

## RECORDER LIMITER SOUND LEVEL METER LRS-03

- Frequency-Filter Sound Pressure Level limiter based on the measurement of SPL
- Control by emission Sound Pressure Level
- 40 dB correction range (attenuation)
- It registers acoustical parameters like  $L_{Aeq}$ ,  $L_{Aeq1'max}$ ,  $L_{Aeq1'min}$ ,  $L_{Fmax}$ ,  $L_{Smax}$  and percentiles (interval and sessions)
- It registers all the occurred incidents: Disconnection from the mains, Sensor tampering
- It can be completely sealed
- Adaptable to any kind of regulation
- Internal Battery
- Data retrieval by LCD Screen, printer, serial connection with PC and modem.
- Massive Data Storage for periods longer than 1 month

The limiter recorder LRS-03 measures records and limits the sound pressure level at the site where it is installed. The **LRS-03** is inserted into the reproduction chain, between the mixing desk and the crossover, intervening in the entire sound chain.

The LRS-03 corrects the signal that feeds the amplifier so that the sound pressure level measured by the sensor doesn't exceed the programmed maximum level. The LRS-03 automatically corrects excesses of the sound signal level up to 40 dB. If this 40 dB is exceeded, then the LRS-03 penalises with an attenuation of 60 dB during a programmable period of time.

The LRS-03 is also equipped with a recording function that allows the user to store information concerning measured sound levels in the establishment and concerning incidents that occur (tampering with the equipment) during a minimum period of one month. The LRS-03 allows you to programme the periodicity of information storage (from 2 min. to 1 h. in 1-min. steps). The information for each session is also stored, allowing you to demonstrate the sound levels generated by your activity to the authorities. The stored information can be consulted in different ways: displaying it on the LCD screen or printing it by connecting a parallel printer to the corresponding LRS-03's output port. The information can also be transferred to a PC via a serial port or modem.

The LRS-03 allows the programming of different timetables for daytime and for nighttime evaluation and the maximum allowed levels for each timetable. The LRS-03 also allows you to enter different working timetables (session timetables) for each day of the week and can fit any kind of establishment.

The LRS-03 has an internal battery that allows it to keep on working when a power disconnection occurs. When the LRS-03 works with the battery, it attenuates 60 dB. The battery lasts two days. Before the battery runs flat, the LRS-03 records the date and hour when this happens. It keeps a database with the last 10 times the battery has gone flat. When the battery is flat, the LRS-03 continues attenuating 60 dB until the LRS-03 is connected again to the mains. All the information is kept in the memory and will not be lost. Once the LRS-03 is connected again to the mains it continues running normally.

An illuminated external display can be connected to the LRS-03. This allows you to consult the measured sound pressure level and the attenuation applied by the LRS-03 in real time from another point in the room.



# Technical Specifications

## Recorder Limiter Sound Level Meter LRS-03

### INPUTS AND OUTPUTS

#### Audio Inputs and Outputs

**Asymmetrical E/S Connectors (non-balanced):**  
RCA

**Symmetrical E/S Connectors (balanced):**

Input: XLR female  
Output: XLR male

**Input impedance:**  
100 k $\Omega$

**Output impedance:**  
100  $\Omega$

**Minimum output charge:**  
47 k $\Omega$

**Total harmonic distortion (THD):**  
< 80 dB

**Absolute maximum input level:**  
 $\pm 18$  V

**Maximum input level without distortion:**  
 $\pm 14$  V

**Frequency response ( $\pm 0.5$  dB)**  
20 to 20,000 Hz

**Typical noise (20 – 20,000 Hz):**  
Balanced: 180 $\mu$ V  
Non-Balanced: 130 $\mu$ V

#### DL-3E external display connection output

XLR with 3 contacts (male)

#### Modem connection output

DB-9 plug (male)

#### RS-232 serial connection output

DB-9 socket (female)

#### Connection with parallel printer output

DB-25 socket (female)

### ATTENUATOR

**Range of attenuation:**  
0 – 40 dB

**Penalisation attenuation:**  
60 dB

**Typical attenuation error:**  
0 dB

**Maximum attenuation error (0 - 40 dB):**  
1 dB

### SENSOR

**Measurement range:**  
60 – 120 dB

**Frequency range:**  
20 – 20,000 Hz

### DISPLAY

#### LCD Display

Backlit with 20 x 4 characters

### External Display (Optional)

DL-3E external LEDs display: indicates, in real time, the sound pressure level in dBA and the LRS-03 attenuation in dB. The display updates every 2 seconds.

### DIMENSIONS and WEIGHT

440x226x95 mm  
2 units 19" rack  
9 kg

### MAINS FEED

220 V – 50-60 Hz

### BATTERY FEED

With automatic recharge  
Minimum battery duration: 24 h

### MAXIMUM CONSUMPTION

25 W

### STORAGE CAPACITY (It can be increased)

10 days (TLeq = 2 min)  
34 days (TLeq = 7 min)  
48 days (TLeq = 10 min)  
9 months (TLeq = 1 h)

**CESVA** *instruments, s.l.*

reserves the right to change specifications and accessories without notice.

### SUPPLIED ACCESSORIES

- Sensor LXM-8
- Cable CNOMX9
- SFTL03 Software for PC

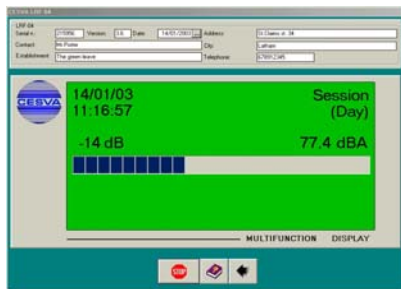
### OPTIONAL ACCESSORIES

- |                |                                       |
|----------------|---------------------------------------|
| <b>CB-5</b>    | Sound Calibrator                      |
| <b>DL-3E</b>   | External Display                      |
| <b>ALIC-1</b>  | Pincers to seal                       |
| <b>PLOM-1</b>  | Lead seal of $\varnothing 9$ mm (1kg) |
| <b>ALAMB-1</b> | wire to seal (50 m roll)              |

# Software Windows® 9x/Me/2000/NT/XP For LRS-03

The **LRS-03** is supplied with the software application that allows you to:

- Allows you to chose the display interval
- Generates graphics. Time history of the sound levels
- Data obtaining in electronic format
- Just one screen to program all the parameters
- Creates reports in 5 different language



*Real time data acquisition by modem*



*Generate a report*



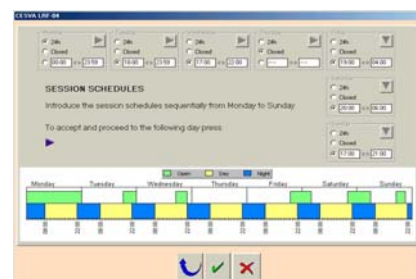
*Graphical display of data  
(sound levels and incidences)*



*Numerical display of register data  
(LeqT and sessions registers)*



*Program the LRF-04*



*Session schedule  
(when the establishment can have an event)*