

# Sound Level Meter

LA-7000 series

Listen, measure, and identify the sound.



LA-7700 Class 1

**NEW**



LA-7500 Class 1



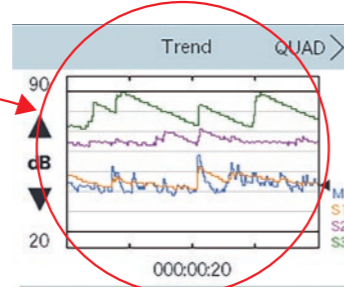
LA-7200 Class 2

# ONOSOKKI

# Easy to operate

## 4.3 inch color LCD

Clear and easy to see a display of overlapping. When the instantaneous value exceeds, the bar graph turns red and the letter of OVER is left as a measured history.



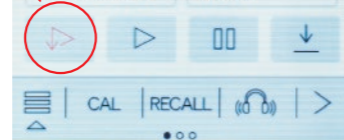
## Starts recording with one-touch operation

Calculation and recording are started just by tapping [RECORD] button(for auto memory) with a finger.



## Listening function

You can measure while listening to the sound. It enables you to realize and experience the sound, not only as simple numerical values but also as a real feeling. Moreover, you can listen more clearly to only the intended sound through filtering and setting by bandpass filter. By aiming the microphone (sound level meter) toward the direction where the sound is heard loudly, the sound probing is easily performed. (Refer to the Function page.)



# Easy to hold

## Compact

Achieves 35 % of size-reduction in volume of conventional model. Easy-to-hold design.



## Hand strap for portable use

The hand strap provided as an accessory prevents sound level meter from slipping down.



Movie of operation image



Bottom cover removable

# Easy to use

## Intuitive operation by a touch panel

It provides intuitive operation in easily understandable manner by even a beginner touching the sound level meter for the first time. You can select and change items on the display including calculation, range, measurement time by tapping the panel.

## Language selection

Language used on the display (menu, error message etc.) is selectable (English/Japanese).

## USB power supply allows long time measurement

Approx. 12 hours of continuous operation by alkaline battery cells(depends on the selected mode). Longer continuous operation is allowed by USB bus power. USB gets preference over battery cells when both USB and battery cells are used together. The battery power supply is automatically selected by removing USB connection.

## Windscreen correction function

When measuring with windscreen, the influence of the attachment can be corrected by this function.  
\*Applicable to IEC 61672-1 when a windscreen is attached.  
\*It can be used without a windscreen correction.

## Capturing function

Captures the displayed screen by pressing Power key and Home key simultaneously.

## Home key leads you to return to the first page

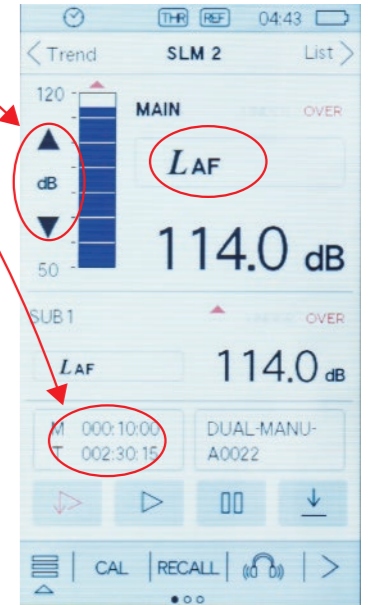
Pressing Home key returns the display to the home screen. Helpful to go back to the home screen quickly from the deep hierarchy that you are operating.

## External power supply ON/OFF function

When the LA-7000 series is used being incorporated in equipment, the ON/OFF power operation can be interlocked to an external power supply.  
\* The battery cells should be removed.

## Useful Function

- Screen Capture Function**  
-Captures the displayed screen by pressing Power key and Home key simultaneously.
- Key Lock Function**  
-Press and hold the Home key.



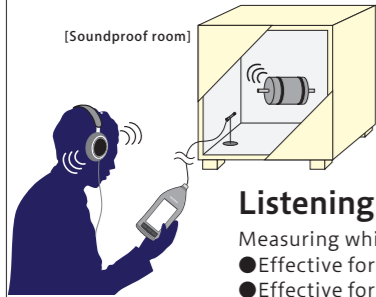
Example of a screen captured

- MULTI I/O : MULTI I/O connector
- SD CARD : SD card slot
- USB : USB connector
- AC/DC OUT : AC/DC output connector
- AC OUT : AC output connector
- CTRL IN : External control input connector
- PHONE : Headphone monitor output connector
- DC IN : External power supply input connector

## Sound level meter advancing with additional function

1/1 Octave band function which is effective for noise countermeasure is provided as standard. High cost-effective, high performance, and continues to advance sound level meter by adding further optional functions.

### Standard function



#### DUAL mode, QUAD mode

Two (DUAL) or four (QUAD) of calculation values in the combination of various frequency weightings and time weightings can be displayed simultaneously. Useful when displaying several kinds of frequency weightings.

**Sound Listening**

#### Listening function (Phone output)

Measuring while listening to the sound

- Effective for the measurement in an anechoic room or distant place
- Effective for monitoring of environmental noise etc. at distant place

\*Extension cable, headphone: sold separately

#### 1/1 Octave Band Analysis Function

Applicable standard: IEC 61260-1:2014 Class1/ JIS C 1513-1: 2020 Class1

Analysis band: 16 Hz to 16 kHz (11 bands), Allpass 1,2 \*When ultra low frequency sound measurement function available: 1 Hz to 16 kHz (15 bands)[List only], Allpass 1,2

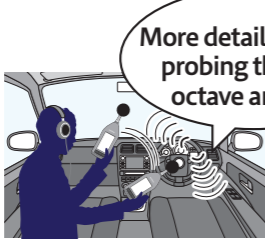
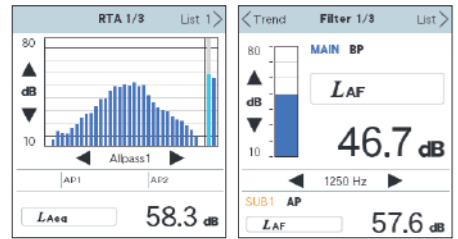
Filter 1/1 mode: By using the octave band filter, you can listen to only the interested sound even in noisy environment. It helps sound probing of abnormal sound.

### Optional function 1/3 Real-time Octave Analysis Function LA-0702

Conforming standard : IEC 61260-1:2014 Class1/ JIS C 1513-1:2020 Class1

Analysis band: 12.5 Hz to 20 kHz (33 bands), Allpass 1,2 \*When ultra low frequency sound measurement function available: 0.8 Hz to 16 kHz (45 bands)[List only], Allpass 1,2

Filter 1/3 mode: same as Filter 1/1



More detailed sound probing than 1/1 octave analysis

**Sound Analyzer & Source Identification**

### Optional function Sound Recording Function LA-0704

Memory mode: Record

Sampling frequency: 64 kHz

Recording time: approx. 8 hours at 4 GB max. (16-bit)

approx. 5.5 hours at 4 GB max. (24-bit)

(note) Up to 2 GB of recording by OS-2000 (recorded data with LA).

File format: wav. (acoustic data)

csv. (playback trend data: Lz in 1s interval)

Simultaneous processing of analysis and recording in RTA or FFT mode is enabled. Offline analysis function such as recalculation, reanalysis can be performed.

Easier to record!



**Sound Recording**

### Optional function Ultra low frequency sound measurement function LA-0709

Ultra low frequency sound (1 to 20 Hz) that is hard to hear with human ears can be measured.

Measurement frequency range : 1 Hz to 20 kHz (10 Hz to 20 kHz or 1 Hz to 20 kHz selectable by mode selection)

Frequency weighting : G weighting selectable

Time weighting : 10 s selectable

Conforming standard : ISO7196:1995 Acoustics - Frequency-weighting characteristic for infrasound measurements

Mode : SLM (SINGLE, DUAL, QUAD), FILTER (1/1 Filter, 1/3 Filter), RTA (1/1 RTA, 1/3 RTA), FFT

\*Can only be installed on LA-7500. For adding LA-0709 to LA-7500 after purchase, installation will be done by Ono Sokki.

Please contact us for details.

**Ultra low frequency Sound Measurement**



#### NEW LA-7700 Sound Level Meter Class 1

**High sensitivity type** : For measurement of weak sound in an anechoic room  
Measurement frequency range: 10 Hz to 20 kHz  
Measurement level range (JIS, IEC): A: 20 to 128 dB  
Self-noise level A: 12 dB or less

#### LA-7500 Sound Level Meter Class 1

**Wide band type** : For measurement of wide range from very low frequency sound to audible range  
Measurement frequency range: 10 Hz to 20 kHz/1Hz to 20 kHz (when ultra low frequency sound measurement function is available.)  
Measurement level range (JIS, IEC): A: 24 to 138 dB  
Self-noise level A: 16 dB or less

#### LA-7200 Sound Level Meter Class 2

**High function type** : For measurement of environmental noise  
Measurement frequency range: 10 Hz to 8 kHz  
Measurement level range (JIS, IEC): A: 23 to 138 dB  
Self-noise level A: 17 dB or less

### Optional function FFT Analysis Function LA-0703

**Sound FFT Analyzer**

This function can perform analysis with finer line resolution (narrow band analysis). Effective for frequency analysis of single-shot sound using trigger function.

Frequency range: 1 k, 2.5 k, 5 k, 12.5 k, 25 kHz

Number of lines: 400 (1024), 800 (2048), 1600 (4096) (number of sampling points)

Trigger: ON/OFF times (1 to 16), Level (40.0 to 130 dB), Position (-64 points fixed)

Average mode: SUM, MAXhold, EXP (exponential)

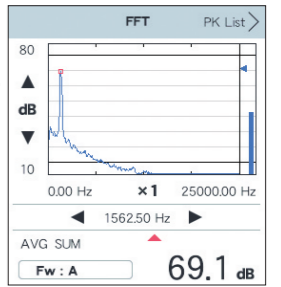
Measurement range: Normal range

(wide range: not supported)

Applicable memory: Manual, Auto, Logging, Record

Screen expand display (Expand): x1, x2, x4

\*For LA-7700, trigger level (30.0 to 120.0 dB).



### Optional function Level Judgment Function LA-0705

**Sound Level Judgment**

Judging item: Lp instantaneous value in Main (Calculated value: not supported)

Setting level: 30.0 dB to 130.0 dB

DELAY setting: OFF, 10 ms, 100 ms,

1 s, 2 s, 3 s, 5 s, 10 s

HOLD setting: 100 ms, 200 ms,

500 ms, 1 s, 5 s, 10 s,

30 s, Manual

Output mode: OFF, ON (Mode1LOW), ON (Mode2HI-z)

\*Output cable (Multi-BNC connector) 2m: provided as standard

Not over the setting value (green) Over the setting value (red)



### Optional function Level Simulator Function LA-0707

**Sound Level Simulator**

Level simulator function that enables to lower the frequency value (level) by octave band and listen to sound after countermeasures (virtual sound) has been added. You can also obtain the overall value. It is very efficient to simulate before taking measures.

Switching display : UD (Simulation possible) or AP (original sound)

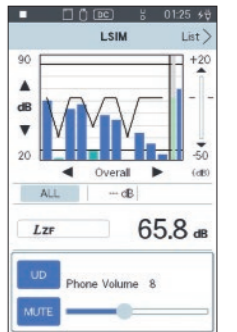
Adjustment range : - 50 dB to + 20 dB (1dB step)

Variable level : 16 Hz to 16 kHz (11 bands)

correspondence

Display band : 11 bands, Overall, Allpass (Through)

Batch edit function : 0 dB (for reset), - 50 dB (all cut)



### Optional function Sound quality evaluation function LA-0708A

**Sound Quality Evaluation (Loudness, Sharpness, Comfort index)**

Sound quality evaluation indexes such as Loudness, Sharpness and Comfort Index are available.

Usage : Stationary sound

Diffuse sound field(GD), Free sound field (GF) selectable

Calculation list : Loudness [N], Loudness level [LN]

(compliant with ISO532-1

stationary sound), Sharpness [S]

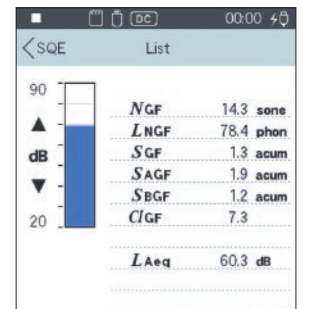
(Compliant with DIN45692), [SA]

(Aures), [SB](Bismarck), Comfort

index\*[CI]

\*Comfort Index(CI) is one of index studied by Ms. Kuwano Sonoko, Emeritus Professor of Osaka University. Currently the range of application is studied. Please use it as a reference value.

\*LA-7200 (Class 2) is not supported.



# Accessories & Related products

**Windscreens**  
 φ70 mm

**All-weather windscreens**  
 LA-0207A  
 Screen: φ200 mm  
 \*Extension cable, tripod: sold separately  
 \*It cannot be used with LA-7700.

**Carrying case**  
 Alkaline battery cell x 4  
 \*Sound calibrator: sold separately  
 \*Instruction manual (CD), setup guide (booklet)

**Instruction manual (booklet:sold separately)**  
 •Basic operation (color)  
 •Technical References (color)  
 •Interfaces (color)  
 •Options  
 \*The contents above are same as the instruction manuals (CD) provided as standard.

**Tripod**  
 Airy L100 made by SLIK corporation  
 Reduction length : 417 mm  
 Lowest position : 170 mm  
 Highest position : 1543 mm  
 Weight : 980 g

**Headphones**  
 (Recommended product)  
 ● MDR-7506 : made by Sony Corporation  
 ● ATH-M50x, ATH-M30x : made by Audio-technica Corporation

**AC adapter (with 100 VAC concent cable)**  
 PB-7090  
 \* Worldwide type cable: Consult your nearest distributor or Ono Sokki sales office nearby.



**Sound calibrator**  
 SC-2500 IEC 60942 Class1, JIS C1515 Class 1  
 Sound pressure level 114 dB Frequency 1000 Hz  
 SC-3120 IEC 60942 Class1/C, JIS C1515 Class 1/C  
 Sound pressure level 114 dB Frequency 250 Hz  
 SC-2120A IEC 60942 Class2, JIS C1515 Class 2  
 Sound pressure level 94 dB Frequency 1000 Hz

**Microphone extension cable**  
 AG-3400 series  
 AG-3401 5 m \*MI-0301 Microphone holder is provided as standard.  
 AG-3402 10 m \*Please use the extension correction mode when using extension cable.  
 AG-3403 20 m  
 AG-3404 30 m

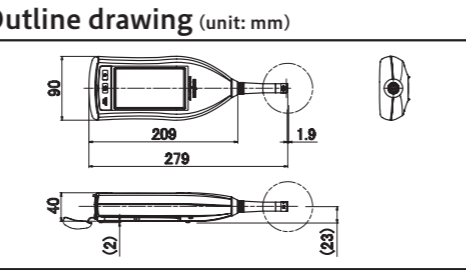
**Offline Analysis Software**  
 ●OS-2000 series Sound simulator (IIR filter), Sound quality evaluation, Frequency analysis, Trend graph  
 ●DS-3000 series Frequency analysis (FFT analysis, 1/N analysis)  
 \*Please contact your nearest distributor or Ono Sokki sales office nearby for more details.

**USB cable**  
 (Recommended product)  
 ●U2C-AMBF2U12BK (1.2 m) with ferrite core, 2A output supported (made by ELECOM.CO.,LTD)

**Multi-interface**  
 MULTI I/O cable 2m (PS-D10758)  
 PC side (serial port):D-sub 9-pin connector

**SD card**  
 4 GB \*Standard accessory  
**SD card**  
 Up to 32 GB (Recommended product) See our website

**Analog signal cable 2 m**  
 AX-501



● Provided as standard ○ Option

# Specification

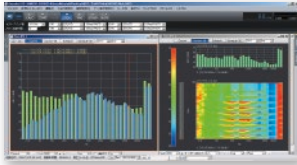
	LA-7700(Class1)	LA-7500(Class1)	LA-7200(Class2)
Applicable standard	JIS C 1509-1 : 2017 Class1 / JIS C 1516 : 2020 Class1		JIS C 1509-1:2017 Class2 / JIS C 1516: 2020 Class2
	IEC 61672-1: 2013 Class 1		IEC 61672-1:2013 Class2
	ANSI S1.4-2014/Part1 Class1		
Measurement frequency range	10 Hz to 20 kHz	10 Hz to 20 kHz / 1 Hz to 20 kHz <sup>1</sup>	10 Hz to 8 kHz
Measurement level range (IEC, JIS)	A: 20 to 128 dB / C: 28 to 128 dB / Z: 34 to 128 dB	A: 24 to 138 dB / C: 32 to 138 dB / Z: 38 to 138 dB Z: 50 to 138 dB <sup>1</sup> /G: 35 to 138 dB <sup>1</sup>	A: 23 to 138 dB / C: 30 to 138 dB / Z: 36 to 138 dB
Self-noise level	A: 12 dB or less / C: 20 dB or less / Z: 26 dB or less	A: 16 dB or less / C: 24 dB or less / Z: 30 dB or less <sup>1</sup>	A: 17 dB or less / C: 24 dB or less / Z: 30 dB or less
Microphone	MI-1281	MI-1271	MI-1471
Microphone preamplifier	MI-3270		
Linearity range	Wide range: 110 dB / Normal range: 80 dB		
Level range	10 to 120 dB (wide) / 50 to 120 dB / 40 to 110 dB / 30 to 100 dB / 20 to 90 dB / 10 to 80 dB / 0 to 70 dB	20 to 130 dB (wide) / 60 to 130 dB / 50 to 120 dB / 40 to 110 dB / 30 to 100 dB / 20 to 90 dB / 10 to 80 dB	
Reference range	50 to 120 dB		
Time weighting (e.g.: LAF)	F (fast), S (slow), I (impulse) and 10 ms	F (fast), S (slow), I (impulse), 10 ms and 10 s <sup>1</sup>	F (fast), S (slow), I (impulse) and 10 ms
Frequency weighting (e.g.: LAF)	A, C and Z	A, C, Z and G <sup>1</sup>	A, C and Z
Measurement items	L <sub>n</sub> , L <sub>max</sub> , L <sub>E</sub> , L <sub>max</sub> , L <sub>min</sub> , L <sub>peak</sub> , L <sub>N</sub> (L <sub>s</sub> , L <sub>10</sub> , L <sub>50</sub> , L <sub>90</sub> , L <sub>95</sub> , L <sub>high</sub> , L <sub>low</sub> , L <sub>min</sub> and two more of any L <sub>N</sub> value)		
Sampling interval	15.6 μs (L <sub>p</sub> , L <sub>eq</sub> , L <sub>E</sub> , L <sub>max</sub> , L <sub>min</sub> , L <sub>peak</sub> ), 100 ms (L <sub>N</sub> )		
Measurement time	e.g.: If you want to measure for 10 minutes every hour on hour and continue it for 24 hours, M.T. shall be 10 min, P.T. shall be 1 h, and T.T. shall be 24 h.		
	Measurement time (Meas.Time)	Manual (OFF), user-specified setup: 0.1 to 199 hour 59 min. 59.9 sec. / resolution: 0.1 sec.	
	Period time (Period Time)	1 min. to 24 hours / resolution: 1 min.	
Total time (Total Time)	0.1 sec. to 999 hour 59 min. 59.9 sec. / resolution: 0.1 sec.		
Start mode	Manual start, timer start, count down start, level start		
Display function	Display device	4.3-inch LCD with color backlight (touch panel type)	
	Digital display	4-digit / resolution: 0.1 dB / update cycle: 1 s	
	Bar indicator	Wide range: 100 dB of display range / Normal range: 70 dB of display range	
Remaining battery level display	4-step display		
Operation mode	(Online) mode	Standard: SLM-single, Dual, Quad, Filter 1/1, RTA1/1 Option: Filter 1/3 (LA-0702), RTA 1/3 (LA-0702), FFT (LA-0703), LSIM (LA-0707), SQE stationary sound (LA-0708A) *LA-0708A is not applicable to LA-7200.	
	Offline mode (LA-0704 required)	Standard: SLM-single, Dual, Quad, Filter 1/1, RTA1/1 Option: Filter 1/3 (LA-0702), RTA 1/3 (LA-0702), FFT (LA-0703) * LSIM (LA-0707) and SQE stationary sound (LA-0708A) are supported in Ver4.0 or later.	
Overlay display	Overlay display	Standard: RTA 1/1 Option: RTA 1/3 (LA-0702)	
	Background noise correction	Standard: RTA 1/1 Option: RTA 1/3 (LA-0702)	
Memory function	Stored in an SD/SDHC card (SDHC card: up to 32 GB is available.)		
	Memory mode	MANUAL (CSV file), AUTO (instantaneous value, calculated value, CSV file) ..... standard function LOGGING (instantaneous value 10 ms or 100 ms, CSV file) ..... standard function RECORD (WAVE file: 64 kHz sampling) ..... LA-0704 required	
	Panel condition memory	Internal memory (optional condition: 5, EZ condition: 5, power off memory: 1), SD or SDHC card memory (number depends on the capacity)	
	Basic measurement mode	5 modes (EZ1: LAeq+L <sub>Cpeak</sub> , EZ2: Record, EZ3: Logging 100 ms, EZ4: NC, EZ5: Loudness)	
	Clock function	Built-in (Year / month / day / hour / minute), Continuous operation time: approx. 1 year (charging time: 24 hours from entire discharge state)	
	Calibration history function	Built-in memory (number of stored points: approx. 100 points), Content (calibration value, VR position for control, used sound calibrator or internal reference signal, calibration date)	
Resume function	Stores measurement conditions into the built-in memory		
Calibration	Reference signal (when connecting external device)	Electronic calibration by built-in transmitter (1 kHz sine wave) / normal range: -6 dB of full-scale, wide range: -16 dB of full-scale	
	Recommended calibrator	SC-2500	SC-3120, SC-2500
Output/Input	Phone output	Actual sound or recorded sound (playback sound), 1/1 octave filter (standard function)	
	Headphone output	Selected 1 band of actual sound or recorded sound (playback sound) when using 1/3 octave filter mode (option: LA-0702). When "UD" of level simulator (LSIM: LA-0707) is selected, level editing sound. When "AP" is selected, the real sound. Maximum output: 0.03 mW (63 Ω: at 1kHz) / Connector: stereo φ3.5	
	AC output	Outputs one of A, C, or Z interlocked with the main display	
	AC output level	Output level: 0.707 Vrms ±5 % (normal range), 2.236 Vrms ±5 % (wide range), range full scale input, (when 1 MΩ loaded), distortion rate (range full scale): 0.2 % or less, load resistance: 10 kΩ or more, offset voltage: ±30 mV or less, output impedance: 50 Ω±2 %	
	AC/DC output	Selectable from DC, AC-Z or Through	
	DC output level	2.5 V ±20 mV (normal range, wide range), range full scale input, (when 1 MΩ loaded), scale factor: 0.25 V±10 mV/10 dB, load resistance: 10 kΩ or more, output impedance: 50 Ω±2 %	
	AC-Z output level	Output level: 0.707 Vrms±5 % (normal range), 2.236 Vrms±5 % (wide range), range full scale input, (when 1 MΩ loaded), distortion rate (range full scale): 0.2 % or less, load resistance: 10 kΩ or more, offset voltage: ±30 mV or less, output impedance: 50 Ω±2 %	
	Through output level	0.707 Vrms ±5 % (normal range, wide range), full-scale input (when 1MΩ loaded), distortion rate (range full scale): 0.2% or less	
	External control input	Operation: Reset and start / control voltage: non-voltage contact input / input pulse width: 200 ms or more / absolute max. input voltage: 24.0 V	
	Level judgment output (LA-0705)	Open collector (output withstand voltage: DC+24 V or less, sink current: 20 mA or less) Output cable (Multi I/O-BNC connector 2m): provided as standard	
Level judgment comparison item	SLM mode (Main : Lp), Filter 1/1,1/3 (Main (BP) : Lp), RTA1/1,1/3 (AP1 : Lp), FFT (OVERALL : Instant)		
Interface	RS-232C	Baud rate: 9600, 115200 bps, Multi I/O cable (sold separately)	
	USB	Ver. 2.0: Compliant with USB high speed storage class specification, USB connection cable: USB (A) male-micro USB (B) male (sold separately), Function: Command control or mass storage <sup>2</sup>	
External memory	SD/SDHC memory card (up to 32 GB) <sup>3</sup>		
Applicable extension cable (for microphone extension) <sup>4</sup>	AG-3400 series (CE compatible within 30m), cable extension up to 103m (AG-3305) *Cable extension exceeding 5m : with correction function.		
Power supply	•Size AA battery (alkaline battery cell or Ni-MH secondary battery) x 4 pieces •USB bus power (operating input voltage range: 4.75 to 5.25 VDC) •AC adapter (PB-7090, power consumption: approx. 7 VA when using 100 VAC)		
External power operation function	The main unit is activated automatically when the power is supplied from an AC adapter.(This function is not available by battery cells.) Switch on/off can be done with the switch in the battery box (standard function)		
Windscreens correction function	Function to correct the influence of windscreen (φ70) or all-weather type windscreen (LA-0207A). All-weather type windscreen is not applicable to LA-7700. <sup>6</sup>		
Battery life (continuous use) <sup>5</sup>	Alkaline battery cell LR6: approx. 12 hours, Ni-MH secondary battery: approx. 12 hours		
Operating (storage) temperature range	-10 to 50 °C (-20 to 60 °C)		
Operating (storage) humidity range	20 % to 90 %RH (10 % to 90 %RH ) with no condensation		
Outer dimensions	Approx. 90(W)×279(H)×42(D)mm		
Weight	Approx. 540 g (including batteries)		
Accessories	AC adapter (PB-7090) <sup>7</sup> , signal cable (AX-501), windscreens (φ70 mm), hand strap, size AA battery cell x 4 pieces, carrying case (including shoulder belt), SDHC memory card (4G), instruction manual (CD), setup guide		

<sup>1</sup>: Available with the LA-0709 Ultra low frequency sound measurement function <sup>2</sup>: Supported ver.2.0 or higher version of firmware  
<sup>3</sup>: Please use a recommended SD card when you use the SD memory function. <sup>4</sup>: The described value is extendable length when the exclusive cable is used.  
<sup>5</sup>: It depends on the using status such as operation mode, memory mode, and backlight. <sup>6</sup>: Conforms to IEC 61672-1:2013 when the all-weather type windscreen is attached to the sound level meter.  
<sup>7</sup>: Please contact your nearest distributor or Ono Sokki sales office nearby for the outlet cable used for overseas.

# Products for further analysis

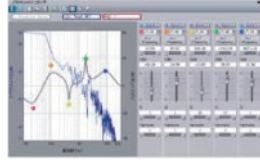
## Offline Software for analysis

### ●DS-3000



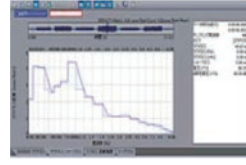
The DS-3000 can import the WAVE file which has been recorded by LA-7000 series and LA-0704, and perform FFT analysis offline. The unit is automatically calibrated at the time of importing.

### ●IIR Filter (OS-2000 series)



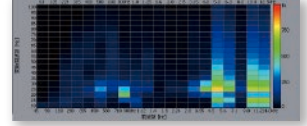
The OS-2000 series can import the WAVE file which has been recorded by LA-7000 series and LA-0704. You can hear the change by increasing or decreasing the frequency level.

### ●Sound Quality Evaluation (OS-2000 series)



The sound quality evaluation software can import the WAVE file which has been recorded by LA-7500 and LA-0704, and calculate the loudness, non-constant loudness, sharpness, and fluctuation strength.

### ●Fluctuation Sound Analysis (OS-2000 series)



OS-2000 series can show the sound feature by two parameters of frequency and fluctuation frequency. This software enables wide frequency range of sound quality evaluation that cannot be performed by "roughness" and "fluctuation strength" fields.

## Sound Source Visualization System BF-3200, MI-5420A etc.



Sound Source Visualization Probe Microphone



The sound source visualization system has more advanced function than the LA-7000 series, which identifies and visualizes the sound that you are curious about. (frequency of the 1/3 octave bandpass filter)

## Acoustic sensor (microphone, preamplifier) MI series



- MI-1271+MI-3170  
1/2-inch High performance microphone (Operating temperature: -30 °C to 80 °C) (Frequency range: 1 Hz to 20 kHz) (Self-noise A-weighting: 14 dB)
- MI-1235 + MI-3111  
1/2-inch Microphone for general usage (Equivalent to Class1, 10 Hz to 20 kHz)
- MI-1433 + MI-3111  
1/2-inch Microphone for general usage (Equivalent to Class1, 20 Hz to 8 kHz)
- MI-1531 + MI-3140  
1/4-inch High performance microphone (1/4-inch diameter, 10 Hz to 100 kHz)

## Sound Level Meter LA-1411/1441A/4441A



This series has simple function which measures the sound level, equivalent continuous sound level ( $L_{eq}$ ), sound exposure ( $L_E$ ), maximum, minimum, peak level ( $L_{peak}$ ), percentile noise level ( $L_N$ ) etc. Recommended calibrators (Class1 and Class2) are also provided.

- LA-4441A (IEC 61672-1 Class 1)
- LA-1441A (IEC 61672-1 Class 2)
- LA-1411 (IEC 61672-1 Class 2)

\*Extension (BNC) cable for microphone is sold separately.



\*To upgrade the sound level meter after purchase, register the product on the user registration page and download the latest version. To add options, upgrade the sound level meter to the latest version.

## Reliable and high level calibration JCSS\*1 Accredited Calibration Laboratory

Ono Sokki provides reliable and high level calibration results, based on the international reference "General requirements for the competence of testing and calibration laboratories" and the skills and know-how of quality assurance system that has been acquired through many years of practices.

Under the JCSS of calibration laboratory accreditation system, Ono Sokki is assessed and accredited as Accredited Calibration Laboratories to meet the requirements of the Measurement Law, relevant regulations and ISO/IEC.

We support 6 accreditation scopes, which is industry-leading in measurement instruments manufacturers.

\*1 JCSS: Japan Calibration Service System

\*2 ilac: International Laboratory Accreditation Conference

\*3 MRA: Mutual Recognition Arrangements

### Accreditation Scope

- Acoustics & Ultrasound
- Acceleration
- Torque
- Fluid flow
- Electricity (Direct Current & Low Frequency)
- Speed
- Time & Frequency & Rotational speed



Ono Sokki can issue the calibration certificates with the JCSS accreditation symbol, which assures the traceability to National Measurement Standards as well as a laboratory's technical and operational competence, and is acceptable in the world through the ilac\*2-MRA\*3.

(Under the calibration laboratory accreditation system JCSS, Ono Sokki is officially certificated by NITE.)

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