Laser diagnostic scope

Scope inputs

- Channel 1: Photodiode. The laser and the LEDs both excite the same photodiode at different times, so both show up on channel 1. The trigger source determines whether the scope triggers with the laser pule or with the LED pulse.
- Channel 2: Digital input. This is the TTL version of the photodiode, switching on/off when the photodiode signal reaches a certain level.
- Channel 3: Laser gate from BCS. The digital input for the laser can't be outside this window or BCS will trip. Note that different cable lengths cause an offset on the scope display, so the signals from channels 1 and 2 appear delayed a few ns relative to the gate.
- Channel 4: LED gate from BCS. The digital input for the LEDs can't be outside this window or BCS will trip. Note that different cable lengths cause an offset on the scope display, so the signals from channels 1 and 2 appear delayed a few ns relative to the gate.

Configured views

- PD Laser. Shows the photodiode laser pulse and laser gate signals, triggered to synchronize with the injector laser. Use this view to see the height of the signal from the laser.
- BCS Gate. Shows the laser digital signal and laser gate. Use this view to see the timing of the laser compared to the BCS gate.
- PD LED. Shows the photodiode LED pulse and LED gate signals, triggered by the LED gate. Use this view to see the height of the LED pulse, as a diagnostic for the photodiode.
- LED Gate. Shows the LED digital signal and LED gate. Use this view to see the timing of the LED compared to the BCS LED gate.