Building a Rotary Table Stepper Drive

Sometime back I borrowed a friends rotary table & plates to do a job….can't even remember what it was now, but did remember that working out how to use the plates took longer! Even then I figured there must be a better way!!

Fast forward a few years & the 6" table "arrived" in the workshop. Time to start searching electronic dividing. Anyway I came across Kwackers thread on the CNC site. The guys who built it loved it, all the info was there. Now I would just need to source the bits, learn to etch circuit board & program the required ICI! As this was going to be a one off job, HELP was needed. I asked around the guys I know who might be able to help, no luck.

Time for a change in direction! In my searching I found "Arduino". As this is open sourced & guys had posted up electronic dividers, things were looking up. So bits were purchased & slowly accumulated, time to learn how to put this together...

One night, a bit bored at work,, I clicked onto Kwackers website & he was now producing the board & bits as a kit…OR a tested board along with a keypad ready to GO!!!! So out came the credit card!! Arduino will have to wait!

The stepper driver can do the following:
1, Jog both clockwise & counter clockwise in 0.01, 0.1, 1.0, 10.0 degree steps

2, Divides, anything between 1 to 9999

3, Degrees mode, divided a circle in any number of degrees between 0.01 to 359.99 in 0.01 degree steps

4, Continuous drive, at one of 5 speeds, either Clockwise or CCW

5, Program mode, to allow complex sequences to be done & stores up to 10 of these

It also automatically compensates for backlash.

Well here's my version of Kwacker's electronic dividing for a rotary table.

So heres the bits…..

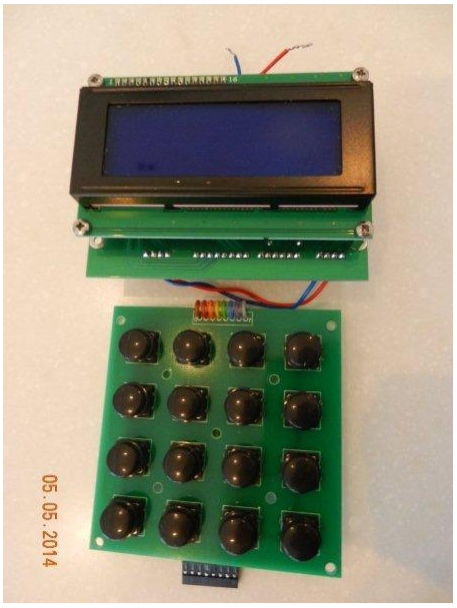

Photo 1, The board, display & keyboard as supplied by Kwacker's

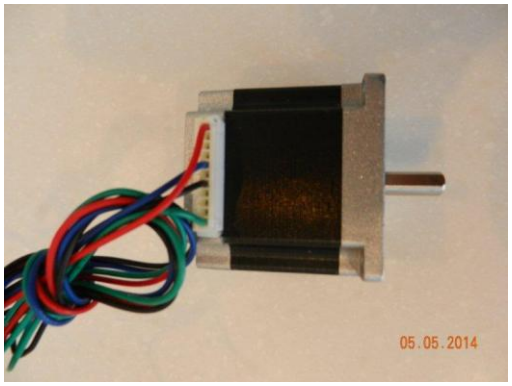

Photo 2 the 175oz stepper motor, as you can see the wire's can be unplugged, thought that was a good idea…..

Photo 3 Stepper driver

Photo 4 AFTER ordering the stepper motor I found a guy who supplies these stepper motor end covers & connector……wish I had found these BEFORE ordering the motor!

Photo 5 Stepper motor to table drive coupling

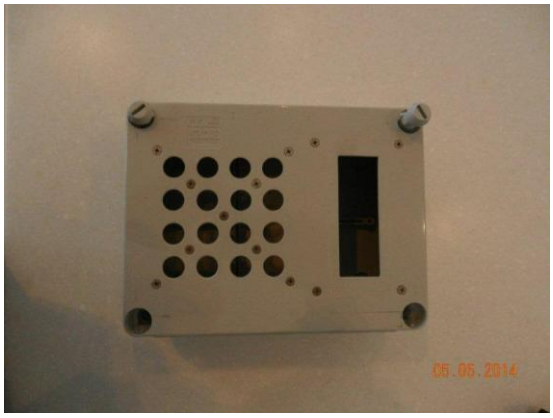

Photo 6 The box to put it all in, AFTER I drilled all the holes!

Photo 7 The custom motor to table connection, found this shape on a You tube video & thought it look rather nice.

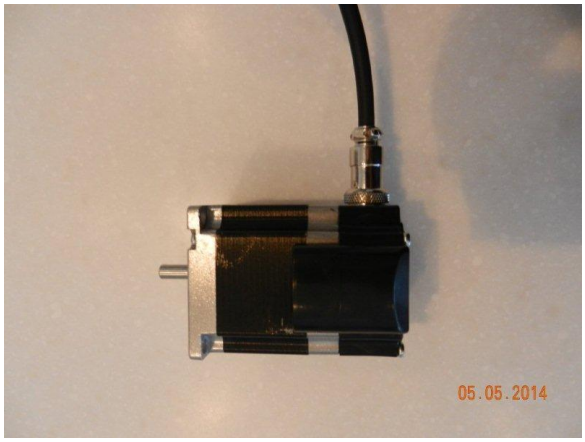

Photo 8 Motor with end cover & plug fitted up this is a slightly smaller stepper motor. The 175 oz one I had to modify the cover a bit to get it to fit around the plug.

Photo 9 & from the end, makes for a neat tidy job I think

Photo 10 ALL DONE!! Kwacker's even provides the artwork for the box.

I asked the lady's at work if they could laminate it for me & double sided taped it on. The only issue being a little frosting in the window (minor issue).