Model 3500D

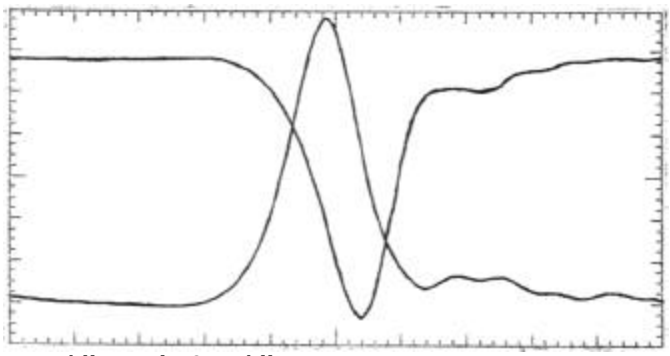
Impulse Generator

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

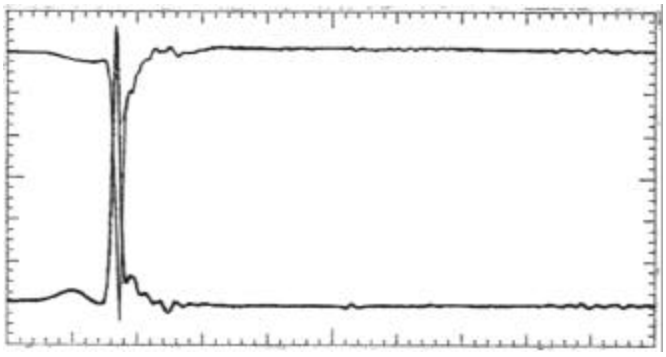


The Model 3500D Impulse Generator produces fast, 65 ps (fwhm) impulses. The peak amplitude is > 8 V with selectable positive or negative polarity. Special attenuation in the design provides extremely stable pulses. The timing jitter is only 1.5 ps rms. The output impedance is well matched to 50 Ω to absorb reflections from mismatched loads. A baseline offset circuit provides adjustable offset to ±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

Parameters [1]	
Amplitude into 50 O	> 8 V, 7 V min.
Polarity	Positive or negative
Duration (fwhm, 50%)	65 ps, 75 ps max.
Baseline Perturbations (t > 500 ps)	More than 20 dB below peak
Source Impedance	50 O
Baseline Offset	Adj. to ±5 V into 50 O, ±10 V into open circuit
Attenuators	0 to 81 dB in 1 dB steps, 50 O, vswr < 1.2, 2 W. Accuracy: ±0.3 dB for 1-10 dB to ± 0.8 dB at 60 dB. Waveform does not change with attenuation.

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

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