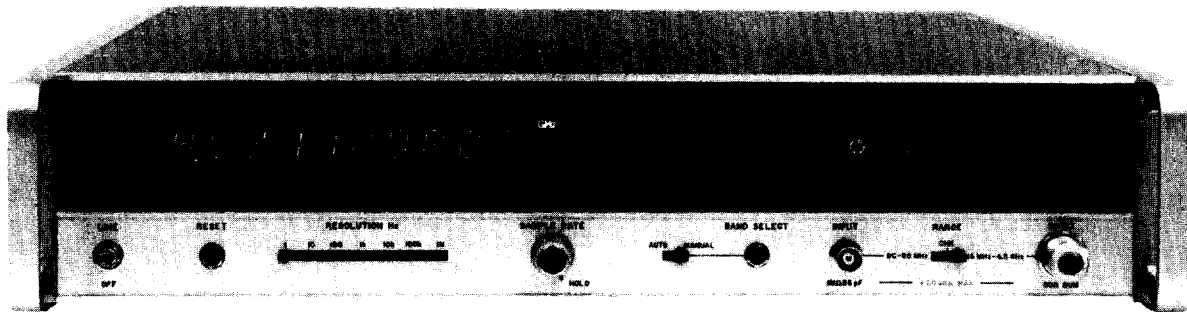


- Automatic or manual band-selection
- Wide FM tolerance
- Optional 1.5 GHz range

- Fast acquisition time
- High sensitivity
- Fully automatic diagnostics



HP-IB 5341A

The new 5341A Frequency Counter performs exceptionally fast measurements of frequency up to 4.5 GHz. Using a unique HP-designed microwave switchable filter, its automatic heterodyne measurement technique insures high tolerance of FM on the measured signal. In the normal mode of operation, the 5341A will automatically measure and display the lowest CW signal within its sensitivity; in the manual mode, the operator can choose to search within any of ten frequency bands which cover the counter's full range. Also at the operator's command, a convenient routine provides "qualifiers" in the display for complete diagnostic information concerning both the measured signal and the counter's internal operation.

The high sensitivity (-15 dBm in automatic mode, -20 dBm in manual) of the 5341A makes it ideal for measurement of low-level signals in the testing of UHF and microwave components and equipment. An extremely fast acquisition time (100 μsec in manual mode) makes this counter the optimum choice for systems applications.

Option 003 limits the frequency range of the 5341A to 1.5 GHz, at a considerably reduced cost. Option 011 connects the 5341A to the high-speed HP Interface Bus for data output and complete programmability, including the ability to remotely select the manual search bands.

5341A Specifications

Signal input

Input 1

- Range:** 50 MHz to 4.5 GHz
- Impedance:** 50Ω nominal
- Connector:** precision Type N
- Sensitivity:** -15 dBm (AUTO operating mode); -20 dBm (MANUAL operating mode)
- Maximum input:** +20 dBm
- Damage level:** +30 dBm
- Operating modes:** AUTO: counter automatically selects and displays lowest frequency within its sensitivity range; MANUAL: Measurement band is selected manually, and counter measures within a 525 MHz range above displayed band number (in the 500 MHz and 750 MHz bands, counter measures within a 250 MHz range).
- Measurement time:** acquisition time + gate time
- Acquisition time:** 600 μs (AUTO operating mode); 100 μs (MANUAL operating mode)
- FM tolerance:** 30 MHz peak-to-peak worst case. Tolerates 500 MHz peak-to-peak (0-500 MHz and 1.0-4.5 GHz) and 250 MHz peak-to-peak (500 MHz to 1.0 GHz) in center of bands.

Input 2

- Range:** 10 Hz to 80 MHz
- Impedance:** 1 MΩ, shunted by 50 pF
- Connector:** type BNC female
- Coupling:** ac

- Sensitivity:** 10 millivolts
- Maximum input:** 5 volts peak-to-peak
- Damage level:** 400 volts dc; 250 volts rms ac, 10 Hz to 100 kHz, decreasing 6 dB per octave to 80 MHz

Time base

Crystal frequency: 10 MHz

Stability

- Aging rate:** $< 1 \times 10^{-7}$ per month
- Temperature:** $< \pm 1 \times 10^{-6}$ over the range 0°C to 50°C
- Line variation:** $< \pm 1 \times 10^{-7}$, $\pm 10\%$ from nominal

Output frequency: 10 MHz, ≥ 2.4 V square wave (TTL compatible) available from rear panel BNC.

External time base: requires 10 MHz approximately 1.5 V p-p sine wave or square wave into 1 kΩ via rear panel BNC. Switch selects either internal or external time base.

Optional time base (Option 001) aging rate: $< \pm 5 \times 10^{-10}$ per day after 24 hour warm-up for less than 24 hour off-time.

General

- Accuracy:** ± 1 count \pm time base error
- Resolution:** front panel switch selects 1 MHz, 100 kHz, 10 kHz, 1 kHz, 100 Hz, 10 Hz, or 1 Hz.
- Display:** ten-digit sectionalized LED display and appropriate measurement units of kHz, MHz, or GHz.
- Self check:** counts and displays 1 GHz for resolution chosen.
- Sample rate:** continuously adjustable from 40 msec to 10 seconds and HOLD.
- Operating temperature:** 0°C to 50°C
- Power:** 115 or 230 volts, with +5% to -10% tolerance, 48-66 Hz, 104 VA
- Remote programming and digital output:** optional (Option 011) via 24-pin, series 57 Microribbon connector. Program and output information are 7-bit ASCII code.
- Weight**
 - Net:** 10.5 kg (23 lb)
 - Shipping:** 13.2 kg (29 lb)
- Dimensions:** 425 mm W × 467 mm D × 88.2 mm H (16 3/4" × 13 1/4" × 3 1/2")

Options

- | | |
|---|--------------|
| Option 001: High Stability Time Base | Price |
| Option 002: Rear Panel Connectors | \$500 |
| Option 003: 1.5 GHz Frequency Range | \$105 |
| Option 011: Remote Programming-Digital Output | less \$1000 |
| Option 908: Rack Flange Kit | \$390 |
| | add \$10 |

5341A Frequency Counter

\$3850