

Features

- ◆ 30 Hz to 20 kHz Level Meter
- ◆ Ease of use – single button operation
- ◆ 100 hours operation with dry cells
- ◆ Noise w/wo tone Meter
- ◆ Psophometric weighting Filter
- ◆ 820 Hz Notch Filter
- ◆ Quantisation Distortion ITU-T O.132
- ◆ 0.1 to 100 V dc voltmeter
- ◆ Frequency Shift Measurement
- ◆ Bar-graph meter
- ◆ Built-in 820 Hz oscillator
- ◆ AC monitor output

Transmission Testing



H HEUER INSTRUMENTS

LEVEL METER LM11

LEVEL METER LM11

30 Hz to 20 kHz

The Level Meter LM11 is a handheld battery powered instrument. The main characteristic of the LM11 is the large number of facilities provided in such a small package.

Easy and Fast Operation

Most instruments of this complexity revert to menu tree mode selection thereby necessitating handbook guidance or on screen help. The LM11 can be operated without these aids. Every measurement function is activated by a single key making the LM11 fast and easy to use.

A 32 character, 2 line LCD gives a clear indication of impedance, level and frequency.

Battery Life

Long battery life is one of the most important features of portable equipment. The LM11 runs for 100 hours on quality dry cells. The battery condition is continuously monitored and if the voltage falls below 3.8 V a warning is given.

Wideband Level Meter

The LM11 measures signals in the range 30 Hz to 20 kHz and noise levels down to -90 dBm with the channel filter or the psophometric filter. Noise with tone and Quantisation Noise measurements are also possible together with the above filters. High resolution mode gives 0.01 dB and 0.1 Hz.

On many occasions it is important to set a particular range manually especially when monitoring line activity.

Technical Specifications (LM11)

Frequency Measurement

<i>Range</i>	30 Hz to 20 kHz with level > - 60 dBm wideband
<i>Resolution</i>	1 Hz, 30 Hz to 20 kHz
<i>expanded</i>	0.1 Hz, 10 Hz to 1.7 kHz
<i>Accuracy</i>	± 0.025 % ± 0.1 Hz

Level Measurement

<i>Level range</i>	-80 dBm to +30 dBm fully autoranging or manual range setting
<i>Attenuator accuracy</i>	+30 dBm to -30 dBm: ± 0.15 dB less than -30 dBm: ± 0.25 dB
<i>Frequency response (wideband)</i>	300 Hz to 4 kHz: ± 0.1 dB 30 Hz to 20 kHz: ± 0.2 dB
<i>Level Measurements</i>	absolute(dBm/mV), relative(dBr)
<i>Resolution</i>	0.1 dB, expanded: 0.01 dB
<i>Detector type</i>	True RMS
<i>Bridging Loss</i>	< 0.10 dB, 200 Hz to 20 kHz
<i>Return Loss</i>	≥ 35 dB, 200 Hz to 20 kHz
<i>Balance Ratio</i>	≥ 40 dB, 30 Hz to 20 kHz

Input Impedance

600 Ω, 1200 Ω balanced, or 600 Ω bridging (100 kΩ)

Filters

<i>Wideband</i>	20 Hz to 20 kHz
<i>Channel</i>	3 kHz LPF
<i>Psophometric</i>	ITU-T O.41
<i>820 Hz Notch</i>	690 Hz to 1000 Hz (ITU-T O.132)

Noise Measurement

<i>Noise level range</i>	-80 to +10 dBm
<i>Accuracy</i>	± 1 dB
<i>Resolution</i>	0.1 dB or 0.01 dB
<i>Filters</i>	Wideband, Channel, Psophometric

Quantising Noise Measurement (ITU-T O.132)

<i>Accuracy</i>	± 1 dB
<i>Test tone frequency</i>	800 to 855 Hz
<i>Filters</i>	Wideband, Channel, Psophometric

Built-in Oscillator

<i>Frequency</i>	820 Hz, 600 Ω balanced
<i>Level</i>	0 dBm / -10 dBm ± 0.1 dB

DC Voltmeter

<i>Range</i>	0 to 100 V, 1 % of FSD ± 0.1 V
<i>Resolution</i>	0.1 V

Frequency Shift Measurement

<i>Oscillator</i>	
<i>Frequency</i>	820 Hz & 1640 Hz exact harmonic
<i>Oscillator Level</i>	-23 dBm total
<i>Output Impedance</i>	600 Ω

Receiver

<i>Level Range</i>	-40 dBm to +10 dBm
<i>Measuring Range</i>	0 to 10 Hz
<i>Resolution</i>	0.01 Hz
<i>Accuracy</i>	0.05 Hz – Audio monitoring of beat tone

Interfaces

<i>Input</i>	balanced, floating 3-pin CF connector
<i>Output</i>	balanced, floating 3-pin CF connector
<i>Charging</i>	2.5 mm DC socket
<i>AC Monitor</i>	3.5 mm DC socket

Power Supply

<i>Battery Type</i>	4 AA (NiCd or Alkaline)
<i>Battery Life</i>	30 hrs typical (NiCd)
<i>Low Battery Indication</i>	< 3.8 V
<i>AC Operation (& charging)</i>	Ext. Adaptor: 240Vac to 6 Vdc (100mA)
<i>Auto Power-Off</i>	12 mins after last button press

General

<i>Display</i>	16x2 LCD
<i>Audio Monitor</i>	built-in speaker with volume control
<i>Operating Temperature</i>	0 °C to 50 °C
<i>Storage Temperature</i>	-20 °C to 60 °C

Dimensions

178 mm x 97 mm x 55 mm (L x W x H)

790g with batteries

Data subject to alterations without notice



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