Integrating Averaging Sound Level Meter SC-15c

- **Integrating averaging Sound Level Meter type 2 meeting EN 60651 and EN 60804.**
- **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 – 137 dBA**
- **It has a single range (No range change).**
- **A and C Frequency weightings.**
- **It allows you to store the measurement results into 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.**

GENERAL DESCRIPTION

The **SC-15c** is a type 2 integrating averaging sound level meter that includes many features and it is very easy to operate. 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, together 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 program for PC or compatible is supplied with the SC-15c. This program allows the communication with the SC-15c, graphic and numeric presentations, to store 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. These data are 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.

02 I.111 99007

Technical Specifications
Integrating Averaging Sound Level Meter SC-15c

STANDARDS

It complies with the following standards:

- EN 60651:94 (A1:94) (A2 :01) type 2, EN 60804:00 type 2
- IEC 60651:01 type 2, IEC 60804:00 type2
- ANSI S1.4:83 (A1 :85) type 2, ANSI S1.43:97 type 2
- Mark CE. It complies with the low voltage directive 73/23/EEC and the EMC directive 89/336/EEC amended by 93/68/EEC.
- Swiss approval certificate (OFMET) nº S-62 according type 2.

MEASURE RANGE

L_F, L_S, L_E, L_{eqT}
Limits: 0 – 137 dBA
Upper limit for crest factor 3: 130 dBA
L_{Cpk}
Limits: 70 – 140 dBC

NOISE

Electric noise
Freq. Weighting A: 9.5 dB (typical)
Freq. Weighting C: 9.0 dB (typical)
Electric noise + thermic of the microphone
Freq. Weighting A: *26.5* dB (typical)
Freq. Weighting C: *32.5* dB (typical)

FREQUENCY WEIGHTING

It complies with the standard EN 60651:1994 (A1:1994) type 2
Frequency weighting A: type 2.
Frequency weighting C: 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 pin 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 (typical)
Nominal sensitivity: 16 mV/Pa under the reference conditions

TIME WEIGHTING

L_F, L_S, according to tolerances for Type 2.

PARAMETERS

Functions: L_F, L_S, L_{Cpk}, L_{eqT}
Resolution: 0.1 dB

MEMORY

Storage capacity:
Memories: 1.999 registers
Recordings: 190 minutes

INFLUENCE OF TEMPERATURE

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

INFLUENCE OF HUMIDITY

Operation range: 30 to 90 %
Maximum error at 30%<R.H.<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.

EFFECTS OF VIBRATIONS

For frequencies between 20 and 1000 Hz and 1 m/s²: <75 dB(A)

BATTERY

One 9-volt battery type 6LF22
Battery life with continued use:
Alkaline: 5 hours
Lithium: 15 hours

DIMENSIONS and WEIGHT

290 x 82 x 19 mm
With battery 600 g
Without battery 545 g

CESVA instruments, s.l. reserves the right to change specifications and accessories without notice.

SUPPLIED ACCESSORIES

- Case **FNS020**
- Windscreen **PVM05**
- 9-volt battery
- Program for PC **SFT020**
- Connecting cable for PC **CNRS232**
- Printer adapter **A232P**

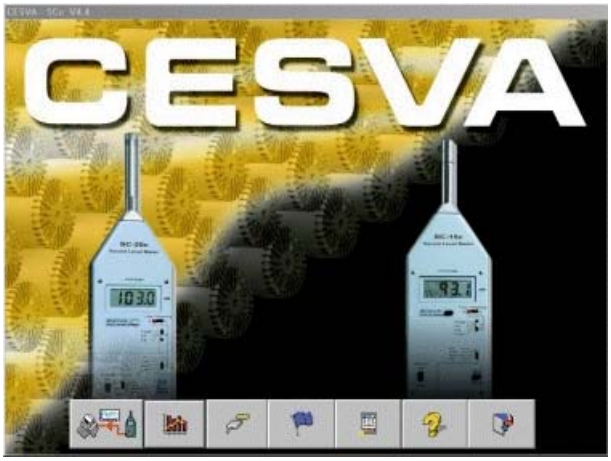
OPTIONAL ACCESSORIES

CB-5	Sound Calibrator
TR-40	Tripod
ML-50	Transporting briefcase (49 x 36 x 14 cm)
ML-10	Transporting briefcase (30 x 38 x 8 cm)
A-200	Mains feed 220V to 9 V
A-100	Battery feed 12 V to 9 V
CNR-ITV	Microphone extension cable 10 m
CN-USB	Serial_USB converter

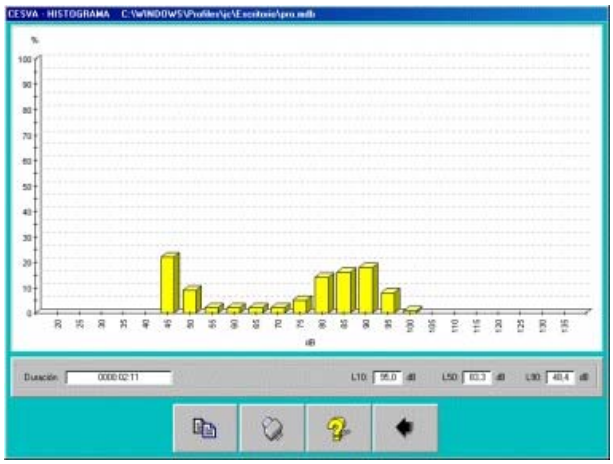
CESVA instruments, s.l.
Villar, 20 - 08041 Barcelona (Spain)
Tel. (34) 934 335 240 - Fax. (34) 933 479 310
e-mail: info@cesva **web:** www.cesva.com

Software Windows® 9x/Me/2000/NT/XP
Integrating Averaging Sound Level Meter SC-15c

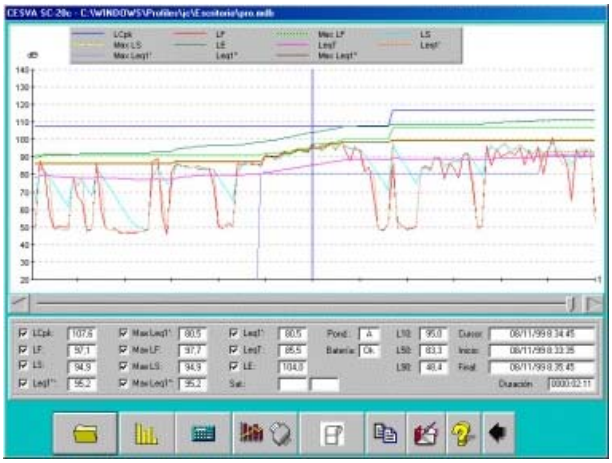
The **SC-15c** is supplied with free software that allows you to visualise on the PC screen and in real time all the data measured by the SLM and to retrieve the data recorded in its memory. With this software it is possible to generate complete measurement reports, visualise all the data numerically, graphically and statistically, and carry out advanced calculations of acoustic parameters.



Main menu



Statistics



Acquisition and memories

Partial calculations

Print reports

CESVA instruments, s.l.

Villar, 20 - 08041 Barcelona (Spain)
Tel. (34) 934 335 240 - Fax. (34) 933 479 310

e-mail: info@cesva **web:** www.cesva.com