

Re: hi help me out guys

Re: hi help me out guys

Source: <http://sci.tech--archive.net/Archive/sci.electronics.repair/2006-03/msg00945.html>

- *From:* "Arfa Daily" <arfa.daily@xxxxxxxxxxxx>
 - *Date:* Tue, 14 Mar 2006 13:13:15 GMT
-

<suchi_84@xxxxxxxx> wrote in message
news:1142338606.546597.167990@xx

can the rack pinion arrangement of a dvd player do the trick without any additional component..ie will that satisfy my need to convert angular movement of 0.014 degree to linear motion of 1 micron or maybe even 10 micron.or should i have any other movement attached to it...reply as soon as possible please

You may well be able to do it using a DVD mech, depending on the mechanical configuration of your stepper motor. There are two types of mechanism configuration. The first uses a conventional motor with a diameter of about 2.5cm and a shaft diameter of, I would guess, about 1.5mm. A nylon gear of about 12 or 13 teeth is a push fit on that shaft. This gear then drives a larger gear, with a smaller one concentrically moulded with it. This gear may or may not be made from two parts, spring loaded against one another, to take out backlash. The smaller part of the gear then drives a similarly made gear, which then drives the rack, which is attached to the laser sled, which typically runs on a pair of precision rails, but may be one precision rail, and one edge of the pressed steel deck, with a nylon face over it.

The other type of drive uses a smaller motor, either conventionally mounted, and driving a worm gear via a normal gear, and then via another gear, driving a coarse or fine pitched worm screw, which then drives the sled via a friction pawl, or mounted horizontally, and driving the worm screw via a couple of conventional gears. I think that this setup would probably give the best precision, but the other type would be easier to interface your stepper motor to.

As I said, if you have a repair shop you could go to, pop in and ask. They will probably have a box full of scrap decks that you can look through to see if anything is appropriate to your needs. The only reason that we all keep them, is for the occasional motor or gear that we can cull from them to complete an urgent repair.

Arfa

Re: hi help me out guys

Re: hi help me out guys