

## Re: Drives for CCD photography

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*Source:* <http://sci.tech--archive.net/Archive/sci.astro.amateur/2006-12/msg00679.html>

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- *From:* Chris L Peterson <clp@xxxxxxxxxxxxxxxxxxxxxx>
  - *Date:* Sun, 10 Dec 2006 09:58:46 -0700
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On Sun, 10 Dec 2006 16:36:53 GMT, Jim Klein <jameseklein@xxxxxxxxxxxxxx> wrote:

In visual and film photography through telescopes on equatorial drives, the old RA drive system might use commercial gears (Boston probably) and a synchronous drive motor like a BODINE or a HURST. This would be controlled using a variable frequency controller.

This was used in conjunction with a DEC drive with another synchronous motor and gears.

A control box, held in the hand with 4 buttons and a reostat type device for setting the system to a sidereal rate would be used.

The user kept the target or a near by star in the cross hairs of a guide scope or off-axis guiding device.

I have been told that this configuration is insufficiently accurate for CCD photography and a periodic correction via a computer driven RA drive is needed to compensate for periodic errors in the RA worm gear and other associated gears.

Is this correct ?

A system such as you describe would probably be adequate for CCD imaging, but you would neither want to use one, nor be able to find one outside an antique shop. For more than a decade, nearly all imagers (film or CCD) have used mounts with somewhat more sophisticated drive systems.

If so, when I buy my next telescope with which I plan to do CCD photography, what do I need to look for and ask for in the product I buy.

I will be getting something in the 11 to 14 inch aperture range. It

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will be on a permanent mount on a concrete pier and isolated from the concrete pad upon which I will be walking.

Above all, you want a mechanically solid mount. I prefer fork mounts, but this largely limits you to using the mass produced products of Meade or Celestron. While these certainly make fine imaging systems, you can get much better mounts from other manufacturers. These will be GEMs, however, not forks. You will want a goto controller; these days, whatever controller the mount comes with will include periodic error correction and autoguider inputs (you will want to avoid manually guiding unless you are a masochist).

On a side note, consider avoiding completely a concrete pad around your scope. Concrete has a very large thermal mass, and can easily contribute to deteriorated local seeing. A raised wooden platform is much better in this regard, as well as being easier on your feet and back (and on anything you accidentally drop).

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