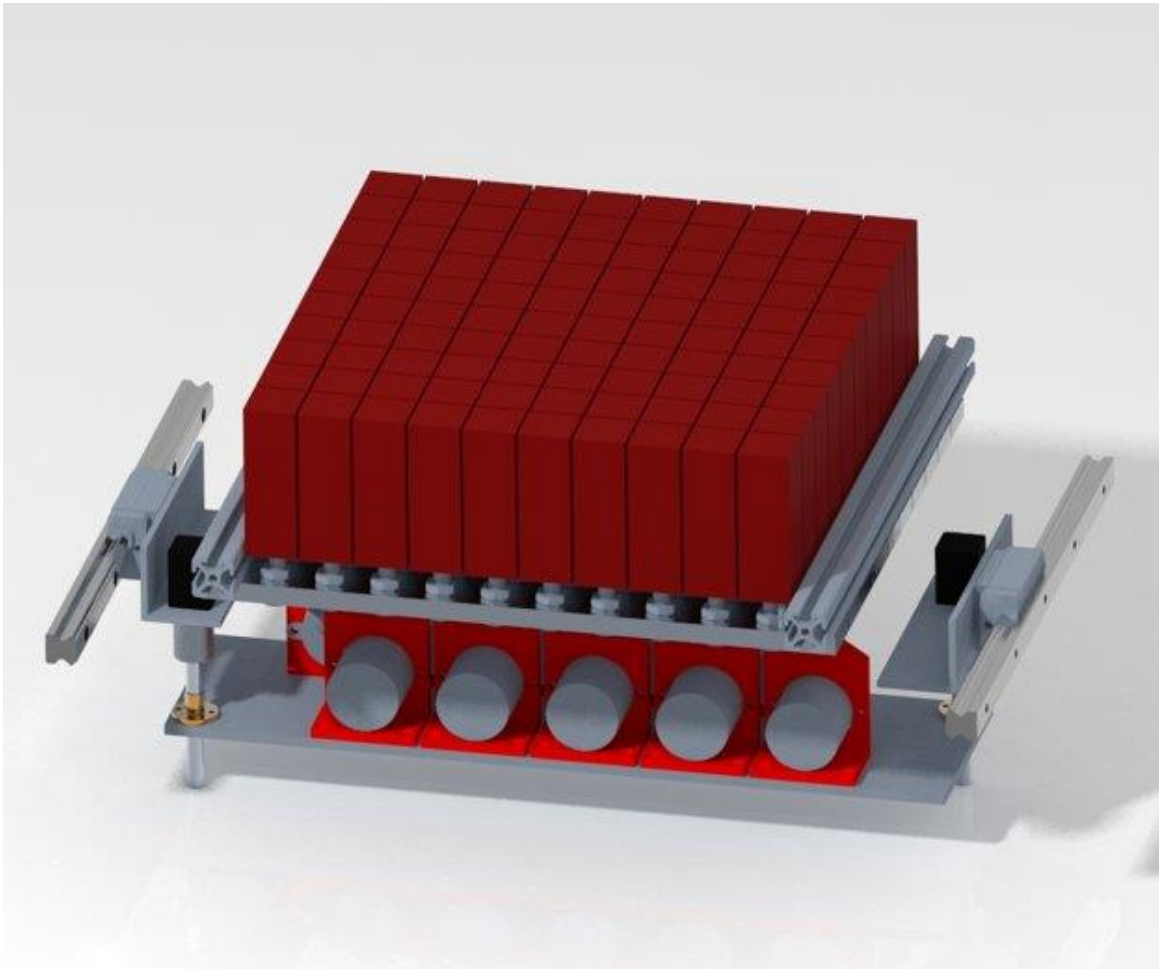


# Terra Table User Manual



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## 1. Setting Up the Table:

Initially the Terra Table should be set at the location of use, moving it around after configuration is not recommended. Once the table is in place, you may plug the USB cord into the computer containing the Terra Table software. Run the Terra Table executable and then you should be presented with the user interface.

## 2. Using the Terra Table Software:

There are 3 key pieces of the software that are to be interacted with:

1. The slider
2. Export/Import/Run buttons
3. 10x10 grid of squares

First, note that the slider has an initial value of 0, specified here is the percentage of maximum height that the cubes will raise. Next to this value is also displayed the number in inches that they will meet. When changing the slider, you will see this value change along with the corresponding color, this will be important when it comes to manipulating the grid.

There will be more on the export/import buttons later, however, it is worth noting that the run button serves to begin the movement of the table.

Whatever configuration has been applied to the 10x10 grid will be sent to the table to be matched.

Finally, there is the grid itself. Here, all squares begin at an initial state of 0 (green color). Once you change the slider value, you can select a square on the grid to apply that height value to it. You will see the color of the square change, helping you visualize any modifications you have made to the table. To undo any changes, simply slide the slider back to 0 and select the square once again. As stated earlier, the run button executes the current configuration you have and begins moving the table to match it.

### 3. Exporting/Importing Pre-Saved Configurations:

The import and export buttons serve to simplify this process. If you have a configuration you might want to save, you can export it to a text file on your computer. Whenever you want to load this configuration quickly at another time, you can use the import button to load the file into the grid.

### 4. Frequently Asked Questions:

#### 1. How are the text files imported and exported?

These files serialize the grid to a 10x10 array of arrays, with the height value being inserted for every row and column. These can be custom created outside of the software to share among others.

#### 2. How does the table work?

The cubes sit on threaded rods with nuts at the bottom. 10 motors on a gantry move from row to row, with each motor adjusting a particular column of cubes as they move between the rows. There are an additional 2 motors that move the gantry forwards and backwards, with 1 motor raising and lowering the 10 to meet the cubes. Once the 10 motors have docked with the cubes, they begin rotation, which turns the threaded rod, causing the cubes to raise to a specific height.