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## Test & Measurement

- sales
- rentals
- calibration
- repair
- disposal

## Complimentary Reference Material

This PDF has been made available as a complimentary service for you to assist in evaluating this model for your testing requirements.

TMG offers a wide range of test equipment solutions, from renting short to long term, buying refurbished and purchasing new. Financing options, such as Financial Rental, and Leasing are also available on application.

TMG will assist if you are unsure whether this model will suit your requirements.

Call TMG if you need to organise repair and/or calibrate your unit.

If you click on the “Click-to-Call” logo below, you can call us for FREE!

TMG Corporate Website

TMG Products Website



Click-to-Call  
TMG Now



Product Lifecycle Management System

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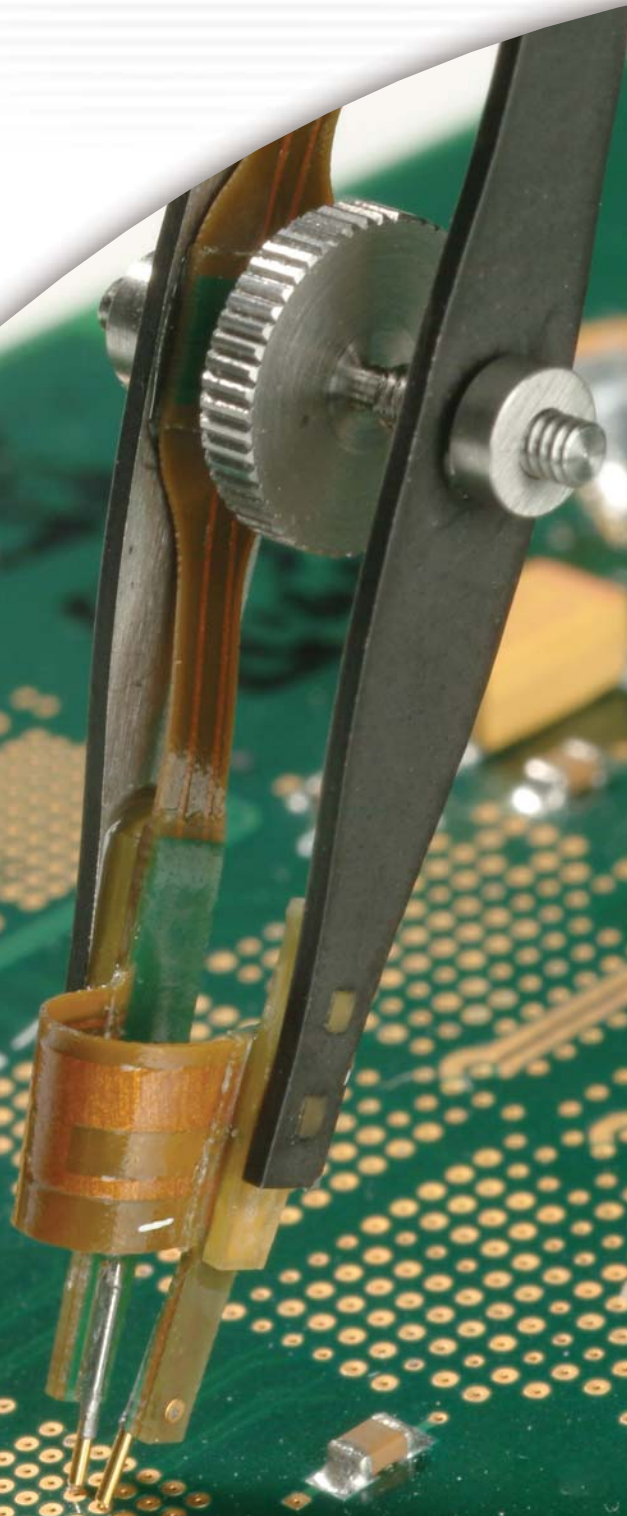


**LeCroy**

**WAVELINK PROBE SYSTEM**



**Unprecedented Flexibility  
for Probe Interconnection**



# Exceptional Waveform Fidelity

**WaveLink probes provide industry leading technology for wideband signal connection to test instruments. The first differential probes to employ SiGe technology, they deliver full system bandwidth when used with LeCroy 6 GHz, 5 GHz, and 3 GHz instruments.**

While other probes have higher DC resistance, their loading impedance quickly drops to very low values at relatively low frequencies. Most cross below the WaveLink impedance at only 200 MHz. WaveLink probes:

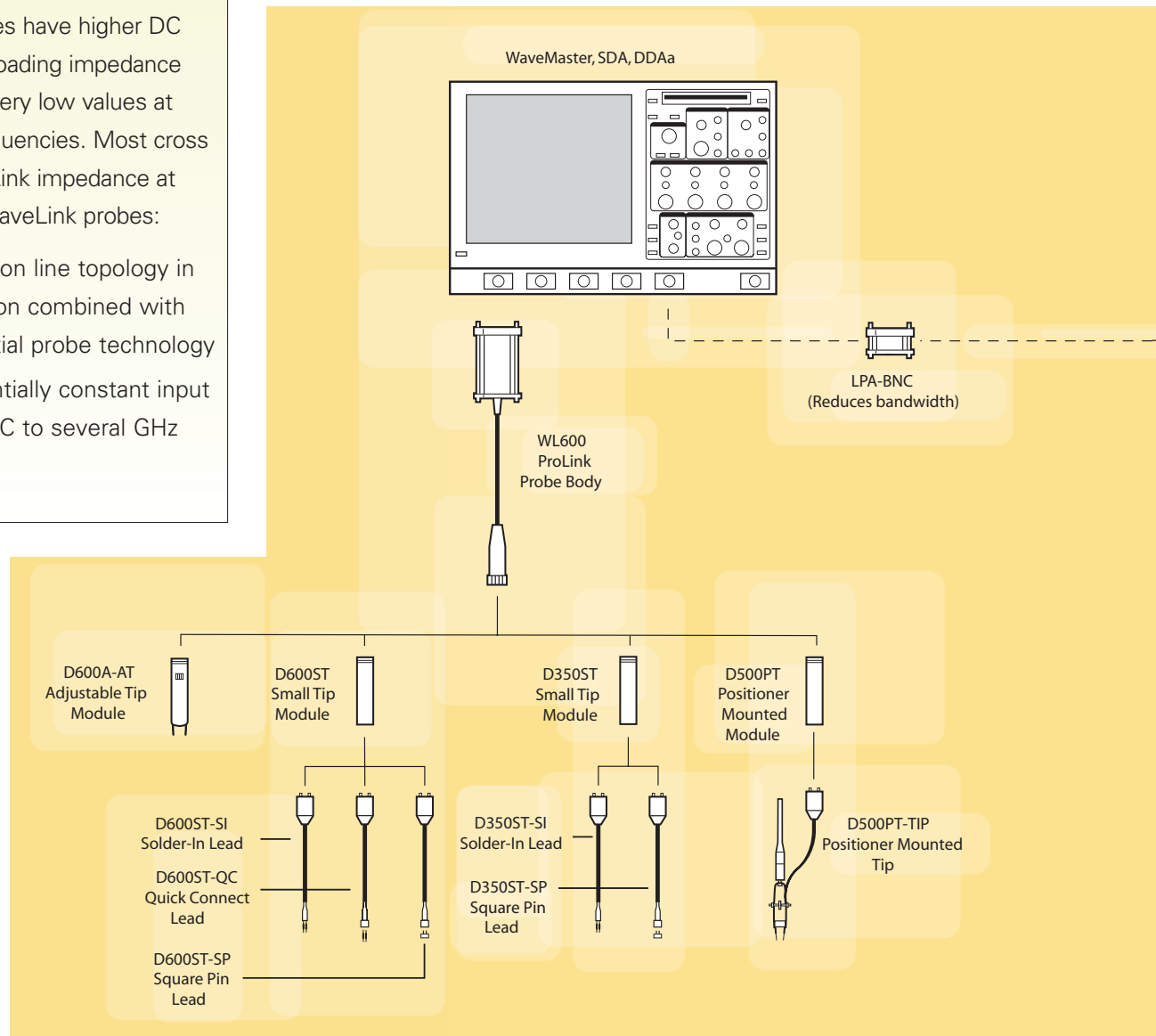
- Use transmission line topology in the input section combined with active differential probe technology
- Maintain essentially constant input loading from DC to several GHz

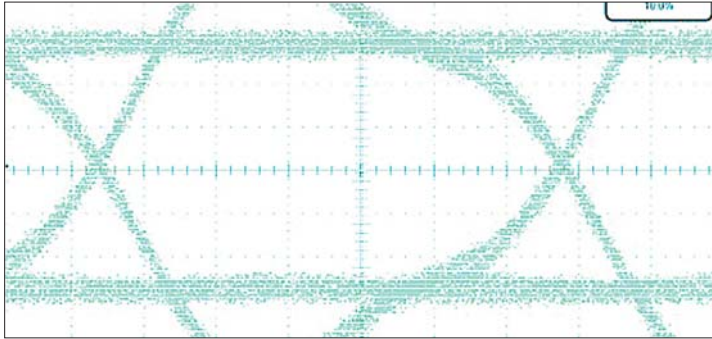
## Very Accurate Eye Pattern Measurements

WaveLink probes virtually eliminate distortion when measuring signals. This benefit is particularly useful in eye pattern measurements, now routine for systems using fast serial parallel data bus architecture.

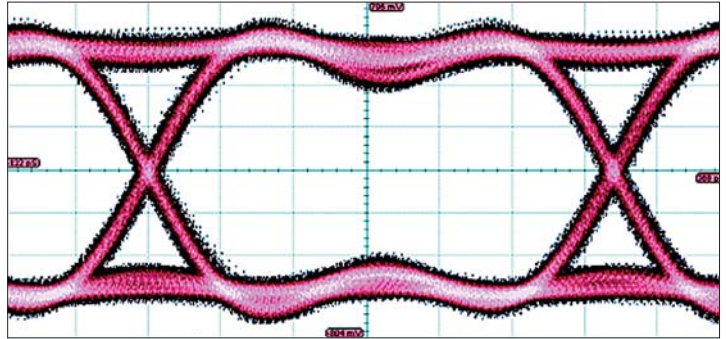
All WaveLink probes offer:

- Superior loading characteristics
  - Precise frequency response with outstanding fidelity for high-speed signals
- Both low loading and frequency response flatness are needed to ensure the signal fidelity required to measure performance accurately.



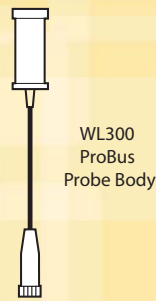
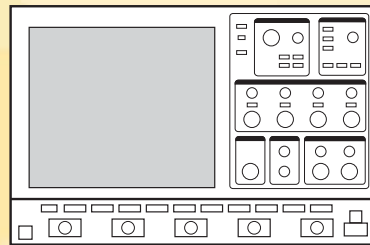


3.125 Gb/s XUI signal measured with system using a probe with good frequency flatness, but excessive loading.



Same signal measured with WaveLink D600A-AT. Low loading and flat frequency response combine to maintain the fidelity in the eye pattern.

WavePro 7000A, WaveRunner 6000



D600A-AT  
Adjustable Tip  
Module

D600ST  
Small Tip  
Module

D300A-AT  
Adjustable Tip  
Module

D350ST  
Small Tip  
Module

D500PT  
Positioner  
Mounted  
Module

D600ST-SI  
Solder-In Lead

D600ST-QC  
Quick Connect  
Lead

D600ST-SP  
Square Pin  
Lead

D350ST-SI  
Solder-In Lead

D350ST-SP  
Square Pin  
Lead

D500PT-TIP  
Positioner  
Mounted  
Tip

### The Signal Fidelity Advantage is Built In

WaveLink is the first differential probe to use a unique calibration process to achieve superb waveform fidelity for routine voltage measurements.

Calibration coefficients "fine tune" the frequency response of each WaveLink probe and are individually determined and programmed into the probe. The WaveMaster,<sup>®</sup> SDA, DDA, or WavePro<sup>®</sup> 7000A Series oscilloscopes read this data and use it to digitally compensate the entire system response for superior fidelity.

# Flexible Interconnection Options— Without Sacrificing Performance

## D500PT Positioner Mounted Probe Tip Module

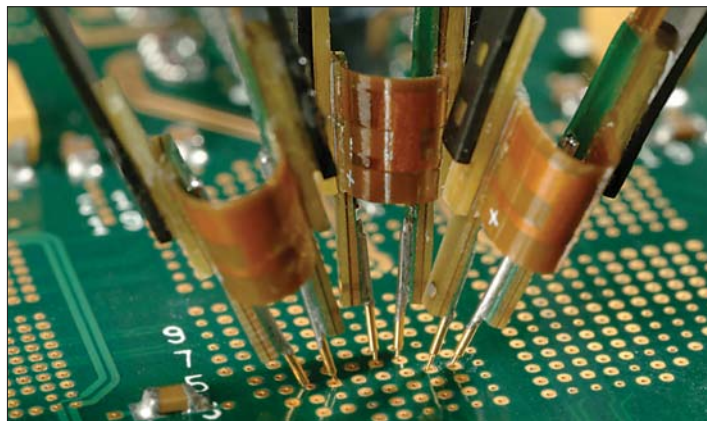
The probe has a very thin form factor, allowing multiple probes to be used when several channels are required to monitor signals from the same small IC. It has 2 mm of Z-axis compliance through spring-loaded telescoping tips, allowing considerable angular freedom relative to the circuit board while still maintaining reliable contact with both inputs. A ball joint between the tip and mounting arm makes it even easier to adjust for placement when already

mounted in a positioner. A small thumbscrew allows precise and secure adjustment of the tip spacing.

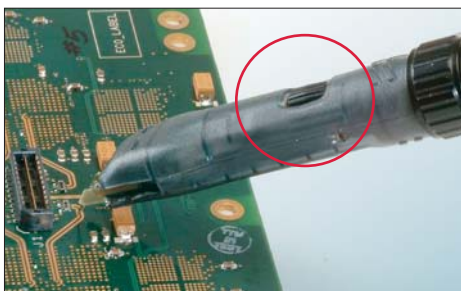
The Positioner Mounted Module, D500PT, can be used as a browser in a positioner such as Easy Probe. Because of its thin form factor and spring-loaded tips, it is ideally suited for use with multiple probes in tight areas, such as the back side of boards with ball-grid array packaged ICs.



*The WaveLink Differential Probe Series are high bandwidth active differential probes. These probes are suited for signal integrity measurements in high-speed digital systems.*



*The Probe Tip Modules contain the active amplifier circuitry. Different modules have different electrical and physical interconnect characteristics, allowing the user to select the module appropriate for the application.*



## D600A-AT and D300A-AT Adjustable Tips

WaveLink adjustable tip probes are designed to provide an optimum mechanical connection for signal measurement.

- Built-in thumbwheel for precise positioning of tip — stays put after adjustment
- Maintains sharp points for good contact
- Tips made of “NiTiNOL,” a super-elastic nickel-titanium alloy
- Flexes as you apply pressure
- Consistently returns to original form

## EZ-Probe Positioner

The EZ-Probe positioner provides stable, accurate positioning in the x-y-z axis. Ideal for use with the D500PT and D600A-AT / D300A-AT probe tips. The unique, 3:1 motion reduction joystick allows simple, precise positioning of the attached probe in both the horizontal and vertical measuring plane. The probe has a fully articulating arm, providing 30 cm (12") reach in virtually any direction.

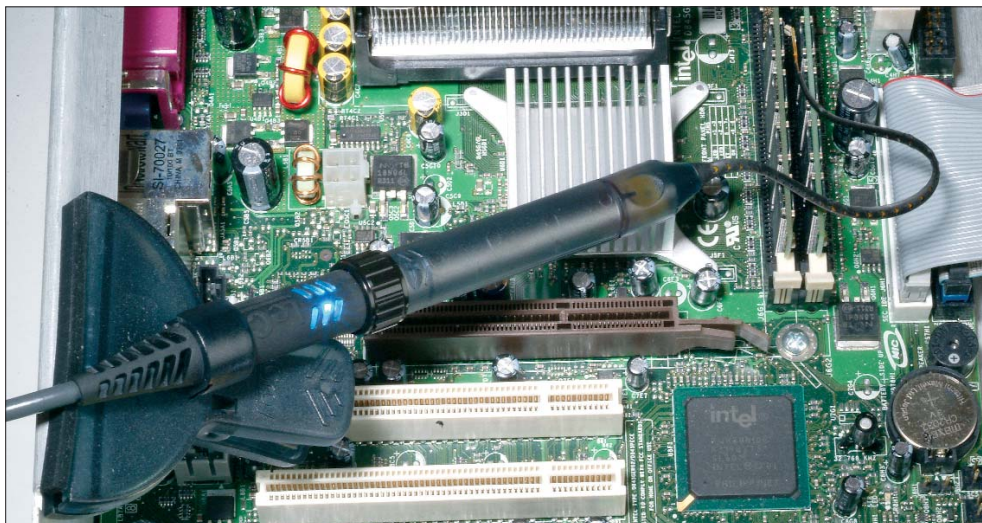


## WaveLink D600ST and D350ST

Best-in-class mechanical design for optimum utility:

- Small tip, high bandwidth differential probe
- Three interconnect configurations for flexibility
- Very small form factor for accessing tight spaces

Each of the interchangeable leads is a thin, highly flexible 145 mm (5.7") long lead connecting the tip and the D600ST/D350ST probe tip module.



## Three Different Tips for Interconnect Flexibility

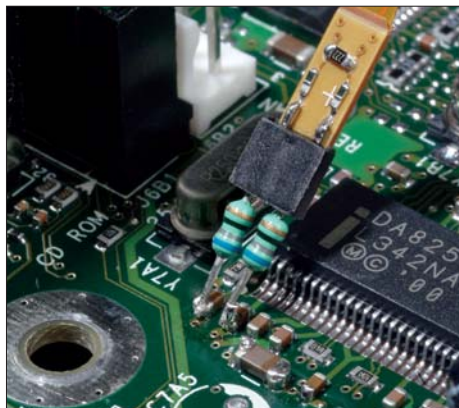
### A. Solder-In Lead

The Solder-In interconnect lead features the smallest physical tip size of any high bandwidth differential probe and the highest level of electrical performance. Two very small damping resistors are directly soldered into the connect points providing a reliable, intermittence-free electrical connection. The resistors have highly flexible leads allowing connection to input points with a wide range of input spacing.



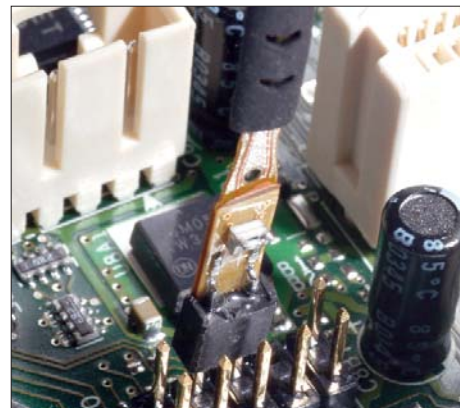
### B. Quick Connect (D600ST only)

The Quick Connect interconnect lead enables you to quickly move the probe between multiple test points on the test circuit. Just solder a pair of damping resistors at each location where interconnection is required. A small connector mounted on the probe tip plugs into the damping resistors, letting you quickly move between sets of test points.



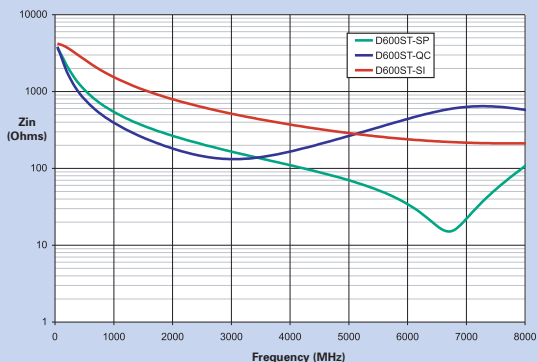
### C. Square Pin

Many applications, such as IC characterization boards, use standard 0.025" square pins for interconnect. The Square Pin interconnect lead directly mates with a pair of 0.025" (0.635 mm) square pins that are mounted on standard 0.100" (2.54 mm) centers.

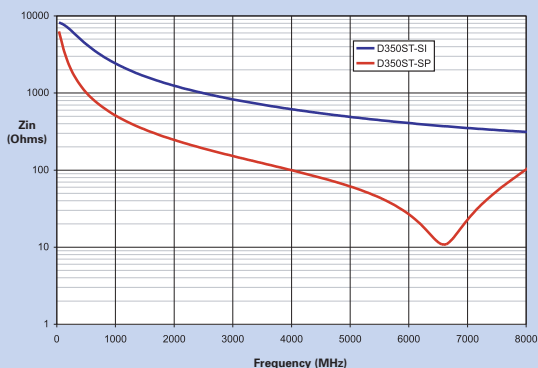


# Specifications

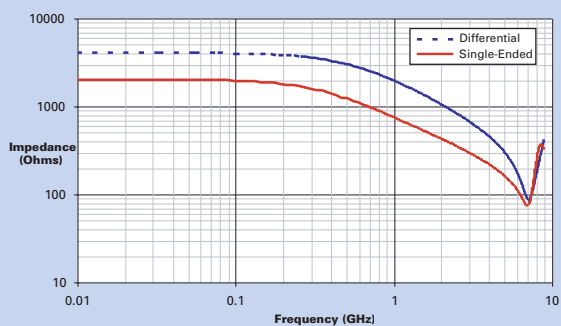
**D600ST Differential Input Impedance**



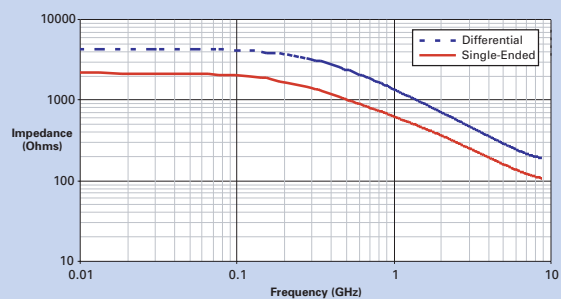
**D350ST Differential Input Impedance**



**D300A-AT / D600A-AT Loading Impedance**



**D600ST-SI Loading Impedance**



Rise Time, probe only

D600A-AT	<70 ps*	D300A-AT	<95 ps†
D600ST-SI	<65 ps*	D350ST-SP	<90 ps†
D500PT	<100 p sec**		

LF Attenuation Accuracy (with 0 V common mode)

D600A-AT, D300A-AT, D600ST and D500PT	2%	0 ±1.2 V
	5%	±1.2 V ±2.4 V
D350ST	2%	0 ±2.5 V
	5%	±2.5 V ±5 V

Output Zero  
(for 15 minutes after Autozero)

D600A-AT, D300A-AT, D600ST and D500PT	< 10 mV RTI
D350ST	< 20 mV RTI

Bandwidth, System DC to -3dB (Typical)

D600ST-SI	6 GHz††	D300A-AT	3 GHz***
D600ST-QC	4 GHz††	D350ST-SP	3 GHz***
D600ST-SP	3 GHz††	D350ST-SI	3 GHz***
D600A-AT	6 GHz††	D500PT	5 GHz**

Input Dynamic Range

D600A-AT, D300A-AT, D600ST and D500PT	±2.4 V
D350ST	±5 V

Common Mode Range  
(Max. peak voltage either input to ground)

D600A-AT, D300A-AT, D600ST and D500PT	±2.4 V
D350ST	±5 V

DC Input Resistance

D600A-AT, D300A-AT, D600ST and D500PT	4 kΩ differential 2 kΩ either input to ground
D350ST	8 kΩ differential 4 kΩ either input to ground

CMRR

D600A-AT	D500PT
DC to 1 GHz > 40 dB	DC to 1 GHz > 25 dB
1 GHz to 3 GHz > 30 dB	1 GHz to 3 GHz > 19 dB
3 GHz to 7 GHz > 20 dB	3 GHz to 5 GHz > 16 dB
D600ST	D350ST
DC to 1 GHz > 30 dB	DC to 1 GHz > 30 dB
1 GHz to 3 GHz > 25 dB	1 GHz to 3 GHz > 25 dB
3 GHz to 7 GHz > 20 dB	
	D300A-AT
	DC to 1 GHz > 40 dB
	1 GHz to 3 GHz > 30 dB

Noise

D600A-AT, D600ST, D500PT	5.8 mV rms with 6 GHz oscilloscope
D300A-AT	5.0 mV rms with 3 GHz oscilloscope
D350ST	9.5 mV rms with 3 GHz oscilloscope

\* Measured with 6 GHz oscilloscope  
 † Measured with 3 GHz oscilloscope  
 \*\* Measured with 5 GHz oscilloscope  
 †† Typical, with 6 GHz oscilloscope  
 \*\*\* Typical, with 3 GHz oscilloscope

# Ordering Information

## PRODUCT DESCRIPTION

## PRODUCT CODE

### Probe Tip Modules

WaveLink 7 GHz Differential Probe with Small Tip Module	D600ST*
WaveLink 4 GHz, 5 V Differential Probe with Small Tip Module	D350ST*
WaveLink 6 GHz Differential Positioner with Mounted Tip Module	D500PT*
WaveLink 7.5 GHz Differential Probe with Adjustable Tip Module	D600A-AT*
WaveLink 4 GHz Differential Probe with Adjustable Tip Module	D300A-AT*

### Probe Bodies

WaveLink ProLink Probe Body	WL600
WaveLink ProBus Probe Body	WL300

### Positioner

Cascade Microtech EZ-Probe Positioner	EZ PROBE
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### Service Options

NIST Traceable Calibration with Test Data†	D600A-AT-CCNIST D300A-AT-CCNIST D600ST-CCNIST D350ST-CCNIST D500PT-CCNIST
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### Consumables and Replacement Parts

Replacement Quick Connect Lead Set for D600ST	D600ST-QC
Replacement Solder-In Lead Set for D600ST	D600ST-SI
Replacement Square Pin Lead Set for D600ST	D600ST-SP
Replacement Solder-In Lead Set for D350ST	D350ST-SI
Replacement Square Pin Lead Set for D350ST	D350ST-SP
Replacement Tip Assembly for D500PT	D500PT-TIP
Replacement Resistor Kit for D600ST-SI	PK600ST-1
Replacement Resistor Kit for D600ST-QC	PK600ST-2
Replacement Probe Tip Holder Kit	PK600ST-3
Replacement Probe Body Mounting Kit	PK600ST-4
Replacement Resistor Kit for D350ST-SI	PK350ST-1
Replacement Probe Tips for D500PT (pkg of 2)	PK500PT-1
Probe Characterization Fixture	PCF-200
WaveLink Probe Series Instruction Manual	WL-OM-E

\* For a complete probe, order a WL300 or WL600 Probe Body with Probe Tip Module.

†-CCNIST NIST traceable calibration with test data is an available option for D600ST, D350ST, D500PT, D600A-AT, or D300A-AT probe tip module only when ordered with either a WL600 or WL300 probe body.

See **WaveLink Probe Compatibility Chart** on back cover.

### D600A-AT, D300A-AT Adjustable Tip Modules Include:

Protective storage case, ground wire and clip, WaveLink Series instruction manual, Quick Start guide, calibration certificate.

### D600ST Small Tip Module Includes:

Solder-In interconnect lead set with replacement damping resistors (10), Quick Connect interconnect lead set with additional damping resistors (20), Square Pin interconnect lead set, ground wire and clip, probe tip mounting kit, WaveLink Series instruction manual, Quick Start guide, calibration certificate.

### D350ST Small Tip Module Includes:

Solder-In interconnect lead set with replacement damping resistors (10), Square Pin interconnect lead set, ground wire and clip, probe tip mounting kit, WaveLink Series instruction manual, Quick Start guide, calibration certificate.

### D500PT Positioner Mounted Tip includes:

Positioned tip assembly, Probe tip module, Module mounting clamp, Ground lead and clip, WaveLink Series instruction manual, Quick Start guide, Calibration certificate, FreeHand probe stand, Tip repair tool, Replacement tips (2)

### WL600, WL300 Probe Bodies Include:

SAC-01 Soft accessory case with WaveLink Series insert, probe characterization fixture, probe body mounting clip, probe cable clamp (2), and small probe accessory case.

### WaveLink Probe Calibration

When ordered with WL600 or WL300 also substitute: Certificate of NIST traceable calibration in place of calibration certificate.

### Customer Service

LeCroy oscilloscopes are designed, built, and tested to ensure high reliability. In the unlikely event you experience difficulties, our digital oscilloscopes are fully warranted for three years.

This warranty includes:

- No charge for return shipping
- Long term 7-year support
- Upgrade to latest software at no charge



The WaveLink Differential Probe Series is modular in concept accepting several interchangeable Probe Tip Modules to allow for flexibility in physical interconnect, and optimizes bandwidth and electrical performance.



# WaveLink Probe Compatibility Chart

	SDA 6020								
	SDA 6000	WM 8620A				WP 7300A			
	SDA 5000	WM 8600A	WM 8300A			WP 7200A			
	SDA 3000	WM 8500A	WM 8100A XXL	DDA 5005A	DDA 3000	WP 7100A	WR 6200A	WL300	WL600
D600A-AT	•	•		•				RP	FP
D300A-AT			•		•	•	•	FP	FP
D600ST	•	•		•				RP	FP
D350ST	•	•	•	•	•	•	•	FP	FP
D500PT	•	•	•	•	•	•	•	RP	FP
WL600	•	•	•	•	NC	NC	NC		
WL300					•	•	•		
	•	Recommended							
	NC	Not Compatible							
	FP	Operates at Full Performance							
	RP	Operates with Reduced Performance							



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