

VME Intensity Monitor - Bug #15282

Support plotting MDAT transmitter frames via ACNET

01/23/2017 02:13 PM - John Diamond

Status:	New	Start date:	01/23/2017
Priority:	Normal	Due date:	
Assignee:	Elliott McCrory	% Done:	0%
Category:	ACNET	Estimated time:	32.00 hours
Target version:		Spent time:	1.00 hour

Description

Support plotting the value written to the MDAT transmitter for each supported MDAT frame.
Configure ACNET devices for the following frames:

Toroid	MDAT Frame	ACNET Device
I:TOR852	\$90	I:MDAT90
R:TOR853	\$91	R:MDAT91
R:TOR905	\$92	R:MDAT92
E:TOR101	\$93	E:MDAT93
I:TOR003	\$94	I:MDAT94
R:TOR003	\$95	R:MDAT95
I:TOR702	\$96	I:MDAT96
R:TOR703	\$97	R:MDAT97

History

#1 - 01/23/2017 04:07 PM - John Diamond

A couple of comments on how to do this:

- Each MI/RR toroid front end has an IP carrier card with an IP MDAT transmitter module (supplied by AD/Controls) installed on it. The module responds at VME A16 0x6200 and supports up to 8 frames.
- Each frame is an unsigned 16-bit integer with 1 count representing 1.48e9 protons. What these ACNET devices should return is this number.
- There is already an accessor class called MDATAccessor that provides a device with Setting and Reading of the Setting properties. This device ID controls the frame delay that gets programmed to the IP MDAT transmitter for each MDAT frame and is only used by Vogel and Kuplic (these devices are typically named x:TCnnD). I suggest adding a new device ID for the new readbacks and placing the reading method in the MDATAccessor class.
- The class that sends the frame values to the MDAT transmitter is called MDAT. He spawns a high-priority task that receives messages from the PMC-UCD at 720Hz that trigger a new value to be read, scaled and sent to the MDAT transmitter.
- The MDAT transmitter driver class is called IPMDATDrv. The technical specification for the MDAT transmitter is here: [[http://www-bd.fnal.gov/controls/hardware_vogel/ipmdat8.htm]].