

1 Help on Simulink

Simulink is an extension of Matlab. It is an icon-driven dynamic simulation package that allows the user to represent a system or a process by a block diagram. To start Simulink and to open the main library block, you need to type the command

```
simulink;
```

at the Matlab prompt. However, in the experiments designed for ECE438, you will be using specially designed libraries for each lab. Therefore, to start Simulink and open one of these libraries, DO NOT type the command

```
simulink;
```

instead type the command

```
LabX;
```

where **X** is the number of the lab you are doing. If this does not work, make sure you have downloaded and unzipped the utilities for the particular lab you are doing.

To create a new system, first open a window for it by using the *New* option from the *File* pull-down menu, and select *model*. Then, drag the icons for the components of the system from the libraries into your new system window. You can also create duplicates of your components by using the *Copy* and *Paste* options from the *Edit* pull-down menu. The inputs can be Matlab variables from the workspace, waveforms or sequences generated by continuous-time or discrete-time sources. The components can be linear or nonlinear. You can connect any two components of your system by left-clicking on the output of one and dragging it to the input of the other.

After your system is complete and ready for simulation, start the simulation by using the *Start* option from the *Simulation* pull-down menu. Use the *Stop* option to stop the simulation. You can change the simulation parameters using the *Configuration Parameters* option. You can monitor the behavior of the simulated system using instruments like scopes, spectrum and network analyzers, and graph windows. The outputs of a system can be connected to one of the monitoring devices listed above, or they may be saved to the Matlab workspace.

You can save the Simulink systems that you created using the *Save* or *Save As* option from the *File* pull-down menu. Matlab creates a script file with the filename you specified and extension *.mdl* for each system you save. You can bring up the Simulink systems you formerly created by typing their filenames (without the *.mdl* extension) at the Matlab prompt.