

Procedure Replacement for the “meu2y” function

On page 7 where it says “[vgen,junk]=meu2y(vdac,vdac,1000*tstep,0);” replace with the following procedure:

1. Open the Simulink file “N:\labs\ME360\lab4\meu2y.slx” Note: the first time you launch a Simulink file it takes 10 seconds or so to load.
2. In order to use this Simulink file you will need to save it to a directory in the C:\matlab\me360 directory. For example save it as c:\matlab\me360\mycollect.mdl. If mycollect.mdl already exists think of a different name.
3. At the Matlab command prompt change the current directory to the c:\matlab\me360 directory by typing “cd c:\matlab\me360.”
4. Looking at the Simulink block diagram you will see that the step input is being sent to DAC0’s output and ADC channel zero’s data is being collected. Real-Time Windows Target has been setup to sample data every 10 ms., so our sample period is 10 ms.
5. Now you will build and run this Simulink file. From inside your Simulink file select the menu item Code->C/C++ Code->Deploy to Hardware. This will build your Simulink file into a Real-Time Windows Target application. The build takes about 10-20 seconds. Once complete the Play button will turn back to green.
6. When you are ready to collect data simply click the play button. After about 5 seconds your application will start and you will see data plotting in the scope window and the motor should spin if you have the button pressed to enable the motor amplifier.
7. By default the data is save in the Matlab variable “MotorResponse”. The first column is time, the second column is the step input and the third column is the tachometer voltage.
8. Then each time you need to record a step response simply set your step’s final value and rerun the Simulink file.