



PRODUCT SUMMARY

The HL1302 Matched Cable Skew Tester is a USB-connected device measuring the delay difference (skew) between a pair of coaxial cables connected to the Differential Stimulus and Receiver Ports. After a preliminary calibration of the time base using the first cable and terminations, the skew of the the second cable is transformed as an impulse on the PC screen. The amplitude is displayed directly as skew in picoseconds.

DEPLOYMENT NOTES

The HL1302 is connected and powered via a USB cable connected to a Windows-based PC or laptop.

All specifications contained herein are typical unless otherwise noted.

Calibration Metrology

Every instrument is calibrated by HYPERLABS at the time of sale using NIST-traceable calibration standards.

To maintain NIST traceability, the HL1302 should be sent to HYPERLABS yearly for calibration and certification.

HL1302 Cable Skew Tester

Key Features and Technical Specifications¹

Number of Channels	2
Delay (Skew)	1 to 200 ps
Skew Resolution	0.5 ps
Time Base Range	1 ns to 4 µs
Time Base Accuracy	± 3%
Dimensions	4.5"x 1.7"x 2.4" 110 x 170 x 60 mm
Weight	0.5 kg (1.1 lb.)
Temperature Limits	0° to +40° C, operating
RoHS Compliant	Yes, assembled with lead-free solder
REACH Compliant	Yes
Warranty	1 year, see website

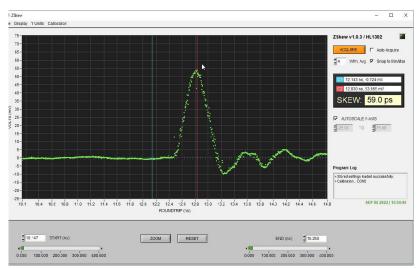
NOTE 1 - The specifications in this table are typical. Full specifications, are available on Pages 2of this datasheet.



HL1302



Alternate view of HL1302 with cables



Typical Display of Skew - 65 ps



HL1302 Full Specifications

Number of Channels 2 (1 pair) Delay (Skew) 1 ps 200 ps Skew Resolution 0.5 ps Stimulus Amplitude ± 500 mV Into 50 Ω Rise Time (10-90%) 200 ps Time Base Range 1 ns 4 μs Time Base Accuracy ± 3% Operating Temperature 40° C Ambient temperature Storage Temperature 40° C 85° C Connectors 4 x SMA, USB Interface Powered and controlled via one USB cable PC Operating System Requirement Microsoft Windows 7 or later Static Compliant with Class 2 of ESDS Component Sensitivity Classification (EDS STM5.1-1998) Calibration Standards NIST Traceable Calibration Included Accessories Two 1 ns matched delay coaxial cables and two 50 Ohm Terminations Dimensions (WX D x H) 4.5°x 1.7"x 2.4" (WX D x H) 110 x 170 x 60 mm Weight 0.5 kg (1.1 lb.) REACH Compliant Yes, assembled with lead-free solder Warranty 1 year, repair or replacement; see website for details	Parameter	Minimum	Typical	Maximum	Comments		
Stew Resolution 0.5 ps Stimulus Amplitude ± 500 mV Into 50 Ω Rise Time (10-90%) 200 ps Time Base Range 1 ns 4 μs Time Base Accuracy ± 3% Operating Temperature 0° C 40° C Ambient temperature Storage Temperature -40° C 85° C Connectors 4 x SMA, USB Interface Powered and controlled via one USB cable PC Operating System Requirement Microsoft Windows 7 or later Compliant with Class 2 of ESDS Component Sensitivity Classification (EDS STM5.1-1998) Calibration Standards NIST Trace matched delay coaxial cables and two 50 Ohm Terminations Included Accessories Two 1 ns matched delay coaxial cables and two 50 Ohm Terminations Dimensions (W x D x H) 4.5° x 1.7° x 2.4° (W x D x 60 mm Weight 0.5 kg (1.1 lb.) ROHS Compliant Yes	Number of Channels		2 (1 pair)				
Stimulus Amplitude ± 500 mV Into 50 Ω Rise Time (10-90%) 200 ps Time Base Range 1 ns 4 μs Time Base Accuracy ± 3% Operating Temperature 0° C 40° C Ambient temperature Storage Temperature -40° C 85° C Connectors 4 x SMA, USB Interface Powered and controlled via one USB cable PC Operating System Requirement Microsoft Windows 7 or later Static Compliant with Class 2 of ESDS Component Sensitivity Classification (EDS STM5.1-1998) Calibration Standards NIST Traceable Calibration Included Accessories Two 1 ns matched delay coaxial cables and two 50 Ohm Terminations Dimensions (W x D x H) 4.5° x 1.7" x 2.4" (W x D x H) Weight 0.5 kg (1.1 lb.) RoHS Compliant Yes, assembled with lead-free solder REACH Compliant Yes	Delay (Skew)	1 ps		200 ps			
Rise Time (10-90%) Time Base Range 1 ns 4 µs Time Base Accuracy ± 3% Operating Temperature -40° C 85° C Connectors 4 x SMA, USB Interface Powered and controlled via one USB cable PC Operating System Requirement Static Compliant with Class 2 of ESDS Component Sensitivity Classification (EDS STM5.1-1998) Calibration Standards NIST Traceable Calibration Included Accessories Two 1 ns matched delay coaxial cables and two 50 Ohm Terminations Dimensions (W x D x H) 110 x 170 x 60 mm Weight O.5 kg (1.1 lb.) ROHS Compliant Yes, assembled with lead-free solder REACH Compliant Yes	Skew Resolution		0.5 ps				
Time Base Range Time Base Accuracy ± 3% Operating Temperature 0° C 40° C 85° C Connectors 4 x SMA, USB Interface Powered and controlled via one USB cable PC Operating System Requirement Static Compliant with Class 2 of ESDS Component Sensitivity Classification (EDS STM5.1-1998) Calibration Standards NIST Traceable Calibration Included Accessories Two 1 ns matched delay coaxial cables and two 50 Ohm Terminations Dimensions (W x D x H) 110 x 170 x 60 mm Weight PC Operating System Requirement Static Compliant with Class 2 of ESDS Component Sensitivity Classification (EDS STM5.1-1998) Calibration Standards NIST Traceable Calibration Included Accessories Two 1 ns matched delay coaxial cables and two 50 Ohm Terminations Dimensions (W x D x H) 110 x 170 x 60 mm Weight Ves, assembled with lead-free solder REACH Compliant Yes	Stimulus Amplitude		± 500 mV		Into 50 Ω		
Time Base Accuracy Operating Temperature O° C 40° C 85° C Connectors 4 x SMA, USB Interface Powered and controlled via one USB cable PC Operating System Requirement Microsoft Windows 7 or later Static Compliant with Class 2 of ESDS Component Sensitivity Classification (EDS STM5.1-1998) Calibration Standards NIST Traceable Calibration Included Accessories Two 1 ns matched delay coaxial cables and two 50 Ohm Terminations Dimensions (W x D x H) 110 x 170 x 60 mm Weight O.5 kg (1.1 lb.) ROHS Compliant Yes	Rise Time (10-90%)		200 ps				
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Interface Powered and controlled via one USB cable PC Operating System Requirement Microsoft Windows 7 or later Static Compliant with Class 2 of ESDS Component Sensitivity Classification (EDS STM5.1-1998) Calibration Standards NIST Traceable Calibration Included Accessories Two 1 ns matched delay coaxial cables and two 50 Ohm Terminations Dimensions 4.5"x 1.7"x 2.4" (W x D x H) 110 x 170 x 60 mm Weight 0.5 kg (1.1 lb.) RoHS Compliant Yes, assembled with lead-free solder REACH Compliant Yes	Storage Temperature	-40° C		85° C			
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(W x D x H) 110 x 170 x 60 mm Weight 0.5 kg (1.1 lb.) RoHS Compliant Yes, assembled with lead-free solder REACH Compliant Yes	Included Accessories	Two 1 ns matched delay coaxial cables and two 50 Ohm Terminations					
RoHS Compliant Yes, assembled with lead-free solder REACH Compliant Yes							
REACH Compliant Yes	Weight	0.5 kg (1.1 lb.)					
	RoHS Compliant	Yes, assembled with lead-free solder					
Warranty 1 year, repair or replacement; see website for details	REACH Compliant	Yes					
	Warranty	1 year, repair or replacement; see website for details					

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HL1302 Dimensional Drawing

Figure 1 shows a mechanical drawing of an HL1302. Unless otherwise noted, all units are in inches.

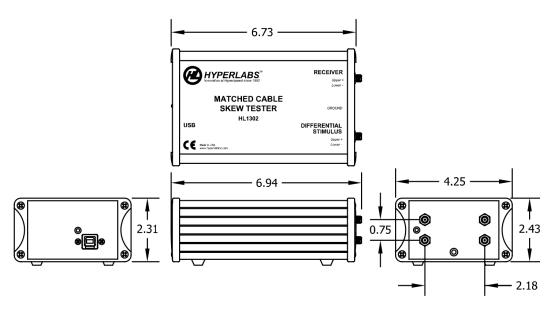


Figure 1: HL1302 mechnical drawing