

# Re: guiding relays vs scope controls

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"Pierre Vandevenne" <[pierre@xxxxxxxxxxxxxxxxxxxxxx](mailto:pierre@xxxxxxxxxxxxxxxxxxxxxx)> wrote in message  
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I seem to have problems with the autoguiding relays of my sbig camera. Haven't really objectivated the issue but it shows up with two different mounts using two different cables, so I guess there not much room for doubt.

I have therefore switched my guiding from guider relays to telescope control. Is the performance going to be markedly different? So far, everything is fine, but I am using a very short focal length (540mm) and have had to cut the aggressiveness in half, all other things being equal.

How 'good' software guiding is, depends largely on your mount controller. 'Relay' guiding (actually only a real 'relay' on the ST4, and similar guiders, while on the SBIG cameras a 'pull down' transistor), gives less 'latency' (the mount is being controlled almost immediately, instead of having to wait for a longer serial command). How long the latency for serial guiding is, depends on the 'command set' of your mount. The original LX200, had a 'reasonable' nudge command. The latter GPS units, dropped this, and for a while gave poor responses, and then an 'undocumented' nudge command in a slightly different form was found, and now the control is generally good. Similarly, some other makes of scope, have better or worse nudge/move commands, with varying degrees of quality, and in some cases, a much slower 'move' command has to be used, often with relatively slow response, and poor accuracy. As another example, the Vixen SS2K, 'rounds' the position numbers fed from a serial command, and you cannot actually nudge to the resolution of the controller, with the serial control. However for shorter focal length scopes, both still work OK on this mount, and this only gives problems at high image scales. Though you have the system working, you do really need to find out what is wrong with the direct control. A number of questions/comments apply. First, some mounts need to be in the right 'mode' to respond to the guider input. For example, the Gemini controller, ignores the guide input, unless the controller is in 'photo', or 'all speeds' mode. Then check the actual pinout on the cable. Different cables are needed for some mounts (the Vixen SS2K, for example, does require a custom cable). Also some controllers do actually require a relay, or opto-coupler (on the Losmandy

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Gemini for example, the 'older' version, with telephone style motor connectors, requires the guider pins to be pulled 'up', not 'down' as the SBIG camera generates – this requires a relay adapter to work, and connecting without this, can damage the controller or camera). Also note that the correct cable, is normally a 'crossover' cable (pin1 to pin6), not a straight through cable.

Best Wishes

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