NoiseMeters
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Optimus Red - Sound Level Meter with NR and NC Calculation

Features

- Meets noise regulations and guidelines
- Real-Time Octave Band Filters
- NR - Noise Rating Curves
- NC - Noise Criterion Curves
- Single range 20 to 140 dB

Applications

- Air conditioning - HVAC - noise level checks
- Housing, hotels, schools, offices
- Occupational noise surveys

Overview

This model of Optimus Red sound level meter adds NR and NC calculations and curves to all the other noise measurement parameters. The result is a meter that is ideal for noise at work assessments as well as indoor noise rating for air conditioning units and similar equipment.

Octave Band Filters

The sound level meter is fitted with real-time octave band filters that measure in all bands at the same time. This makes it ideal for Noise Rating and Noise Criterion calculation.

Octave bands gives a description of the frequency content of the noise measured. The most common use is for selecting the correct hearing protectors, ensuring that they attenuate the sound levels at the frequencies of interest.

Noise Rating and Noise Criterion

The NR and NC values are calculated using the octave band filter measurements. They provide a single number result that takes into account the frequency content, which can be used when assessing equipment such as air conditioning units.

Noise Rating - NR

Commonly used in Europe, the Noise Rating or NR was developed by ISO for determining the acceptable levels for hearing preservation, speech communication and annoyance factor.

Noise Criterion - NC

The Noise Criterion is commonly used in the US for rating indoor noise from equipment such as air conditioning.

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Specifications

Standards	IEC 61672-1:2013 Class 1 or Class 2 IEC 61672-1:2002 Class 1 or Class 2 Group X IEC 60651:2001 Type 1 I or Type 2 I IEC 60804:2000 Type 1 or Type 2 IEC 61252:1993 personal sound exposure meters ANSI S1.4 -1983 (R2006), ANSI S1.43 - 1997 (R2007), ANSI S1.25:1991 IEC 61260:1996 & ANSI S1.11-2004 DIN 45657:2005-03
Measurement Range	20dB to 140dB RMS single range
Noise floor	<18dB(A) Class 1, <21dB(A) Class 2
Frequency weightings	RMS & peak : A, C, & Z measured simultaneously
Frequency bands	10 octave bands, 31.5Hz to 16kHz
Time weightings	Fast, Slow & Impulse measured simultaneously
Memory	4GB, 32GB factory fit option
Time history data rates	10ms, 62.5ms, 125ms, 250ms, 1/2 sec, 1 sec or 2 sec
VoiceTag	Up to 30 seconds of audio notes with each measurement
Integrators	Three simultaneous “virtual” noise meters. Integrator 1 is preset to Q3 for Leq functions. Integrators 2 & 3 can be configured with the following
Exchange rate	3, 4 or 5 dB
Threshold	70dB to 120dB (1 dB steps)
Time weighting	None or Slow
Criterion level	70dB to 120dB (1 dB steps)
Criterion time	1 to 12 hours in 1 hour steps
Integrator quick settings	EU, OSHA HC & OSHA NC, OSHA HC & ACGIH, MSHA HC & MSHA EC, Custom

Size	283mm x 65mm x 30mm
Weight	300gms/10oz
Power	4 x AA alkaline Typically 12 hours with alkaline AA Typically 20 hours with lithium AA non-rechargeable External power: 5v-15v via MultiIO socket via ZL:171 cable (2.1mm socket)
Outputs	USB Type B to PC AC & DC output via ZL:174 (2 x Phono, 1m) Multi-pin IO for external power via ZL:171 cable (2.1mm socket) Bluetooth BLE compatible with Anrdoid and iOS devices
Case	Material: high impact ABS-PC with soft touch back and keypad
Tripod mount	1/4" Whitworth socket
Environmental	Temperature: Operating -10°C to +50°C, storage -20°C to +60°C Humidity: Up to 95% RH non-condensing
Electromagnetic performance	IEC 61672-1:2002, IEC 61672-2:2003, IEC 61672-1:2013 & IEC 61672-2:2013 Except where modified by EN 61000-6-1:2007 & EN 61000-6-1:2007
Language Options	English, French, German, Spanish, Italian
Display functions	LXY, LXYMax, LXYMin, LXeq, LCPeak, LZPeak, LCeq-LAeq, LXE Graph of short LAeq, LCPeak, TWA, dose%, est dose% Measurement run time Real-time octave band filters
Stored functions	LXYMax & time history of LXYMax LAeq, LCeq, LZeq, LCPeak, LZPeak, LAPeak, Lavg, TWA. %dose Time history of LAeq, LCeq, LZeq, LCPeak, LZPeak, LAPeak, LAIeq, Lavg Octave bands models: overall Leq & Leq time history for each band where x=A ,C ,Z; y= F, S, I

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Product shortcut:
https://au.noisemeters.com/p/cr162d/

Tech Support:
https://support.noisemeters.com