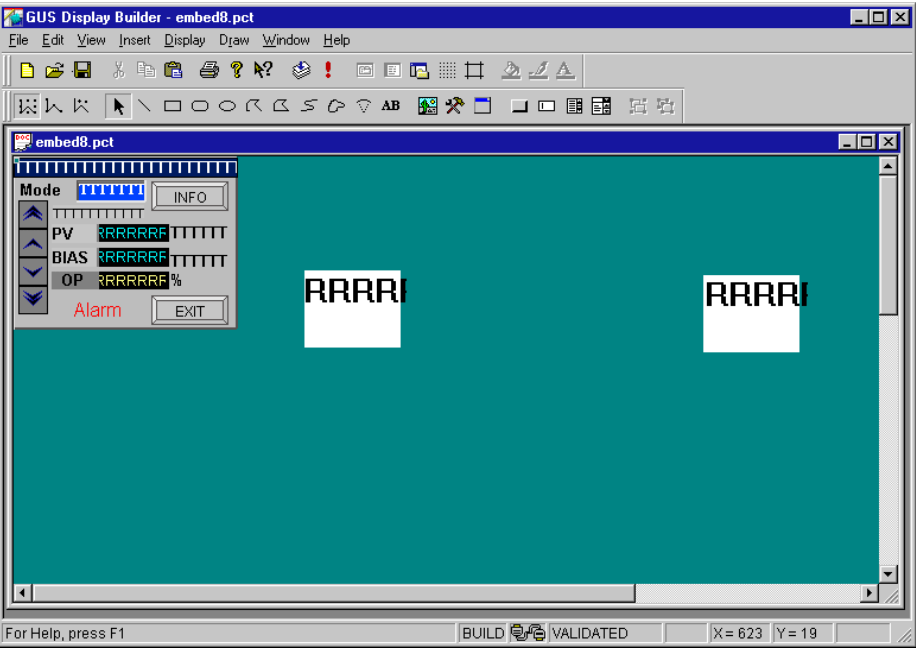
Lab Prerequisites

Lab prerequisites are the following:

- GUS Display Builder
- Native Window is loaded
- Two off process LCN analog points
- Pre-built GUS displays named **analog_ctlr.pct** and **analog_targ.pct**.

Lab Procedure

Step	Action
1.	Using your GUS Display Builder, open a new display.
2.	Save the file as Embed8.pct.
3.	From your partition sheet, choose two APM or HPM regulatory control points.
4.	<p>Insert two new text objects into your display. Do the following tasks on both objects.</p> <p>[1.] From their General property pages, uncheck Selectable.</p> <p>[2.] From their Value property pages, enter an expression to represent their PV. Example: LCN.FIC21241.PV and LCN.FIC21242.PV</p> <p>[3.] Record two sets of X and Y coordinates that are just below your two text objects. This is where the upper left corner of your analog controller pop-ups will appear.</p> <p>Text1 Object: X = _____ Y = _____</p> <p>Text2 Object: X = _____ Y = _____</p>

Step	Action
5.	<p>Use the file analog_targ.pct in your EmbedLab8 folder for this step.</p> <p>Use Insert>Display to embed the file analog_targ.pct, into one of the target locations on your display. Put it <i>over</i> one of the text objects, then enter the values below for display parameters:</p> <ol style="list-style-type: none"> 1 - Enter Initial Value Expression for the LCN point (ex: LCN.P1_RC004). 2 - Enter Initial Value Expression of help display (ex: "c:\info.pct"). 3 - Enter Initial Value Expression of reg_controller for OBJ (this is important because it is the name of your analog pop-up). 4 - Enter Initial Value of dispdb.ent01 for TAG. 5 - Enter the Initial Value Expression of 1 for LOOP_ID. 6 - Enter the x coordinate you recorded for this target in the previous step. 7 - Enter the y coordinate you recorded for this target in the previous step. 8 - No Entry <p>Click OK when finished.</p>
6.	<p>Now use Draw>Send to Back to move the analog target behind the text object.</p> <p>If necessary, center the text object over the analog target.</p>
7.	Repeat Steps 5 and 6 for your second text object.
8.	<p>Use Insert>Display to insert analog_ctrl.pct, then enter these parameters:</p> <ol style="list-style-type: none"> 1 - Enter the tag number of dispdb.ent01 (this is important because it stores the LCN tagname). 2-9 - No Entries (these display parameters have values passed to them from the analog target). <p>Click OK when finished.</p>
9.	<p>Select the General property page of the analog pop-up you have just inserted.</p> <p>Change its name to reg_controller (this is the same name for this object as you entered earlier in Step 5).</p> <p>Click OK to close the property page.</p>
10.	<p>Move the analog controller to the upper left corner of the display (x=0, y=0).</p> 

Step	Action
11.	Save the display.
12.	Validate the display.
13.	Run your display. Check to see that your Analog Pop-up operates properly. [1.] It should display the same values as those that are displayed in the Native Window. [2.] Make Mode, Set Point, and output changes from your pop-up dialog.

End of Lab Exercise

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