

#### Applications

- Evaluation of workers' exposure to noise at work simultaneously with testing of PPE (Personal Protective Equipment)
- Ideal for workers with a high degree of movement in the workplace, or workplaces where the noise level changes constantly.

#### User-Friendly

- Simultaneous measurement of all parameters, including evaluation of hearing protectors.
- Single measurement scale.
- Keypad lock using a combination of keys.
- Projected information display during the measurement.
- Graphic screen: numerical and graphic display of functions measured.

#### Characteristics

- Real time frequency analysis in octave bands (63 Hz to 8 kHz). (Only DC112).
- Great storage capacity; saves the time history of the measurement.
- Download port and power supply through USB port.
- Projection of parameters; evaluation of exposure to noise for measurement times shorter than the exposure time.
- Record of the sensitivity adjustments
- Software: Cesva Capture Studio and Capture Studio Editor.
- Lapel microphone adaptable to helmets and earplugs.
- The model DC112d can be converted into a DC112, for which it is necessary to acquire the module EF112 either at the time of purchasing the instrument, or subsequently.
- Light and robust.
- Dosimeter conforms to standards EN 61252, EN 60804 and DIRECTIVE 2003/10/CE.

The **DC112d/DC112** is a high performance dosimeter, the ideal instrument for measuring noise according to Directive 2003/10/CE, which adapts to technical progress the regulation on the health and safety requirements regarding the exposure of workers to the risks arising from noise. The two models; DC112d and DC112 have exactly the same characteristics as dosimeters but only the **DC112** is also a real time spectrum analyser in octave bands.





The **DC112d/DC112**'s graphic screen provides graphical and numerical representation of the measured functions, to evaluate the time history or to analyse the spectrum contents (**DC112** only).

The **DC112d/DC112** enables you to measure simultaneously all the parameters needed to assess the levels of noise to which workers are exposed with and without hearing protectors (SNR, HML and Octaves). The **DC112**, besides measuring the equivalent level with A and C frequency weightings [  $L_{At}$ ,  $L_{Ct}$  ] (SNR and HML method) like the **DC112d**, simultaneously carries out a real time frequency analysis in octave bands, from 63 Hz to 8 kHz (octave method) with the option of applying A weighting, or not, to the analysis.

The **DC112d/DC112** measures simultaneously the equivalent level with A and C frequency weightings [  $L_{At}$ ,  $L_{Ct}$  ], daily noise exposure level [  $L_{EX,8h}$  ] (ISO 1999), Noise exposure in  $Pa^2h$  [  $E$  ] and noise dose [ DOSE ] with respect to a programmable Criterion Level [  $L_C$  ], and, of course, also the Peak Level with C frequency weighting [  $L_{Cpeak}$  ] (ISO 1999).

Moreover, it allows you to carry out the measurement during a time shorter than the exposition time, because it shows on the screen all parameters projected to the expected exposure time (programmable projection time [  $t_p$  ] ).

The **DC112d/DC112**'s screen can be illuminated, allowing the user to work in low-light conditions. The light remains on for five seconds, and then switches off automatically to avoid unnecessary battery consumption.

The **DC112d/DC112** stores in its memory the record (time and date) of the sensitivity modifications. Moreover, it allows the measurement to be stopped, turned off and afterwards restarted with the same measurement.

The large memory of the **DC112d/DC112** allows you to store the time history of the parameters measured (time periods longer than a week), and afterwards recalculate them for any desired time interval.

The **DC112d/DC112** enables you to assess and measure exposure to noise and also brings you all the data needed to inform and train workers with regard to the significance and potential risks arising from the results of the measurement and assessment.

Moreover, it helps you to design and run a reduction programme and to choose the most suitable hearing protectors.



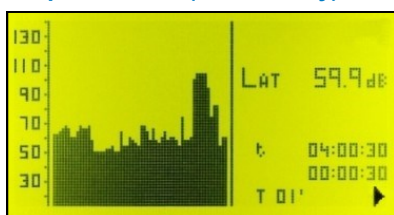
#### Numerical screen



#### Numerical screen with projected parameters



#### Graphic screen (time history)



#### 1/1 spectrum analyser screen (only available for DC112)



Nom	Description of functions of numerical screen
L <sub>EX,8h</sub>	Equivalent daily level normalized to 8 hours, with A frequency weighting.
E	Sound exposure in Pa <sup>2</sup> ·h.
DOSE	Noise dose with reference to criterion level (programmable).
L <sub>At</sub>	Equivalent continuous sound pressure level of the whole measurement with A frequency weighting.
L <sub>Ct</sub>	Equivalent continuous sound pressure level of the whole measurement with C frequency weighting.
L <sub>Cpeak</sub>	Peak sound pressure level with C frequency weighting.
L <sub>C</sub>	Criterion level (programmable).
t	Measurement time.

Nom	Description of functions of numerical screen with projected parameters
L <sub>EX,8h P</sub>	Projected equivalent daily level, with A frequency weighting.
E <sub>P</sub>	Projected sound exposure in Pa <sup>2</sup> ·h.
DOSE <sub>P</sub>	Projected noise dose with reference to criterion level.
t <sub>P</sub>	Projection time, predicted time of exposure to noise (programmable).

Nom	Description of functions of numerical screen for 1/1 spectrum analyser
L <sub>t,f</sub>	Equivalent continuous sound pressure level with or without A frequency weighting for octave band f. (See graph at bottom of page).
L <sub>At</sub>	Equivalent continuous sound pressure level of the whole measurement with A frequency weighting.

Nom	Parameters stored in memory. Time history.
L <sub>AT</sub>	Equivalent continuous sound pressure level with A frequency weighting.
L <sub>CT</sub>	Equivalent continuous sound pressure level with C frequency weighting.
L <sub>T,f</sub>	Equivalent continuous sound pressure level with or without A frequency weighting for octave band f.
L <sub>Cpeak</sub>	Peak sound pressure level with C frequency weighting.



### Certificates and standards

Complies with the following standards::

- UNE-EN 61252:1998/A1:2003; EN 61252:1995/A1:2001; IEC 61252:2002
- UNE-EN 61260:1997/A1:2002; EN 61260:1995/A1:2001; IEC 61260:1995/A1:2001 (only for DC112)
- EN 61252:1995/A1:2001; EN 61260:1995/A1:2001
- IEC 61252:2002 ; IEC 61260:1995/A1:2001
- DIRECTIVE 2003/10/CE OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 6 February 2003 on the minimum health and safety requirements regarding the exposure of workers to the risks arising from physical agents (noise)
- **CE** Mark. Complies with the Directive on low voltage 73/23/CEE and Directive CEM 89/336/CEE modified by 93/68/CEE.

### Measurement range

- $L_T$  y  $L_t$  140 dB
- $L_{peak}$  143 dB

### Peak detector $L_{peak}$

Onset time constant < 75  $\mu$ s

### Frequency weighting

Complies with standard EN 60651  
A and C weightings

### Memory

64 Mbytes

### Microphone

• Model **CESVA** P007: Prepolarised condenser microphone with preamplifier incorporated, (lapel microphone with adjustable clip incorporated). Cable length: 1m.

### Battery

One 9 V battery type 6LR61.

Typical duration with continuous use: 20 hours

### Size and weight

Dimensions: 144x82x23 mm

Weight with battery: 361 g

### Accessories supplied

- FNS112** Case
- SFT030** Cesva Capture Studio Programme
- CN1US** USB cable for connection to a PC
- One 9 V battery

### Optional accessories

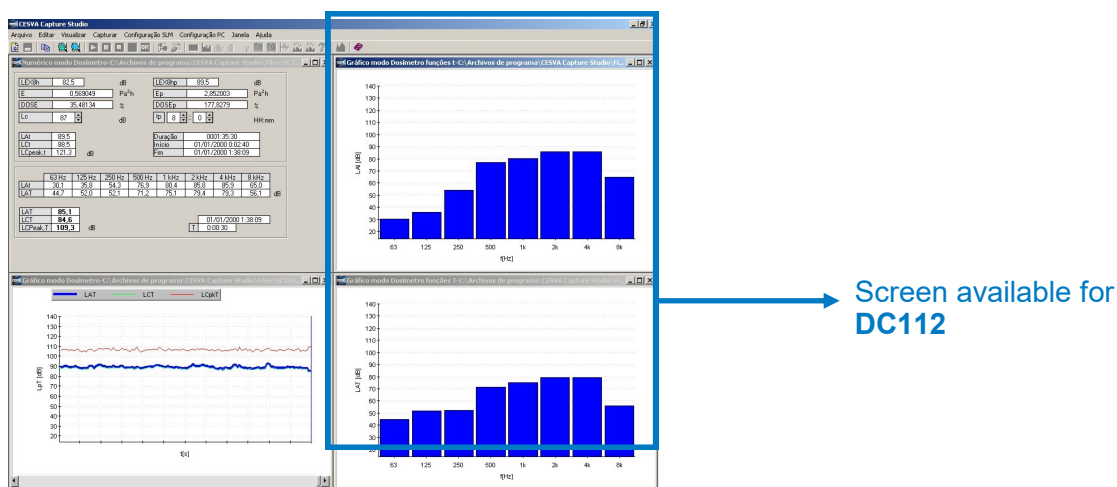
- CB004** Class 2 acoustic calibrator
- TR040** Tripod. Maximum height 1,1 m
- TR050** Tripod. Maximum height 1,55 m
- A100** Battery converter 12 V to 9 V
- AM300** Mains power feeder with USB
- ML040** Carrying case (48 x 37 x 16 cm)
- ML010** Carrying case (39 x 32 x 12 cm)
- ML060** Special outdoors briefcase (51x38x15 cm)



#### Cesva Capture Studio

With the CESVA Capture Studio software supplied with the **DC112d/DC112**, the following operations can be performed:

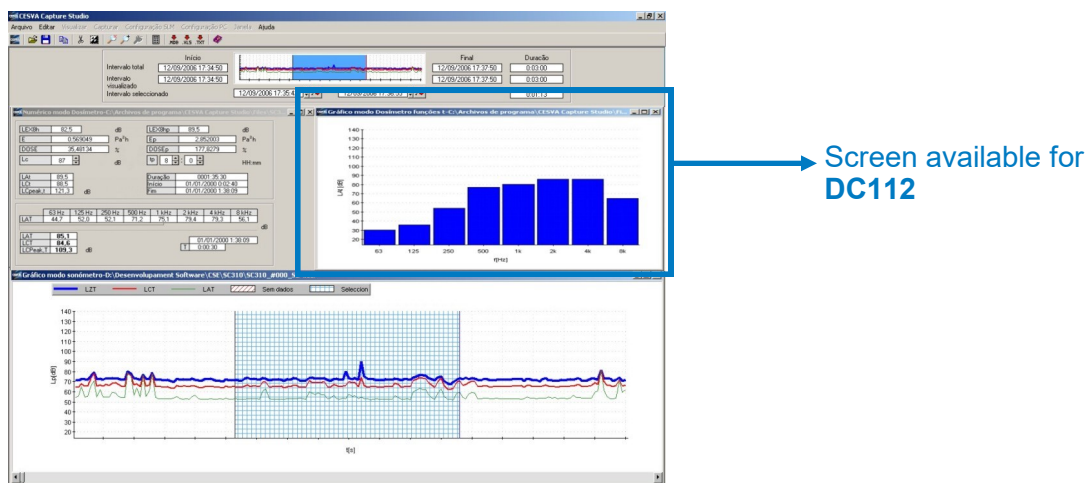
- Downloading the registers stored in the memory of the **DC112d/DC112**.
- Display of the measurement registers.
- Recalculates all the parameters referenced to a different time exposure  $T_p$  and different  $L_c$  criterium level.
- Export of data and graphics to generate a personalised acoustic report (total compatibility with the Windows® environment).



#### Capture Studio Editor

Capture Studio Editor is the software which enables you to edit data acquired by the **DC112d/DC112**:

- Eliminate measurement intervals which corresponds to errors due a false contributions (microphone hits,...).
- Selection of the most significant periods and recalculation of the parameters of the selected period.
- Cycles identification.
- Selectively export data to \*.txt, \*.xls, and \*.mdb formats.



Both programmes operate in the Windows 9x/Me/2000/NT/XP/VISTA/7 environments.

*The characteristics, technical specifications and accessories may be altered without prior notice*