**Hoektron CNC Design Spec Rev. A**

**Overall Design Specifications**  
  
\* XYZ Gantry System  
\* Fixed work table.  
\* Fully enclosed operation with interlock switch and door.  
\* Emergency E-stop switch to halt operation in case of emergency.  
\* Enclosure of metal or high impact plastic (safety)  
\* Quality steel guiderods (10mm or larger)  
\* T-slots or tapped holes for mounting workpiece to platform.  
\* Aluminum build surface -- milled flat with a fly cutter (flatness spec)  
\* Spindle with brushless DC motor and adjustable speed control (0-3000RPM - software)  
\* Capable of milling foam, wax, plastic (Delrin/POM), aluminum, brass, and PCBs.  
\* Main interface is Android tablet over USB or Bluetooth, optional computer hookup (USB).  
  
**Positioning System**  
  
\* X axis travel of 250-300mm  
\* Y axis travel of 200-400mm  
\* Z axis travel of 50-100mm  
\* XYZ Accuracy of <= 0.05mm  
\* XYZ Backlash of <= 0.05mm  
\* XY flatness of +/- 0.05mm over the entire XY travel  
\* NEMA23 stepper motors  
\* 10mm diameter stainless steel shafts for guide rods  
\* good bearings on XYZ axes (ball or bronze)  
\* XYZ + Tool zero endstops  
\* Door interrupt switch  
\* EStop to kill main DC power machine.