

## General Specifications

### Temperature Performance

Operating .....	5 °C to 40 °C
Storage .....	0 °C to 50 °C
Transit.....	< 100hrs, -20 °C to 60 °C

### Humidity (non-condensing)

Operating .....	< 90 %, 5 °C to 30 °C
	< 75 %, 30 °C to 40 °C
Storage .....	< 95 %, 0 °C to 50 °C

**Water Ingress** ..... IP64X

### Altitude

Operating .....	< 2000 m, 6500 ft
Storage .....	< 12000 m, 40000 ft

**Safety** ..... IEC 61010-1: Overvoltage CAT II, Pollution Degree 2

**Shock and Vibration** ..... MIL-T-28800 type III class 5, style E

### Electromagnetic Compatibility (EMC)

IEC 61326-1.....	(Controlled EM Environment); CISPR 11, Group 1, Class A
Group 1 Equipment.....	Group 1 has intentionally generated and/or use conductively coupled radio-frequency energy which is necessary for the internal functioning of the equipment itself.
Class A.....	Equipment is equipment suitable for use in all establishments other than domestic and those directly connected to a low voltage power supply network which supplies buildings used for domestic purposes. Caution - There may be potential difficulties in ensuring electromagnetic compatibility in other environments, due to conducted and radiated disturbances. Emissions which exceed the levels required by CISPR 11 can occur when the equipment is connected to a test object.
USA (FCC).....	47 CFR 15 subpart B, this product is considered an exempt device per clause 15.103
Korea (KCC) .....	Class A Equipment (Industrial Broadcasting & Communication Equipment) This product meets requirements for industrial (Class A) electromagnetic wave equipment and the seller or user should take notice of it. This equipment is intended for use in business environments and not to be used in homes.

**Line Voltage**..... 95 V to 132 V rms and 209 V to 264 V rms, Installation Cat II

**Line Frequency** ..... 48 Hz to 63 Hz

**Power Consumption** ..... < 400 VA

**Line Fuse: 20 mm IEC127**..... 220/240 V: T5.0A 250 V  
100/120 V: T10.0A 250 V

**Warm-up** ..... 20 minutes

### Dimensions

9500B Base Unit.....	133 H x 427 W x 440 D mm (5.24 x 16.8 x 17.3 in.)
95xx Active Heads .....	65 H x 29 W x 140 D mm (2.56 x 1.22 x 5.51 in.)

### Weight

9500B Base Unit.....	12 kg (27 lb) approx.
95xx Active Heads .....	0.45 kg (1 lb) approx.

### Warranty Period

9500B Base Unit.....	1 year
95xx Active Heads .....	3-year Active Plus CarePlan

## Electrical Specifications

**Accuracy** ..... All specifications apply at TCal  $\pm 5$  °C, where Factory TCal = 23 °C. Uncertainty includes long-term stability of 1 yr (5 yrs for frequency), temperature coefficient, linearity, load and line regulation, and the traceability of factory and national calibration standards. In general, nothing further needs to be added to determine the Test Accuracy Ratio over the instrument under calibration.

### Voltage Function Specification

Not available via 9550 Active Head

Function	DC		Square Wave		
	Into 1 M $\Omega$ <sup>[1]</sup>	Into 50 $\Omega$	Into 1 M $\Omega$	9530 into 50 $\Omega$ <sup>[2]</sup>	9560 into 50 $\Omega$ <sup>[2]</sup>
Amplitude	$\pm 1$ mV to $\pm 200$ V	$\pm 1$ mV to $\pm 5$ V	40 $\mu$ V to 200 Vp-p	40 $\mu$ V to 5 Vp-p	40 $\mu$ V to 5 Vp-p
Accuracy <sup>[3]</sup> ( $< 10$ kHz)	$\pm (0.025 \% + 25 \mu$ V)		$\geq 1$ mV $\pm (0.1 \% + 10 \mu$ V) $< 1$ mV $\pm (1 \% + 10 \mu$ V)	$\geq 1$ mV $\pm (0.1 \% + 10 \mu$ V) $< 1$ mV $\pm (1 \% + 10 \mu$ V)	$\geq 1$ mV $\pm (0.2 \% + 10 \mu$ V) $< 1$ mV $\pm (1 \% + 10 \mu$ V)
Ranging	Volt/div factors of 1, 2, 5 or 1, 2, 2.5, 4, 5; or continuously variable				
Deviation	$\pm 11.2$ % (Including over and under-range)				
Rise/Fall Time	---	---	---	$< 100$ Vp-p $< 150$ ns; $\geq 100$ Vp-p $< 200$ ns	
Aberrations	---	---	---	$< 2$ % peak for first 500 ns; $< 0.1$ % after 500 ns; $< 0.01$ % after 100 $\mu$ s	
Frequency	---	---	---	10 Hz to 100 kHz <sup>[3]</sup>	
Frequency Accuracy	---	---	---	$\pm 0.25$ ppm	
Frequency Ranging	---	---	---	1, 2, 5 or 1, 2, 2.5, 4, 5 or continuous	
<p>[1] DC into 1 M<math>\Omega</math> available at all heads simultaneously for accelerated multi-point DC linearity testing.</p> <p>[2] Accuracy specification excludes variability of resistance losses in mating BNC or PC3.5 connectors.</p> <p>[3] Square Wave output available up to 100 kHz but specifications not applicable above 10 kHz.</p>					

**Output Current** ..... 140 mA max. for Vout  $< 22.24$  V; 20 mA max. for Vout  $> 22.24$  V

**Waveform Settling Time** ..... 200 ms to 0.01 % for DC or  $\geq 270$  Hz square wave, increasing to 3 s for 0.01 % at 10 Hz (extends to 600 ms max. if instruction crosses a safety threshold or if an Output On is involved).

### Edge Function Specification

Function	500 ps Edge (9510/30 Heads Only) <sup>[1]</sup>	HV Edge (9510/30/60 Heads Only)
	Into 50 $\Omega$ or 1 M $\Omega$	Into 1 M $\Omega$
Rise/Fall Time <sup>[2]</sup> (10 %-90 %)	350 ps to 550 ps	$< 100$ Vp-p $< 150$ ns, $\geq 100$ Vp-p $< 200$ ns Into 50 $\Omega$ $< 100$ ns
Displayed Rise/Fall Time Accuracy <sup>[3]</sup>	$\pm 40$ ps	---
Polarity	Rising or Falling Return to Ground	Rising or Falling
Amplitude	5 mV to 3 Vp-p	1 V to 200 Vp-p NB 1 V to 5 Vp-p into 50 $\Omega$
Amplitude Accuracy	$\pm 2$ %	
Ranging	Volt/div factors of 1, 2, 5 or 1, 2, 2.5, 4, 5; or continuously variable	
Deviation	$\pm 11.2$ % (Including over and under-range)	
Duty Cycle	10 %	50 %
Aberrations (Into VSWR 1.2:1)	$< \pm 2$ % pk in 8 GHz <sup>[4]</sup> $< \pm 1.5$ % pk in 3 GHz (first 10 ns)	$< \pm 2$ % pk (first 500ns)
Extended Aberrations	$< \pm 0.5$ % pk 10 ns to 1 $\mu$ s	$< \pm 0.1$ % pk 500 ns to 100 ms
	$< 0.1$ % pk beyond 1 $\mu$ s	$< 0.01$ % pk beyond 100 ms
Reflection Absorption	$> -30$ dB	---
Frequency	10 Hz to 2 MHz	10 Hz to 100 kHz

Frequency Accuracy	± 0.25 ppm
Trigger to Edge delay	25 ns (typical)
Trigger to Edge jitter	< 5 ps p-p (typical)
<p>[1] Edge speeds faster than 500 ps are not recommended for 1 MΩ input applications.</p> <p>[2] Rise and Fall time definitions in accordance with IEC Standard 60469:1987. Refer to calibration certificate for measurement epoch details.</p> <p>[3] Accuracy of displayed rise/fall time with respect to measured rise/fall time.</p> <p>[4] For Edge amplitudes below 33 mV, this specification applies in a 3 GHz bandwidth.</p>	

### Fast Edge Function Specification

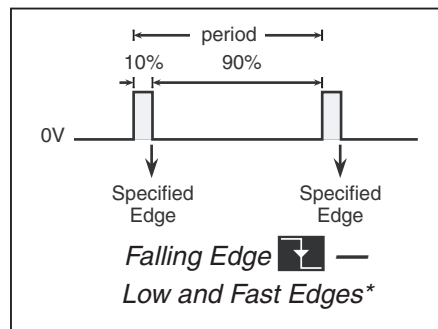
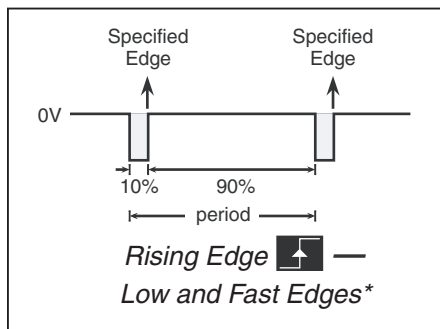
9550 Active Head supports 25 ps Fast Edge only

Function	150 ps Fast Edge <sup>[1]</sup> (9530 Head Only)	70 ps Fast Edge <sup>[1]</sup> (9560 Head Only)	25 ps Fast Edge <sup>[1]</sup> (9550 Head Only)
	Into 50 Ω	Into 50 Ω	Into 50 Ω
Rise/Fall Time <sup>[2]</sup> (10 %-90 %)	125 ps to 175 ps	50 ps to 75 ps	21 ps to 29 ps
Displayed Rise/Fall Time Accuracy <sup>[3]</sup>	± 15 ps	± 11 ps	± 4 ps
Polarity	Rising or Falling Return to Ground	Rising Return to Ground	Rising or Falling Return to Ground
Amplitude	5 mV to 3 V p-p	25 mV to 2 V p-p	425 to 575 mV p-p
Amplitude Accuracy	± 2 %		
Ranging	Volt/div factors of 1, 2, 5 or 1, 2, 2.5, 4, 5; or continuously variable		continuous
Deviation	± 11.2 % (Including over and under-range)		---
Duty Cycle	10 %	10 %	10 %
Aberrations (Into VSWR 1.2:1)	< ± 3 % pk in 8 GHz <sup>[4]</sup> < ± 2 % pk in 3 GHz (first 1 ns)	< ± 4 % pk in 20 GHz < ± 3 % pk in 8 GHz < ± 1 % pk in 3 GHz (first 700 ps)	< ± 5 % pk in 20 GHz < ± 3 % pk in 10 GHz < ± 1 % pk in 3 GHz (first 200 ps)
Extended Aberrations	< ± 1 % pk 1 ns to 10 ns	< ± 1 % pk 700 ps to 10 ns	< ± 1 % pk 200 ps to 10 ns
	< 0.5 % pk beyond 10 ns	< 0.5 % pk beyond 10 ns	< 0.1 % pk beyond 10 ns
Reflection Absorption	> - 30 dB		
Frequency	10 Hz to 2 MHz	10 Hz to 10 MHz	10 Hz to 1 MHz
Frequency Accuracy	± 0.25 ppm		
Trigger to Edge delay	25 ns (typical)		
Trigger to Edge jitter	< 5 ps p-p (typical)		
<p>[1] Edge speeds faster than 500 ps are not recommended for 1 MΩ input applications. The 9560 Head is restricted to 50 Ω loads only.</p> <p>[2] Rise and Fall time definitions in accordance with IEC Standard 60469:1987. Refer to calibration certificate for measurement epoch details.</p> <p>[3] Accuracy of displayed rise/fall time with respect to measured rise/fall time.</p> <p>[4] For Edge amplitudes below 33 mV, this specification applies in a 3 GHz bandwidth.</p>			

**Timing Marker Function Specification**

Not available via 9550 Active Head

Function	Square	Pulse	Narrow Triangle	Sine (Extension of Square)
Period	9.0091 ns to 55 s	900.91 ns to 55 s	900.91 ns to 55 s	<ul style="list-style-type: none"> <li>• 909.1 ps to 9.009 ns for 9500B/600</li> <li>• 450.5 ps to 9.009 ns for 9500B/1100 or 9500B/3200</li> <li>• 180.19 ps to 9.009 ns for 9500B/3200 with 9560 Head</li> </ul>
Ranging	Time/div ranging 1, 2, 5 or 1, 2, 2.5, 4, 5 or continuously variable			
Period Deviation Range	---	---	± 45 %	---
Rise/fall Times	1 ns typ.	1 ns typ.	2.5 % of period	---
Timing Accuracy	± 0.25 ppm			
Timing Jitter (within time window)	< 10 ps p-p (< 100 ns) < 100 ps p-p (< 100 us) < 1000 ps p-p (< 10 ms)			
Duty Cycle	50 %	5 %	5 %	---
Amplitude	100 mV, 250 mV, 500 mV and 1 Vp-p symmetrical about ground NB 9500B/1100, 500 mVp-p max for period < 1 ns			
Subdivision	Every 10th marker can be set to higher amplitude.			---
Notes:				
<ul style="list-style-type: none"> <li>• Line frequency timing markers are available in the Square Wave function.</li> <li>• Jitter wrt Line zero crossing: &lt; ± 20 µs p-p.</li> <li>• Frequencies above 500 MHz are not recommended for 1 MΩ input applications.</li> <li>• The 9560 Head is restricted to 50 Ω loads only.</li> </ul>				



\* = For High Edge, the Duty Cycle is different, but the specified edges correspond to those shown above.

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**Leveled Sine Function Specification**

Not available via 9550 Active Head

Function	9500B/600	9500B/1100	9500B/3200 with 9530 Head	9500B/3200 with 9560 Head <sup>[1]</sup>
Frequency Range <sup>[2]</sup>	0.1 Hz to 600 MHz	0.1 Hz to 1.1 GHz	0.1 Hz to 3.2 GHz	0.1 Hz to 6.4 GHz
Frequency Accuracy	$\geq 15 \text{ kHz} \pm (0.25 \text{ ppm} + 12\text{mHz}), < 15 \text{ kHz} \pm 3 \text{ ppm}$			
Amplitude (p-p) (into 50 $\Omega$ )	0.1 Hz to 550 MHz: 5 mV to 5 V	0.1 Hz to 550 MHz: 5 mV to 5 V	0.1 Hz to 550 MHz: 5 mV to 5 V	0.1 Hz to 550 MHz: 5 mV to 5 V
	550 MHz to 600 MHz: 5 mV to 3 V	550 MHz to 1.1 GHz: 5 mV to 3 V	550 MHz to 2.5 GHz: 5 mV to 3 V	550 MHz to 2.5 GHz: 5 mV to 3 V
	---	---	2.5 GHz to 3.2 GHz: 5 mV to 2 V	2.5 GHz to 3.2 GHz: 5 mV to 2 V
	---	---	---	3.2 GHz to 6.4 GHz: 25 mV to 2 V
Amplitude Accuracy	$\pm 1.5 \%$ at single Ref Frequency (50 kHz – 10 MHz)			
Flatness wrt Ref Freq: Into VSWR of 1.6:1 (1.2:1)	0.1 Hz to 300MHz: $\pm 4 \%$ ( $\pm 2 \%$ )	0.1 Hz to 300 MHz: $\pm 4 \%$ ( $\pm 2 \%$ )	0.1 Hz to 300 MHz: $\pm 4 \%$ ( $\pm 2 \%$ )	0.1 Hz to 300 MHz: $\pm 2 \%$ ( $\pm 2 \%$ )
	300 MHz to 550 MHz: $\pm 4 \%$ ( $\pm 2.5 \%$ )	300 MHz to 550 MHz: $\pm 4 \%$ ( $\pm 2.5 \%$ )	300 MHz to 550 MHz: $\pm 4 \%$ ( $\pm 2.5 \%$ )	300 MHz to 550 MHz: 2.5 % ( $\pm 2.5 \%$ )
	550 MHz to 600 MHz: $\pm 5 \%$ ( $\pm 3.5 \%$ )	550 MHz to 1.1 GHz: $\pm 5 \%$ ( $\pm 3.5 \%$ )	550 MHz to 1.1 GHz: $\pm 5 \%$ ( $\pm 3.5 \%$ )	550 MHz to 3.0 GHz: $\pm 5 \%$ ( $\pm 3.5 \%$ )
	---	---	1.1 GHz to 3.2 GHz: $\pm 5 \%$ ( $\pm 4 \%$ )	3.0 GHz to 6.0 GHz: $\pm 5 \%$ ( $\pm 4 \%$ )
Source VSWR (typical)	< 1.35:1	< 1.35:1	< 1.35:1	< 550 MHz: < 1.1:1 550 MHz to 3.0 GHz: < 1.2:1 3.0 GHz to 6.0 GHz: < 1.35:1
Amplitude Ranging	Volts/div ranging 1, 2, 5 or 1, 2, 2.5, 4, 5 or continuously variable			
Deviation	$\pm 11.2 \%$ (Including over and under-range)			
Harmonic Purity	2nd Harmonic < -35 dBc; 3rd Harmonic < -40 dBc in 12 GHz			
Non & Sub Harmonic Purity <sup>[3]</sup>	< -40 dBc			< 6.0 GHz: < -35 dBc
[1] The 9560 Head is restricted to 50 $\Omega$ loads only.				
[2] Frequencies above 500 MHz are not recommended for 1 M $\Omega$ input applications.				
[3] For offsets > 10 kHz.				

**Dual Sine Function Specification**

Selected heads must be of the same type: 9510, 9530, or 9560

	9500B/600	9500B/1100	9500B/3200 & 9530	9500B/3200 & 9560 <sup>[1]</sup>
Frequency Range <sup>[2]</sup>	0.1 Hz to 600 MHz	0.1 Hz to 1.1 GHz	0.1 Hz to 3.2 GHz	0.1 Hz to 3.2 GHz
Time Alignment	± 25 ps Any Channel to Any Channel			
Amplitude (p-p) (into 50 Ω)	0.1 Hz to 550 MHz: 5 mV to 2.5 V	0.1 Hz to 550 MHz: 5 mV to 2.5 V	0.1 Hz to 550 MHz: 5 mV to 2.5 V	0.1 Hz to 550 MHz: 5 mV to 2.5 V
	550 MHz to 600 MHz: 5 mV to 1.5 V	550 MHz to 1.1 GHz: 5 mV to 1.5 V	550 MHz to 2.5 GHz: 5 mV to 1.5 V	550 MHz to 2.5 GHz: 5 mV to 1.5 V
	---	---	2.5 GHz to 3.2 GHz: 5 mV to 1 V	2.5 GHz to 3.2 GHz: 5 mV to 1 V
Accuracy and Flatness (Master Channel)	As Leveled Sine above			
Flatness wrt Ref Freq (Slave Channel)	0.1 Hz to 600 MHz: ± 10 %	0.1 Hz to 750 MHz: ± 10 %	0.1 Hz to 750 MHz: ± 10 %	0.1 Hz to 1 GHz: ± 10 %
	---	750 MHz to 1.1 GHz: ± 30 %	750 MHz to 1.1GHz: ± 30 %	1 GHz to 3.2 GHz: ± 25 %
[1] The 9560 Head is restricted to 50 Ω loads only.				
[2] Frequencies above 500 MHz are not recommended for 1 MΩ input applications.				

**Input Impedance Functions**

Resistance Measurement	10 Ω - 40 Ω	40 Ω - 90 Ω	90 Ω - 150 Ω	50 kΩ - 800 kΩ	800 k - 1.2 MΩ	1.2 MΩ - 12 MΩ
Accuracy	± 0.5 %	± 0.1 %	± 0.5 %	± 0.5 %	± 0.1 %	± 0.5 %
Note: Resistance measurement not available via 9550 Active Head						

Capacitance Measurement	1 pF to 35 pF	35 pF to 95 pF
Accuracy	± 2 % ± 0.25 pF	± 3 % ± 0.25 pF
Note: Capacitance measurement not available via 9550 or 9560 Active Head		

**Pulse Width Function Specification**

Not available via 9550 Active Head

<b>Pulse Width</b> .....	1 ns to 100 ns
<b>Accuracy</b> .....	< ± 5 % ± 200 ps
<b>Adjustment Resolution</b> .....	1 ns to 4 ns: < 50 ps 4 ns to 20 ns: < 250 ps 20 ns to 100 ns: < 1 ns
<b>Rise and Fall Time</b> .....	450 ps (typical)
<b>Aberrations</b> .....	< ± 5 % pk (typical)
<b>Width Stability</b> .....	< 10 ps p-p within 10 mins and 1 °C
<b>Pulse Jitter (wrt Trigger)</b> .....	< 5 ps p-p
<b>Frequency</b> .....	1 kHz to 1 MHz
<b>Amplitude</b> .....	1 Vp-p into 50 Ω

**Trigger Output Specification**

Not available via 9550 Active Head

**Amplitude** ..... 1 Vp-p into 50  $\Omega$   
**Rise and Fall Time** ..... < 1 ns  
**Aberrations** ..... <  $\pm$  10 %  
**Source VSWR** ..... 1.2:1 typical

Function	Signal	Trigger Waveform	Trigger Frequency	Trigger Alignment	Trigger Leads by
Voltage	DC	Square	100 Hz	---	---
	Square	Square	Signal div 1/10/100	Depart from ground	1/64 Period
Leveled Sine	< 100 MHz	Square	Signal	Rising Zero Cross	---
	> 100 MHz	Square	Signal div 1/10/100	Rising Zero Cross	---
	> 3.2 GHz	Square	Signal div 2/20/200	Rising Zero Cross	---
Edge	500 ps	1:9 Pulse	Signal div 1/10/100	Return to Ground	25 ns
	HV	Square	Signal div 1/10/100	Depart from ground	1/64 Period
	150 ps	1:9 Pulse	Signal div 1/10/100	Return to Ground	25 ns
	25 ps	1:9 Pulse	Signal div 1/10/100	Return to Ground	25 ns
	70 ps	1:9 Pulse	Signal div 1/10/100	Return to Ground	25 ns
Timing Markers (> 10 ns)	Normal	1:19 Pulse	Signal div 1/10/100	Rising Edge or Triangle Peak	---
	Highlighted	1:199 Pulse	Signal div 1/10/100	Rising Edge or Triangle Peak	---
Current	DC	Square	100 Hz	---	---
	Square	Square	Signal div 1/10/100	Depart from ground	1/64 Period
Composite Video	Line	Composite Sync	Line Freq	Sync leading edge	---
	Field	Pulse	Frame Freq	Frame start	---
Linear Ramp	---	1:2 Pulse	Signal div 1/10/100	Start of rise or fall	---
Overload Pulse	---	Step or Square	Single or 100 Hz	Leading edge	---
Input leakage Auxiliary Input Input Impedance	These functions have no related trigger output. Free running 100Hz trigger signal provided.				
Pulse Width	No trigger signal is provided.				

**Other Output Function Specifications**

Not available via 9550 Active Head.

**Current Function**

Requires 9510 or 9530 Head and BNC Current adapter.

**Amplitude** .....  $\pm 100 \mu\text{A}$  to  $\pm 100 \text{ mA}$

**Ranging**..... Amps/div ranging 1, 2, 5 or 1, 2, 2.5, 4, 5 or continuously variable

**DC**

Accuracy .....  $\pm (0.25 \% + 0.5 \mu\text{A})$

**Squarewave**

Accuracy .....  $\pm (0.25 \% + 0.5 \mu\text{A})$  @ 1 kHz

Frequency..... 10 Hz to 100 kHz

Duty Cycle and Symmetry ..... 50 %, symmetrical about ground

Rise Time and Aberrations .....  $< 150 \text{ ns}$  and  $< \pm 2 \% \text{ pk}$

**Composite Video Output**

Composite Video Output with the 9560 head is restricted to  $50 \Omega$  loads only.

**Amplitude** ..... 1.0 Vp-p

**Pattern (Full Raster)**..... White, Grey or Black

**Sync Polarity** ..... Positive or Negative

**Standards** ..... 625-line 50 Hz / 525-line 60 Hz

**Trigger Output**..... Composite Sync or Odd Field start

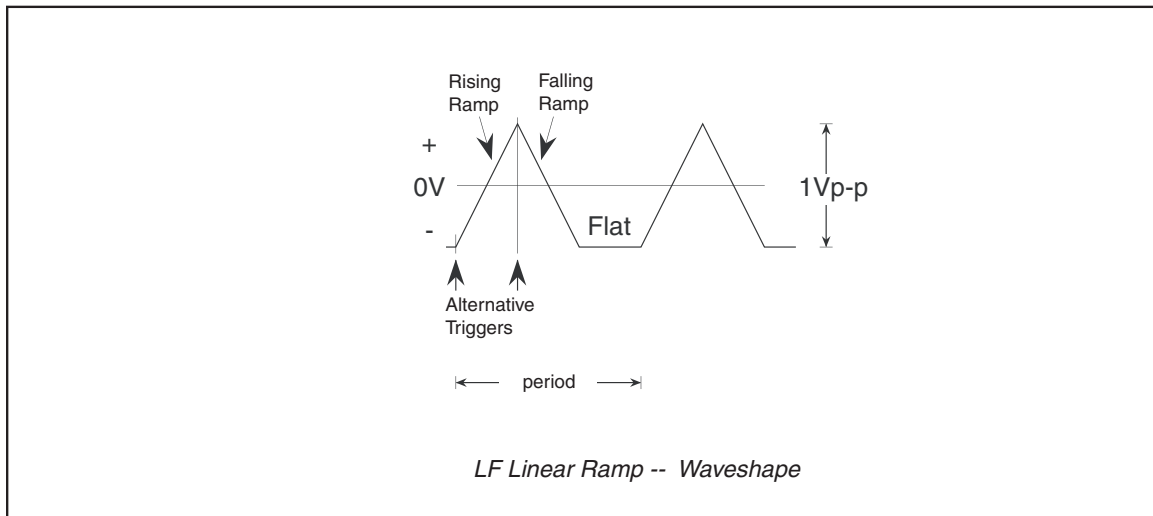
**LF Linear Ramp**

Linear Ramp with the 9560 head is restricted to  $50 \Omega$  loads only.

**Waveforms**..... 1 Vp-p triangle symmetrical about ground

**Linearity** .....  $< \pm 0.1 \%$  deviation over 10–90 %

**Ramp Time**..... 1 ms, 10 ms, 100 ms or 1 s



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**Overload Pulse**

**Amplitude** ..... 5 V to 20 V into  $50 \Omega$

**Polarity** ..... Positive/Negative

**Duration** ..... 0.2 s to 100 s (subject to pulse energy limits)

**Energy** ..... 1.6 J to 50 J

**Power in  $50 \Omega$**  ..... 0.5 to 8 W

**Trigger**..... Manual, Max Rep Rate 0.3 Hz (internally limited)



**Zero Skew**

**Unadjusted Skew** ..... < ± 50 ps ch to ch  
**Adjusted Skew** ..... < ± 5 ps ch to ch  
**Skew Temperature Coefficient** ..... < 0.2 ps/°C  
**Rise and Fall Time** ..... 450 ps (typical)  
**Relative Jitter** ..... < 7 ps p-p

**Input Leakage**

**Open Circuit Output**..... Leakage < ± 50 pA  
**Short Circuit Output** ..... Offset < ± 15 µV

**Auxiliary Input**

**Signal Routing**..... Rear SMA input, passive and switched 50 Ω path to any Active Head  
**Maximum Input**..... ± 40 V p-p, ± 400 mA p-p  
**Switching Break and Make Capacity** ..... ± 5 V p-p, ± 100 mA p-p  
**VSWR** ..... < 1.2:1 (typical) to 1.1 GHz  
**Insertion Loss (Into 50 Ω)**..... < 2.5 dB to 100 MHz, < 4 dB to 500MHz, < 6 dB to 1 GHz

**Reference Frequency Specification**

Reference Frequency	Input (BNC)	Output (BNC)
Frequency Range	1 MHz to 20 MHz in 1 MHz steps	1 MHz or 10 MHz
Level (typical)	90 mV to 1 Vp-p	Into 50 Ω : 1 Vp-p Into 1 MΩ: 2 Vp-p
Lock Range	± 50 ppm	---