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Professional
Sound Level Meter
QM1598
User Manual

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1- ⚠ Safety Information

Read the following safety information carefully before attempting to operate or service the meter.
Use the meter only as specified in this manual:

• **Environment conditions**
  1-Altitude lower than 2000 meters
  2-Relatively humidity ≤90%RH
  3-Operation Ambient 0～40℃

• **Maintenance & Clearing**
  1-Repair or servicing not covered in this manual should be performed by qualified personnel.
  2-Periodically wipe the case with a dry cloth. Do not use solvents or eradicator on this instrument.

  ▣ **Safety symbols**

  $C\epsilon$ **Comply with EMC**

2-Functions Description

This Sound Level Meter is designed for noise project; quality control; illness prevention and cure and all kinds of environmental sounds measurement. It is applied to the sounds measurement at factory; school; office; traffic access and household, etc.

• This unit confirms to the IEC61672-1 CLASS2 for
• Sound Level Meters.
• MAX & MIN measurements
• Over range display
• Under range display
• A & C Weighting
• FAST & SLOW response
• Analog AC/DC outputs for connection to frequency analyzer or X-Y shaft recorder

3-Specification

Standard applied:	IEC61672-1CLASS2
Accuracy:	±1.4dB
Frequency range:	31.5Hz~8KHz
Dynamic range:	50dB
Memory:	32700
Level ranges:	LO:30dB~80dB
	Med:50dB~100dB
	Hi:80dB~130dB
	Auto:30dB~130dB
Frequency weighting:	A/C
Time weighting:	FAST(125ms), SLOW(1s)
Microphone:	1/2 inch electret condenser microphone
Display:	4 digits LCD display with a resolution of 0.1dB
Display Update:	2 times/sec.
MAX hold:	Hold the Maximum reading
MIN hold:	Hold the Minimum reading
HOLD:	Hold the readings
Alarm function:	"OVER"is when input is more than upper limit of range."UNDER" is when input is less than lower limit of range.
Analog output:	AC/DC outputs from earphone outlet AC＝1Vrms ,DC＝10mV/dB
Data output:	USB data traffic
Auto power off:	Meter automatically shuts down after approx. 15 minutes of inactivity.
Power supply:	One 9V battery, 006P or NEDA1604 or IEC 6F22.
Power life:	About 30hours
Operation temperature and humidity:	0°C~40°C,10％RH~90％RH
Storage temperature and temperature:	-10°C~+60°C, 10%RH~75%RH
Dimension:	278 (L) x 76 (W) x 50(H) mm
Weight :	350g

4-Name and Functions
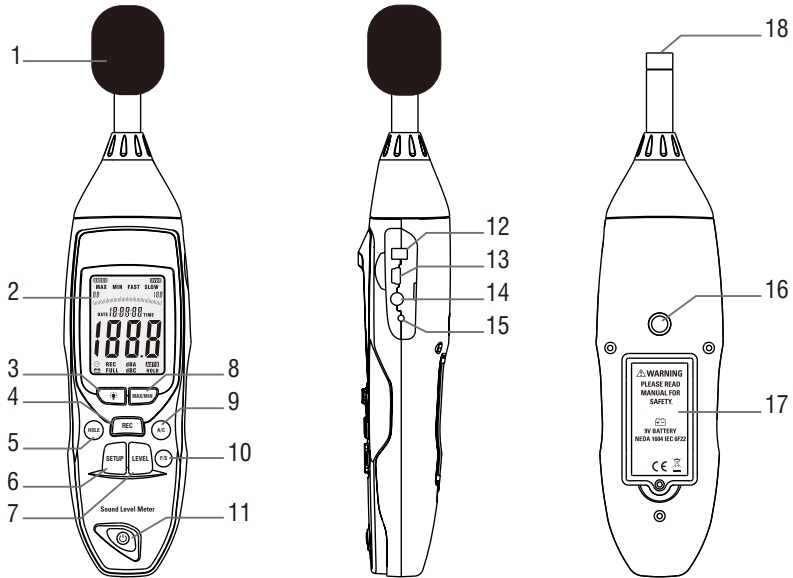
1-**Windscreen**

2-**LCD:**

SYMBOL	FUNCTION
LCD	4 digits
MAX	Maximum hold
MIN	Minimum hold
OVER	over range
UNDER	under range
FAST	Fast response
SLOW	Slow response
dBA	A-Weighting(responseto human sense)
dBC	C-Weighting(response to machine monitor)
30-130	Range indicate
REC	Recording data into computer
AUTO	Auto level range selection
FULL	Memory full
HOLD	Data hold function
$\oslash$	Autopower off Press the "SETUP" button to disable power off
🔋	Low battery indicate

3- 🔆 **Backlight button**
　*1-*Turn the backlight ON/OFF
　*2-*DATALOGGER response setting

```
00:02
Int
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　　Press the button continuously until "INT" symbol appears after the meter turn on, press "LEVEL" to set up the data memory response, then press "HOLD" to keep the setting.

　*4-***REC button**

　• **DATALOGGER function**
　　Press "REC" button after it power on, the display will show "REC" to start Data Recording, press the button again to exit the record(Note: In order to avoid data error, please don't power it off under REC condition, when the REC function is deleted then it can power off).

　• **Adjusting DATALOGGER response**
　　Press the button 🔆 continuously before power it on, then press ⏻ , it will be displayed as following: Press "LEVEL" button to adjust memory time, press "HOLD" button to hold the setup.

　• **Data zero function**
　　Press the [REC] button continuously before power it on, loosen the button when the display showing "CLR" after the meter.
　　Power on, which indicates that the data in DATALOGGER has been deleted.

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CLA
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*5-***HOLD button:**
　　Press "HOLD" button, The hold function freezes the reading in the display.

6-SETUP button

• The time chip adjustment

Press "SETUP" button and then power it on, when "TIME" symbol displays then loosen "SETUP", the meter will be under time adjustment mode, at the time the display will show the date as following:

DATE 16 - 12
- 3.0

Press the "SETUP" button second time, the display showing:

58 TIME
nn

The display showing "minute" adjustment mode, press "LEVEL" to make the adjustment, press "HOLD" to keep the setup;
Press the "SETUP" button third time, the display showing:

11 TIME
h - P

The display showing "hour" adjustment mode, press(h-P=P.M,h-A=A.M)
"LEVEL" to make the adjustment, press "HOLD" to keep the setup;
Press the "SETUP" button fourth time, the display showing.

DATE - d - 28

The display showing "date" adjustment mode, press "LEVEL" to make the adjustment, press "HOLD" to keep the setup;
Press the "SETUP" button fifth time, the display showing:

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DATE - X - 10
```

The display showing "month" adjustment mode, press "LEVEL" to make theadjustment, press "HOLD" to keep the setup;
Press the "SETUP" button sixth time, the display showing:

```
DATE - Y - 06
```

The display showing "year" adjustment mode, press "LEVEL" to make the adjustment, press "HOLD" to keep the setup;
Press the "SETUP" button seventh time, the display showing:

```
rSt
```

The display showing initialization of the time chip, press "HOLD" to keep the setup; time and date have returned to factory setup. When the battery is exhausted or replaced, if the time can't be adjusted then please initialize the time chip first.

• USB communications setting:

Turn on the meter, connect the meter with the computer correctly, choose the software COM3(COM4), hen press "SETUP" , " ⊘ " disappears from the display to indicate and disable auto power off, that the USB data is transmitting.

7-LEVEL button: Level range selection

Each time you press "LEVEL" button, the level range will change between "Lo" level, "Med" level, "Hi" level and "Auto" level in the circular.

*8-*MAX/MIN button:

Maximum and Minimum hold Press this button for one time to enter MAX/MIN measurement, "MAX" will appear on LCD, maximum sound level will be captured and held until higher sound level is captured. Press the button again, "MIN" will appear on LCD and minimum sound level will be captured and held until new lower sound level is captured. Press the button one more time to exit MAX/MIN measurement.

*9-*Frequency weighting select button

A: A-Weighting
C: C-Weighting

*10-*FAST/SLOW button:

Time weighting selection
FAST: st sampling measurement, 1 time per 125ms.
SLOW: Slow sampling measurement, 1 time per second.

*11-*Power button

Turn the meter power ON/OFF

*12-*External DC 9V power supply terminal

For connection with DC 9V power supply.
Aperture size: external diameter: 3.5mm, internal diameter: 1.35mm

*13-*USB interface

USB signal output is a 9600 bps serial interface.
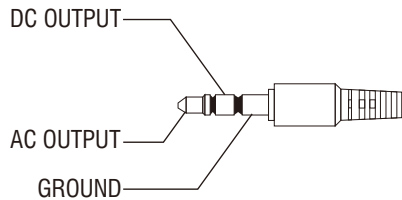
*14-*AC/DC signal output earphone outlet

AC: Output voltage: 1Vrms corresponding to
                            each range step.
Output impedance: 100Ω
DC: Output voltage: 10mV/dB
Output impedance: 1kΩ

DC OUTPUT

AC OUTPUT

GROUND

15-Calibration potentiometer(CALL)
   For external standard level calibration adjustments.

**16-Tripod mounting screw**

17-Battery cover

18-Microphone
   1/2 inch Electret Condenser microphone

5-Calibration Procedures
• Make the following switch settings:
   Frequency weighting: A-weighting
   Time weighting: FAST
   Level range: 50~100dB
• Insert the microphone housing carefully into the 1/2 inch insertion hole of the calibrator(94dB@1kHZ)
• Turn on the switch of calibrator and adjust the CALL potentiometer of the unit 94.0dB is displayed.

   NOTE: All products are well calibrated before shipment. Recommended recalibration cycle: 1 year.

Acoustic Calibrator
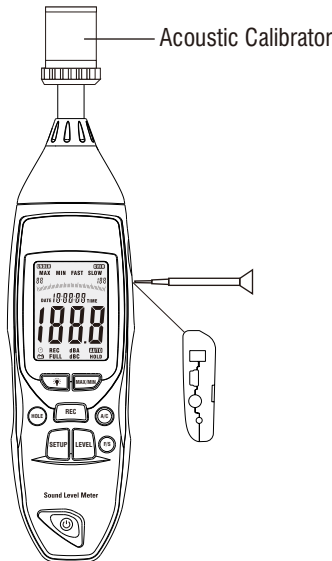
6-Measurement Preparation
• Remove the battery cover on the back and put in one 9V battery.
• Recover the back cover.
• When battery voltage drops below the operating voltage or battery aging, this symbol ⊡ will appear on LCD. Replace the 9V battery.
• When the AC adapter is used, insert the plug of the adapter(3.5Φ)into the DC 9V connector on the side panel.

7-Operating Procedure
• Power on the meter.
• Press "LEVEL" button to select desired level, base on "UNDER" or "OVER" do not appear on LCD.
• Select "dBA" for general noise sound level and "dBC" or measuring sound level of acoustic material.
• Select "FAST" for instant sound and "SLOW" for average sound level.
• Select "MAX/MIN" button for measuring maximum and minimum noise level.
• Hold the instrument comfortable in hand or fix on tripod and measure sound level at a distance of 1∼1.5 meter.

8-Notice
• Do not store or operate the instrument at high temperature and high humidity environment.
• When not in use for long time, please take out the battery to avoid battery liquid leakage and cautery on the instrument.
• When using the instrument in the presence of wind, it is a must to mount the windscreen to not pick up undesirable signals.
• Keep microphone dry and avoid severe vibration.

9-Accessories:
• Instruction manual
• Installation CD
• Screwdriver
• Tripod mounting
• Battery
• Power source
• Windscreen
• Software
• USB interface cable

10-Installing the software
• Start windows
• Insert the CD into the CD-drive.
• Run SETUP.EXE installation program in file DISK1, install it to the referred directory.
• Install CP210X drive software：
  Connecting the meter with the computer by USB interface, install CP2102 drive software in my computer property: \hardware\facility management\COM CP210X USB.

USB Drive Installation
*1-*Copy the CP210XWIN Drivers to a certain directory, such as: C:\usb_driver.
*2-*Connect the USB to the computer, the Windows system will show finding a new hardware. Choose specific directory C:\ usb_driver according to the instruction.
*3-*After Driver installation, a new COM port will be added to the Ports in the Device Manager. Port number will be ranged following the primary COM ports, such as: COM3 or COM4.

• Once the drive software is installed, start the application software, connect the meter to the computer by USB, then search for the COMX port occupied by CP210X, press SETUP button, the " ⊘ "symbol will not appear on the display, which indicate the meter is transmitting data to the computer.
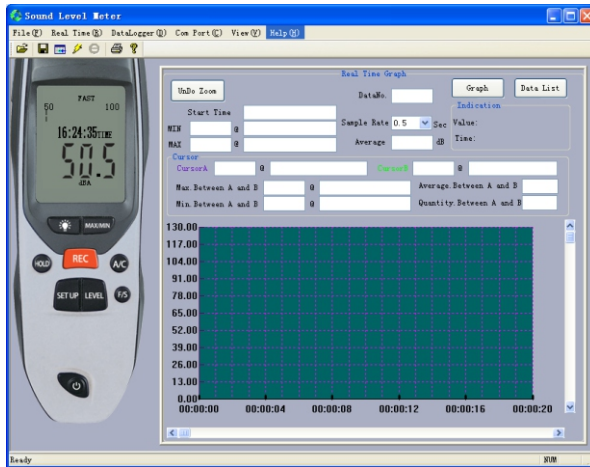
• More information please refer to the software help document.