Experimental Physics and Industrial Control System

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Subject: **RE: Motion controls alternatives to MAXv?**

　From: <matthew.pearson@diamond.ac.uk>

　To: <jlmuir@anl.gov>, <tech-talk@aps.anl.gov>

　Date: Thu, 12 Aug 2010 17:27:14 +0100

```
Hi Lewis,

The tpmac PMAC driver has support for setting the position on the
controller. It can be done via the motor record. It writes the position
into Mx61 (desired position) and Mx62 (actual position). It does a kill
first, and then a J/ afterwards to close the loop again.

Cheers,
Matt

> -----Original Message-----
> From: tech-talk-bounces@aps.anl.gov
> [mailto:tech-talk-bounces@aps.anl.gov] On Behalf Of J. Lewis Muir
> Sent: 12 August 2010 15:59
> To: EPICS Tech-Talk
> Subject: Re: Motion controls alternatives to MAXv?
>
> On 8/12/10 8:48 AM, Dirk Zimoch wrote:
> > Hi all,
> >
> > I am looking for an alternative to our current MAXv motion
> controller
> > solution.
> >
> > Can anyone tell me about experiences with
> >
> > * DeltaTau pmac
> > * Newport XPS
> > * Galil
> > * other systems?
>
> Hi, Dirk.
>
> At 17-ID at the APS we use two Delta Tau Turbo PMAC2 VME Ultralite
> boards and two Delta Tau UMAC MACRO stations.  (We don't use Delta Tau
> controllers exclusively, but we do use these.)  Each
> Ultralite board is
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> connected via two fiber optic cables to one UMAC MACRO station. The
> UMAC MACRO stations may be deployed at a physical location fairly far
> away from the VME boards if desired. The only cabling between them is
> the two fiber optic cables.
>
> The Delta Tau Turbo PMAC2 VME Ultralite supports multi-axis
> coordinated
> motion, motion programs, and PLC programs.
>
> The Delta Tau software development suite is called PMAC Executive Pro2
> Suite. In my opinion, it is poorly written and buggy.
> However, you can
> do a lot with it and we use it.
>
> We use tpmac <http://www.gmca.anl.gov/TPMAC2/> for EPICS control. The
> tpmac web site has more information about the hardware and setup.
>
> Sergey Stepanov and Oleg Makarov at GM/CA-CAT at the APS have a lot of
> expertise with this. (There are a number of people at the
> DLS who have
> a lot of expertise with Delta Tau PMAC2 controllers too.)
>
> I would say the Ultralite board is *very* complex. It takes
> a *lot* of
> work just to configure the Ultralite and the UMAC MACRO station. That
> can be a negative if you just want to plug something in and
> go like you
> can w/ the MAXv, or it can be a positive if it gives you the
> power to do
> something you couldn't do with some other controller.
>
> One nice thing about the Delta Tau Turbo PMAC2 VME Ultralite is that
> there are various products from Delta Tau in the PMAC2 motion
> controller
> family. For example, there's a Turbo PMAC2 PCI Ultralite that is a
> PCI-bus card. There's also a small-form-factor board called the Turbo
> PMAC Clipper. We use the Clipper for our goniometer control and
> exposure shutter synchronization with our crystal rotation axis at
> 17-ID. So, if you do spend the time to learn all about
> configuring and
> programming the PMAC2, you at least have the possibility of applying
> that knowledge to other applications.
>
> One annoyance is that there's no officially supported way to
> explicitly
> set a motor's position. While I tend toward the belief that
> one should
> always home a motor to determine its true position, not everyone
> believes that, and there are some cases where one just wants
> to set the
> motor's position without homing it. There are some workarounds to
> setting a motor's position, and we use them sometimes at
> 17-ID, but they
> are all a bit of a hack.
>
> Lewis
>
> --
> J. Lewis Muir
> Software Engineer
> IMCA-CAT
>

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Replies:
> **Re: Motion controls alternatives to MAXv?** *J. Lewis Muir*

References:
> **Motion controls alternatives to MAXv?** *Dirk Zimoch*
> **Re: Motion controls alternatives to MAXv?** *J. Lewis Muir*

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ANJ, 02 Sep 2010