

SOUND LEVEL ANALYSER

Model : HD2010

Application

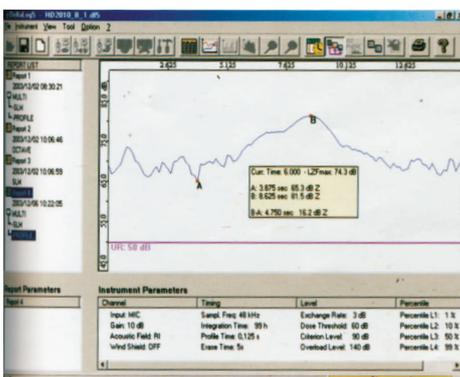
- Workplace noise.
- Acoustic pollution and environmental noise evaluation in general.
- Identification of noise sources either impulsive or with tonal components.
- Evaluation of noise emissions from machines or equipments.
- Insulation efficiency evaluation.
- Acoustics in buildings.
- Noise monitoring, even by remote control via PC.



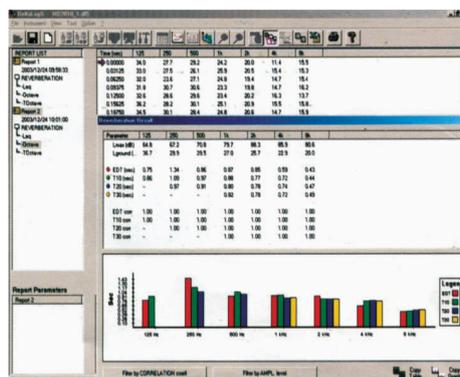
HD2010 is an integrating type 1 portable sound level meter according to IEC 61672, IEC 60651 and IEC 60804 standards for performing either spectral or statistical analysis. Meter as a wide graphic display with 128 X 64 pixels.

Together with the logging of the 3 parameters, the spectral analysis is carried out in real time, by octave bands and optionally by third octave bands. The HD 2010 calculates the spectrum of the sound signal twice a second and integrates it linearly up to 99 hours. Spectra are displayed together with an A, C or Z wideband level.

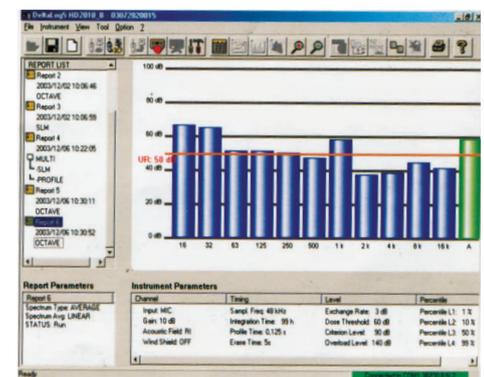
Spectrum of octave band



Reverberation time of octave band



Spectrum of octave band



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ISO 9001:2015 CERTIFIED

TECHNICAL SPECIFICATIONS

Display	: 3 ½ digit LCD Graphic 128 x 64 Condenser
Microphone	: ½ " detachable from preamplifier
Waterproof microphone for outdoor measures	: Optional
Outputs	: AC, DC
Internal Data Storage	: 2 MB + 2 MB (Opt)
Power supply	: Batt. 4 x AA and DC 9V / 200 mA
Measuring dynamics	: 20 dB-140 dB in 5 range of 80 dB o(opt), 2 ranges of 110 dB
Measuring Parameters	: Lp, Lmax, Lmin, Leq, SEL, DoseP, Dose, LN
Frequency weighting	: Simultaneous, RMS A, C, Z (LIN) , peak C, Z
Temporal weighting	: Simultaneous, FAST, SLOW & IMPULSE
Octave band spectral analysis from 16 Hz to 16 kHz	: Parallel Real time (Optional)
Third octave band spectral	: Parallel Real Time 16 HZ to 20 kHz (Optional)
Spectral analysis mode	: Linearity averaged spectrum
Statistical analysis	: Classes of 0,5 dB, 4 selectable percentil levels between L1 & L99
Reverberation time	: Optional
Storage of instantaneous&/or integrated levels	: 3 selectable Parameters
Storage of frequency spectrum	: Octave spectrum or (optional) of 1/3 octaves
Single storage of statistical analysis	: 3 selectable percentile levels
Sound Level profile	: Optional
Spectrum Profiles	: Optional
Interval Integration	: Optional (3 Spectrum integrated parameters at intervals from 1.5 to 99 hrs.)
Back erase function of undesired sound events	: Upto 60 s
Possibility of synchronized audio recording	: yes
Automatic calibration	: yes
Upgradeable firmware	: yes
Interface for portable 24 column printer	: yes
Extension cable for preamplifier	: max 10 m – opt max 100 m
Remote control	: RS232
Compliance & standards	: IEC651 & IEC 804 class 1, IEC 1672 class1, IEC 1260 class 1
Instrument dimensions	: 445 x 100 x 50 mm with preamplifier
Instrument weight	: 740 g with batteries

ORDER CODE

HD2010 Kit 1 : the kit includes HD2010 sound level meter, carrying case, HD2010PN preamplifier, HD9101 calibrator, MK221 microphone, HD2110/CSNM null-modem serial cable, HD SAV windshield, DeltaLog5 program for PC interfacing.

HD2010 kit 2 : the kit includes HD2010 sound level meter, carrying case, HD2010PNE2 preamplifier, HD9102 calibrator, UC-52 microphone, HD2110/CSNM null-modem serial cable, HD SAV windshield, DeltaLog5 program for PC interfacing.

HD2010 kit 3 : sound level meter with weatherproof microphone unit: the kit includes HD2010 sound level meter with option 2 "Data logger", weatherproof microphone unit HD WME950N, HD9101 calibrator, carrying case, HD2110/CSNM null-modem serial cable, DeltaLog5 program for PC interfacing.

Options and spare parts

Option 0 : 2MB memory expansion.

Option 1 "Third Octave" : Real time third octave spectrum from 16Hz up to 20 kHz.

Option 2 "Data Logger" : Automatic recording.

Option 3 "Extended Range" : Measurement dynamic range extended to 110 dB.

Option 4 "Reverberation time" : Reverberation time measurement either using the sound source interruption or the impulsive source techniques.

HD9101 : class 1 calibrator according to IEC60942 : 1988. 1000Hz frequency. 94dB/114dB sound levels.

HD9102 : class 2 calibrator according to IEC60942 : 1988. 1000Hz frequency, 94dB/114dB sound levels.

HD SAV : windshield for 1/2" microphones.

HD SAV2 : windshield with bird spikes for weatherproof microphone unit HD. WME950.

HD SAVP : rain shield for weatherproof microphone unit HD.WME950.

HD2110/CSNM : null-modem serial cable with standard DB9 connector.

HD2110/CSM : serial cable for modem with standard DB25 connector.

HD2110/CSP : serial cable for printer with standard DB9 connector.

HD2010PNE 2 : microphone preamplifier for 1/2" pre-polarized microphones. It is equipped with the CTC function for electric calibration.

HD2010 PN : microphone preamplifier with standard connector for 1/2" microphones. It is equipped with the CTC function for electric calibration.

HD2110P : microphone preamplifier with standard connector for 1/2" microphones. It is equipped with the CTC function for electric calibration and with a cable driver for extensions up to 100m.

HD2010PNW : heated microphone preamplifier for weatherproof microphone unit HD.WME950N with standard connector for 1/2" microphones. It is equipped with the CTC function for electric calibration and with a cable driver for extensions up to 100m.

MK223 : class 1 microphone with coated membrane for free-field measurements type WS2F according to IEC 61094-4 : 1995.

MK221 : class 1 microphone for free-field measurements type WS2F according to IEC 61094-4 : 1995.

MK231 : class 1 microphone for diffuse-field measurements type WS2D according to IEC 61094-4 : 1995.

UC-52 : class 2 microphone for free-field measurements, type WS2F according to IEC 61094-4 : 1995

HD.WME950N : weatherproof microphone unit including : MK223 1/2" condenser microphone, HD2010PNW heated preamplifier, wind and rain shields, bird spike, 5m connecting cable (other lengths on request).

HD.WME950 : weatherproof microphone unit combined with option 3 "Extended Range" including : MK223 1/2" condenser microphone, HD2010PW heated preamplifier, wind and rain shields, bird spike, 5m connecting cable (other lengths on request).

AF209, 60 : DC mains power supply with $V_{in}=230V_{ac}$ and $V_{out} = 9V_{dc}/300mA$.

CPA/3 : 3m extension cable for microphone.

CPA/5 : 5m extension cable for microphone.

CPA/10 : 10m extension cable for microphone.

CPA/20 : 20m extension cable for microphone, combined with option 3 "Extended Range"

CPA/50 : 50m extension cable for microphone, combined with option 3 "Extended Range"

VTRAP : tripod, max height 1550mm.

HD2010/SA : support to fix the preamplifier to tripod.

S' print-BT : portable serial printer.

DeltaLog5Mounitor : program for PC running Windows 95/98/ME/2000/XP for sound monitoring and remote control.

DeltaLog5Ambiente : program for PC running Windows 95/98/ME/2000/XP for analysis and processing of the acquired data.

DeltaLog5Building : program for PC running Windows 95/98/ME/2000/XP for room acoustics evaluation, option 4 is needed.