Table 9D-1-1. 5304A Timer/Counter Specifications

INPUT CHANNELS A AND B

Range: DC coupled; 0 to 10 MHz.
AC coupled; 100 Hz to 10 MHz.

Sensitivity (min): 25 mV rms sine wave to 1 MHz. 50 mV rms sine wave to 10 MHz. 150 mV p-p pulse at minimum pulse width, 40 nsec. Sensitivity can be decreased by 10 or 100 times using ATTENUATOR switch.

Impedance: 1 MΩ shunted by less than 30 pF.

Overload Protection: 250 V rms on X10 and X100 attenuator settings. On X1 attenuator setting 120 V rms up to 1 kHz, decreasing to 10 V rms at 10 MHz.

Trigger Level: PRESET position centers triggering about 0 volts ±25 mV, or continuously variable over the range of -1 V to +1 V times attenuator settings.

Slope: Independent selection of triggering on positive or negative slope.

Channel Inputs: Common or separate lines.

Gate Output: Rear panel BNC. TTL low level while gate is open. May be used to intensity modulate an HP oscilloscope.

TIME INTERVAL

Range: 500 nsec to 10^4 sec.

Input: Channels A and B; can be common or separate.

Overload: Maximum recommended levels for pulse signals is 2 V p-p. Clipping occurs at 3 V p-p.

Resolution: 100 nsec to 10 ms in decade steps.

Accuracy: ±1 count + time base accuracy + trigger error.*

Display: μs, ms, or s (seconds) with positioned decimal point.

Time Interval Holdoff: Front panel concentric knob which inserts variable delay of approximately 100 μsec to 100 msec between START (Channel A) and enabling STOP (Channel B); may be disabled. Electrical inputs during delay time are ignored. Delay may be digitally measured in CHECK position. Delay Output: rear panel BNC. TTL low level during delay time. May be used to intensity modulate an HP oscilloscope.

PERIOD AVERAGE

Range: 10 Hz to 1 MHz.

Input: Channel A.

Period Averaged: 1 to 10^4 automatically selected for maximum resolution.

Frequency Counted: 10 MHz.

Accuracy: ±1 count + time base accuracy + trigger error.**

Display: μs, ms with positioned decimal point.

FREQUENCY

Range: 0 to 10 MHz.

Input: Channel A.

Gate Times: Manually selected 0.1, 1, or 10 seconds. AUTO position selects gate time to fill display for maximum resolution within a 1-second measurement time.

Accuracy: ±1 count + time base accuracy.

Display: Hz, kHz, and MHz with positioned decimal point.

OPEN/CLOSE (Totalizing)

Range: 10 MHz maximum.

Input: Channel A.

Function: Input signal totalized while gate open. Opening and closing of gate initiated by front panel pushbutton switch.

GENERAL

Check: Inserts internal 10 MHz reference frequency into Channels A and B. Time Interval Holdoff may be digitally measured by switching to CHECK and TIME INTERVAL positions.

Operating Temperature: 0° to 50°C.

Power Requirements: Including 5300A mainframe, nominally 10 watts. Minimum of 3 hours operation (typically 5 hrs) at 20°C to 30°C operating and charging temperatures.

Weight: Net, 1 lb (0.9 kg). Shipping, 3½ lbs (1.5 kg).

*For any waveshape, trigger error is less than

$$\pm \frac{0.005}{\text{Signal Slope (V/}\mu\text{s)}}\ \mu\text{s}$$

**Trigger error is less than ±0.3% of one period. ÷ periods averaged for signal with 40 dB or better signal-to-noise ratio.