

DOCUMENTATION SUR LE VOLTMÈTRE HEWLETT-PACKARD HP 427A

FICHE N° 3894

PRÉSERVER
SAUVEGARDER
VALORISER

Période de fabrication : 1975-1999
Fabricant : Hewlett-Packard Company
Domaines : Physique
Sous-domaines : Electronique, Electricité
Organisme : Université de Rennes
Ville : Rennes
Modèle : HP 427A
Matériaux : Papier

Description

Cette documentation en anglais sur le voltmètre analogique HP 427A est extraite du catalogue Hewlett-Packard de 1978 (page 37). Elle décrit les caractéristiques et spécifications de l'instrument et ses performances en fréquences, ses calibres et les options et accessoires qui peuvent être fournis en complément. Il existe aussi une notice en anglais intitulé manuel des opérations.

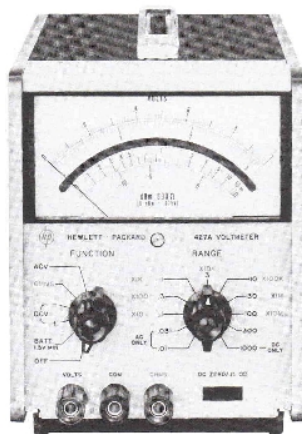
Utilisation

Cet appareil très précis était utilisé en travaux pratiques par les étudiants de physique et d'électronique mais aussi par les chercheurs dans les laboratoires. Alimenté par une batterie, il pouvait être utilisé pour des expériences sur le terrain. On l'utilisait aussi comme "détecteur de zéro" dans des ponts d'impédance.

ANALOG VOLTMETERS

Low-cost multi-function meter

Model 427A



427A



11096B

Description

Hewlett-Packard's Model 427A is a portable, versatile, low cost multi-function meter which is valuable in any laboratory, production line, service department, or in the field. It is capable of measuring dc voltages from 100 mV to 1 kV full scale; ac voltage from 10 mV to 300 V full scale at frequencies up to 1 MHz (>500 MHz with the 11096B High Frequency Probe); and resistance from 10 Ω to 10 M Ω center scale.

The 427A will operate continuously for more than 300 hours on its internal 22.5 V dry cell battery. AC line and battery operation is available with option 001.

Specifications

DC voltmeter

Ranges: ± 100 mV to ± 1000 V in 9 ranges in 10 dB steps.

Accuracy: $\pm 2\%$ of range.

Input resistance: 10 M Ω .

AC normal mode rejection (ACNMR): ACNMR is the ratio of the normal mode signal to the resultant error in readout. 50 Hz and above; >80 dB.

Overload protection: 1200 V dc.

AC voltmeter

Ranges: 10 mV to 300 V in 10 ranges in 10 dB steps.

Frequency range: 10 Hz to 1 MHz.

Response: responds to average value, calibrated in rms.

Accuracy

Frequency	Range	
	0.01 V to 33 V	100 V to 300 V
10 Hz to 100 kHz	2% of range	2% of range
100 kHz to 1 MHz		2% of range

Input impedance: 10 mV to 1 V range, 10 M Ω shunted by <40 pF; 3 V to 300 V range, 10 M Ω shunted by <20 pF.

Overload protection: 300 V rms momentarily, 1 V range and below; 425 V rms max above 1 V range.

Ohmmeter

Ranges: 10 Ω to 10 M Ω center scale in 7 decade ranges. Accuracy (from 0.3 to 3 on scale): $\pm 5\%$ of reading.

Source current (ohms terminal positive)

Range	Open circuit Voltage	Short circuit Current
X 10	0.1 V	10 mA
X 100	0.1 V	1 mA
X 1 k	1 V	1 mA
X 10 k	1 V	100 μ A
X 100 k	1 V	10 μ A
X 1 M	1 V	1 μ A
X 10 M	1 V	0.1 μ A

General

Input: may be floated up to ± 500 V dc above chassis ground. Ohms input open in any function except ohms. Volts input open when instrument is off.

Operating temperature: 0°C to 50°C.

Power: >300 hr operation per battery.

HP 427A: 22.5 V dry cell battery, Eveready No. 763 or RCA VS102. HP 427A Option 001: battery operation or ac line operation, selectable on rear panel. 115 V or 230 V $\pm 20\%$, 48 Hz to 440 Hz, 2 V A max.

Size: (standard $\frac{1}{2}$ module): 159 H (without removable feet), 130 W, 203 mm D (6 $\frac{1}{4}$ " $\times$ 5 $\frac{1}{4}$ " $\times$ 8").

Weight: net, 2.4 kg (5.3 lb). Shipping, 3.6 kg (8 lb).

Accessories available

HP 11096A High Frequency AC Probe extends range to >500 MHz. With the 11096A, you can measure 0.25 to 30 V rms signals out to 500 MHz with better than ± 1 dB accuracy. Usable relative measurements can be made up to 1 GHz (3 dB point at 700 MHz). The 11096A is a peak-responding detector calibrated to produce a dc output proportional to the rms value of a sine wave input. Input impedance is 4 M Ω shunted by 2 pF.

Options and accessories

11075A High Impact Case. A rugged case for carrying, storing and operating the 427A.

11096B High Frequency AC probe

11001A 45" test lead, dual banana plug to male BNC

11002A 60" test lead, dual banana plug to alligator clips

11003A 60" test lead, dual banana plug to pencil probe and alligator clip

10111A BNC female to dual banana adapter

11067A Test lead kit

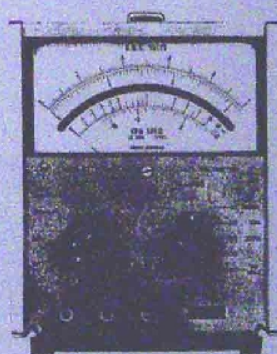
Ordering information

427A Multi-function Meter (includes batteries)

427A Option 001 AC power supply & battery

OPERATING AND SERVICE MANUAL

VOLTMETER
427A



HEWLETT  PACKARD

HP 427A

HP 427A Voltmeter.max



Pour nous citer :

Base de la Mission nationale de sauvegarde et de valorisation du patrimoine scientifique et technique contemporain, PATSTEC, Documentation sur le voltmètre Hewlett-Packard HP 427A (Hewlett-Packard Company),

<https://www.patstec.fr/ressources/objets/detail?id=15912>, consulté le 2026-07-28