

# De-Skew Propagation Delays

## Adjustment for Critical Time Measurements

When making critical time measurements with a multi channel oscilloscope, it is necessary to compensate for different channel propagation delays between the scope's inputs. This is known as Skew Adjustment.

The high performance LeCroy analog oscilloscopes including the LA314, LA314H and LA354 all have skew compensation as a standard feature.

To adjust Skew Compensation perform the following steps:

- 1) Input a signal with a rising edge faster than 5nSec to both CH 1 & CH 2 via the cables to be used during actual testing.
- 2) Enable both CH1 & CH2
- 3) Set the Time/Div  $\leq 5\text{nSec/Div}$
- 4) Simultaneously depress A and B keys (indicated as ALT HORIZ [ontal] sweep selection above keys)
- 5) Observe "f: CH2 Delay" displayed in FUNCTION knob readout
- 6) Rotate the FUNCTION to adjust channel 2 delay by approximately 3nSec range.
- 7) Overlay the rising edges so they are coincident.

NOTE: Cable propagation delays vary with dielectric material. Typical cable delays are:  
 3nSec/m for fluorocarbon dielectric  
 5nSec/m for polyethylene dielectric  
 If adjustment range is insufficient, phase match cabling by adding or subtracting lengths.

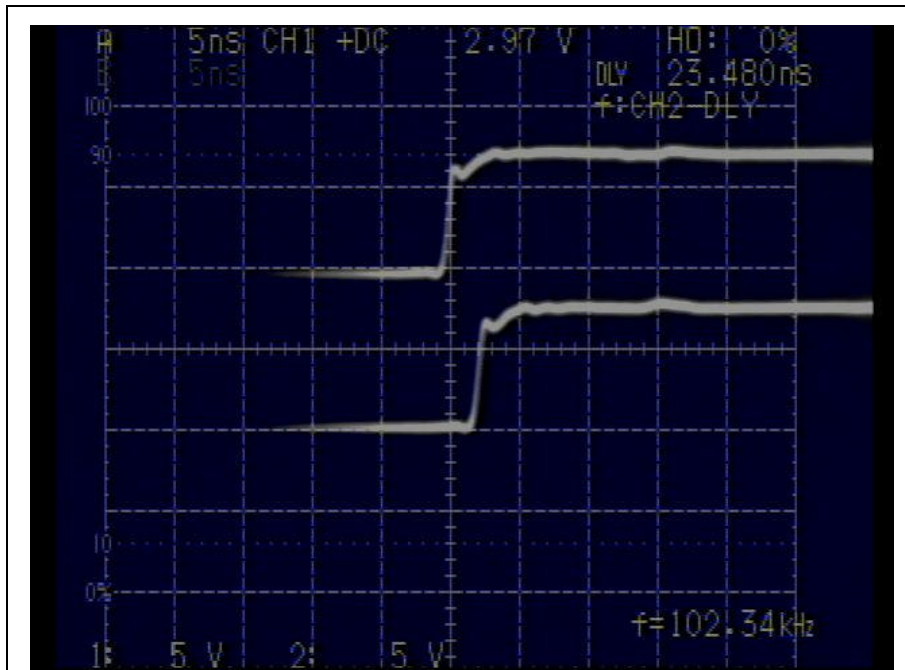


Figure 1: CH1 & CH2 before skew adjustment

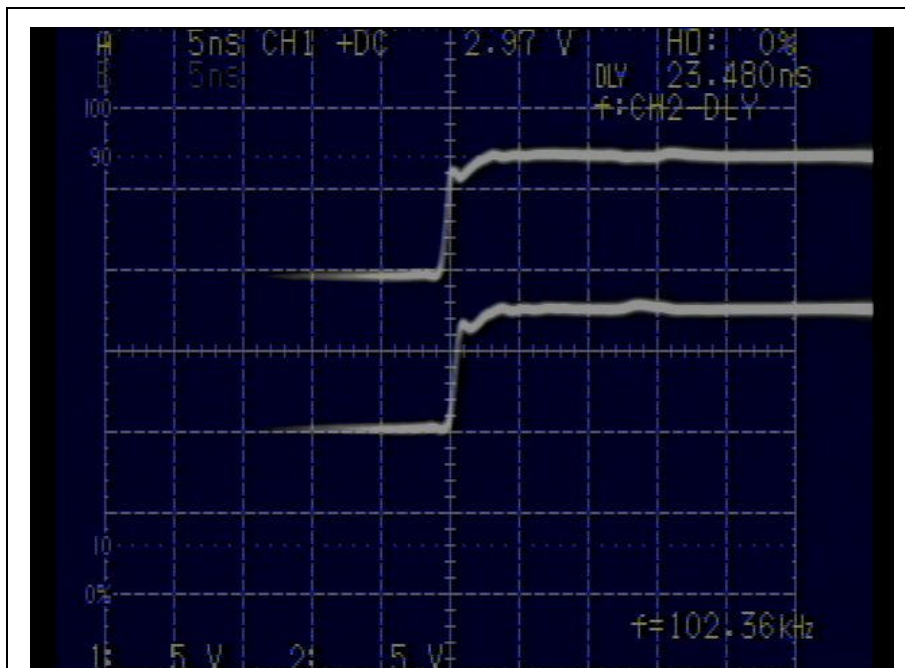


Figure 2: CH1 & CH2 after Skew adjustment



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