

Trek Model 2100HF

High-Frequency, High-Speed Amplifier



The Trek Model 2100 HF is a high-frequency, high-speed, wide bandwidth amplifier for high power applications. It incorporates an all-solid-state design for highly reliable low-noise operation, thus achieving accurate output response and high slew rates, even in highly capacitive loads. Full power frequency response of the amplifier is essentially flat up to 2 MHz. No overshoot or instability of the waveform occurs due to the amplifier's unique dual feedback feature.

Key Specifications

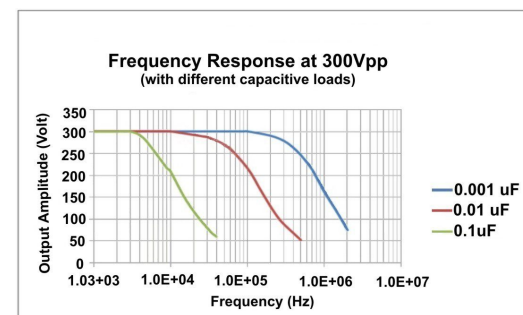
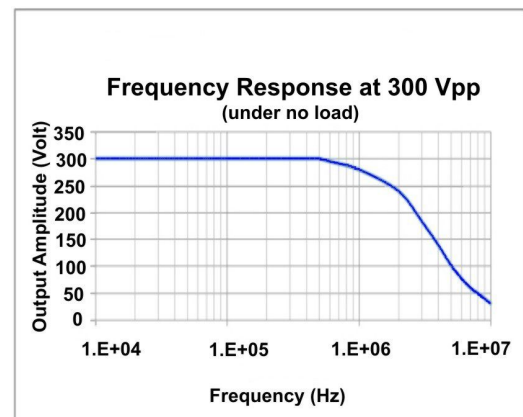
- Output Voltage Range: 0 to ± 150 V DC or peak AC
- Output Current Range: 0 to ± 300 mA DC
- Slew Rate: 2 kV/ μ s, typical
- Large Signal Bandwidth (-3 dB): DC to greater than 2.6 MHz
- Small Signal Bandwidth(-3 dB): DC to greater than 3 MHz
- DC Voltage Gain: 50 V/V

Typical Applications Include

- Dielectric material characterization
- Electro-optic modulation
- Ion beam control
- MEMS
- Piezoelectric driving and control
- Ultrasonics

Features and Benefits

- Incorporates all-solid state design for highly reliable low-noise operation
- Achieves accurate output rates and high slew rates even in highly capacitive loads
- Full power frequency response is essentially flat up to 2 MHz
- Dual feed-back feature ensures "no overshoot" or instability of waveform
- RoHS compliant
- NIST-traceable Certificate of Compliance provided with each unit shipped
- CE compliant



Model 2100HF Specifications

Performance

Output Voltage Range	0 to ± 150 V DC or peak AC
Output Current Range	0 to ± 300 mA DC
Input Voltage Range	0 to ± 3 V DC or peak AC
Input Impedance	50 Ω , nominal
DC Voltage Gain	50 V/V
Offset Voltage	Less than ± 100 mV
Output Noise	Less than 50 mV p-p
Slew Rate (10-90%)	Greater than 2000 V/ μ s
Large Signal Bandwidth (-3 dB)	DC to greater than 2.6 MHz
Small Signal Bandwidth (-3dB)	DC to greater than 3 MHz
Stability	
Delay Time	Less than 6 mV/ minute, noncumulative
Drift with Temp	Less than 150 ns (input to output)

Mechanical

Dimensions	141 mm H x 213 mm W 336 mm D (5.57" H x 8.38" W x 13.22" D)
Weight	6.8 kg (15 lb)
HV Connector	BNC Connector

Electrical

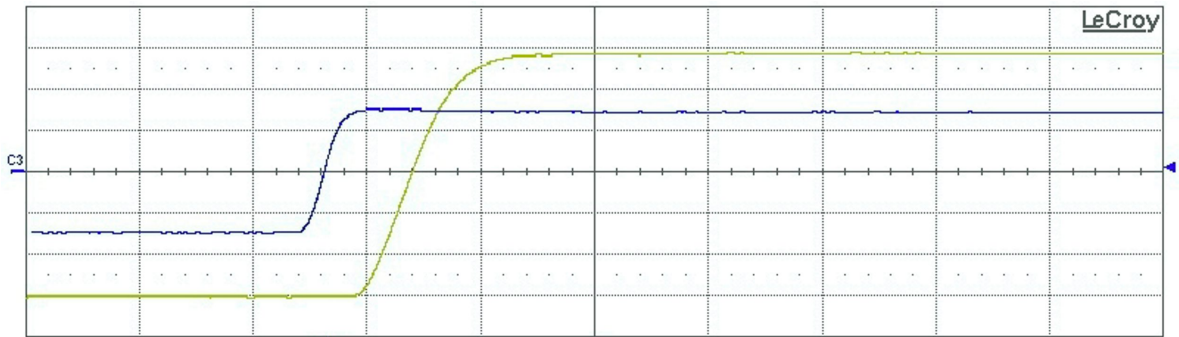
Input Power	90 to 127 V AC, at 48 to 63 Hz 180 to 250 V AC, at 48 to 63 Hz
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Supplied Accessories

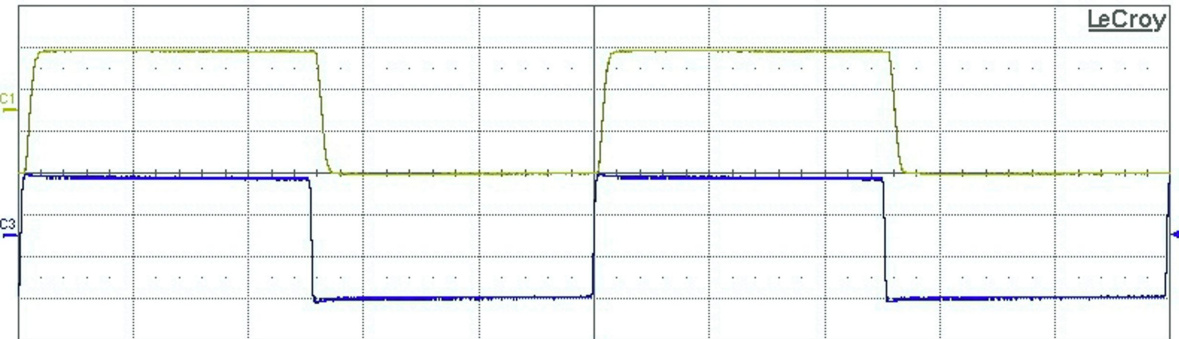
Operators' Manual	PN: 23435
Line Cord (104 to 127 V AC operation)	PN: N5002
Fuse, 2 A, 250 V Slow, 5 mm x 20 mm	PN: H0014R
Line Cord (207 to 250 V AC operation)	Line cord type determined by the geographical destination of the unit
Fuse, 2 A, 250 V Slow, 5 mm x 20 mm	PN: H0013R

Optional Accessories

Optional Accessories	None
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Measure	P1:pkpk(C1)	P2:pkpk(C3)	P3:fall(C1)	P4:fall(C3)	P5:rise(C1)	P6:rise(C3)
value	295.1 V	6.00 V	---	---	157.933 ns	54.452 ns
status	✓	✓	⚠	⚠	✓	✓
C1	FLT DC1M	50.0 V/div	0.00 V offset			
C3	500000	2.00 V/div	0 mV offset			
Timebase	-468 ns					
Trigger	CS	200 ns/div	Stop	80 mV		
	10.0 kS	5.0 GS/s	Edge	Positive		



Measure	P1:pkpk(C1)	P2:pkpk(C3)	P3:fall(C1)	P4:fall(C3)	P5:rise(C1)	P6:freq(C3)
value	299.4 V	6.09 V				100.56260 kHz
status	✓	✓				✓
C1	FLT DC1M	100 V/div	150.00 V			
C3	500000	2.00 V/div	-3.000 V offset			
Timebase	0.00 μ s					
Trigger	CS	2.00 μ s/div	Auto	20 mV		
	100 kS	5.0 GS/s	Edge	Positive		

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