

Table 1-3. Model 5216A Specifications

## FREQUENCY MEASUREMENT

Range: 3 Hz to 12.5 MHz.

Input: 10 mV rms sine wave, max. sensitivity.

Approx. 1 M $\Omega$  shunted by 50 pF input impedance.

Gate Times: 10, 1, 0.1, 0.01 s.

Accuracy:  $\pm 1$  count  $\pm$  time base accuracy.

Readout: 7 long-life Nixies<sup>®</sup>, reads in MHz and kHz with positioned decimal point.

## TIME INTERVAL MEASUREMENT

Range: 10  $\mu$ s to 10 s.

Input: Contact closure or saturated NPN transistor to ground. Signal duration  $\geq 1 \mu$ s. Current sinking  $\geq 2$  mA. The START signal must end before the STOP signal begins. Time from STOP to next START:  $\geq 30$  ms for external reset or  $\geq 30$  ms plus sample time for internal reset.

Frequency Counted: 1 MHz internal time base or external frequency standard.

Readout: ms with positioned decimal point.

## PERIOD MEASUREMENT

Range: 3 Hz to 1 MHz single period; to 2 MHz in multiple periods averaged.

Periods Averaged: 1, 10, 10<sup>2</sup>, 10<sup>3</sup>, 10<sup>4</sup>, 10<sup>5</sup>.

Input: 10 mV rms maximum sensitivity; 100 mV rms below 1 kHz.

Frequency Counted: 1 MHz internal time base or external frequency standard.

Accuracy:  $\pm 1$  count  $\pm$  time base accuracy  $\pm$  trigger error\*.

Readout: ms and  $\mu$ s with positioned decimal point.

## RATIO MEASUREMENT

Displays:  $(f_1/f_2) \times$  period multiplier; multipliers: 1, 10, 10<sup>2</sup>, 10<sup>3</sup>, 10<sup>4</sup>, 10<sup>5</sup>.

Range, Sensitivity:  $f_1$ : 1 kHz to 2 MHz into external time base BNC connector, 1V rms min. into 1000 $\Omega$ .  $f_2$ : 3 Hz to 1 MHz single period, to 2 MHz in multiple periods averaged, 10 mV rms sensitivity except 100 mV rms below 1 kHz.

Accuracy:  $\pm 1$  count of  $f_1 \pm$  trigger error of  $f_2$  \*.

## TIME BASE

Crystal Frequency: 1 MHz.

Stability: Aging Rate: less than  $\pm 1 \times 10^{-6}$ /month.

Temperature: less than  $\pm 5 \times 10^{-6}$  from +10°C to +40°C; less than  $\pm 3 \times 10^{-5}$  from 0°C to +50°C.

Line Voltage: less than  $1 \times 10^{-6}$  for  $\pm 10\%$  change.

Output Frequency: 1 MHz, 3V p-p min. open circuit; source impedance is 2000 ohm maximum.

External Std Input: 1 kHz to 2 MHz sine wave, 1V rms into 1000 ohm (10V rms maximum).

## GENERAL

Display: 7 digits, long-life Nixies<sup>®</sup>

Display Storage, Blanking: Yes

Sample Rate: 50ms to 5s or hold until manual reset.

Reset: Manual by pushbutton or remote, activated by contact closure or saturated NPN transistor to ground on rear panel BNC connector.

Signal Input:

Sensitivity: 10 mV rms sine wave, maximum sensitivity; 30 mV peak pulse, minimum pulse width 40 ns.

Impedance: Approx. 1 M $\Omega$  shunted by 50 pF.

Attenuation: Step attenuator, 0.01, 0.1, 1, 10V settings.

Trigger Level Adjustment: Continuously variable trigger level control.

Overload: Input voltage should not exceed 60 dB above attenuator setting or 300V rms (damage level).

Self Check: Works on all functions.

Digital Output:

Code: 1248 "1" state positive; "0" level: 0V nominal; "1" level: +5V open circuit, nominal; source impedance: 7.5K $\Omega$  max. each line.

Reference Levels: Ground; +5V, low impedance.

Print Command: Step from 0V to +5V dc coupled.

Hold-off Requirements: Voltage must be between -10V and -15V.

Chassis Connector: Accepts HP Cable 10513A with one special connector for the 5216A and one 50-pin Amphenol or Cinch type 57-30500-375, HP Part No. 1251-0086, male connector for HP 562A 5050A or 5055A Digital Recorders.

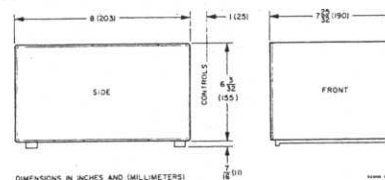
Operating Temperature Range: 0°C to +50°C.

Power Requirements: 115/230V  $\pm 10\%$ , 50 to 400 Hz, 20W maximum.

Weight: Net 7 lbs (3, 1 kg); shipping 8-1/2 lbs (3, 9 kg).

Accessories Furnished: HP 10503A, 4 feet, 50 $\Omega$  cable, BNC connectors. Detachable power cord, 7-1/2 feet (231 cm) long, NEMA plug.

Dimensions:



\* Trigger error for 10 mV rms sine wave input is less than  $\pm 0.3\%$  of one period for signals with periods averaged 40 dB signal-to-noise ratio. Decreases with increased signal amplitude and slope.

<sup>®</sup>Burroughs Corporation