Model 2340/2350

HIGH VOLTAGE AMPLIFIERS

- **Precise signal amplification with low distortion**
- **High Voltage Output up to 400 Vp-p (±200 V)**
- **DC-2 MHz small signal bandwidth (-3 dB)**
- **Full power bandwidth, from DC to 200 kHz (-0.1 dB)**
- **Single or Dual Channel**
- **Independent 200:1 voltage monitor outputs for each channel**
- **Compatible with all TEGAM Arbitrary Waveform and Function Generators**
- **Compatible with any Signal Generator that can drive a 50 Ω impedance.**
- **Excellent Choice for MEMS, electrostatic, or piezoelectric applications.**

Single/Dual Channel High-Voltage Amplifiers

The Models 2340/2350 are designed for applications that require high-voltage amplification beyond the standard voltage limitations of most waveform, function, or pulse generators.

With a maximum output voltage of 400 Vp-p, the Models 2340/2350 come standard with a fixed gain of +50. Gains from 10 to 100 are available by special order.

Each channel is rated for 40 mA continuous current with 0.2 Ω output impedance. Each channel has an independent, buffered, voltage monitor output for applications that require a low-level representation of the output signal. The buffers produce a reduction of 200:1 for 50 Ω inputs and 100:1 for 1 MΩ and above inputs.

The output current is sensed in both directions by the current limit function. This provides maximum protection to the amplifier during operation. A built-in power supply monitor protects the power amplifiers by tracking the DC power supply. If a high-voltage DC fault occurs, the monitor will disconnect the power supply from the power amplifiers. Cycling the supply power resets the fault. The amplifiers can drive capacitive loads up to 200 pF while maintaining a full power bandwidth exceeding 200 kHz.

For maximum user safety, the outputs are grounded to the instrument chassis to prevent accidental voltage loops. A binding post is provided on the front panel for a direct chassis ground connection.

The Models 2340/2350 are cost-effective solutions for specialized applications where low distortion and precise signal amplification is required. These units are particularly suited for high frequency, electrostatic applications that require high voltage.

Prices and specifications subject to change without notice.

TEGAM®

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Specifications

Electrical Specifications

Number of Channels	1 Channel - Model 2340 or 2 Channel - Model 2350
Input Impedance	50 Ω Direct Coupled
Output Voltage Range	0 to ± 200 V Direct Coupled (400 V p-p)
Maximum Output Current	40 mA per channel
Output Impedance	< 0.2 Ω
Voltage Gain	+50 Fixed (Special Order +10-100)
Sine Wave Distortion (THD)	Refer to Figure 4
Small Signal Bandwidth	DC to 2 MHz -Typical (-3 dB) - Refer to Figure 1
Full Power	200 kHz / 400 Vpp Sine - Typical (-0.1 dB) (CL<200 pF)
Slew Rate	>250 V/µSec
Square Wave Response	< 0.8 µSec for 200 Volt Step
Aberrations	< 2 %
50 Ω Voltage Monitor Outputs	50 Ω Input Z (200:1 Ratio)
(One for each Channel)	> 1 MΩ Input Z (100:1 Ratio)
Safety	Conforms with IEC 61010-1, CE Marked
Environmental	
Operating Temperature	0 ºC to +45 ºC, (+32 ºF to +113 ºF) Ambient
Storage Temperature	-20 ºC to +50 ºC (-4 ºF to +122 ºF)
Humidity Range	< 80 % RH Non-Condensing
General	
Input Supply Voltage	110/220 V 50/60 Hz - Rear Panel Selectable
Power Rating	100 VA; 80 W
Dimensions: (H x W x L)	11.5 x 25.8 x 30.0 cm (4.51 in x 10.14 in x 11.81 in)
Weight (approximate)	4.5 kg (10 lb)
Included Accessories	User's Manual P/N 810044-CD
	BNC to High-Voltage BNC Cables (3 ft) P/N 740949
	(1 Cable for P/N 2340, 2 Cables for P/N 2350)
Warranty	1 Year Part and Labor

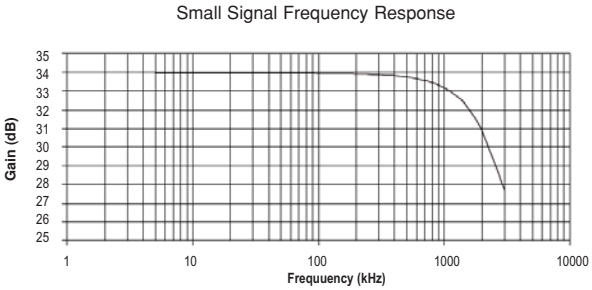

Figure 1: Small Signal Frequency Response (Typical)
Amplifier Gain measured with 900 mV peak-to-peak input. Amplifier Frequency Response (-3 dB) at 2 MHz.

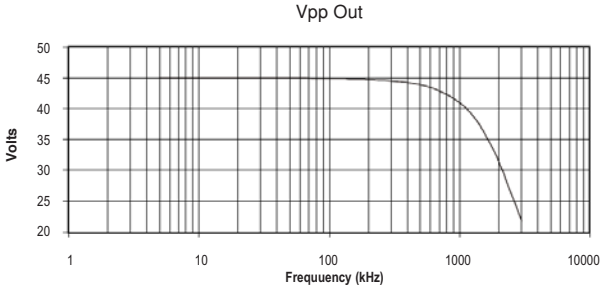

Figure 2: Small Signal Frequency Response
(Typical)Amplifier Gain measured with 900 mV peak-to-peak input. Same as Figure 1 but Y-axis is Volts instead of dB.

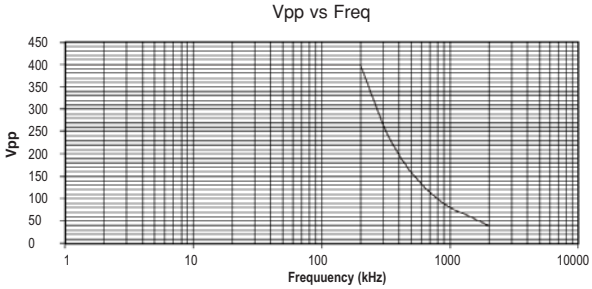

Figure 3: Maximum Vpp vs. Frequency
Amplifier's maximum peak-to-peak output roll off with frequency. This is due to the amplifier's slew rate of 250 V/µSec.

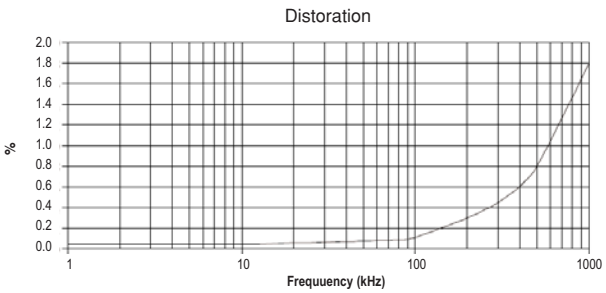

Figure 4: Distortion (Typical)
Distortion measurements were made operating the amplifier at 75 % of the maximum Vpp output obtained from Figure 3.

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