Class 1 Sound Level Meter NL-38

RION CO., LTD.
https://www.rion.co.jp/english/

Instruction Manual: Quick Start Guide

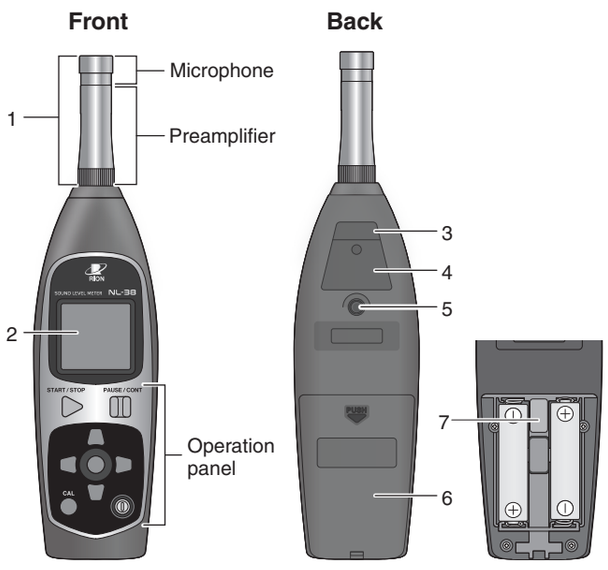
- Before using this product, read the “Safety Precautions” carefully and use it correctly.
- Keep this manual in a safe place for future reference.

Organization of the Instruction Manual

- Quick Start Guide (this document)
- Instruction Manual

You can download the Instruction Manual from our website:
https://svmanual.rion.co.jp/nl-38_e/
Membership registration (free) is required to download the Instruction Manual.

Name and Function of Each Part



No.	Name/Description
1	**Microphone and preamplifier** The microphone and preamplifier can be separated from the main unit. Using an optional extension cable, they can be installed at a location away from the main unit.
2	**Organic EL display** The sound level is displayed numerically and as a bar graph. This also displays the operating status, measurement conditions, warnings and other information.
3	**Serial number label** The serial numbers of the microphone, preamplifier, and sound level meter main body are indicated on this label.
4	**Nameplate** Shows necessary information such as the model, and applicable standards of the device.
5	**Tripod mounting screw hole** This screw hole can be used to mount the device to a camera tripod.
6	**Battery compartment** Install two AA batteries to use the device.
7	**Sealing sticker** This sticker is for dustproofing.
8	**START/STOP key** Used when starting or ending measurement. Pressing the START/STOP key on the current screen starts measurement. Press again to end the measurement.
9	**PAUSE/CONT key** Used to pause the measurement. Press again to resume. The current state (sound level display) cannot be paused.
10	**Direction keys** Used to switch screens and select settings, etc.
11	**Center key** Used to configure settings, etc. on the device. Pressing the center key on the current screen displays the menu screen. Pressing this key after changing a setting value saves that setting.
12	**CAL key** Used to calibrate the device.
13	**POWER key** Press to turn on the power. When the power is on, press and hold for several seconds to turn off the power.
14	**USB port (Type-C)** A port for connecting a computer. This is powered through the USB port; however, operation is not guaranteed. For a reliable connection, it is recommended to insert batteries when using the device in conjunction with a computer.
15	**Hand strap attachment part** Attach the hand strap for drop prevention.

Safety Precautions

The precautions shown here are intended to help you use the product safely and correctly, and to prevent harm and damage to you and other people. Incidents that could occur as a result of incorrect handling are divided into two categories: “WARNING” and “CAUTION”. Make sure to follow the contents of all these categories because they are serious matters related to safety.

Examples of pictorial indications

⃠	Prohibitions	❗	Instructions

⚠ WARNING	Indicates a possibility of death or serious injury due to incorrect handling.
⚠ CAUTION	Indicates a possibility of personal injury or property damage due to incorrect handling.

• Handling of the batteries

⚠ WARNING

❗ **If electrolyte leaking from the batteries gets into your eyes, rinse with water without rubbing and immediately seek medical attention.**
Failing to do so may result in blindness.

If electrolyte leaking from the batteries gets on your skin or clothes, wash it off immediately with water.

• Handling of this product

⚠ WARNING

Do Not Disassemble **Never disassemble, repair, or modify the product.**
Doing so may cause a fire, electric shock, or an accident.

No Wet Hands **Do not connect the USB cable or remove the main unit with wet hands.**
Doing so may cause electric shock or injury.

Keep Dry **Do not immerse the main unit in water or splash water on it.**
Doing so may cause electric shock or malfunction.

⃠ **Do not use the device for purposes other than for what it was originally intended.**

Keep the product away from heat sources such as fire and stoves.
Failure to do so may cause a fire, electric shock, or malfunction.

Do not use the device if any abnormality such as damage is discovered.
Continuing to use the device regardless of an abnormality may cause electric shock or fire.
In such circumstances, please contact your dealer.

Do not use the device if there is something wrong with it, such as it becomes abnormally hot.
Doing so may result in a malfunction or fire.

Do not use or connect to the USB cable in a humid place such as a bathroom or in a place where it may get wet.
Doing so may cause electric shock or malfunction.

Do not use, store, or leave the product in a hot place such as in a place exposed to fire, direct sunlight, or inside a car on a hot day.
Doing so may cause fire, battery breakage, or overheating.

When disposing of the product, do not set it alight.
Doing so may cause a fire or explosion. When disposing of the product, follow the regulations of your country or local municipality.

❗ **If there is dust on the USB terminal, wipe it off before connecting the dedicated USB cable.**
Failure to do so may result in electric shock, short circuit, or fire.

Clean the connectors of the USB cable regularly.
If the unit is not used for a long period, unplug the USB cable. If dust on the connectors absorbs moisture, it may cause smoke or fire.

If there is a problem with the device during use, turn off the power and disconnect the USB cable and remove the batteries.
In such circumstances, please contact your dealer.

Always turn off the power after use.
Turn off the power and remove the batteries if you intend to store the product for a long time without using it. Leaving the batteries inside the device may cause electrolyte to leak. Disconnect the USB cable.

Make sure to hold the connector when disconnecting the USB cable.
Do not apply excessive force, such as holding the USB cable and pulling it out.

⚠ CAUTION

⃠ **Do not use or store the product within the reach of children or pets.**
Doing so may result in electric shock, injury, or accidental ingestion.

Do not store the product in places in which it will be subject to water, dust, high temperatures, and high humidity, or in direct sunlight. Do not use or store the product in places where it may be adversely affected by salt, sulfur, chemicals, gases, etc.
The operating temperature for this device is –10°C to +50°C and the humidity range is 10% to 90% RH (no condensation).

*In the event of a product defect caused by RION, RION will repair or replace the device.

Precautions for Use

- Avoid using and storing the product in places with high temperatures and humidity, or in places exposed to direct sunlight for long periods of time.
- If there is a drastic change in the surrounding temperature, the product may malfunction due to internal condensation.
- As the device is a precision electronic device, avoid using or storing it in locations subject to shock or vibration.
- If you do not intend to use the device for a long time, remove the batteries and store it.
- Do not insert wires, metal pieces, conductive plastics, etc. through any holes or gaps in the product. Doing so may result in a malfunction.
- Do not replace the microphone with one other than the number indicated on the serial number label.
- Do not use the preamplifier of this device with sound level meters of other models. Doing so may cause a malfunction of the preamplifier.
- If you are using the device outdoors and it starts raining, stop taking measurements and keep the device dry.
  If the device gets wet, wipe it off with a dry cloth and dry it in a well-ventilated environment.
- Make sure that the cover of the battery compartment is securely closed before use. Also, do not open the cover of the battery compartment when the device is wet.
- Make sure the microphone is installed securely before using or storing the device. If there is any looseness, turn off the power, retighten the microphone before using or storing the device.
- To maintain the accuracy of measurements, inspect the device regularly.
- If you have any questions regarding this product, please contact your dealer.

[Disclaimer]

- RION shall not be held accountable for the following damages:
  Any damage caused by earthquakes, lightning, wind and floods, fires for which RION is not responsible, actions or accidents by a third party, intentional or negligent misuse by the customer, or use under other abnormal conditions.
- RION shall not be held accountable for the following incidental damages arising from the use or inability to use this product:
  Alteration or loss of recorded content, loss of business profits, or the interruption of business, etc.
- RION shall not be held accountable for any damage caused by not following the contents of this document.

[Cleaning the product]

- To clean the product, use a dry, soft cloth or a cloth wrung out with lukewarm water. Do not use organic solvents such as naphtha or alcohol.

[What to do when disposing of the product]

- When disposing of this product or batteries, make sure to consult with your local municipality.

Specifications

Applicable standards	IEC 61672-1:2013 class 1 CE Marking • EMC Directive 2014/30/EU EN 61326-1:2021 • RoHS Directive 2011/65/EU EN IEC 63000:2018 China RoHS, WEEE Directive
Measurement function	At the selected time weighting, the following calculated values can be measured with frequency weightings A, C, or Z. (L_{peak} can only be measured with C-weighting, L_{leq} only with A-weighting and time weighting I, and L_{tm} only with A-weighting and time weighting F.)

Instantaneous value	Time-weighted sound level	L_p
Calculated values	Equivalent continuous sound level	L_{eq}
	(I-time-weighted)	L_{leq}
	Sound exposure level	L_E
	Maximum time-weighted sound level	L_{max}
	Peak sound level	L_{peak}
	Takt-max sound level	L_{tm}

Measurement time	1 min, 5 min, 10 min, 1 h
Microphone	Model: UC-52S Sensitivity level (representative value): –33 dB (re. 1 V/Pa at 1 kHz)
Measurement level range	A-weighting: 32 dB to 137 dB C-weighting: 40 dB to 137 dB Z-weighting: 45 dB to 137 dB C-weighted peak sound level: 68 dB to 140 dB
Self-generated noise	A-weighting: Max. 24 dB (Typical 21 dB) C-weighting: Max. 32 dB (Typical 29 dB) Z-weighting: Max. 37 dB (Typical 34 dB)
Entire linear operating range	32 dB to 137 dB (A-weighting, 1 kHz)
Linear operating range	105 dB (A-weighting, sound level)
Measurement frequency range	10 Hz to 20 kHz
Standard frequency	1 kHz
Reference sound pressure level	94 dB
Frequency weighting	A-weighting, C-weighting, Z-weighting
Time weighting	F (fast), S (slow), I (impulse)
Calculation interval	L_p, L_{max}, L_{peak}: 20.8 µs (sampling frequency 48 kHz) L_{eq}, L_{leq}, L_E: 1 s L_{tm}: 5 s
Calibration	A reference signal is input using sound calibrator NC-75/NC-74, Nor1255, Nor1256 or pistonphone NC-72B/NC-72A, and the signal input sensitivity is adjusted automatically or manually. Up to 999 calibrations can be managed in the calibration history and saved.

Type	Nominal frequency	Nominal sound level
NC-75/NC-74	1 kHz	94 dB
NC-72B/NC-72A	250 Hz	114 dB
Nor1255	1 kHz	114 dB
Nor1256	250 Hz	94 dB, 114 dB
	1 kHz	94 dB, 114 dB

* With auto-calibration, the sound calibrators NC-75/NC-74 and Nor1255 can be used.
Nor1256 can be used only when the calibration signal frequency is 1 kHz.

Correction function	Windscreen correction function (WS-14): Corrects the effect on the frequency characteristics when the windscreen is attached.
Pause function	Pauses calculation value measurement.
Display	Device: 1.5-inch monochrome organic EL display Resolution: 128×128 Numeric value update cycle: 1 s Bar graph update cycle: 100 ms
Overload indication / under-range indication	Overload indication is displayed for a signal input that is larger than the upper measurement limit. Under-range indication is displayed for a signal input that is smaller than the lower measurement limit.
Manual store	Manually starts or stops measuring and simultaneously calculates L_{eq}, L_E, L_{max}, L_{peak}, L_{tm} and L_{leq} before storing the results in a file. Data storage capacity: Internal memory: Can store up to 200 data sets
Language	English
Data recall	Recalls stored measurement data.
USB	Internal memory can be recognized by the computer as a removable disk for data transfer.
AC monitor output	Outputs the electrical signal of the sound pressure waveform input through the microphone. Output impedance: 50 Ω Load impedance: 10 kΩ or more Output level: 1 Vrms $^{+600\ mVrms}_{-400\ mVrms}$ (at 110 dB) (Maximum output voltage: 1.8 Vrms)
Power supply	AA battery ×2 Operating time (23°C, measurement status): Alkaline battery: Approx. 9 hours Ni-MH rechargeable battery: Approx. 9 hours Current consumption: 135 mA (power supply voltage: 3 V)
Operating temperature and humidity range	Temperature: –10°C to +50°C Humidity: 10% to 90% RH (no condensation)
Dimensions, weight	Approx. 213 mm (H) × 52 mm (W) × 30 mm (D) Approx. 190 g (including batteries)

Accessories

Windscreen WS-14	×1
Windscreen fall prevention rubber	×1
Hand strap	×1
USB port cover	×1
Size AA alkaline batteries	×2
Instruction Manual: Quick Start Guide	×1
Document for China RoHS	×1
Supplied Accessories and Inspection Certificate	×1

Optional Accessories

Sound calibrator NC-75 / Nor1255 / Nor1256
Pistonphone NC-72B
AC monitor output / Communication cable CC-38
BNC-pin output cable CC-24/CC-24S
Microphone extension cable EC-38
Tripod for sound level meter ST-80

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