SC-15c

Integrating averaging sound level meter

Applications

- **Leisure and community noise evaluation**
- **Hearing protection of workers (2003/10/EC Directive)**
- **Vehicle and traffic noise**

User friendly

- **All parameters are measured simultaneously: L_S, L_F, L_{eq}, L_{Cpk}, L_{10}, L_{50}, L_{90}, maximum values and duration of the measurement**
- **Measure range 30 – 140 dB**
- **It has a single range (no range change)**

Features

- **Integrating averaging Sound Level Meter type 2 compliant with EN 60651 and EN 60804**
- **A and C frequency weightings**
- **It allows you to store the measurement results into the SLM's internal memory and register all parameters second by second up to 3 hours**
- **Software application to retrieve all measured parameters and memories to a PC computer**

The **SC-15c** is a type 2 integrating averaging sound level meter that has many features and it is very user-friendly. It has a single range, and so it is not necessary to pre-set the measurement range in terms of the signal level to be measured. All the functions are processed simultaneously but only the value of the selected function is displayed. When the measurement is finished all the functions can be consulted, along with their maximum values.

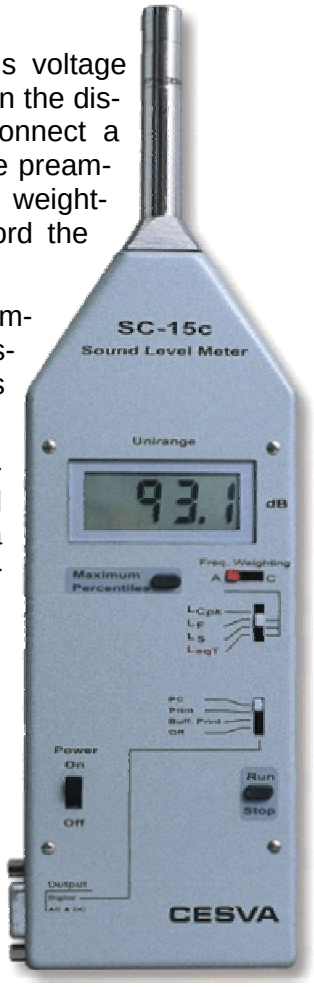
It is possible to connect a printer to register the values of the selected function. Printing can be carried out in real time or at the end of the measurement, so that the noise of the printer does not interfere with the measurement. At the end of each printout, there is a summary with all the functions and a statistical analysis.

The **SC-15c** also can be connected to a computer. A programme for PC or compatible is supplied with the **SC-15c**. This programme allows communication between the PC and the **SC-15c**, graphic and numeric presentations, storing results on the hard disk of the computer, statistical analysis, etc.

The DC output supplies a continuous voltage that is equivalent to the value shown on the display. This output can be used to connect a graphic recorder. The AC output is the preamplifier's output and has no frequency weighting. This output can be used to record the signal on DAT or magnetic tape.

Once the measurement has been completed, the length of time that the measurement has lasted and the percentiles L_{10}, L_{50} and L_{90} can be consulted.

The CESVA **SC-15c** Sound Level Meter (SLM) RECORDS the measured data and stores the final results of a measurement (MEMORIES). A RECORDING stores all data that the SLM measures while a measurement is done. This data is recorded every second while the measurement lasts. Nevertheless, in a MEMORY, only the final result of a measurement is stored, once it is finished. All data stored in the internal memory of the SLM (recordings and memories) only can be retrieved by means of the PC Software designed for the **SC-15c** SLM.



SC-15c

Technical specifications

Standards

It complies with the following standards:

- EN 60651:94 (A1:94) (A2 :01) type 2, EN 60804:00 type 2
- ANSI S1.4:83 (A1:01) type 2, ANSI S1.43:97(A2:02) type 2
- CE mark. It complies with the low voltage directive 73/23/EEC and the directive EMC 89/336/EEC amended by 93/68/EEC.
- Swiss approval certificate (OFMET) nº S-60 according type 2

Measurement range

- **L_F, L_S** and **L_{eqT}**

Limits:	0 - 137	dBA
Upper limit for crest factor 3:	130	dBA
Primary range:	50 -120	dBA

- **L_{Cpk}**

Limits:	70 -140	dBC

Peak detector Lpeak

Onset time constant	< 75	µs

Electrical noise

	A	C
• Electrical noise:		
Maximum	10,1	9,4
Typical	9,5	9,0
• Total noise (electrical + thermal microphone)		
Maximum	26,7	32,7
Typical	25,5	31,0

Frequency weighting

It complies with the standard EN 60651:1994(A1:1994) type 2
A and C weightings: type 2.

AC output

Frequency weighting: linear
Sensitivity at 137 dB and 1 kHz: 3,8 Vrms (typical)
Upper limit: 4,5 Vrms (typical)
Output impedance: 300 Ω

DC output

Sensitivity: 10 mV/dB
Upper limit: 1,4 V (140 dB)
Output impedance: 100 Ω
Maximum error: ±4 mV (±0,4 dB with regard to the display value)

Serial transmission

• 9 pins sub-D connector		
• Speed:	9600	bauds
• Data bits:	8	bits
• Stop bits:	1	bit
• Parity:	No	

Microphone

• Model CESVA **P-05**: Prepolarized condenser microphone with built-in preamplifier. Equivalent impedance: 3000 Ω. Nominal sensitivity:16 mV/Pa ± 0,5 dB under reference conditions.

CESVA instruments, s.l. Villar, 20 - 08041 Barcelona (Spain) - Tel. (34) 934.335.240 - Fax. (34) 933.479.310 - e-mail: info@cesva.com - www.cesva.com

SC-15c

Technical specifications and accessories

Time weighting

L_F and L_S according to tolerances for type 2

Parameters

Functions: L_F, L_S, L_{Cpk} and L_{eqT}
Resolution: 0,1 dB

Memory

Storage Capacity:

• Memories:	1.999	registers
• Recordings:	190	minutes

Influence of humidity

Operation range:	30 a 90	%
Maximum error at 30%<H.R.<90%, 40 ºC and 1 kHz:	0,5	dB
Storage without batteries:	< 93	%

Effects of magnetic fields

In an 80 A/m magnetic field (1 oersted) at 50 Hz, a reading of less than 30 dB(A) is given.

Influence of temperature

Operation range:	-10 to +50	ºC
Maximum error (-10 to +50ºC):	0,5	dB
Storage without batteries:	-20 to +60	ºC

Effects of vibrations

For frequencies between 20 and 1000 Hz and 1 m/s^2: < 75 dB(A)

Battery

One 9-volt battery type 6LF22
Battery life with continued use:

• Alkaline:	5 h
• Lithium:	15 h

Dimensions and weight

Dimensions:	290x82x19	mm
Weight with battery:	600	g
Weight without battery:	545	g

Supplied accessories

FNS-020	Case
PVM-05	Windscreen
SFT-020	Program for PC
CNR-232	Connecting cable for PC

9-volt battery

Optional accessories

CB006	Class 1 acoustic calibrator
CB004	Class 2 acoustic calibrator
TR-40	Tripod. Maximum height 1.1 meters
TR050	Tripod. Maximum height 1.55 meters
ML-50	Transporting briefcase (49x36x14 cm)
ML-10	Transporting briefcase (30x38x8 cm)
A-200	Mains feed 220 V to 9 V
A-100	Battery feed 12 V to 9 V
CN-USB	Serial-USB converter
CNR-ITV	Microphone extension cable 10 m
TR002	Tripod support for cable CNR-ITV
IM003	Serial printer of 40 columns

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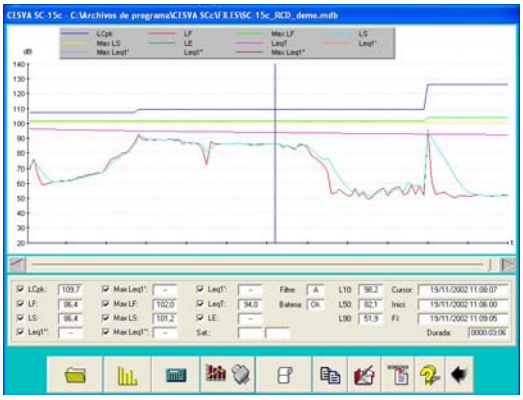
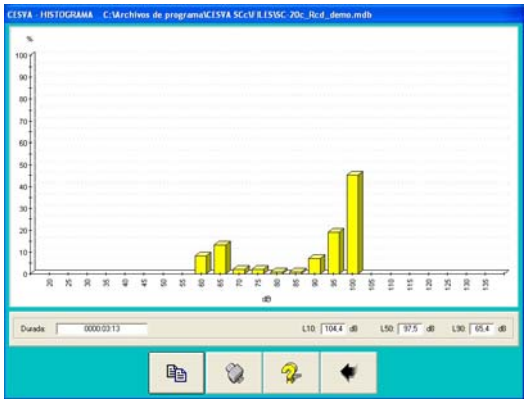
Software

Main menu



Graphical display of data

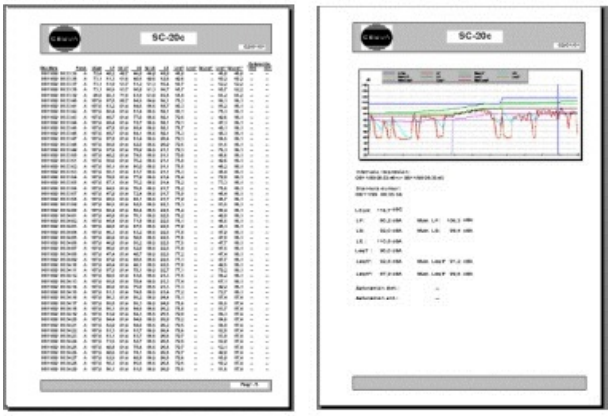


Statistical display of data

The **SC-15c** is supplied with free software that allows you to display on the PC screen, in real time, all the data measured by the SLM and to retrieve the data recorded in its memory.

With this software it is possible to generate complete measurement reports, visualise all the data numerically, graphically and statistically, and carry out advanced calculations of acoustic parameters.

This software application runs on PC with Windows 9x/Me/2000/NT/XP/VISTA.



Print reports

The characteristics, technical specifications and accessories may vary without prior notice

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