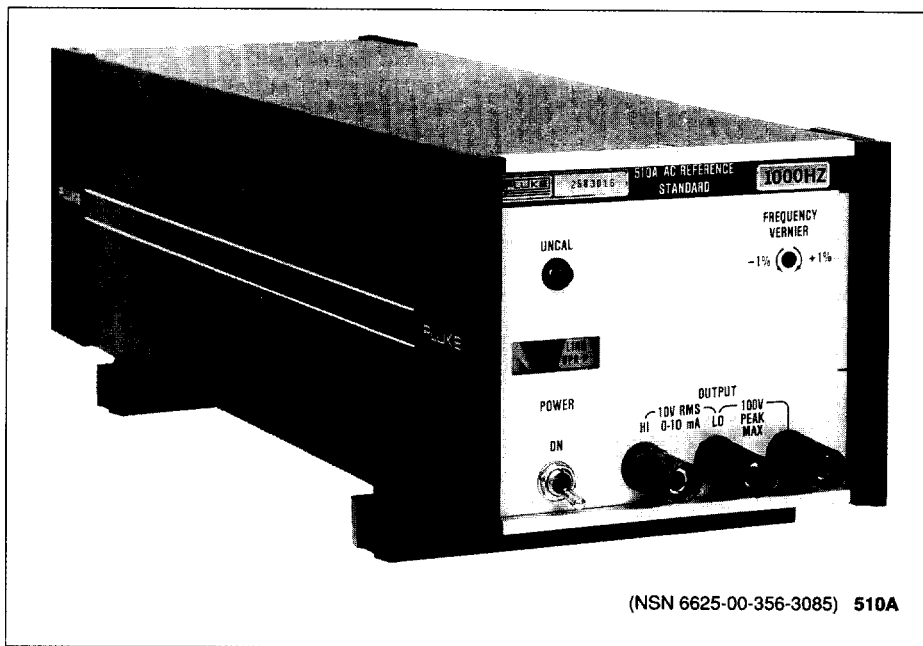


510A



510A AC Reference Standard

- Uncertainty to ± 100 ppm
- Optional battery operation
- Output voltage 10V rms
- Output current levels to 10 mA rms
- Fixed frequency, 50 Hz to 100 kHz

The 510A is a precision, fixed frequency, alternating voltage source designed for use as an amplitude calibration standard for test applications. In the calibration laboratory, the 510A provides an accurate aV reference for calibrating both true rms and average-sensing aV voltmeters. On the production line, the 510A can be used to rapidly verify aV test instrumentation or to generate a precise aV stimulus for circuit testing.

Output of the 510A is both fixed frequency and fixed amplitude. The frequency may be varied $\pm 1\%$ of center frequency with a front panel screwdriver adjustment.

Total harmonic distortion is less than 50 ppm to 10 kHz, and less than 300 ppm at 100 kHz. This assures a pure sinewave for calibrating average, peak, or true rms reading aV-to-dV converters.

The optional rechargeable battery pack provides up to 16 hours of operation independent of line power. A front panel display provides a continuous display of battery condition. When operated from line power, the battery is maintained at full charge. The battery automatically operates the 510A whenever line power is removed.

Up to four 510As may be connected together for mounting in a standard rack. Output terminals are provided on both the front and rear panels for easy access in both bench and system applications.

Specifications

- Output Voltage:** 10V rms
- Output Current:** 10 mA rms, short-circuit protected
- Frequency:** Any specified single frequency from 50 Hz to 100 kHz Standard frequencies are: 50, 60, 400, 1000, 2400, 5000, 19,200, & 100,000 Hz
- Amplitude Uncertainty:** \pm ppm

| Frequency | 24 Hours | 30 Days | 90 Days |
|---------------|----------|---------|---------|
| 50 Hz-20 kHz | 100 | 150 | 200 |
| 20 kHz-50 kHz | 150 | 250 | 350 |
| 50 Hz-100 kHz | 400 | 500 | 600 |

* After 10-minute warm-up in ambient temperature 21°C to 25°C

Amplitude Stability: \pm ppm

| Frequency | 24 Hours | 30 Days | 90 Days |
|----------------|----------|---------|---------|
| 50 Hz-20 kHz | 20 | 50 | 100 |
| 20 kHz-100 kHz | 40 | 100 | 200 |

Total Harmonic Distortion: Less than 50 ppm to 10 kHz; less than 300 ppm at 100 kHz

Center Frequency Uncertainty: $\pm 0.1\%$, adjustable $\pm 1\%$

Frequency Stability: 500 ppm per mo

Load Regulation: ≤ 20 ppm to 10 kHz; ≤ 80 ppm at 100 kHz

Line Regulation: ≤ 10 ppm for $\pm 10\%$ line change

Input Power: 115 or 230V ac $\pm 10\%$, 50 to 500 Hz, or optional rechargeable batteries

Size: 8.8 cm H x 10.7 cm W x 30.4 cm D (3.5 in H x 4.25 in W x 12 in D)

Weight: 2.26 kg (5 lb)

Included with instrument: Instruction manual, power cord, calibration certificate

Ordering Information

Models

January 1990 prices

- 510A* AC Reference Standard \$1790
- 510A-01* AC Reference Standard
w/battery pack 1995
- 510A/SF* AC Reference Standard
(Special Frequency) on req
- 510A-01K Rechargeable Battery Pack
(for retrofit) 395

*Specify frequency when ordering

Accessories (Also see Section 17)

- M03-201-601 3 1/2" Rackmount Kit,
Single \$ 160
- M03-202-603* 3 1/2" Rackmount Kit,
Dual 110
- M03-206-604* 3 1/2" Rackmount Kit,
Triple 180
- M03-205-605* 3 1/2" Rackmount Kit,
Quad 105

* May be combined with the 731B

Customer Support Services

Warranty

One-year product warranty. See Section 16 for further information on warranty terms and conditions.

Extended Warranty

A 10% discount is available when you order the following at the time of the instrument purchase or when ordered within the factory warranty period.

- SC1-510A Repair \$ 108
- SC2-510A Calibration 124
- SC3-510A Full Service 219

Note: Incoming and/or outgoing calibration readings are available as an option.