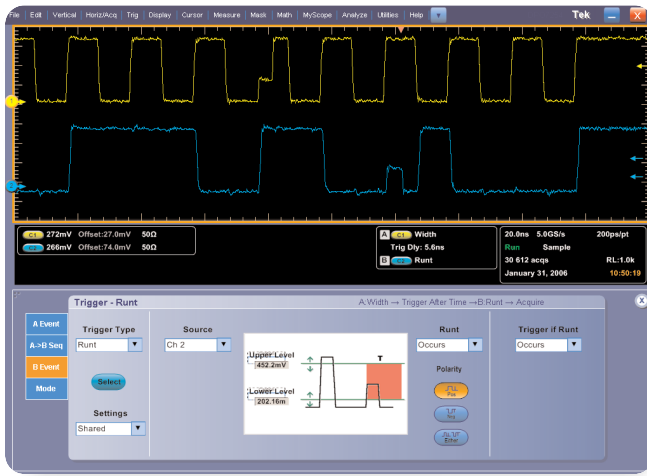


# Pinpoint® Triggering Performance to Capture High Speed Signals

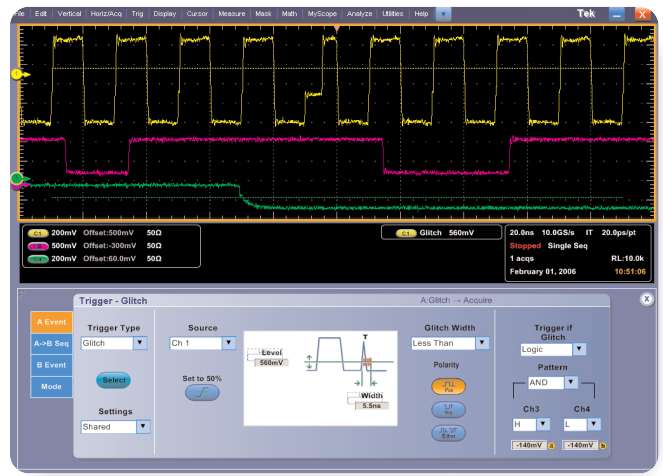
Whether your task is troubleshooting prototypes, characterizing circuit performance, or verifying signal integrity, you need to capture the data. That takes a trigger system with exceptional performance in two areas: ability to handle high speed signals and flexibility to set the combination of events you need to find. The Pinpoint triggering system in the DPO7000 and DPO70000 series oscilloscopes gives you the highest performance available today in both these key aspects.

**Handling high speed signals** requires more than just triggering on fast edges – which the Pinpoint trigger system does at industry-leading levels – it requires being able to find pulses as narrow as 300 ps, glitches less than 100 ps wide, setup and hold violations under 500 ps, plus re-arming for the next trigger event at rates equivalent to 4 GHz. The Pinpoint trigger system offers up to 5X higher performance in these areas than competitive oscilloscopes. Here are just a few comparisons.

Model	Tektronix DPO70000	Agilent DSO80000B	LeCroy SDA6020
Glitch	<100 ps minimum capture, 300 ps minimum setting, logic qualified	500 ps minimum capture, 1.5 ns minimum setting	600 ps minimum capture/setting
Runt	300 ps minimum, time & logic qualified	Not Available	Not Available
Width	300 ps minimum setting, logic qualified	500 ps minimum	600 ps minimum
Transition	300 ps minimum setting, time and logic qualified	1.5 ns minimum	Not Available
Timeout	300 ps minimum setting, time and logic qualified	Not Available	2 ns minimum
Setup/Hold	500 ps minimum, logic qualified	1.5 ns minimum	Not Available



► **Figure 1.** Pinpoint trigger capturing a data line runt following a clock line glitch.



► **Figure 2.** Triggering on a clock glitch qualified by data lines on channels 3 and 4. The DPO7000 triggers when it finds the glitch if channel 3 is high and channel 4 is low.

### Flexibility to set up the exact trigger conditions

you need to find the problems is another requirement for a high performance triggering system. Pinpoint trigger system capabilities far surpass any other trigger system available today. Pinpoint offers a full menu of trigger types for both the A-Event and B-Event settings. Often you need to trigger on an out-of-tolerance event that occurs after a known event – such as looking for a runt in a data line after a glitch in a clock. It's simple to set-up this combination with Pinpoint trigger system: set the A-Event to arm when it finds the glitch in the clock line, then set the B-Event to trigger on a runt. Having the full flexibility on B-Event trigger is unique to the Pinpoint trigger system.

But that's not all. If you're looking for that clock glitch you might want to only look for that glitch if a couple other data lines are high or low. Pinpoint triggers can qualify any trigger type by Logic or Time, so it's easy to find that glitch when it occurs. And with its Sequence

Reset feature, the Pinpoint trigger system allows you to automatically reset the A-Event to B-Event sequence if it doesn't occur in a specified amount of time. It starts over and keeps looking to find exactly the combination of events need to see.

The Pinpoint trigger system in the DPO7000 and DPO70000 series scopes gives you the ability to trigger on the highest speed signals with the most flexibility. You can choose from the largest menu of trigger types and modes to capture exactly the signal event you need to find. With its full-function B-Event triggers, logic qualification of A-Event and B-Event triggers, and sequence reset capability, the Pinpoint trigger system offers over 1400 combinations of triggering setups. Other competitive triggering systems offer on the order of 50 combinations. That additional flexibility enhances your productivity by reducing the time needed to find error-causing problems.

Our most up-to-date product information is available at: [www.tektronix.com](http://www.tektronix.com)



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