Specifications/DC Volts

ACCURACY (Normal Resolution) ±(% of Input Plus Number of Digits)

Range	Full Scale	Resolution	Accuracy		
			24 Hours (23°C ±1°C)	90 Days (18°C to 28°C)	1 Year (18°C to 28°C)
100 mV	312 mV	1 uV	0.002 + 4	0.003 + 5	0.005 + 8
1V	2.5V	10 uV	0.001 + 1	0.002 + 1	0.004 + 1
10V	20V	100 uV	0.001 or 1*	0.001 + 1	0.002 + 1
100V	160V	1 mV	0.001 + 1	0.002 + 1	0.004 + 1
1000V	1200V	10 mV	0.001 + 1	0.002 + 1	0.004 + 1

**Whichever is greater.*

ACCURACY (High Resolution) ±(% of Input Plus Number of Digits)

Range	Full Scale	Resolution	Accuracy		
			24 Hours (23°C ±1°C)	90 Days (18°C to 28°C)	1 Year (18°C to 28°C)
1V	2.5V	1 uV	0.001 + 6	0.002 + 8	0.004 + 9
10V	20V	10 uV	0.001 or 6*	0.001 + 8	0.002 + 9
100V	160V	100 uV	0.001 + 6	0.002 + 8	0.004 + 9
1000V	1200V	1 mV	0.001 + 6	0.002 + 8	0.004 + 9

**Whichever is greater.*

TEMPERATURE COEFFICIENT (0°C to 18°C and 28°C to 50°C)

Range	Temperature Coefficient
100 mV	±(3 ppm/reading +0.5 digit)/°C
1V	±(3 ppm/reading +0.1 digit)/°C*
10V	±(2 ppm/reading +0.05 digit)/°C*
100V	±(3 ppm/reading +0.1 digit)/°C*
1000V	±(3 ppm/reading +0.05 digit)/°C*

**For High Resolution Multiply Digits by 10.*

INPUT IMPEDANCE

Range	Input Impedance
100 mV	>10,000 MΩ
1V	>10,000 MΩ
10V	>10,000 MΩ
100V	10 MΩ
1000V	10 MΩ

INPUT BIAS CURRENT

Bias Current	At time of Cal	30 Days (23°C ±1°C)	Temperature Coefficient
	<±5 pA	<±50 pA	±3 pA/°C

RESPONSE TIME
Digitizing Time

Mode of Operation	Reading Rate		Digitizing Time
Bench	50 Hz line	6-1/4 rdg/sec	162 ms
		1-1/2 rdg/sec	642 ms
	60 Hz line	7-1/2 rdg/sec	136 ms
		1-7/8 rdg/sec	546 ms
Remote	50 Hz	4 samples/rdg*	22 ms
	60 Hz	4 samples/rdg*	18 ms

**Number of samples per reading is remotely programmable from 1 (°) to 131,072 (2^{17}) in 18 binary stops.*

Analog Settling Time Within Voltmeter

Filter Mode	Step Input to 0.01% of Change	Step Input to 0.001% of Change
Bypassed Filter <100k Source Resistance (Remote)	2 ms	20 ms
Filter, Fast	40 ms	50 ms
Filter, Slow (Manual)	400 ms	500 ms

OVERLOAD

±1200 volts dc to 60 Hz, or 1400 volts peak ac above 60 Hz may be applied continuously to any range without permanent damage.

Common Mode (1k Unbalance)

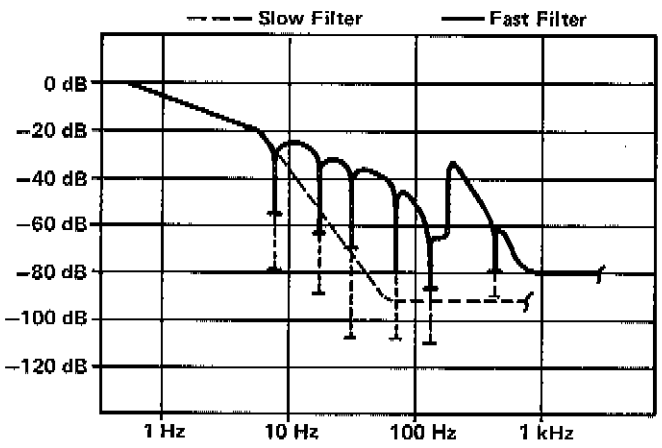
DC	−140 dB
50 Hz	−140 dB
60 Hz	−140 dB
DC to 60 Hz Fast Filter	−100 dB
DC to 60 Hz Slow Filter	−140 dB

NOISE REJECTION
Normal Mode

Line/Filter Frequency	4 Samples/Rdg*	7-1/2 rdg/s	6-1/4 rdg/s	1-7/8 rdg/s	1-1/2 rdg/s
50 Hz Fast Filter	60 dB	N/A	70 dB	N/A	75 dB
50 Hz Slow Filter	85 dB	N/A	90 dB	N/A	95 dB
60 Hz Fast Filter	60 dB	70 dB	N/A	75 dB	N/A
60 Hz Slow Filter	90 dB	95 dB	N/A	100 dB	N/A

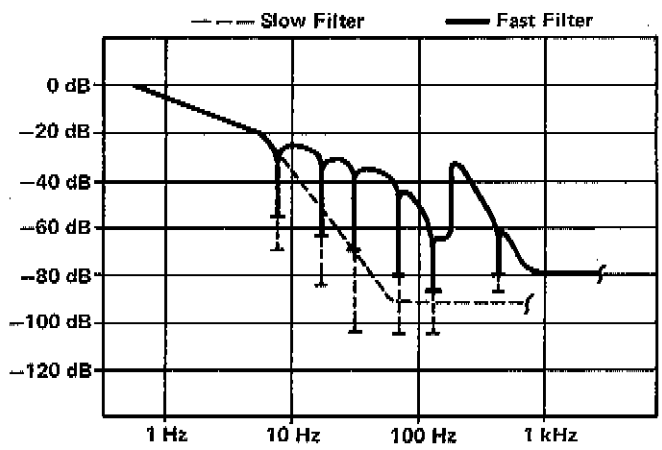
**Remotely selected.*

1-7/8 READINGS/SECOND TYPICAL PERFORMANCE WITH 60 Hz LINE



Cusps shown are at multiples of 60 Hz line frequency.

1-1/2 READINGS/SECOND TYPICAL PERFORMANCE WITH 50 Hz LINE



Cusps shown are at multiples of 50 Hz line frequency.

ZERO STABILITY

Better than 5 μV for 90 days after a one hour warmup. Front Panel pushbutton auto zero is provided. The zero correction is stored in memory until power is interrupted or the 8500A is RESET. If calibration memory option -04 is installed the zero correction is retained.