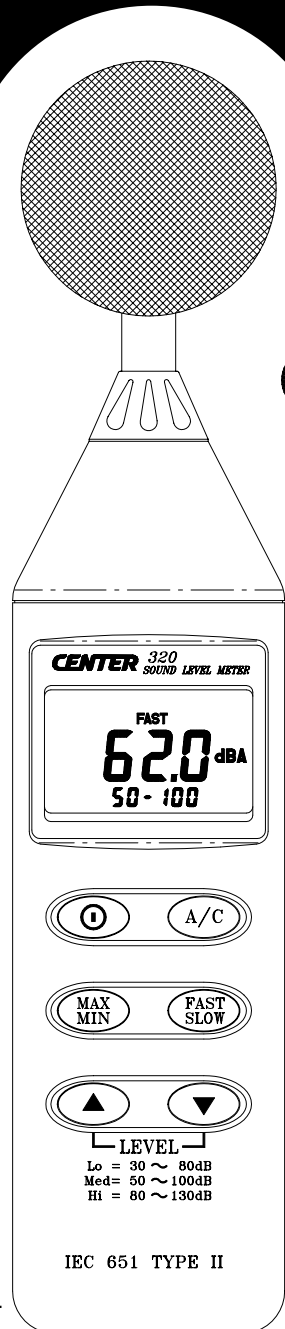


# ***CENTER* 320**

## **SOUND LEVEL METER**

**CE**

**Instruction Manual.**



**Center Technology Corporation**

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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; otherwise, the protection provided by the meter may be impaired.

### ➤ **Environment conditions**

- ❶ Altitude up to 2000 meters
- ❷ Relatively humidity 90% max.
- ❸ Operation Ambient 0 ~ 40

### ➤ **Maintenance & Clearing**

- ❶ Repairs or servicing not covered in this manual should only be performed by qualified personnel.
- ❷ Periodically wipe the case with a dry cloth. Do not use abrasives or solvents on this instruments.

### ➤ **Safety symbols**



Meter is protected throughout by double insulation or reinforced insulation.

When servicing, use only specified replacement parts.



Comply with EMC



## *II. General Description*

Thank you for using our Sound Level Meter. To ensure that you can get the most from it, we recommend that you read and follow the manual carefully before use.

This unit conforms to the IEC651 type2, ANSI S1.4 Type2 for Sound Level Meters.

This Sound Level Meter has been designed to meet the measurement requirements of safety Engineers, Health, Industrial safety offices and sound quality control in various environments.

- ☐ Ranges from 30dB to 130dB at frequencies between 31.5Hz and 8 KHz.
- ☐ Display with 0.1dB steps on a 4-digits LCD.
- ☐ With two equivalent weighted sound pressure levels, A and C.
- ☐ Both AC and DC signals output is available from Both standard 3.5mm coaxial socket suitable for a frequency analyzer, level recorder, FFT analyzer, graphic recorder ; etc.

## *III. Specifications*

Standard applied	: IEC651 Type2, ANSI S1.4 Type2.
Frequency range	: 31.5Hz ~ 8KHz
Measuring level range	: 30 ~ 130dB
Frequency weighting	: A / C
Microphone	: 1/2 inch electret condenser microphone

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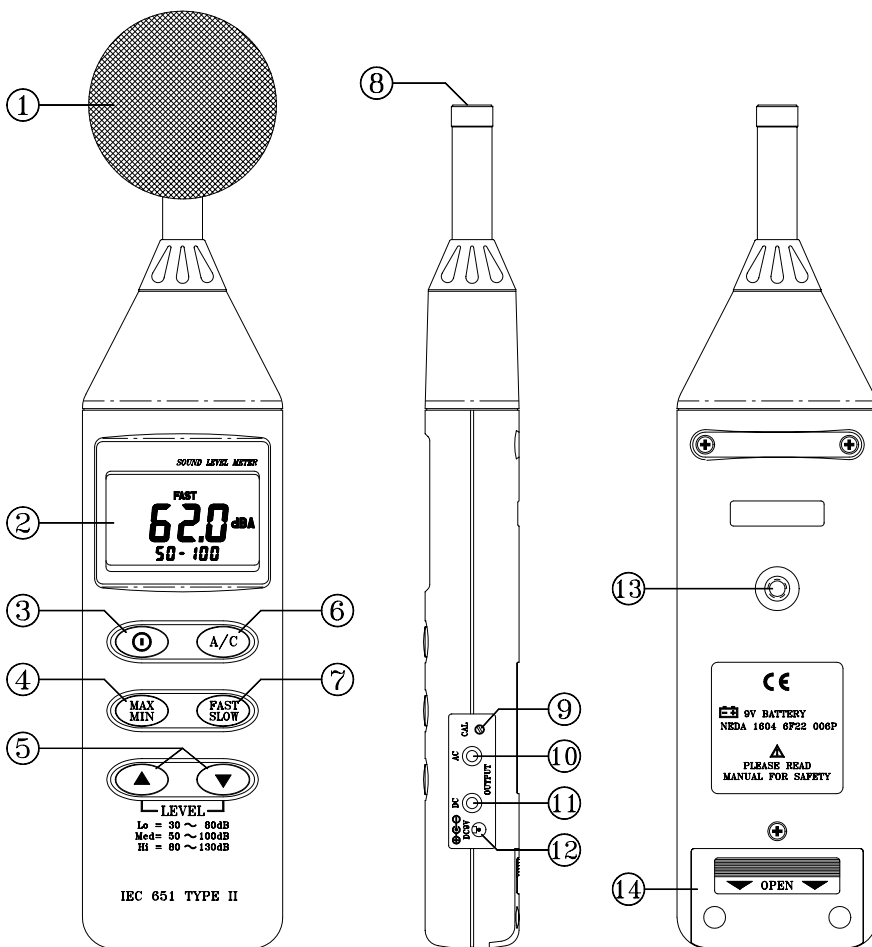
Display	: LCD
Digital display	: 4 digits Resolution: 0.1dB Display Updata: 0.5 sec.
Time weighting	: FAST ( 125mS ), SLOW ( 1 sec. )
Level ranges	: Lo: 30 - 80 dB Med: 50 - 100 dB Hi: 80 – 130 dB
Accuracy	: $\pm 1.5$ dB ( under reference conditions )
Dynamic range	: 50 dB
Alarm function	: “ OVER ” is show when input is more than upper limit of range. “ UNDER ” is show when input is Less than lower limit of range.
MAX / MIN hold	: Hold readings the Maximum and Minimum Value.
AC output	: 1 Vrms at FS ( full scale ). output impedance : Approx. 50 FS: means the upper limit of each level range.
DC output	: 10mV / dB , output impedance approx. 100
Power supply	: One 9V battery, 006P or IEC 6F22 or NEDA 1604.
Power life	: About 50hrs ( alkaline Battery )

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AC adapter	: Voltage 9 V <sub>DC</sub> ( 8-15V <sub>DC</sub> Max ) Supply current: > 30mA <sub>DC</sub> Socket: pin      Ground Casing      Positive External Diameter      3.5mm Internal Diameter      1.35mm
Operation temperature	: 0 to 40    ( 32 to 104    )
Operation humidity	: 10 to 90%RH
Storage temperature	: -10 to 60    ( 14 to 140    )
Storage humidity	: 10 to 75%RH
Dimensions	: 275 (L) x64 (W) x30 (H)mm 10.8 (L) x2.5 (W) x1.2 (H)inch
Weight	: 275g ( including battery )
Accessories	: 9V battery, carrying case. Screwdriver, Instruction manual.Windscreen, 3.5 plug.

## IV. Name And Functions



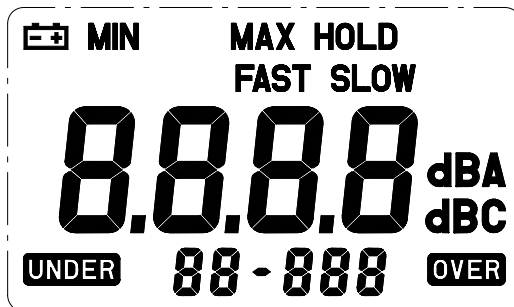
# SOUND LEVEL METER

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## ① Windscreen

If you operate at wind speed over 10m/sec, please put protective accessories in front of the microphone.

## ② Display



### SYMBOL

### FUNCTION


LCD	4 digits
MAX	Maximum Value hold
MIN	Minimum Value hold
OVER	Over range
UNDER	Under range
FAST	Fast response
SLOW	Slow response
dBA	A-Weighting
dBC	C-Weighting
88-888	Range Indicate
Battery icon with +	Low-Battery
-LQ-	Under range 20dB


## ③ Power Switch

the ① key turns the sound level meter ON or OFF.



## ④ MAX / MIN hold switch

Press  button to enter the maximum and minimum recording mode. Select the proper Level range before using MAX/MIN to ensure that reading value will not exceed the measurement range. Press once to select MAX value. Press again to select MIN value, and press again to select current Value with " MAX MIN " annunciator blinking.

Press and hold down  button for 2 seconds to exit the MAX MIN mode.

***Note: If change sound level range or change A-C weight, the***

***MAX.MIN mode will clear.***

Sampling rate: 160ms

## ⑤ Level range control switch

Each time the UP switch ▲ is pressed. The level range increments from " Lo " Level to " Hi " Level range.

Each time the DOWN switch ▼ is pressed. The range decreases from " Hi " Level to " Lo " Level range.

## ⑥ Frequency Weighting select switch

A : A - Weighting. for general sound level measurements.

C : C - Weighting. for checking the low-frequency content of noise.

( If the C-Weighted level is much higher than the A-weighted level, then there is a large amount of low-frequency noise )

## ⑦ Time weighting select Switch.

FAST : for normal measurements

SLOW : for checking average level of fluctuating noise.

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### ⑧ Microphone

1/2 inch Electret Condenser microphone

### ⑨ CAL potentiometer

Calibration control , For level calibration adjustment.

### ⑩ AC output terminal

1 Vrms Corresponding to each range step.

Output impedance 50

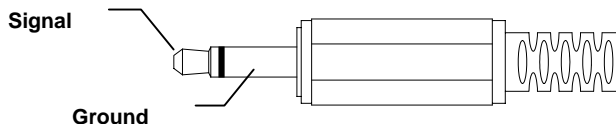
Output signal by standard 3.5mm coaxial socket signal on pin.

### ⑪ DC output terminal

Output : 10mV/dB

Output impedance 100

Output signal by standard 3.5mm coaxial socket signal on pin.



### ⑫ External DC 9V power supply terminal

For connection with AC adapter.

### ⑬ Tripod mounting screw.

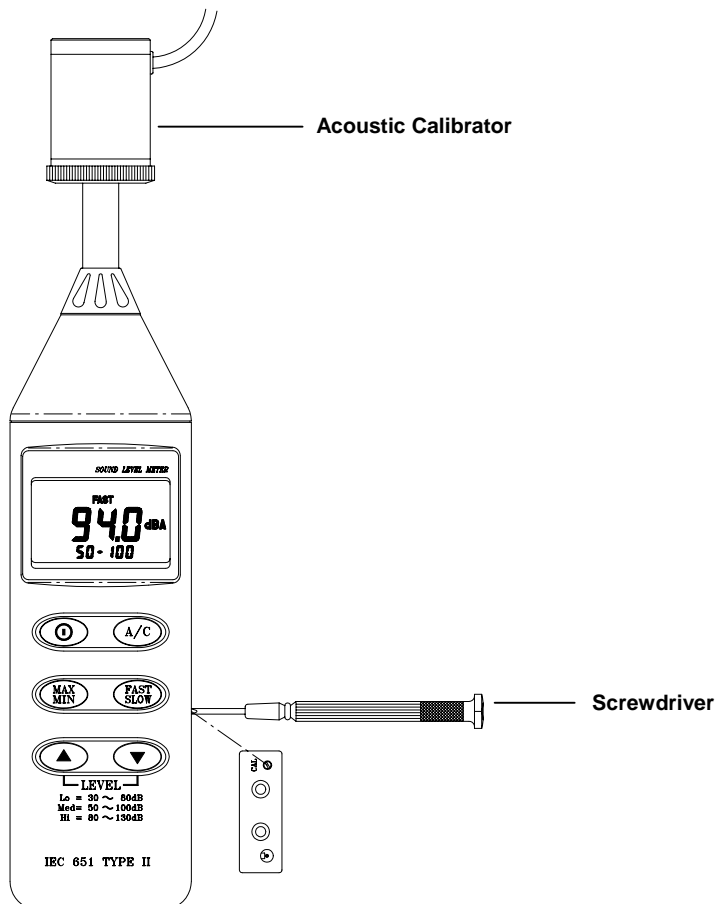
## ⑭ Battery Cover

# SOUND LEVEL METER

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## V. Calibration Procedures

Using a standard Acoustic Calibrator (94dB , 1KHz Sine wave )




- (1) Make the following switch settings.  
Display : dBA  
Time weighting : FAST  
Measurement mode : MAX MIN Mode function disable.  
Level range : 50 to 100dB
- (2) Insert the microphone housing carefully into the insertion hole of the calibrator.
- (3) Turn on the switch of calibrator and adjust the CAL potentiometer of the unit . The level display will indicate the desired level .  
Our products are all well calibrated before shipment.  
Recommended Recalibration cycle : 1 year.

## *VI . Measurement Preparation*

### **(1) Battery Loading**

Remove the battery cover on the back and put in one 9V Battery.

### **(2) Battery Replacement**

When the battery voltage drops below the operating voltage, mark  appears . If it appears, battery should be replaced with new one.

### **(3) AC Adapter Connection**

When the AC adapter is used , insert the plugs of the adapter into the DC9V connector on the side panel.

## *VII. Operating Precautions*

- (1) Wind blowing across the microphone would bring additional extraneous noise.

Once using the instrument in the presence of wind , it is a must to mount the windscreen to not pick up undesirable signals.

- (2) To achieve more accurate measurement, use an extension cable to separate the Microphone from the main body so that the effect of unexpected sound reflection can be eliminated.
- (3) Calibrate the instrument before operation if the instrument was not in use for a long time or operated at bad environment.
- (4) Do not store or operate the instrument at high temperature and high humidity environment.
- (5) Keep microphone dry and avoid severe vibration.
- (6) Please take out the battery and keep the instrument in low humidity environment. When not in use.



## *VIII. Measurement*

- (1) Open battery cover and install a 9-volt battery in the battery compartment.
- (2) Turn on power and select the desired response Time and weighting. If the sound source consists of short bursts or only catching sound peak, set response to FAST. To measure average sound level, use the slow setting.  
Select A- weighting for general noise sound level and C-weighting for measuring sound level of acoustic material.
- (3) Select desired Level
- (4) Hold the instrument comfortably in hand or fix on tripod and point the microphone at the suspected noise source , the sound pressure level will be displayed.
- (5) When MAX MIN ( maximum, minimum hold ) mode is chosen. The instrument captures and holds the maximum and minimum noise level for a long period using any of the time weightings and ranges.  
Press the MAX MIN button 2 seconds to clear the MAX/MIN reading . “ MAX/MIN ” symbol disappears.
- (6) Turn OFF the instrument and remove battery when not in use.



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