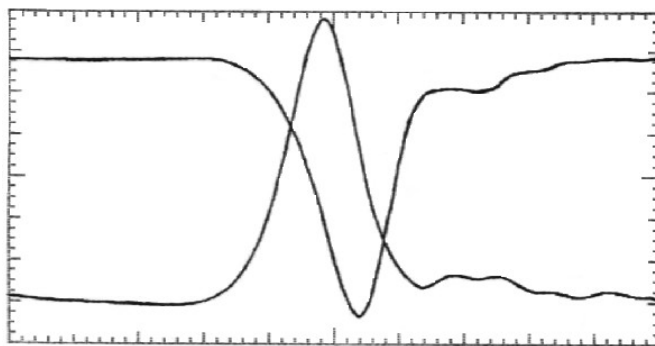


- **75 ps Duration**
- **8 V Amplitude**
- **+ or – Polarity**
- **Back Matched: 50 Ohms**
- **1.5 ps Jitter**
- **1 MHz Rep. Rate**
- **+/- 5 V Baseline Offset**

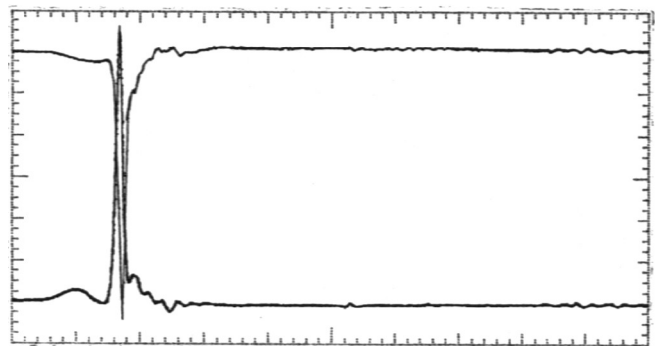


The Model 3500D Impulse Generator produces fast, 75 ps (fwhm) impulses. The peak amplitude is > 8 V with selectable positive or negative polarity. Special attenuation in the design provides extremely stable pulses. The timing jitter is only 1.5 ps rms. The output impedance is well matched to 50  $\Omega$  to absorb reflections from mismatched loads. A baseline offset circuit provides adjustable offset to  $\pm 5$  V. The impulse amplitude may be adjusted with two microwave-quality step attenuators over a 0 to 81 dB range in 1 dB steps.

There are many applications for the 3500D including laser diode drivers, GaAs FET and IC research, and impulse response testing of various instruments and networks.



1.5 V/div and 50 ps/div



1.5 V/div and 500 ps/div

Model 3500D, Positive and Negative Impulse Waveforms  
as measured by an HP-54121A, 17.5 ps rise, digital sampling oscilloscope

<b>Parameters [1]</b>	
<b>Amplitude into 50 <math>\Omega</math></b>	> 8 V, 7 V min.
<b>Polarity</b>	Positive or negative
<b>Duration (fwhm, 50%)</b>	75 ps, 85 ps max.
<b>Baseline Perturbations (t &gt; 500 ps)</b>	More than 20 dB below peak
<b>Source Impedance</b>	50 $\Omega$
<b>Baseline Offset</b>	Adj. to $\pm 5$ V into 50 $\Omega$ , $\pm 10$ V into open circuit
<b>Attenuators</b>	0 to 81 dB in 1 dB steps, 50 $\Omega$ , vswr < 1.2, 2 W. Accuracy: $\pm 0.3$ dB for 1-10 dB to $\pm 0.8$ dB at 60 dB. Waveform does not change with attenuation.

<b>Trigger Output and Timing</b>	
<b>Amplitude</b>	10 V into 50 $\Omega$
<b>Waveform</b>	Exponential
<b>Risetime</b>	1 ns
<b>Duration</b>	3 ns
<b>Delay</b>	Trig in / out: 22ns Trig out / impulse: 0 to 110 ns Adjustable in 10 ns steps.
<b>Delay Jitter</b>	1.5 ps rms, (3 ps rms max.)
<b>Repetition Rate</b>	1 MHz to 1 Hz in 6 ranges with 0.1 to 1.0 vernier.
<b>Ext. Trigger Input Level</b>	> 1.5 V, (+) slope

<b>General Specifications</b>	
<b>Controls</b>	Power, Rep. Rate/Ext. Trig., Rep. Rate Vernier, Single Pulse, Delay, Offset, Polarity and Attenuation in 1 dB, 10 dB steps
<b>Connectors</b>	Impulse out: SMA, Trig. In/out: BNC
<b>Power Required</b>	100, 115 or 230 V ac, 50/60 Hz, 25 VA (50 Hz), 20 VA (60 Hz)
<b>Operating Environment</b>	Indoors, 0 C to 50 C, < 80%rh
<b>Safety Certifications</b>	Conforms to EN-061010-1 (CE mark) UL-1244 and IEC-348. Safety class I. For lab use only by qualified personnel
<b>EMI Certifications</b>	Conforms to EU Directive 89/336/EEC EN55011 and EN50082-1, CE mark
<b>Calibration</b>	Test report with waveforms is furnished. NPL/NIST-traceable.
<b>Warranty</b>	One year. See Terms and Conditions of Sale for details.
<b>Accessories Included</b>	Power cord, front handles and rack mount brackets, instruction manual, and video
<b>Dimensions</b>	3.5" x 17" x 13" (8.9 x 43.2 x 33 cm)
<b>Weight</b>	15 lbs (6.8 kg), 20 lbs (9.1 kg) shipping

**Note**

[1] The performance parameters listed here are as directly measured using an HP-54121A (17.5 ps rise) sampling scope and a 30 dB, DC-26 GHz attenuator.