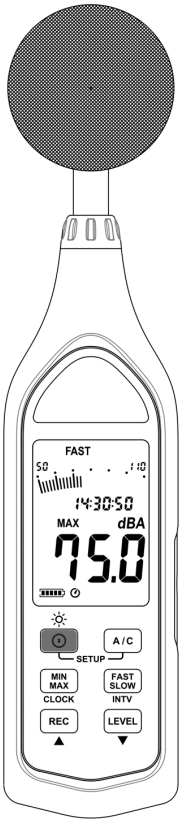
GNV-101

Sound Level Meter

(with data logging)

Class 2



User Manual

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Safety

To avoid personal injury and/or product damage, review and comply with the following safety precautions. These precautions apply to both operating and maintenance personnel and must be followed during all phases of operation, service, and repair of this probe.

Dry Conditions

Hands, shoes, floor, and work bench must be dry. Avoid making measurements under humidity, dampness, or other environmental conditions that might affect safety.

Cleaning

Use a soft cotton cloth lightly moistened with a mild solution of detergent and water. Do not allow any portion to be submerged at any time. Dry thoroughly before attempting to make voltage measurements. Do not use solvents or expose to solvent fumes as they may cause deterioration or damage

Do not operate:

- In the presence of noxious, corrosive, flammable fumes, gases, vapors, chemicals, or finely-divided particulates.
- In environments where there is a danger of any liquid being spilled on the probe.
- In air temperatures exceeding the specified operating temperatures.
- In atmospheric pressures outside the specified altitude limits or where the surrounding gas is not air.

Compliance and Certifications

CE Compliance

This product meets the essential requirements of the applicable European Directives as follows:

- 2014/30/EU: Electromagnetic Directive (EMC)
- 2011/65/EU: Restriction of Hazardous Substances Directive (RoHS)

Safety

This product meets the follow standard(s) of safety for electrical equipment for measurement, control and laboratory use:

- IEC/EN 61672-1:2013

Disposal

(Applicable in the European Union and other European countries with separate collection systems). This product is subject to Directive 2012/19/EU of the European Parliament and the Council of the European Union on waste electrical and electronic equipment (WEEE), and in jurisdictions adopting that Directive, is marked as being put on the market after August 13, 2005, and should not be disposed of as unsorted municipal waste. Please utilize your local WEEE collection facilities in the disposition of this product.

Caution! Refer to the operating instructions.

Features

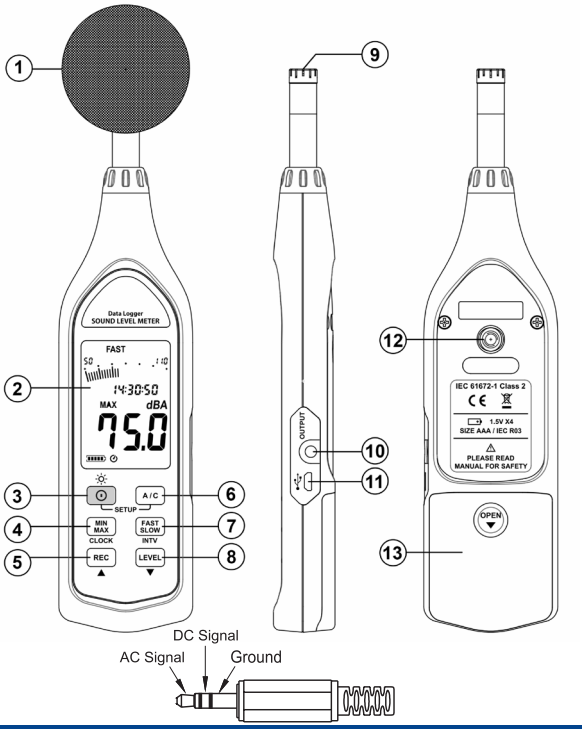
- Meets IEC 61672-1 Class 2 requirements
- Records up to 64,000 data points
- Recorded data exportable to EXCEL via a USB interface
- Fast and slow time weighting
- 60 dB dynamic range
- A and C frequency weighting
- AC and DC outputs available from standard 3.5 mm coaxial socket for use with a frequency analyzer, level recorder, FFT analyzer, etc..
- Min/max function
- Battery capacity indicator
- Analog bar graph and digital display
- Manual and auto range functionality
- Tripod mount for long term monitoring
- Includes windscreen, battery and hard carrying case

Specifications

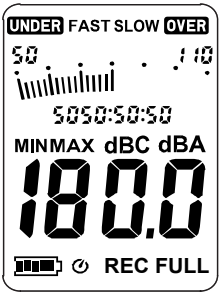
Safety Standard Applied	IEC 61672-1 Class 2
Operating Limits and Functions	
Measuring Level Ranges	Low: 30 to 90 dB
	Med: 50 to 110 dB
	High: 70 to 130 dB
	Auto: 30 to 130 db
Sample Rate	Fast 125 ms
	Slow 1000 ms
Accuracy	± 1.4 dB @ 94 dB, 1 kHz
Dynamic Range	60 dB
Frequency Range	20 Hz to 8 kHz
Frequency Weighting	A / C
Microphone	1/2 Inch electret condenser
Data Logging Capacity	64,000 records
Displays	
Digital Display	4 Digit display
	Resolution: 0.1 dB
	Display Update: 0.5 sec
Analog Display	30 Segment bar graph
	Resolution: 2 dB
	Display Update: 100 ms
Alarm Functions	OVER and UNDER alarm functions indicating when sound level is outside the set range
Electrical Specifications	
AC Ouput	1 Vrms at full scale
DC Output	10 mV/dB
Power Supply	4 AAA batteries: NEDA 24A, IEC LR03
Battery Life	Approx. 24 hours
External Power Supply	5 VDC (micro USB plug)
Environmental Specifications	
Operating Temperature	0 to 40 °C (32 to 104 °F)
Operating Humidity	10 to 90% Relative humidity
Storage Temperature	-10 to 60 °C (14 to 140 °F)
Storage Humidity	10 to 75% Relative humidity
Altitude	Up to elev. of 2000 meters (~6,500 ft.)
Mechanical Specifications	
Dimensions	264 x 63 x 29 mm (10.4 x 2.5 x 1.1”)
Weight	Approx. 245g (8.6 oz)
Included Accessories	4 AAA batteries, User manual, windscreen, carrying case, USB cable

Instrument Description

1. **Windscreen**
2. **LCD display**
3. **Power button**
4. **Level range increase**
5. **Level range decrease**
6. **“A” or “C” freq. weighting**
7. **MIN/MAX hold button**
8. **Time weighting select**
9. **Microphone**
10. **AC/DC output terminal**
11. **USB Interface**
12. **Tripod mounting screw**
13. **Battery Cover**



Display Functions



Symbol	Function
	Battery capacity indicator
	Auto power off indicator
MINMAX	Maximum/Minimum inidcator
FAST SLOW	Time weighting indicator
50 110	Level range indicator
	Bar graph
5050:50:50	Date
180.0	Level reading
dBC dBA	Frequency weighting indicator
REC	Recording datalogger indicator
FULL	Memory full indicator
UNDER	Under-range indicator
OVER	Over-range indicator

Operating Instructions

Power

The ⏻ button turns the sound level meter on with a single push. Press and hold the same button for 2 seconds to turn off the power.

By default, when the meter is powered on, it is under *auto power off mode*. The meter will shut itself down after 30 minutes if no key is pressed. To disable this, press and hold [FAST SLOW] until the ⏱ symbol is no longer visible.

Max/Min Hold

First adjust the meter to the correct level range and sample rate prior to using this function. Press the [MIN MAX] button to start the maximum and minimum measurement mode.

1. Press the [MIN MAX] button once and “MAX” will display on the screen. This indicates that the maximum value is being updated and recorded.
2. Press [MIN MAX] again and “MIN” will display on the screen. This indicates that the minimum value is being updated and recorded.
3. Press [MIN MAX] once more and “MIN MAX” will blink on the display. This indicates that both the minimum and maximum values are being updated and recorded.

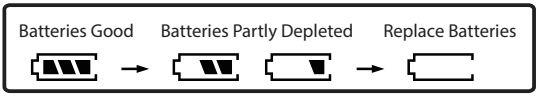
Frequency Weighting

A: Weighting for volumes below 50 dB (dBA)

C: Weighting for volumes above 50 dB (dBC)

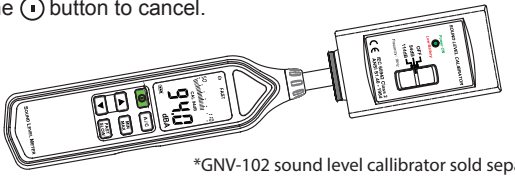
Battery Replacement and Indicator

Remove the battery cover from the back, and insert four AAA batteries. The onboard display will indicate when the battery needs to be replaced.



Calibration

1. First ensure that the device is turned off. Then press and hold [MIN MAX]. Next, press the ⏻ button and release both. The meter will display a flashing “CAL 94 dB”.
2. Gently insert the microphone housing into the calibrator* as depicted below.
3. Press [▲] or [▼] to increase or decrease the number displayed until it matches the value 94.0 dB
4. Press [MIN MAX] to finish calibration. To abort the process, press the ⏻ button to cancel.



*GNV-102 sound level callibrator sold separately

Measurement

1. Turn on the meter and select the desired response time and frequency weighting. If sound source consists of short bursts, set response to **"**FAST"**.** To measure the average sound level, use the "SLOW" setting.

   Both *A* and *C* weighting model how the human ear perceives sound, dependent on frequency. *A* is best suited to volumes below 50 dB and *C* for volumes above 50 dB.

2. Next select the desired decibel range.

3. Hold the instrument comfortably in hand or attach it to a tripod via the tripod mount.

4. When *MAX/MIN* (*maximum and minimum hold mode*) is chosen. The instrument records and updates the maximum and minimum noise level over long periods of time. Press MIN MAX and hold for 2 seconds to clear the MAX/MIN reading.

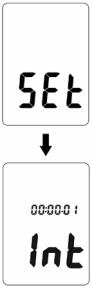
5. Turn off the instrument.

Operating Precautions

- Wind blowing across the microphone will bring additional extraneous noise and will be reduced by use of the provided windscreen.
- Calibrate the instrument before operation if the instrument was not in use for a long time or was operated beyond or near the environmental specification limits.
- Do not store or operate the instrument in high temperature or high humidity environments.
- Take out the battery and keep the instrument in low humidity when not in use.

Data Logging Set-up

Interval Set-up



1. Press and hold A/C button and then power on the meter.
2. Press INTV (FAST SLOW) button, “Int” appears for the interval, as well as a flashing second display.
3. Now set the desired recording interval in minutes and seconds. Press ▲ and ▼ to increase or decrease the number. The maximum value is 1 minute and the minimum is 1 second. To abort the process at any time press ⏻ button to cancel.

Data Storage

To store data using the auto store function press the REC button which will begin saving the measured values. Press the REC again to stop recording.

If you want to clear the memory, first power off the unit. Next press and hold the REC button and then press ⏻ button and hold for 5 seconds. Finally, the display will show “CLr” and “SURE” to clear memory.

Setting the Date and Time

1. Turn off the unit.
2. Enter SETUP mode by pressing and holding button and then press ⏻ button to turn on the unit. “SEt” blinks on the screen.
3. Press CLOCK (MIN MAX) button to set the clock.
4. Press ▲ or ▼ to adjust year, and press CLOCK again to adjust the next value (month, day, hour, minute, second)
5. When finished, press CLOCK button to exit SETUP mode.

USB Interface Software

Requirements: Windows XP / Vista / 7 / 8 / 10 with at least 50 MB of hard disk space

Installation

1. Insert set-up CD disk to your CD disk drive. Windows will automatically run setup.exe.
2. If Windows fails to run setup.exe automatically, then click the Start button on the Taskbar and select Run. Type E:\SETUP and select OK.
3. Follow the on screen instructions to finish the installation.
4. Installed onto your computer will be the program SE323.exe in program files.

Main Menu

File: Open or retrieve files.

Save: Save the active window data to file.

Print: Print the graph in the active window.

Printer Setup: Select a printer.

File | Exit: Terminates SE323 program.

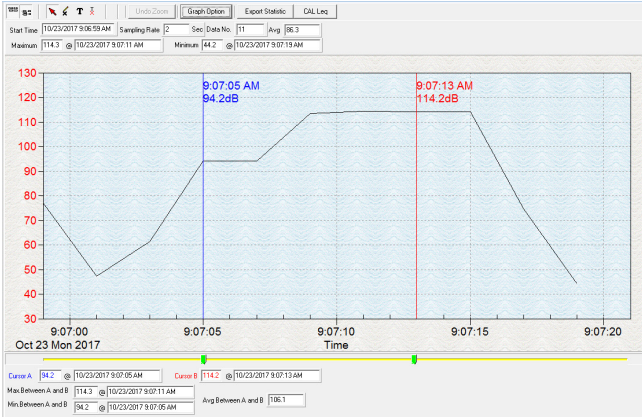
View | Control: By opening the Panel Window, the user can control the meter via the button in this window.

View | Real-Time Graph: Open Real-Time Graph display to graph the present data.

Stop: Stop collectiong real time data.

DataLogger: By opening the Datalogger window, the user can load recorded data of the meter to the PC in this window.

Graph



Tool Bar

Display or hide Statistic1

Display or hide Statistic2

Normal Cursor

When selected, the mouse cursor will become a cross sign. When moving to the graph, click on the graph to mark a cross sign on the graph.

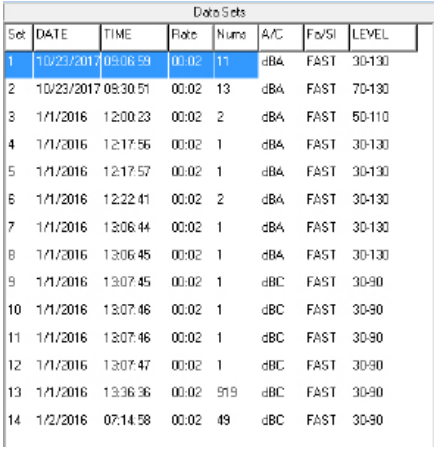
Whe selected, the mouse cursor will become an “I” sign. When moving to the graph, click on it to annotate.

Zoom

1. Press the left mouse button and drag the cursor to select the contents you wish to zoom in on.
2. Releasing the left mouse button will automatically zoom in on the selection.

To undo the zoom, press the Undo Zoom button in the tool bar.

Data Logger



Data Sets

Set	DATE	TIME	Rate	Numb	A/C	Fa/Sl	LEVEL
1	10/23/2017	09:06:59	00:02	11	dBA	FAST	30-130
2	10/23/2017	09:30:51	00:02	13	dBA	FAST	70-130
3	1/1/2016	12:00:23	00:02	2	dBA	FAST	50-110
4	1/1/2016	12:17:56	00:02	1	dBA	FAST	30-130
5	1/1/2016	12:17:57	00:02	1	dBA	FAST	30-130
6	1/1/2016	12:22:41	00:02	2	dBA	FAST	30-130
7	1/1/2016	13:06:44	00:02	1	dBA	FAST	30-130
8	1/1/2016	13:06:45	00:02	1	dBA	FAST	30-130
9	1/1/2016	13:07:45	00:02	1	dBC	FAST	30-90
10	1/1/2016	13:07:46	00:02	1	dBC	FAST	30-90
11	1/1/2016	13:07:46	00:02	1	dBC	FAST	30-90
12	1/1/2016	13:07:47	00:02	1	dBC	FAST	30-90
13	1/1/2016	13:36:36	00:02	919	dBC	FAST	30-90
14	1/2/2016	07:14:58	00:02	49	dBC	FAST	30-90

When datalogger is selected from the top menu bar, displayed will be a list of data sets, including there operating parameters. Selecting an individual set will display it on the graph at hand.

Quick Start Tutorial

Recording real time data:

1. Power on the Sound Level Meter first and connect it to a PC USB port with the provided cable.
2. Start the SE323 program.
3. If the connection is successful, the computer panel will display the same information as the Sound Level Meter display. If it fails to connect the PC display will read “No Connection”.
4. When the connection is successful, click  to start recording real time data and the waveform will be displayed on the Real Time Graph window.
5. Click  to stop recording.

How to save recorded real time data to a file:

1. Click the graph window you want to save and the graph will become active.
2. Choose **File | Save** from the main menu, or click  from the tool bar.
3. A prompt will be given for you to save the information under a given name. You can choose to save your file as a binary file (*.ghf), a text file (*.txt) or an EXCEL file (*.csv).

How to load data from the memory of the Sound Level Meter:

1. Power on the Sound Level Meter
2. Press the REC button of the meter to begin recording data.
3. Press the same button again to stop recording data.
4. Connect the Sound Level Meter to the PC.
5. Start the SE323 program.
6. Choose Data Logger from the main menu and your recorded data will be listed as an indivdual set.

Limited One-Year Warranty

Global Specialties warrants these products to be free from defective material or workmanship for a period of 1 year from the date of original purchase. Under this warranty, Global Specialties is limited to repairing the defective device when returned to the factory, shipping charges prepaid, within the warranty period.

Units returned to Global Specialties that have been subject to abuse, misuse, damage, or accident, or have been connected, installed, or adjusted contrary to the instructions furnished by Global Specialties, or that have been repaired by unauthorized persons, will not be covered by this warranty.

Global Specialties reserves the right to discontinue models, change specifications, price, or design of this device at any time without notice and without incurring any obligation whatsoever.

The purchaser agrees to assume all liabilities for any damages and/or bodily injury which may result from the use or misuse of this device by the purchaser, his employees, or agents.

This warranty is in lieu of all other representations or warranties expressed or implied and no agent or representative of Global Specialties is authorized to assume any other obligation in connection with the sale and purchase of this device.

Service

If you have a need for calibration or repair services, technical, or sales support, please contact us:

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Notes: