# PREVIEW COPY of SimAzing Manual

*This contains the initial part of the manual (included with SimAzing) to give an insight into how SimAzing works*

# Disclaimer

This guide has been produced in good faith and the author has tried to ensure that content is accurate. No responsibility is taken for any errors or omissions. No liability is taken for any use of its content or use of the SimAzing program.

# Contents

_____
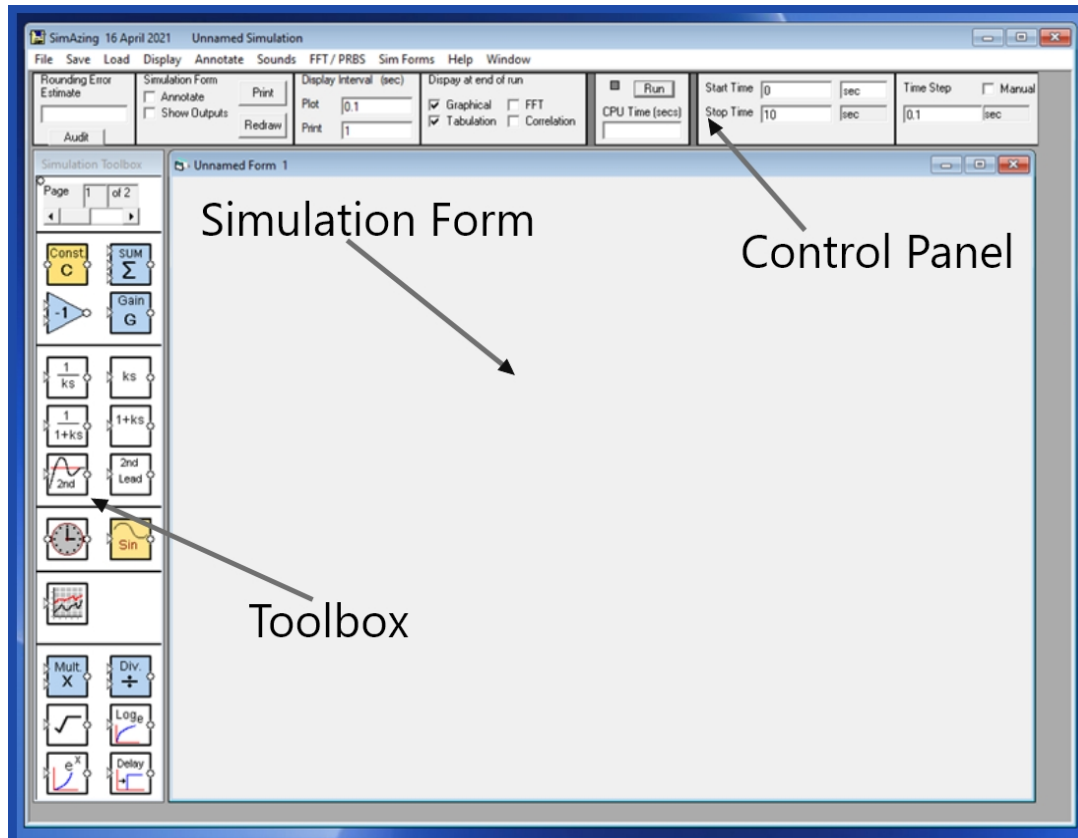
# \<Part of the first section follow on\>

# Overview of Model Creation

When SimAzing starts you can see a window containing three components:

- A Toolbox containing model Function Blocks for your use – to the left of the screen
- A Control Panel enabling you to run simulations – near the top of the screen
- One blank Simulation Form – where you create your simulation



To use SimAzing you simply drag function blocks from the toolbox and place them onto a Simulation Form. Using a mouse, you can then link the inputs and outputs of these blocks to form the model you require. To complete the process, you then specify the start and stop time for your model in the control panel and press the 'Run' button. If you include display blocks in your model, then a graphical or tabulated display will be produced. That's all there is to it.

## Creating & Editing a Model

To build a model you drag function blocks onto a Simulation Form from the Toolbox. Once a block has been placed in a Simulation Form you can 'double click' on a block to 'turn it around' A store of blocks exists in the Simulation Toolbox window and you can scroll through the two pages of blocks until you find the one you want. If you hover the mouse over a block in the toolbox then information about the block is displayed.

## Linking Blocks

Blocks can be linked together by clicking on their input or output terminals and then tracing a path using the mouse until another block's terminal is reached. To trace a path with the mouse you move and then click when you want to change direction. A tracer line is displayed to show you the connection path and this is locked in place when you click on the destination terminal. At each point where you clicked the mouse a node will have appeared.

**Pressing the Escape Key will cancel an incomplete termination**.

## Editing Block Positions

Simply drag the blocks around if you wish to reposition them: their connections will follow them. If the connections follow a rectangular geometry, they may adjust to movement automatically.

## Deleting Blocks

If you want to delete a block, then click on it to highlight it and then press the delete key. All the highlighted block's associated connections will also be automatically deleted.

## Deleting Connections

To delete a connection, first click on a connection to highlight it and then press the delete key

## Editing Connections

To edit a connection first click on it to highlight it and a number of nodes will appear. Drag any of these nodes to suit your needs. If you need more flexibility, you should delete the connection and start again.

# Running a Model

To run a model, you specify the way in which you want it to run using the control panel and press the **Run** button. This section further explains the control panel settings and the information that is displayed.

## Setting Start and Stop Times

These set the simulated time period over which the model is run. Normally the start time is set to zero but you can adjust both stop and start times in the control panel. You can also adjust the units of time (for example to sec, min days, years etc….). The model's computation time is also displayed on the control panel.

# Setting the "Time Step"

The time step is the increment of time between each simulation pass. This is normally automatically set to give approximately 1% accuracy.



You can change this time step manually but you **must** set the **'Manual' check box** to do this.

# Running

It's a good idea to save your model at this point. Then, simply press the **Run** button. Most models will run to completion almost instantaneously – but a delay may occur as your display data is stored for later viewing.

# Displaying the Outcome

To display the outcome from your model you need to have placed display blocks onto your model and connected them to the outputs of the blocks you wish to monitor. As a default, any
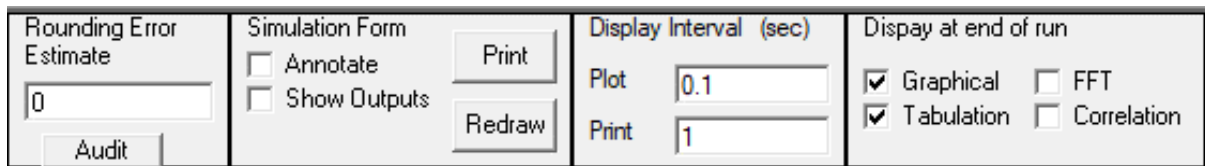


graphs or tabulations are automatically displayed at the end of a run.

You can tailor what types of display appear by using a section of the Control Panel entitled "Display at end of run" (Fig. 3). Simply tick the check boxes for the display you need. It is best to avoid the FFT and correlation displays until you are familiar with all the aspects of running simulations.

You can display the data from your simulation at intervals that suit you and the control panel has a section where you can set the display intervals. Usually, you will display your data at a less frequent rate than the time step.

 to avoid collecting much more data than you need or can display. Also, this data is stored in buffer stores that have a finite limit. A warning is given if you approach this limit and you may wish to increase the display intervals when this happens.

You should note that the display windows for graphs and tabulations can both be resized (by dragging the window boundaries). This means that the display of data can occupy the entire screen if you wish. Facilities are also provided to adjust the scale of graphs (and the variable to use as the X axis) as well as the formatting of tables.

# End of Preview