

Castle Sound Level Meters

Specification for Castle 6224 (Class 1)

Measuring noise really does not have to be complicated, even for the novice, and the Castle 6224 (Class 1) Integrating sound level meter is designed with this in mind.

The meter is ideally equipped for carrying out Noise at Work Risk Assessments, as well as the majority of environmental survey work. The range of parameters measured, the wide measuring capability of the meter and the ease of use, mean that this equipment is suitable for anything from aircraft noise to lawnmower design, and from construction sites to laboratories.

Noise at Work Measurements

The Castle 6224 provides the essential measurements required by the Control of Noise at Work Regulations 2006, including Leq (equivalent continuous level) in 'A' and 'C' weightings, and Cpeak. The meter can data-log any of these parameters in up to 10,000 data-memories, making it more than powerful enough for the task in hand.

Environmental Monitoring

Also ideally suited to environmental monitoring, the Castle 6224 can measure 5 selectable percentile values and sound exposure (LE). Most environmental measurements require Leq and L90 plus possibly one or two other measurements. These can all be measured simultaneously with the Castle 6224 and data-logged into its 10,000 data-point memory.

Multi-purpose Measurement

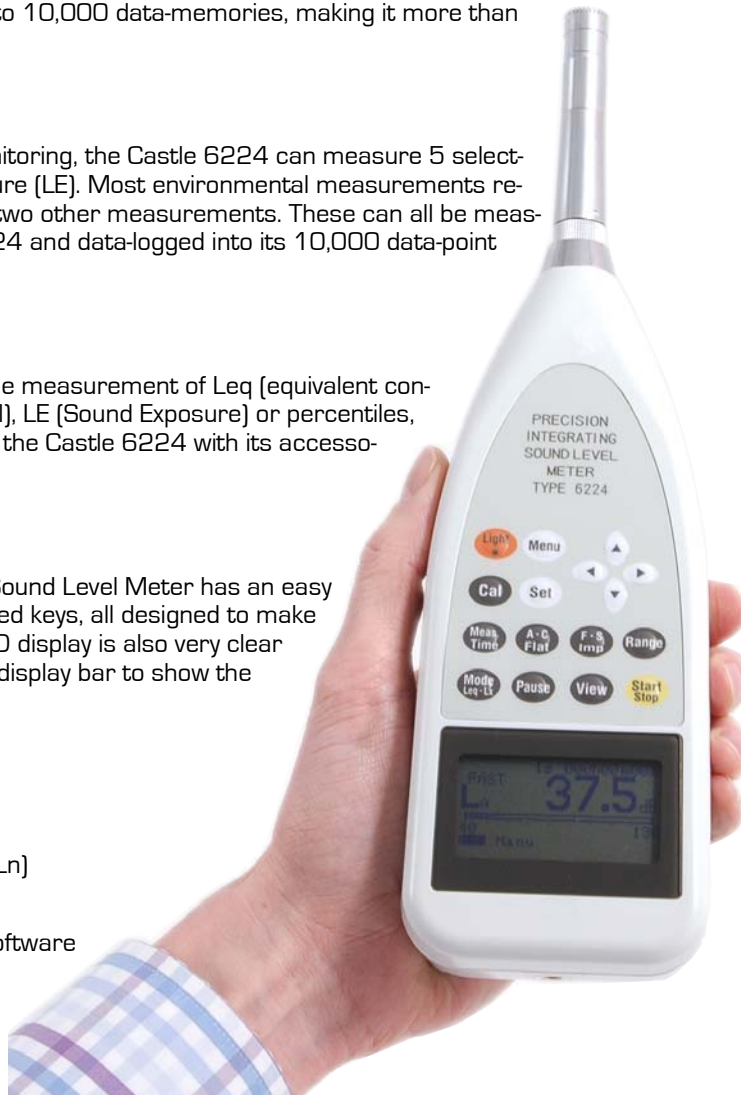
Many sound measuring tasks require the measurement of Leq (equivalent continuous level), Lmax (Maximum rms level), LE (Sound Exposure) or percentiles, and all of these can be completed using the Castle 6224 with its accessories.

Operation

The Castle 6224 (Class 1) Integrating Sound Level Meter has an easy to follow menu system and clearly marked keys, all designed to make the meter simple-to-use. The back-lit LCD display is also very clear with large figures and a quasi-analogue display bar to show the changes in sound level as they happen.

Features

- Equivalent continuous level (Leq)
- 5 user selectable percentile values (Ln)
- Wide Linearity range of 90dB
- RS232 for data output to optional software
- Memory storage for 10,000 data-points
- Back-lit LCD display



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Manufacture, hire and service of sound level and vibration instruments.



Specifications for Castle 6224

Model	Castle 6224
Description	Precision Integrating Sound Level Meter
Standards	Conforms with IEC 61672-1:2002, Class 1, IEC 60651:1979 and IEC 60804:2000 Type 1
Measuring ranges	27 - 130dB(A), 38 - 130dB(C), 41 - 130dB(F)
Frequency range	20Hz - 20kHz
Microphone	7146N 1/2" electret condenser microphone
Time weighting	FAST, SLOW, IMPULSE
Peak range	50 - 133dB(A), 60 - 133dB(C), 70 - 133dB(F)
Level range	Six ranges: 20 - 80dB, 20 - 90dB, 20 - 100dB, 20 - 110dB, 30 - 120dB, 40 - 130dB
Linearity range	90dB
Frequency weighting	A, C, FLAT
Measurement items	Lp, LMH, Leq, LAe, Lmax, Lmin, Lx (L5, L10, L50, L90, L95), Peak.
Measurement time	1s, 3s, 5s, 10s, 1min, 5min, 10min, 15min, 30min, 1h, 8h, 24h manual (max: 199h 59m 59s)
Sampling interval	20.8 μ s (Leq), 10ms (Lmax, Lmin)
Lx Sampling interval	100ms
Display	LCD with backlight (128 \times 64 dots)
Digital display	Four line, resolution 0.1 dB (display update 1s)
Bar display	Display update: 0.1s
Warning	Over range: +3dB from upper limited scale Under range: -0.6dB from lower limited scale
Battery display	Four level display of battery condition
Built-in memory	Approximately 10, 000 samples: 1, 000 sets of results
Built-in calendar	Year/month/day/ hour : minute : second
Pause	Pause and a function that deletes preceding 3 or 5 sec. data
Calibration signal	Internal generator (1 kHz sine wave)
AC output	1Vrms (FS), output impedance: 600 Ω , load impedance > 10k Ω
DC output	2.5V (FS), 0.25V/10dB, output impedance: 50 Ω , load impedance > 10k Ω
RS232 interface	RS-232C (asynchronous) data bits : 8 bits stop bit : 1 bit parity : none baud rate : 4800, 9600, 19200 bps
Power supply	Four 1.5V size-AA batteries or AC adapter
Battery life	Alkaline batteries: 20 hours continuous operation. Use of LCD backlight will shorten battery life (approximately 1/3).
Operating temperature	-10 to +50 $^{\circ}$ C
Humidity	30% to 90% (without condensation)
Size	85(W) \times 287(H) \times 46(D) mm
Weight	370g (including batteries)