

2238 MEDIATOR

INTEGRATING SOUND LEVEL METER WITH APPLICATION SOFTWARE BZ 7126, BZ 7125, BZ 7124, BZ 7123

When it comes to investing in a sound level meter, it's important to get an instrument that can keep up with you as your measurement requirements expand. 2238 Mediator™ does just that. Mediator can host a set of dedicated software packages that you can combine in any way you like. As a result you get the functionality you need now, plus the option of adding more later – and your investment is securely protected.

2238 Mediator is the modern interpretation of the classic sound level meter. While providing, high-precision measurements, the many talents of Mediator come fully into play by installing software modules turning the instrument into a dedicated solution for measurement tasks in environmental, occupational and industrial applications. Mediator comes with Basic Sound Level Meter Software installed, and other functions like statistics, logging and frequency analysis are added through easily installed software options – or you get exactly what you need installed from new.

The hardware comes with two independently frequency-weighted detectors. These can be used for RMS/Peak measurements or as two RMS detectors in parallel. All time-weighted parameters (using Fast, Slow and Impulse time constants) can be computed in parallel and stored in the internal memory. All versions can be fully controlled via the serial interface. Effects of sound incidence (frontal or random) can be corrected by a built-in filter, as can the effects of a wind-screen, thus giving you Class 1 precision in all situations.



USES

- Environmental noise:
 - Assessment
 - Monitoring
 - Complaints
- Occupational noise evaluation
- Selection of hearing protection
- Noise reduction
- Product quality control
- General purpose Class 1 sound measurements

BZ 7126 Basic

All instruments come with Basic Sound Level Meter software BZ 7126 installed. This makes the unit a modern precision integrating sound level meter with simultaneous RMS and Peak measurements, ideal for noise measurements at the workplace and for level checks in any situation. Three additional standard software packages can be ordered factory-installed or they can be ordered separately at a later date for an instrument upgrade (the software is easily downloaded from any standard PC).

BZ 7125 Enhanced

Enhanced Sound Level Meter Software BZ 7125 adds statistics, back-erase and periodic reports, plus the choice between independently frequency-weighted RMS/RMS or RMS/Peak measurements. This is especially valuable for assessments of environmental noise.

BZ 7124 Logging

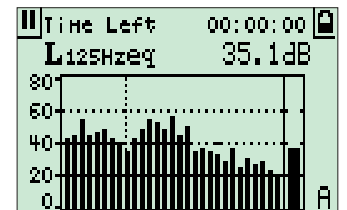
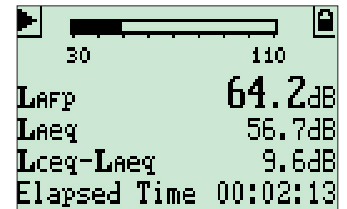
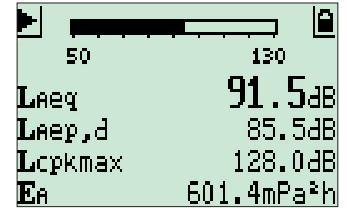
Logging Sound Level Meter Software BZ 7124 allows free selection of up to 12 parameters to log at intervals from 1 second to 1 hour (including two external DC values). Alternatively, you can log the L_{eq} plus two external values at 100 ms intervals. Results can be logged to a file in Mediator or to the interface. This allows time histories for use in environmental noise applications as well as workplace noise.

BZ 7123 Frequency Analysis

Frequency Analysis Software BZ 7123 provides automatic scans of the 1/3- and 1/6-octave filter bands. Time/accuracy optimised dwell times are available as well as the option of averaging up to 99 spectra.

Install All Four Software Modules

You can install all four 2238 Mediator software packages. Choose the one to suit your current measurements and start measuring. If your application changes, just switch to a different software package – there is no need to load it into the instrument since it is already resident in the internal memory.



BRIEF SPECIFICATIONS FOR 2238 PLATFORM

Standards

IEC/ANSI/ISO standards:
See table on page 37

Weight and Dimensions

460 g (1 lb. 2 oz) (with batteries),
257 × 97 × 41 mm
(10.1 × 3.8 × 1.6")

Batteries

Four 1.5 V LR6/AA alkaline cells
Lifetime (at room temperature):
Typically > 10 h (with filter set selected typically > 7 h)

Language

Each instrument is loaded with English, German, French, Italian and Spanish text. You can select one of these languages at any time

External DC Power Supply

Voltage: Regulated 7 to 15 V
Power: Approximately 150 mA at 7 V (approximately 210 mA with filter set selected)

2238 MEDIATOR SOUND LEVEL METER

APPLICATION SOFTWARE – BRIEF SPECIFICATIONS

Specifications/Tool	2238 Software	BZ 7126 Basic SLM	BZ 7125 Enhanced SLM	BZ 7124 Logging SLM	BZ 7123 Frequency Analysis
IEC/ANSI/ISO standards	See table on page 37				
Dynamic / Linearity Range	80 dB	80 dB	80 dB	80 dB	80 dB
Inherent Noise Level (A-weighted)	17.1 dB	17.1 dB	17.1 dB	17.1 dB	3 dB at 1 kHz (1/3-oct.)
Serial 1/1-octave Analysis					31.5 Hz–8 kHz
Serial 1/3-octave Analysis					20 Hz–12.5 kHz
Frequency weighting: A, C, Linear	A, C or L	Two in parallel	Two in parallel	Two in parallel	A, C or L
Time weighting: Fast, Slow, Impulse	F, S or I	In Parallel	In Parallel	In Parallel	F, S
Measured Parameters, broad band	$L_p, L_{inst}, L_{eq}, L_{max}, L_{min}, L_{peak}, L_{AE}, L_{EP,d}, Dose\%$	$L_p, L_{inst}, L_{eq}, L_{max}, L_{min}, L_{peak}, L_{AE}, L_{EP,d}, Dose\%, L_{TS}, L_N$	$L_p, L_{inst}, L_{eq}, L_{max}, L_{min}, L_{peak}, L_{TS}, L_N, L_{AE}$	$L_p, L_{inst}, L_{eq}, L_{max}, L_{min}$	
Broadband Statistics		x	x		
$L_{Ceq}-L_{Aeq}, L_{Aeq}-L_{Aeq}, L_{AFT}m^5-L_{Aeq}$		x			
Measured parameters, 1/1- and 1/3 octave bands					L_{eq}, L_{max}, L_{min}
Automatic scan of 1/1- and 1/3-octave bands					x
Time/accuracy optimised dwell times					x
Fixed dwell times, 1 s to 1 h					x
Bar-graph display with cursor read-out					x
Averaging of spectra					x
4 setups can be stored (for each software)	x	x	x	x	x
4 auto-starts up to one month in advance	x	x	x	x	x
Automatic data storage with preset measurement time	x	x	x	x	x
Calibration history, initial and 20 latest calibrations	x	x	x	x	x
Frontal/random and windscreen correction filters	x	x	x	x	x
Criterion level (70 –100 dB), threshold level (0 –100 dB)	x	x			
Measurement sequence, periodic reports		x			
Data Logging				x	
Markers in Profile				x	
Logging of up to 12 parameters, 1 s to 1 h intervals				x	
Logging of L_{eq} and DC inputs, 100 ms interval				x	
PC Sound Recorder Control				x	
Data output to file or interface				x	
Trigger input/output for synchronizing		x	x	x	x
Back-erase		x			x
Measurement Time Resolution	1 s	1 s	100 ms	100 ms	1 s
Timer Control	x	x	x	x	x
RS-232 Interface	x	x	x	x	x
Two DC inputs for external parameters		x	x	x	
Aux-Output (DC-output)	x	x	x	x	x
AC-Output	x	x	x	x	x

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ORDERING INFORMATION

Type 2238-X (for exact order number see table below)

Accessories Included

Type 4188: Prepolarized Free-field 1/2-inch Condenser Microphone

AO 1442: Serial Interface Cable

KE 0323: Shoulder Bag

4 x QB 0013: Alkaline Batteries

UA 1236: Protective Cover

ZC 0030: Microphone Preamplifier

Services Available with Delivery

2238 CAF Accredited Calibration

2238 CAI Accredited Initial Calibration

For models with an installed filter set, order **ZT 0328 CAI** as well

Optional Accessories

Type 4231: Sound Level Calibrator

Type 3592: Outdoor Gear

AO 0560: Microphone Extension Cable (10 m)

AO 0561: Microphone Extension Cable (3 m)

AO 0585: Cable from Type 2238 to Audio Input on a PC

AO 0403: LEMO to BNC Cable (Output/Input Cable)

KE 0325: Carrying Case (with insert for Sound Level Meter, Sound Level Calibrator Type 4231, Portable Printer Type 2322 or Windscreen UA 0237, and Tripod UA 1251)

UA 1404: Outdoor Microphone Kit

UA 1251: Lightweight Tripod

UA 0237: Windscreen (90 mm)

UA 1254: Microphone Cable Holder (for Tripod)

Hardware and New Software

2238 MUF: 1/1- and 1/3-octave band filter set with installation (Upgrade of models 2238 A, B, C and F)

Must be installed at a Brüel & Kjær Service Centre

New software is delivered on disk, and include an installation program that can be installed by the user. A License Certificate and an additional manual are also included. The serial number of the instrument must be stated when ordering new software.

Order Number	BZ 7126 Basic SLM	BZ 7125 Enhanced SLM	BZ 7124 Logging SLM	BZ 7123 Frequency Analysis
2238-A* Mediator	x			
2238-B* Mediator	x	x		
2238-C* Mediator	x	x	x	
2238-D* Mediator	x			x
2238-E Mediator	x	x	x	x
2238-F* Mediator	x		x	
2238-G Mediator	x	x		x
2238-H Mediator	x		x	x 030246

* Add "-F" to include a 1/1- and 1/3-octave band filter set allowing you to select a frequency band as a frequency weighting. Select Types 2238 D, E, G, or H to include automatic frequency analysis with a pre-installed filter set.

Later upgrade with the frequency analysis software BZ 7123 possible for other models with a filter set installed. In addition to the above order numbers, complete systems can be ordered at special prices.