

The Castle GA256 Personal Sound Exposure Meter Technical Data-sheet

Simplicity of use combined with maximum functionality, all in a pocket sized instrument, were key objectives for the development of the Castle GA256 Personal Sound Exposure Meter.

Castle Group are acknowledged experts in noise and vibration measurement with over 30 years experience. When you buy from Castle you buy with confidence.

Pocket Power

A feature packed, pocket instrument that is fully compliant with IEC 61252:2002. This meter gives simultaneous sound exposure (Lex) and maximum peak (Pmax) measurements, an essential feature for assessments to the Noise at Work Regulations 1989. It has a high-specification measurement microphone and is cased in tough, crack resistant ABS plastic. Designed to be worn by an employee for a full- or part-shift, the GA256 has an 'unbreakable' pocket clip and a lockable keypad. The results are given in a simple, clear format to give an immediate indication of an employee's daily exposure.

Feature-Packed

Designed for **Industrial Safety Officers** and **Safety Managers** for compliance with the Health and Safety at Work Act; Noise at Work regulation 1989. The Castle GA256 provides all the necessary information you need for completing Noise at Work risk assessments.

- Integrated Sound Exposure Level (Lex) (was Lep'd)
- Projected Lex (8 hour sound exposure)
- DOSE% and Projected DOSE% (8 hours)
- 'A' frequency weighting
- Pmax - maximum peak level
- Simultaneous measurement of Lex, and Pmax
- Elapsed time (running time hrs, min, sec)
- Pa²hr (Lex expressed in Pascals)
- Overload indication
- Battery condition (Life approx. 14 hours)

A Tough Case for all Weathers...

The physical design and construction of the Castle GA256 casing is extremely tough and durable, made from a substantial thickness of ABS, crack resistant plastic, the GA256 will stand up to almost any industrial environment, a very important feature when this unit is out in the workplace.

Simplicity and Power...

Using the meter could not be simpler. The simple operating system uses logical keys to immediately display the information you need. The power of this little wonder means that it can measure simultaneous 'A' weighted levels as well as monitoring the Peak levels. This is a vital feature for many assessment tasks.

Future-Proof...

The built in software for this meter is designed to suit future upgrading for feature enhancements, legislative changes or instrument upgrades. Details are mailed to customers as soon as they become available. With the Castle Pocket meters, you will always be in step with the law and market requirements.



noise



vibration



INVESTOR IN PEOPLE



Castle
advanced sound solutions



Specification

DESCRIPTION

GA256 Personal Sound Exposure Meter

APPLICABLE STANDARDS

IEC 61252-1:2002 (Personal Sound Exposure Meters)

MICROPHONE AND PREAMPLIFIER

Type 2 Pre-Polarised ½" (13.2 mm) Electret Free-Field, Electret Condenser Microphone: 20Hz – 8KHz ± 2dB

–32 dB ± 3 dB re 1V/Pa

Custom pre-amplifier design

Typical actuator to free-field correction factor (based on 500Hz=0) is shown below

20Hz: 0	1kHz: 0
25Hz: 0	1.25kHz: +0.1
31.5Hz: 0	1.6kHz: +0.3
40Hz: 0	2kHz: +0.4
50Hz: 0	2.5kHz: +0.5
63Hz: 0	3.15kHz: +0.8
80Hz: 0	4kHz: +1.2
500Hz: 0	5kHz: +1.6
630Hz: 0	6.3kHz: +2.3
800Hz: 0	8kHz: +3.6

DISPLAY

Back-lit LCD panel (8x1 Characters)
Alpha-Numeric display for measured results

LEVEL RANGE

Measuring Range:
75-140

Linear operating range (IEC61672-1):
67dB

NOISE FLOOR

Typical 'A' Weighting <32 dB(A) rms.

FREQUENCY WEIGHTING

'A' to IEC 61672-1:2002 and IEC 60651:2001,

FREQUENCY RANGE

12.5 Hz - 8 kHz (including microphone)

1 Hz - 20 kHz (electrical characteristics)

INSTRUMENT RESPONSE

Simultaneous Peak and rms

MEASUREMENT PARAMETERS

Lex (Sound Exposure Level), Plex (Projected Lex over 8 hours), DOSE% (Lex compared to criterion level as %) PDOSE% (Projected DOSE% over 8 hours, DOHR (DOSE% per hour), Pa²h (Lex displayed in Pascal units), Dose per hour, Pmax (Max. Peak Level)
Other Displays: Elapsed time, Overload, Battery Life

CRITERION LEVEL

The level at which the 8 hour DOSE% = 100%
User selectable between: 80dB, 85dB and 90dB

EXCHANGE RATE

The rate at which the DOSE% doubles.
User selectable between: 3dB and 5dB

CALIBRATION

Software controlled 91.0 to 120.0 dB (1kHz) in 0.1 dB steps

PROCESSING

A to D Converter: 12-bit, 325kHz sampling
Controller: 8MHz, micro-controller

POWER REQUIREMENTS

Batteries: 1 x 6LR61 (size PP3), Life: >14 hours (alkaline batteries, continuous operation).

SIZE AND WEIGHT

Dimensions: 60mm (width) x 30mm (depth excluding pocket clip) x 135mm (height)
Microphone cable length: 800mm (including rubber sleeve and microphone)
Weight: 200gms (without battery)

MANUALS

Multi-language manuals*: French, German, Spanish and Italian.

ACCESSORIES

GA601 Single Level Calibrator:

KA010 Kit Case for GA256, GA601 and Accessories

Note: Items marked * will be available as upgrades in the near future.

In the interest of continued developments, Castle reserve the right to change the product specifications without notice