

# AVTECH ELECTROSYSTEMS LTD.

NANOSECOND WAVEFORM ELECTRONICS  
SINCE 1975

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## PERFORMANCE CHECKSHEET

Model: AVO-9G-B-P-W1-P1B-T1B  
Type: Ultra-High-Speed Laser Diode Driver  
S.N.: 13773  
Date: August 24, 2018

Output Amplitude: up to +53V, to 50Ω  
Pulse Width (FWHM): 1 – 200 ns  
Rise Time (20%-80%): ≤ 0.5 ns  
Fall Time (80%-20%): ≤ 1 ns  
PRF: 1 Hz – 100 kHz  
Jitter, Stability: OK  
Prime Power: 100-240V AC, 50-60 Hz.

Basic specifications: →

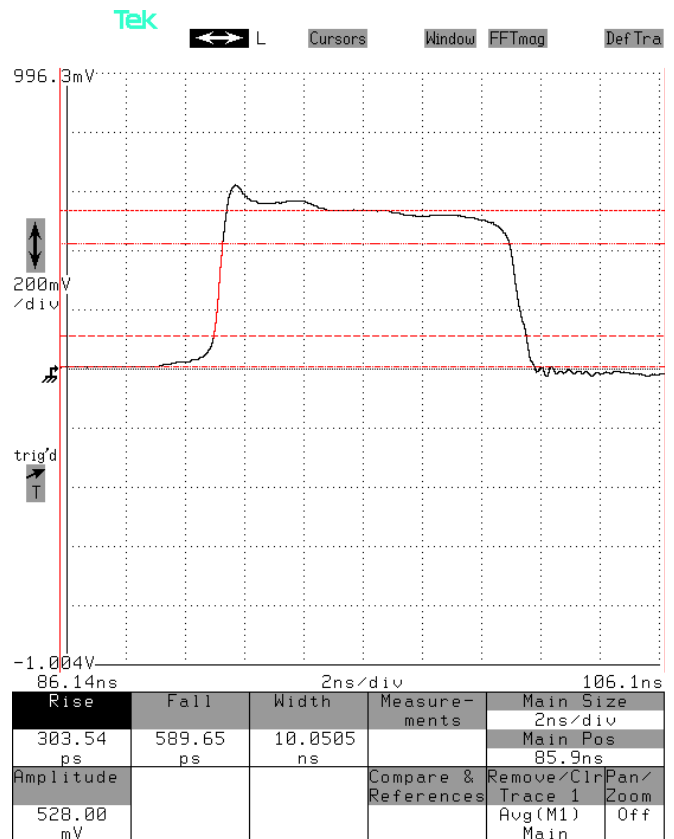
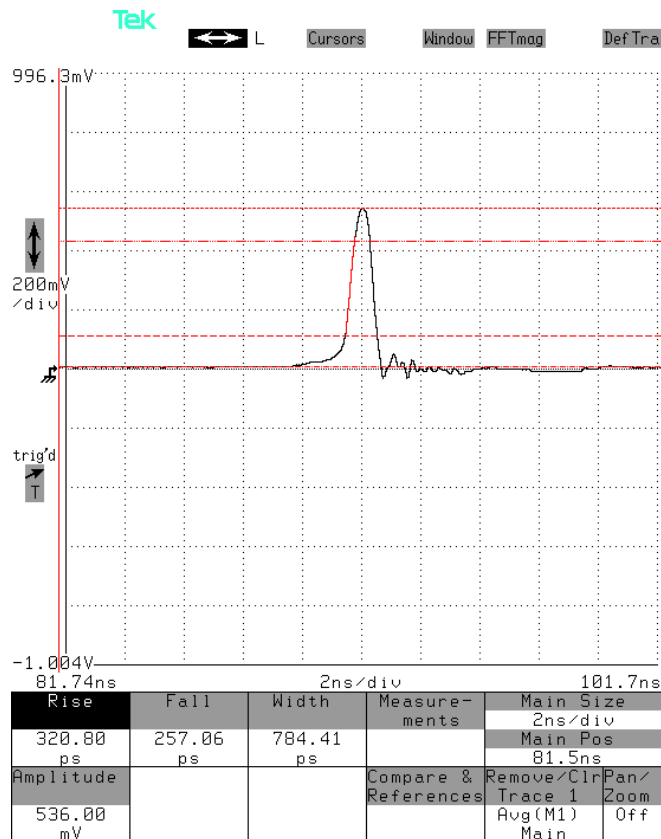
### Test Waveforms

Mainframe output into 50 Ohm load at 100 kHz,  
< 1 ns, +53V,

Mainframe output into 50 Ohm load at 100 kHz,  
10 ns, +53V,

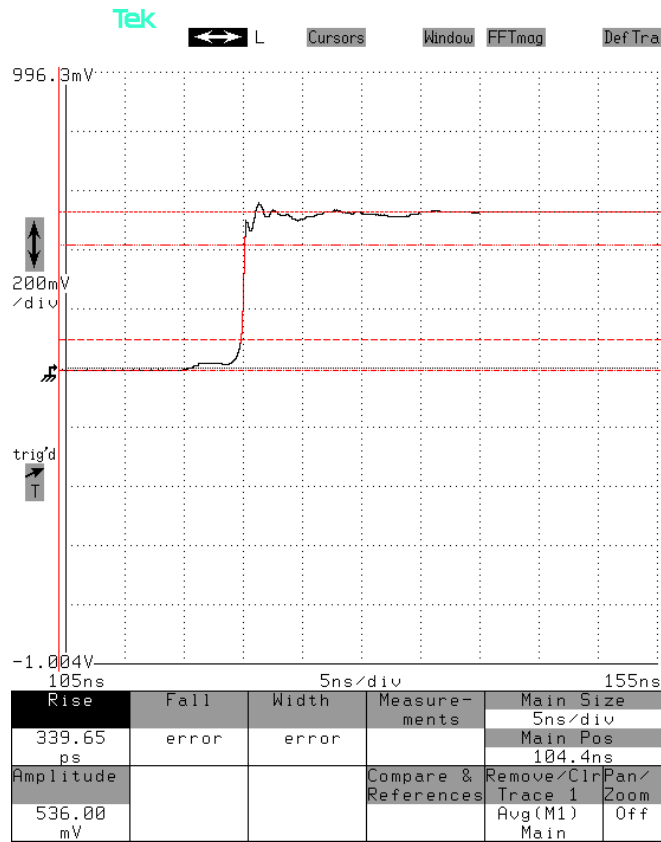
2 ns/div. 20 V/div (200 mV/div × 40 dB):

2 ns/div. 20 V/div (200 mV/div × 40 dB):



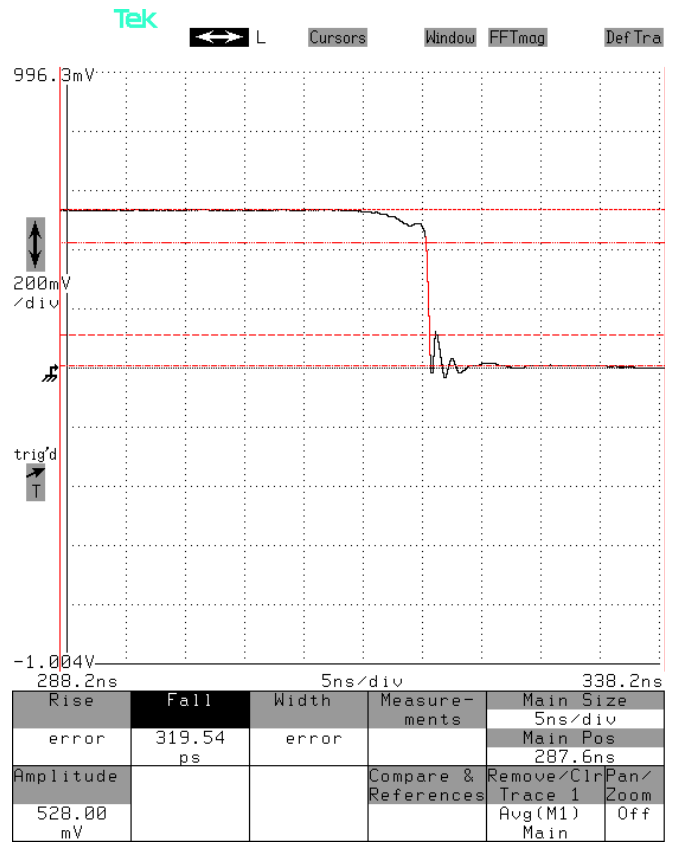
Mainframe output into 50 Ohm load at 100 kHz,  
200 ns, +53V, leading edge,

5 ns/div. 20 V/div (200 mV/div × 40 dB):



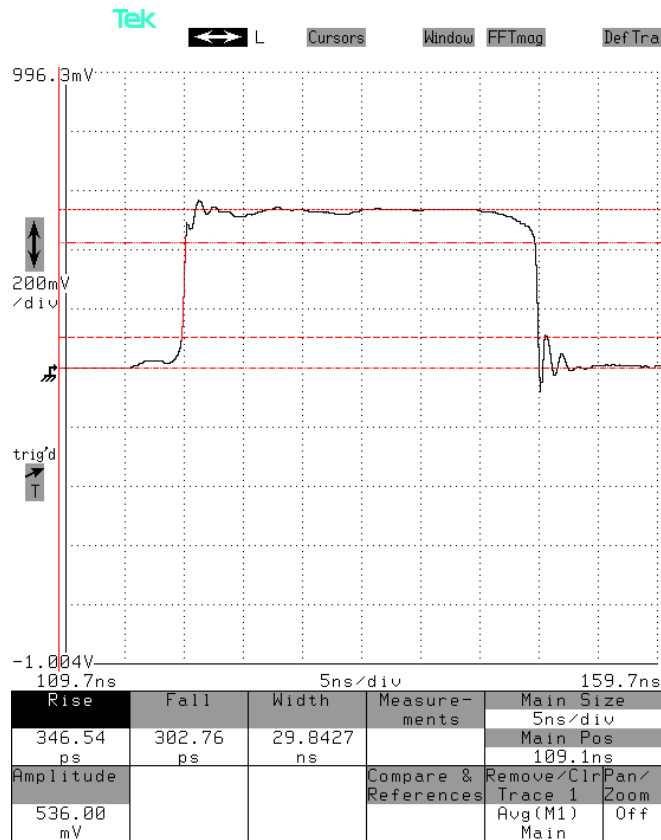
Mainframe output into 50 Ohm load at 100 kHz,  
200 ns, +53V, trailing edge,

5 ns/div. 20 V/div (200 mV/div × 40 dB):

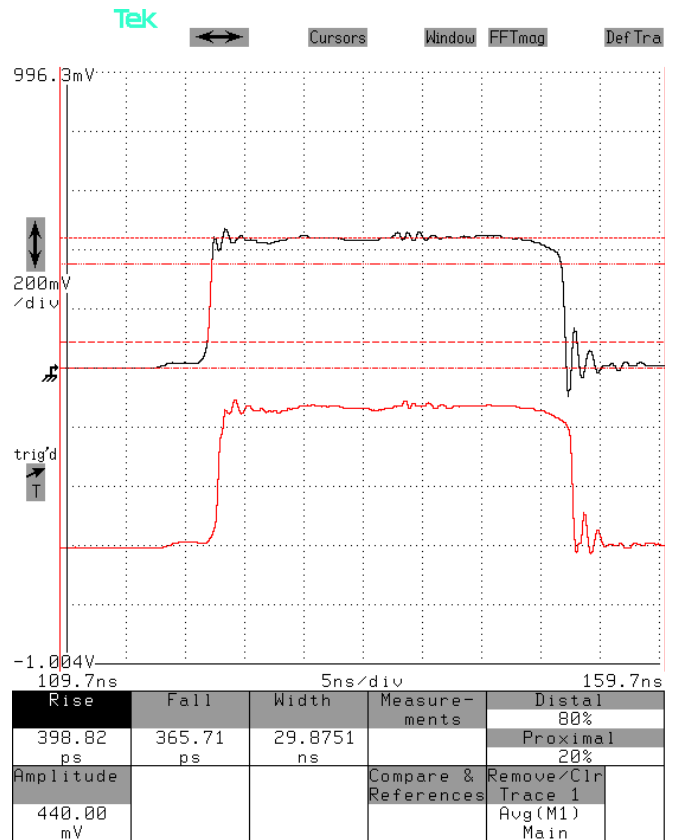


Mainframe output into 50 Ohm load at 100 kHz,  
30 ns, +53V,

5 ns/div. 20 V/div (200 mV/div × 40 dB):



Same conditions, but with output module:



Top waveform: Voltage across the parallel combination of the 4.5 Ω effective resistance. It should be approximately  $(+53V / 54.5\Omega) \times 4.5\Omega = +4.4V$  in amplitude, which agrees approximately with the observed waveform.

Bottom waveform: “MI” output, approximately  $+53V / 11$ .

Both: 5 ns/div, 2 V/div (200 mV/div × 20 dB).

Test method: Short leads are soldered across a chip resistor. A coaxial cable is soldered across the resistor. The signal lead is inserted into the anode pin socket. The ground lead is inserted into one of the other pin sockets (which are grounded). The total effective resistor is  $5\ \Omega \parallel 50\ \Omega$  ( $R_{SCOPE} = 4.5\ \Omega$ ).

