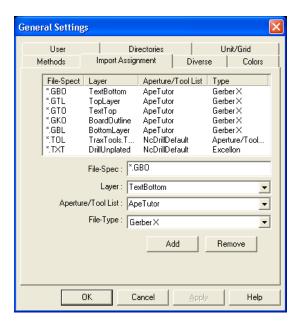
## For troubleshooting and maintaining the LPKF milling machine and its supporting programs

Created by Seth DeCato March 2010 Purpose: to aid lab assistants in using and maintaining the LPKF milling machine.

## I. Trouble Shooting

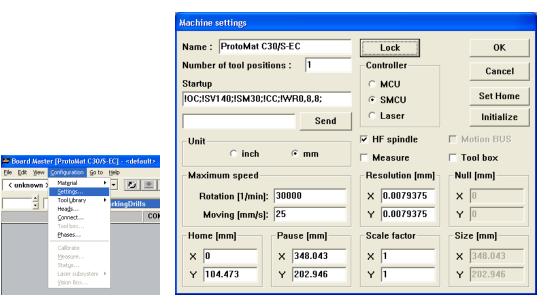
A. Circuit Cam: When you are importing the files if they aren't automatically loaded then you will need to go into Config > General Settings and add or change the following file extensions to match the following

File - Spec	Layer	Aperture/Tool List	Туре
*.GBO	Text Bottom	ApeTutor	Gerber X
*.GBL	Bottom Layer	ApeTutor	Gerber X
*.GTO	Text Top	ApeTutor	Gerber X
*.GTL	Top Layer	ApeTutor	Gerber X
*.GKO	Board Outline	ApeTutor	Gerber X
*.TOL	TraxTools.TXT (NcDrill)	NcDrill Default	Apeture/Tool Select
*.TXT	Drill Unplated	NcDrill Default	Excellon

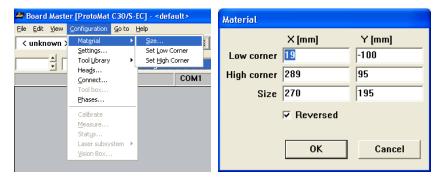


## B. Board Master:

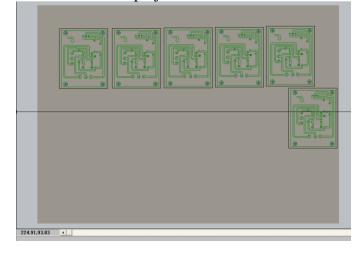
- 1. If there are any problems with alignment make sure that the board is properly inserted on the reference pins and that it is taped down
- 2. Check the machine dimension settings by going to Configuration > settings and verify that all the settings are correct



3. Check that the project you are working on is within the boundaries for milling by going to configuration > material > size and input the following dimensions



When you hit "OK" you will see a dark square appear on the machine mat. Verify that all projects are within this dark area.



Mat<u>e</u>rial

Tool Library Hea<u>d</u>s.

Connect..

Phases.. Calibrate

Measure Status...

## II. Maintenance

- A. Cleaning and oiling
  - 1. See <a href="http://www.lpkfusa.com/downloads/support/docs/man\_c30s.pdf">http://www.lpkfusa.com/downloads/support/docs/man\_c30s.pdf</a> page 48 for maintenance instructions on cleaning and lubing the machine.
  - 2. Best to do this once every year or two. Because we don't use the machine a lot
- B. Changing vacuum bag
  - 1. Behind the machine is where the vacuum is located you will need to clean the filter and empty the bucket at end of each year.