CASELLA
CEL

CEL-450 and CEL-490

A sound investment for now and the future.

INTRODUCTION

The advanced CEL-450/490 series is a comprehensive instrument family for a wide range of applications. It has been designed for convenience and ease of use. From simple noise at work surveys to full environmental audits, the CEL-400 can do it all simply and quickly.

There is a wide selection of models available with Class 1 or Class 2 accuracy, so you can purchase an instrument tailored to suit your requirement.

KEY FEATURES:

- Single 140dB measurement range, no need for range selection.
- Compliant with latest IEC 61672 standard.
- Available in both Class 1 and Class 2 accuracy grades.
- Real-time frequency analysis in octave and one-third octave.
- Easy to use menu with user definable configurations.
- Choice of broadband only, octave or one-third octave instruments.
- Firmware and software upgradeable.
- Clear, backlit screen.
- Large 2Mb memory capable of storing over 800000 data points.
- Comprehensive software package with graphical reporting, graphing & analysis functions.
- Fast storage of noise time history down to 10ms.

Kit case for remote and unattended monitoring.

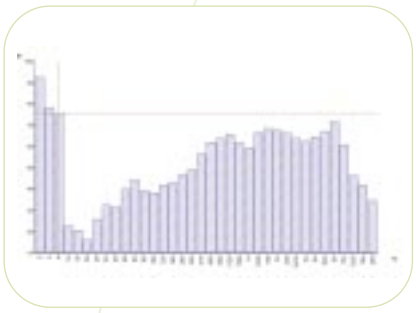
APPLICATIONS:

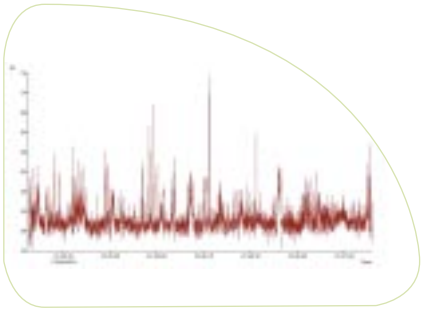
Noise at work:

- General workplace noise surveys
- Automatic calculation of noise exposure
- Measurements for the selection of hearing protection
- Machinery noise tests
- Time history of noise levels

INSTRUMENT SELECTION:

There are two main products within the CEL-400 series range, the CEL-450 and CEL-490. The primary role of the CEL-450 model is an occupational hygiene instrument. It can be purchased as a broadband model which automatically calculates noise exposure (Lepd) and can be used for workplace noise assessments. For the selection of the correct hearing protection the CEL-450 features the calculation of LCeq-LAeq for use in the HML method, or a more detailed assessment of the frequencies of noise an employee is exposed to can be made with the octave band (B) model. For product development the 1/3 octave version will measure the more 'tonal' components of noise, giving better assessment of noise emissions and allowing noise reduction techniques to be applied more effectively. In frequency analysis modes the instrument measures all the bands simultaneously in real-time, making for fast and accurate results. The CEL-450 will also measure time history profiles of noise, that show how the noise climate has changed over time. The stored results can then be downloaded, and displayed on the dB23 software as illustrated. The main role of the CEL-490 is as an environmental instrument. This model adds the statistical measurement parameters (Ln%), required for environmental legislation and these can be calculated in real-time octave modes on the relevant versions. The CEL-490 also adds more comprehensive logging functions in the form of period time intervals selectable from 10 milliseconds to 1 hour as well as time history profiling. Automatic start/stop timers are standard functions on the CEL-490 and with an outdoor protection system the CEL-490 can be used for unattended monitoring. Modem kits are also available for remote downloading of data.





Environmental Noise:

- Transportation noise studies
- Impact assessments
- Boundary noise monitoring
- Transient noise events
- Short or long term unattended monitoring
- Remote downloading

Industrial Noise:

- Product development
- Emissions assessments
- Quality control
- Noise reduction
- Sound power determination

PRODUCT INFORMATION TABLE

	CEL-450	CEL-490
Timer facility	Duration timer (1min to 24 hours)	Duration timer (1min to 24 hours) and Automatic on/off Timers (7 sets, up to 1 month in advance)
Profile Time History	4 broadband parameters 10ms to 30min intervals	4 broadband parameters 10ms to 30min intervals
Period Time History	None	All parameters selectable (including octave and 1/3 octave), 10ms to 1hr intervals
Broadband Measured Parameters	L, Leq, Lav, Lmax, Lmin, Lpk, Ltm3, Ltm5, Lepd, LCeq-LAeq, TWA, Lae	L, Leq, Lav, Lmax, Lmin, Lpk, Ltm3, Ltm5, Lepd, LCeq-LAeq, TWA, Lae, 5x Ln% (user selectable 0.1-99.9%)
Octave and 1/3 octave measured parameters	L, Leq, Lmax, Lmin, and Lpk	L, Leq, Lmax, Lmin, Lpk, 5x Ln% (user selectable 0.1-99.9%)
Broadband	**CEL-450.A**	**CEL-490.A**
Broadband plus octaves	**CEL-450.B**	**CEL-490.B**
Broadband plus octaves and 1/3 octaves	**CEL-450.C**	**CEL-490.C**

SPECIFICATION

Applicable Standards
IEC 61672: 2002
ANSI S1.4: (R1997)
IEC 60651: (1994), IEC 60804: (2000)
Filters IEC 61260: Class 0, ANSI S1.43: (1996)

Time weightings: Fast, Slow, Impulse
Frequency weighting: A, C and Z (un-weighted)
Amplitude weighting (Q): 3, plus one from 4,5,6 or none
Measurement range: Single measurement range 0-140dB RMS (143.3dB peak)

Noise Floor: 18.5dB(A) Class 1, 25dB(A) Class 2
Frequency bands: 11 octave bands 16Hz – 16KHz (B & C models only)
33 octave bands 12.5Hz – 20KHz (C models only)

Memory
2Mb storing 999 measurement runs
880,000 broadband results
40,000 octave band spectra
13,300 one third octave spectra

Physical
Batteries: 4x AA alkaline
Battery life: Typically 15 hours
External power:12V DC at150mA
Tripod mounting: 1/4" Whitworth socket.

ORDERING INFORMATION

For selection of Class 1 or Class 2 accuracy of instrument please add the appropriate number to the instrument parts above (e.g. CEL-450.A1). Standard kits are available to add a kit case, windshield, download cable, dB23 software, CEL-110 calibrator and operating instructions. For a kit simply add /K1 to the part number above (e.g. CEL-450.A1/K1).

UKAS calibration is available for applications where a traceable certificate of calibration is required. If you would like any advice on which instrument best suits your application, please contact your local Casella sales office.

CASELLA CEL
Regent House,
Wolseley Road,
Kempston,
Bedford,
MK42 7JY,
U.K.
Phone: +44 (0) 1234 844 100
Fax: +44 (0) 1234 841 490
E-mail: info@casellacel.com
Web: www.casellacel.com

CASELLA USA
17 Old Nashua Road,
15, Amherst,
NH 03031,
U.S.A.
Toll Free: +1 (800) 366 2966
Fax: +1 (603) 672 8053
E-mail: info@casellaUSA.com
Web: www.casellaUSA.com

Distributed By