

CR:260A

Integrating
Sound Level Meters

calibrate > start > measure > stop > review

NoiseMeters.com

Your online supplier for
Sound Level Meters



Sound
Level
Meters

Introduction

The CR260A series is a range of very simple to use Integrating Sound Level Meters that comply with the very latest standards. The instruments are designed to be used without the need for complicated setup and provide the essential functions needed from a modern Sound Level Meter.

All versions of the CR260A series provide the following measurements:

- Sound Level dB(A)
- Equivalent Continuous Sound Level (L_{Aeq})
- Peak Sound Pressure (L_{CPeak})
- Maximum Sound Level (L_{AFmax})
- Minimum Sound Level (L_{AFmin})
- Class 1 or Class 2 Performance

In addition, the CR263A and CR264A versions have Octave Band Filters. If required, all of the instruments can be upgraded to the **+Version**, which installs extra features in the Sound Level Meters and allows up to 100 measurements to be stored and downloaded to a computer.

Using the Instrument

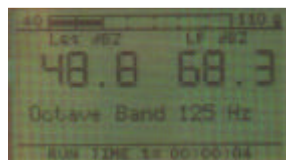
The very clear, simple interface and large display allows the instruments to be used quickly and with very little or no training.

Press the Cal key to calibrate the instrument and select an appropriate measurement range using the arrow keys. The Start and Stop keys control the measurement and the Graph key allows the user to switch between the numerical and graphical display.



During measurement the instrument displays all the current parameters, with a quasi-analog bar graph representing the current Sound Level.

At the end of the measurement all of the parameters are displayed on the screen at the same time. The last measurement is stored and is displayed when the instrument is next switched on.



The **+Versions** of the instruments will store up to 100 measurements in memory, which can be downloaded to a PC for analysis and reporting.

The Mode key allows the user to view the instrument settings. For the CR263A and CR264A, the Mode key is also used to switch between the Broadband and Octave Band Measurement modes.

Applications

- Assessment of noise in the workplace
- Measurement of environmental noise levels
- General purpose noise measurements and assessments
- Selection of hearing protection

The CR260A Series are ideal instruments for the measurement and assessment of noise exposure in the workplace. The measurement of L_{Aeq} and L_{CPeak} allow for compliance with most regulations and guidelines. The addition of L_{AFmax} and L_{AFmin} levels provide more detail which may be useful for analysing the measurement. The **+Version** also provides 5 L_n values for environmental assessments.

All meters in the range have “C” weighting filters fitted, giving the ability to measure L_{Ceq} for HML hearing protector assessments.

The Octave Band Filters of the CR263A and CR264A Series can be used to determine the frequency content of the noise. In the **+Version** this data can be downloaded to the Deaf Defier software to aid in the selection of hearing protector.



What are the Different Versions?

The CR260A Series consists of four different instruments that provide different functions. The instruments that are available are:

- CR261A Type 1 Integrating
- CR262A Type 2 Integrating
- CR263A Type 1 with Octave Band Filters
- CR264A Type 2 with Octave Band Filters

In addition to these four standard instruments, all of the CR260A series can be upgraded to the **+Version**.

Features of the +Version

All of the CR260A Sound Level Meters can be upgraded (order code UP260) to the **+Version**, which installs the additional functions. The main features of the **+Version** are:

- ✦ Up to 100 measurements stored in memory
- ✦ 1 Second Time History (level against time)
- ✦ Download measurements to a PC and use the Deaf Defier software
- ✦ User selectable Frequency Weighting (A, C or Z) and Time Weighting (Fast, Slow or Impulse)
- ✦ Measurement of L_n levels and Sound Exposure Level (L_{AE})

Upgrading to the +Version

To upgrade to the **+Version**, a unique upgrade key must be purchased. This will install the extra functions to the instrument.

This unique number is entered into the Deaf Defier software, which then installs the functions.

The upgrade can be carried out by the user without the need for the instrument to be returned.

Contact NoiseMeters Limited for further details of upgrading the CR260A Series to the **+Version**.

Software Support for the +Version

If the CR260A Sound Level Meter has been upgraded to the **+Version**, measurements that have been made and stored in memory can be downloaded to the Deaf Defier software.

This program allows the measurements to be presented as reports and all of the parameters viewed for analysis. In

addition, the configuration of the instrument can be changed as required.

Please visit the NoiseMeters web site for more information.

Measurement Kits

All versions of the CR260A Series can be supplied as a complete measurement kit. The kit includes the following parts:

- ✦ CR260A Series Sound Level Meter
- ✦ CR514 or CR515 Acoustic Calibrator
- ✦ UA237 Windshield
- ✦ CK250 Carrying Case

If the Sound Level Meter has been upgraded to the **+Version**, the measurement kit will also include an RS232 Cable to connect to a PC and the Deaf Defier software and upgrade code.



Typical Measurement Kit

Ordering Information

Instrument Only

- CR261A Type 1 Integrating Sound Level Meter
- CR262A Type 2 Integrating Sound Level Meter
- CR263A Type 1 with Octave Band Filters
- CR264A Type 2 with Octave Band Filters

Instrument with Calibrator

- SC261A CR261A meter with Calibrator
- SC262A CR262A meter with Calibrator
- SC263A CR263A meter with Calibrator
- SC264A CR264A meter with Calibrator

Measurement Kits

- CK261A Kit with CR261A meter
- CK262A Kit with CR262A meter
- CK263A Kit with CR263A meter
- CK264A Kit with CR264A meter

Upgrade

- UP260 Upgrade to **+Version**



Specifications

Applicable Standards

Sound Level Meter: IEC 61672-1:2002 Class 1 or 2 Group X
IEC 60651:1979 Type 1 I or Type 2 I
IEC 60804:1985 Type 1 or Type 2
ANSI S1.4 with NK:70 adaptor
Octave Band Filters: IEC 61260 Class 1 (where fitted)

Microphone Type 1 Pre-polarized Free Field 1/2" condenser
Type 2 Pre-polarized Free Field 1/2" condenser
Random Incidence to ANSI S1.4 with NK:70

Microphone Preamplifier Type 1 MV:200D Removable Preamplifier
Type 2 MV:200D Integral Preamplifier

Time Weightings 'F' (Fast)
+Version also provides:
'S' (Slow) and 'I' (Impulse)

Frequency Weightings Channel 1 - User selectable 'A' or 'C'
Channel 2 'C' for Peak
+Version also provides 'Z' for Channel 1

Freq. Bands 31 Hz to 16 kHz octave bands (where fitted)

Measurement Range (Typical)

Broadband 24 dB(A) to 140 dB(A) Class 1
26 dB(A) to 140 dB(A) Class 2
143 dB(C) Peak

Octave Bands 15 dB to 140 dB (1 kHz octave band)

Noise Floor (Typical)

Broadband 21 dB(A) Class 1, 23 dB(A) Class 2
Octave Band 15 dB(Z) at 1 kHz octave band

Available Measurements

Broadband L_F Sound Level, Fast
L_{eq} Equivalent Continuous Sound Level
L_{Fmax} Maximum Sound Level, Fast
L_{Fmin} Minimum Sound Level, Fast
L_{CPeak} Peak Sound Pressure
Measurement Duration
Octave Band Selected Frequency
Filtered L_{ZF}, dB(Z), Fast
Filtered L_{zeq} Equivalent Sound Level
L_{Aeq}, L_{Ceq} & L_{zeq} Equivalent Sound Level
Measurement Duration

+Version also allows the following measurements to be made:

Broadband L_{XY} Sound Level
L_{Xeq} Equivalent Continuous Sound Level
L_{XYmax} Maximum Sound Level
L_{XYmin} Minimum Sound Level
L_{CPeak} Peak Sound Level
L_{XE}, L_{Xleq} or L_{XFteq}
L_{Xn} (0.1 to 99.9) - five simultaneous values
Date and Time of measurement
L_{Xeq} Short Leq Time History (1 second)

Where X = dB(A), dB(C) or dB(Z) Frequency Weighting
Y = Fast, Slow or Impulse Time Weighting

Octave Band Selected Frequency
Filtered L_{ZF}, dB(Z), Fast Time Weighting
Filtered L_{zeq} Equivalent Sound Level
L_{Aeq}, L_{Ceq} & L_{zeq} Equivalent Sound Level
Measurement Duration
Date & Time of measurement

Measurement Storage

The last measurement is stored

+Version also provides:

100 broadband or octave band measurements
Calibration records are automatically stored
Short L_{eq} Time History - 24 hours at 1 second

Automatic Measurements (+Version only)

The unit can be preset to record over fixed times:
1 minute 5 minutes
10 minutes 15 minutes
30 minutes 1 hour
8 hours 12 hours
or a user defined period

Display

Graphical LCD with quasi-analog display
Selected measurement parameter and level
Warning for Overload and Under Range
Battery level
Time and Frequency weighting
Elapsed time of measurement
Short Leq (broadband mode)
Graphical Octave Bands
Last measurement recall
Measurement Range
Instrument Settings

Dimensions

Type 1 - 340 x 75 x 25 mm
Type 2 - 340 x 75 x 25 mm

Weight

450 gms

Batteries

2 x 1.5V Alkaline LR6/AA

Battery Life

Broadband Typically > 24 hours
Octave Band Mode Typically > 12 hours

Environment

Temperature: Operating -10°C to +50°C
Storage -20°C to +60°C
Humidity: Up to 95% RH Non Condensing

External Connections (+Version only)

USB Type B for Data Connection
RS232 via custom connector

Output Cables (+Version only)

Standard: ZL:100 USB Cable

Software Support (+Version only)

Deaf Defier for Windows (v3.2.0 or later)
Requires:
MS Windows 98SE or later

Electromagnetic Performance

IEC 61672-1:2002
IEC 61672-2:2003
Except where modified by EN 61000-6-1:2007 &
EN 61000-6-1:2007

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