UT351/352
SOUND LEVEL METER
OPERATING MANUAL



Overview

Sound Level Meter Model UT351 and UT352 (hereafter referred to as “the Meter”) is a stable, safe and reliable sound level meter. The Meter is suitable to use in noise control, quality control, health care and all different kind of environmental noise testing. For example: factory, road, family, musical instrument and all kind of places which need noise testing.

Unpacking Inspection

Open the package case and take out the Meter. Check the following items carefully to see any missing or damaged part:

Item	Description	Qty
1	English Operating Manual	1 piece
2	Windscreen	1 piece
3	1.5V Batteries (AA)	4 pieces

In the event you find any missing or damage, please contact your dealer immediately.

Rules For Safe Operation

- Before using the Meter inspect the case and accessories. Do not use the Meter if it is damaged, LCD cannot display, the case (or part of the case) is removed or you consider the Meter does not work properly. Look for cracks or missing plastic.
- When using the Meter, must follow the instruction manual.
- The internal circuit of the Meter shall not be altered at will to avoid damage of the Meter and any accident.
- Replace the battery as soon as the battery indicator appears.
- Turn the Meter power off when it is not in use and take out the battery when not using for a long time.
- Do not use or store the Meter in an environment of high temperature, humidity, explosive, inflammable and strong magnetic field. The performance of the Meter may deteriorate after dampened.

- Soft cloth and mild detergent should be used to clean the surface of the Meter when servicing. No abrasive and solvent should be used to prevent the surface of the Meter from corrosion, damage and accident.
- Constantly check the battery as it may leak when it has been using for some time, replace the battery as soon as leaking appears. A leaking battery will damage the Meter.

International Electrical Symbols

CE	Conforms to Standards of European Union

The Meter Structure (see figure 1)

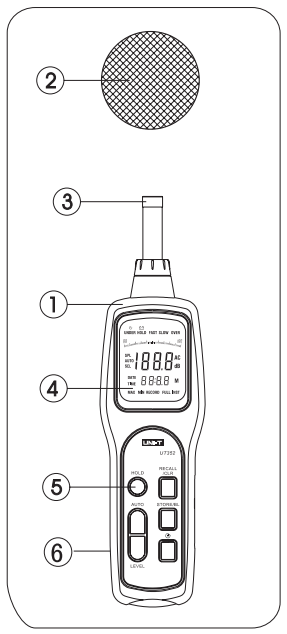


figure 1

A. Meter Front

1. Housing
2. Windscreen
3. Microphone
4. LCD Display
5. Functional Buttons
6. Signal output and power terminals

B.Display Symbols (see figure 2)

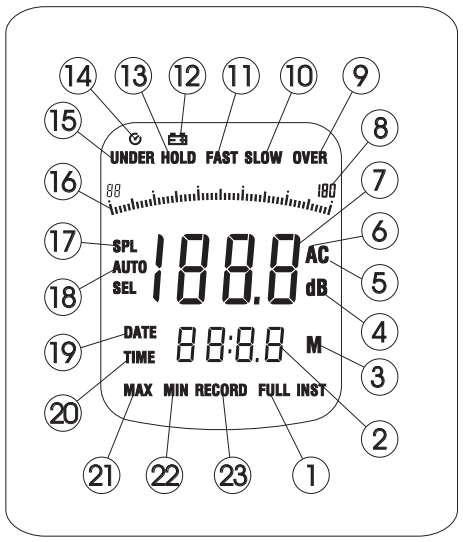


figure 2

No.	Meaning
1	Data Store is full
2	Date and Time display
3	Data Store
4	Decibel
5	C-Weighting
6	A-Weighting
7	Sound value display
8	Range display
9	Over range
10	Slow response
11	Fast response
12	Low battery display
13	Data Hold is on
14	Auto power off enabled
15	Under range
16	Analogue bar graph display
17	Symbol of Sound Pressure Level
18	Auto ranging enabled
19	Date display
20	Time display
21	Maximum value display
22	Minimum value display
23	Data Store enabled

Side Panel (see figure 3)

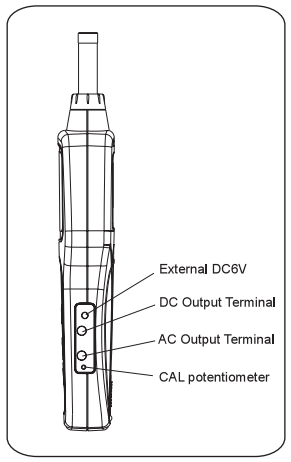


figure 3

1. DC Output Terminal: DC analogue signal output. Output impedance is around 100Ω (10mV/dB)
2. AC Output Terminal: AC analogue signal output. Output impedance is around 600Ω (0.707V/ each range scale)
3. CAL potentiometer: Calibration
4. External DC6V:Using power adaptor DC6V, output plug (ø 3.5) to plug in the terminal. It can use 4pcs of 1.5V batteries or power adaptor to power up the Meter

Measurement Operation and Functional Buttons

Below table indicated for information about the functional button operations

Button	Operation Performed
HOLD ⏻	● Turn the Meter on and off. Press once to turn the Meter on. Press and hold for around 1 second to turn the Meter off. ● HOLD feature: During sound measure ment, press once to freeze the current reading in the display. Press the button again to resume normal operation.
A/C	● During sound measurement, press A/C button to select “A” or “C” frequency weighting. With “A” weighting selected, the frequency response of the Meter is similar to the response of the human ear. “A” weighting is commonly used for envi ronmental or hearing conservation programs ‘C” Weighting is a much flatter response and is suitable for the sound level analysis of machines, engines, etc. Most noise measurements are performed using “A” Weighting and SLOW Response. ● For the Model UT352, press A/C button also could recall and clear data: ≥ RECALL: ▲ Press and hold this button, the LCD displays the last data stored and the index number. ▲ Press ▲▼ button to recall additional stored reading. ▲ Press ⏻ button to exit the RECALL mode ≥ CLR: ▲ Press and hold A/C button when turning on the Meter until the LCD displays CLR and RECORD. All the data stored will be cleared.

Button	Operation Performed
LEVEL	Press to selection of Auto ranging, Manual ranging. ● The Meter is default to auto ranging. ● Press LEVEL button to switch to manual ranging. Press button to toggle from low to high range or from high to low range. Press and hold LEVEL button to exit the manual ranging mode.
FAST/ SLOW	● Press to select a FAST (125ms) or a LOW (1 second) response time. Select FAST to capture noise peaks and noises that occur very quickly. Select the LOW response to monitor a sound source that has a consistent noise level or to aver age quickly changing levels. Select LOW response for most application. ● Press and hold FAST/SLOW button to enable display backlight. Press and hold FAST/SLOW button again to disable display backlight. ● For UT352, press FAST/SLOW button to store data: ➢ Press HOLD button to freeze data, the LCD displays HOLD and M symbol and the data being stored. ➢ Press FAST/SLOW to store the data, the symbol RECORD and the number of index blink for 0.5 seconds. ➢ The Meter will automatically exit HOLD mode. ➢ The Meter can store up to 63 data.
MAX/ MIN	● Press MAX/MIN to display the maxi mum or minimum reading. The display will update only when the measured value exceeds the value presently in the display. ➢ Press the MAX/MIN button and the MAX icon will display on the reading. The reading displayed is the highest reading encountered since the MAX mode was entered.

Button	Operation Performed
MAX/ MIN	➢ Press MAX/MIN button again. The MIN icon will appear on the display. The read ing displayed is the lowest reading encountered since the MIN mode was entered. ➢ Press the MAX/MIN button again to exit the MAX/MIN display mode ● Press and hold MAX/MIN button to disable or enable auto power off feature. The Meter will automatically off after approximately 15 minutes of inactivity. The icon display indicates that the auto power off feature is active.

Calibration (see figure 4)

1. Turn the Meter on.
2. Put the Meter in the "A" weighting mode, FAST response mode, range set to 60~110dB, lock to MAX.
3. Place the microphone onto the calibrator's 1/2 inches sound source hole.
4. Turn the calibrator on, using 94dB@1kHz standard sound source.
5. Adjust the Meter's CAL potentiometer located on the side panel until the LCD displays 94.0dB

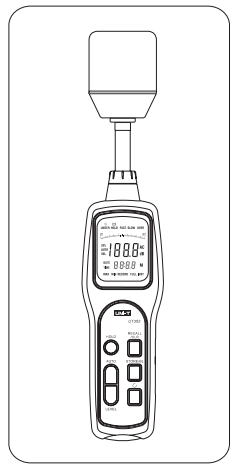


figure 4

Specifications

A.General Specifications

- Display: 3 1/2 digits, 1999 maximum
- Overloading:
  Under range displays **UNDER**
  Over range displays **OVER**
- Battery Deficiency:
  Change batteries as soon as is displayed.
- Sampling Rate:
  Fast Speed: 125 microseconds
  Slow Speed: 1 second
- Microphone: 1/2" electret condenser
- Drop Test: 1 meter pass
- Battery: 4 x 1.5V batteries (AA)
- Battery Life: Typical 20 hours continuous
- Dimension: 273 x 69 x 39mm
- Weight: around 386 g (including batteries)

B.Environmental Requirements

- For indoor use only.
- Altitude: 2000m
- Temperature and humidity:
  ➢ Operating:
  0℃~30℃(≤80%R.H)
  30℃~40℃ (≤75%R.H)
  40℃~50℃(≤45%R.H)
  ➢ Storage:
  -20℃~ +60℃ (≤80%R.H)
- Safety/ Compliances:
  EN61326:1997+A1:1998+A2:2001+A3:2003,
  EN61672-1: 2002 Class 2 and IEC60641:1979 Type 2,
  ANSI S1.4:1983 Type 2
- Certification: CE

Accuracy Specifications

Accuracy:±(a% reading + b digits).guarantee for 1 year.
Operating temperature:23℃±5℃.
Relative humidity:≤80%.
Temperature coefficient: 0.1 x (specified accuracy) / 1℃

A. Decibel dB

Function	Range	Resolution	Accuracy	Remarks
A-Weighting and C-Weighting	30~80dB	0.1dB	±1.5dB	Frequency Response 31.5~8kHz
	50~100dB			
	60~110dB			
	80~130dB			
Sampling Rate	FAST			Sampling Time: 125 microsecond
	SLOW			Sampling Time: 1 second
Analogue Bar Graph	30~130dB	1dB		1 dB per scale, Sampling time: 200 times per second
Overloading				Over range display: OVER Under range display: UNDER
DC analogue signal output	Output impedance around 100Ω, 10mV/dB			Has input terminal
AC analogue signal output	Output impedance around 600Ω, 0.707V/ each scale			Has input terminal
Power (HOLD)				Turn on and off the Meter and data holding
LEVEL (AUTO)				Selecting auto and manual ranging
A/C (RECALL/CLR)	A-Weighting and C-Weighting selection			RECALL/CLR features are for model UT352 only. Press to recall and clear data
FAST/SLOW (STORE/BL)	Selection of fast or slow sampling rate and turn on and off of display backlight			STORE feature is for model UT352 only. Press to store data
MAX/MIN (Auto ranging)	Selection of maximum and minimum value. Selection of auto power on and off			

Maintenance

This section provides basic maintenance information including battery replacement instruction.

⚠Warning

Do not attempt to repair or service your Meter unless you are qualified to do so and have the relevant calibration, performance test, and service information. To avoid electrical shock or damage to the Meter, do not get water inside the case.

In order not to affect the Meter accuracy or damge to the Meter, do not open the Meter housing

A.General Service

- Periodically wipe the case with damp cloth and mild de tergent. Do not use chemical solvent.
- To clean the terminals with cotton-tipped swab with de tergent, as dirt or moisture in the terminals can affect readings.
- Press the Meter power off when it is not in use and take out the battery when not using for a long time.
- Do not store the Meter in place of humidity, high tem perature, explosive, inflammable and strong magnetic field

B.Replacing the Battery (see figure 5)

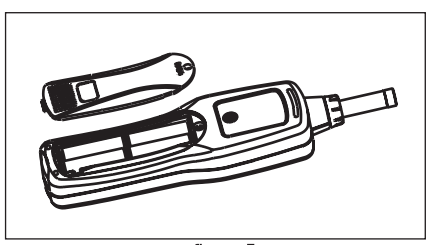


figure 5

⚠Warning

To avoid false readings replace the battery as soon as the battery indicator appears.

To replace battery:

1.Press the Meter power off
2.Remove the screw from the battery compartment, and then take out the battery door from the battery compart ment.
3.Remove the battery from the battery compartment.
4.Replace the battery with 4pcs new 1.5V AA batteries
5.Rejoin the battery door and the battery compartment, and install the screw

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