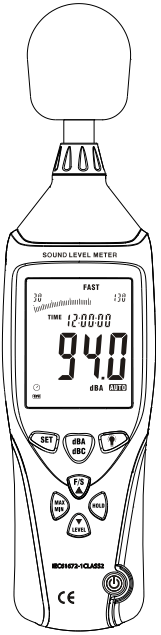
User's Manual

Professional Sound Level Meter



Please read this user manual thoroughly before using this unit and keep it properly for your future reference.

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1. ⚠ Safety

Read the following safety information carefully before attempting to operate the meter.

Use the meter only as specified in this manual; otherwise, the warranty may be invalidated.

◆Environment conditions:

Altitude up to 2000 meters

RH≤90％（Non-Condensation）

Operating Temperature: -20～60℃

◆Maintenance

Repairs or servicing should only be performed by ATP Instrumentation Ltd

Wipe the unit with a dry soft cloth. Do not use abrasives or solvents on this instrument.

◆Safety Symbol

CE Comply with EMC

2. General Description

This Sound Level Meter is designed to meet the measurement requirements of safety engineers, health, industrial safety offices and sound quality control in various environments like construction, factories, schools, offices, traffic access, household, stereos, etc.

◆Comply with IEC61672-1 CLASS2 standard

◆Max/Min record

◆Over range indication

◆Under range indication

◆Time, data transmission display

◆A & C Weighting

◆Selectable response time: FAST/SLOW

◆Analog AC/DC outputs for connection to frequency analyzer or X-Y shaft recorder

◆PC real-time monitoring, recording and memory

◆4digits LCD display with a resolution of 0.1dB

◆Sampling time: 2 times/second.

3. Specifications

Applied standard	IEC61672-1 CLASS2
Accuracy	±1.4dB
Frequency range	31.5Hz～8kHz
Dynamic range	50dB
Measuring level range	Lo：30dB～80dB
	Med：50dB～100dB
	Hi： 80dB～130dB
	Auto:30dB～130dB
Frequency weighting	A & C
Time weighting:	FAST 125ms;SLOW (1s)
Microphone	1/2 inch electret condenser microphone
Display	4digits LCD display with a resolution of 0.1dB
Sampling time	2 times/sec
Max Hold	MAX
Min Hold	MIN
HOLD:	Hold the readings
Alarm function	“OVER” is when input is more than upper limit of range.
	“UNDER” is when input is less than lower limit of range.

Analog output	AC/DC outputs from earphone outlet AC=1Vrms ， DC=10mV/dB
Data recording:	Meter memory：262100 readings
Auto power off	Meter automatically shuts down after approx. 15 minutes inactivity (auto power off is disabled in recording mode)
Power supply	One 9V battery
Battery life	at least 30 hours
Operating conditions	-20~60□; 10％RH～90％RH
Storage conditions	-20℃～60℃; 10％RH～75％RH
Dimension (L*W*H)	252*66 *33 mm
Weight:	262g

4. Meter Description

①Wind Muffler

②Microphone

③LCD display

④Frequency weighting A/C selection key

⑤Backlight ON/OFF key

⑥HOLD key

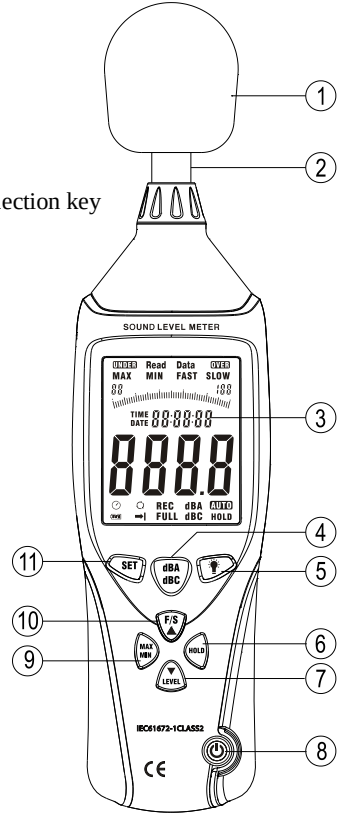
⑦Range selection key

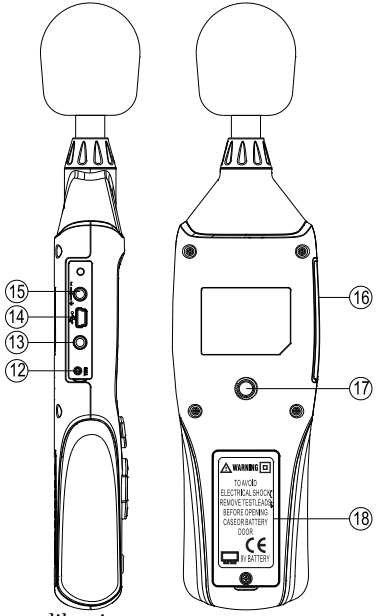
⑧Power ON/OFF key

⑨MAX/MIN key

⑩Response time selection key

⑪SET key





⑫Potentiometer calibration

⑬AC/DC signal output earphone outlet

⑭USB interface

⑮External DC 9V power supply terminal

⑯Dustproof cover

⑰4mm camera bush for tripod mounting

⑱Battery Compartment

5. LCD display description

Icon	Function
LCD	4 digits
MAX	Maximum data hold
MIN	Minimum data hold
OVER	Input value is more than upper limit of range.
UNDER	Input value is less than lower limit of range.
FAST	Fast response
SLOW	Slow response
dBA	A frequency weighting(the noise that human ear can hear)
dBC	C frequency weighting (response to machine monitor)
TIME	Display current time(Hour-Minute-Second)
DATE	Display current date(Year-Month-Day)
AUTO	Auto level range selection
HOLD	Data hold function
REC	Data recording
Full	Memory is up to limitation
	Auto power off
	Low battery indication
	Real-time communication icon: it flashes when the meter is connected with PC to achieve data transmission.

6. Operation Instructions

(1) **Frequency weighting selection:**

Press "

" key to select A or C.

(2) **Backlight:**

After turning the meter on, press " " key, the backlit will turn on. It will automatically turn off after approx. 30 seconds of no activity or you can press " "key again to disable the backlight before 30secs.

(3) **HOLD:**

After turning the meter on, press "

" button, **"HOLD"** icon will appear on the bottom right hand corner of the LCD display, which indicates the data is frozen. To release the held reading, press the "

" button again.

(4) **Level range selection:**

Press "

" key, the level range will change from 'Lo', 'Med', 'Hi' to 'Auto' level.

(5) **Power on/off:**

Press the" " key for 1 second to turn the meter on. Press and hold " " key for approx. 3 seconds to turn the meter off.

(6) **MAX/MIN**

Press the "

" key once to enter MAX measurement. **'MAX'** will appear on the top left hand corner of the LCD display. The captured maximum sound level will be displayed. Press the "

" key again, **'MIN'** will appear on the top left hand corner of the LCD display and the minimum sound level will be displayed. Press the "

" button one more time to exit **MAX/MIN** measurement mode.

(7) **FAST/SLOW**

Press “ F/S ▲ ” to select FAST or SLOW time weighting measurement.

FAST: Fast sampling measurement, 1 time per 125ms.

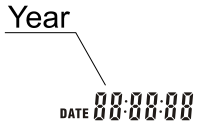
SLOW: Slow sampling measurement, 1 time per second.

(8) **Date & Time Set**

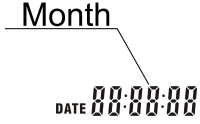
(8.1) While the meter is turned off, press and hold the "SET" key and keep "SET" held while turning the meter on. Release the "SET" key when the meter has powered on. The year data, next to the DATE will flash to indicate you have entered the Date & Time Set mode. The date is displayed as YEAR-MONTH-DAY, see fig. as below:

When the YEAR data flashes continuously, press "▲" key to increase the value or press the "▼" key to decrease the value. See

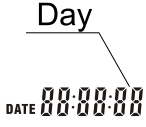
fig.as below:



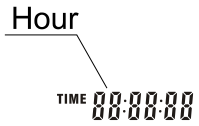
Press "SET", the MONTH data will flash continuously, then press "▲" or "▼" to increase or decrease the value. See fig. as below:



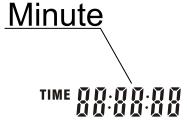
Press "SET" again, the DAY data will flash continuously, then press "▲" or "▼" to increase or decrease the value. See fig.as below:



Press "SET" for the fourth time, the TIME icon appears and HOUR data flashes, press "▲" or "▼" to increase or decrease the value. See fig.as below:



Press "SET" for the fifth time, the MINUTE data flash, then press "▲" or "▼" to increase or decrease the value. See fig.as below:



When Date & Time set is complete press "HOLD" key to save the data and exit this mode.

(8.2)**TIME/DATE Display**

Turn the meter on and press "SET" key once time to change between TIME and DATE display.

(8.3) **REC recording function**

Hold the "SET" key for 3 seconds until "REC" appears on the LCD display. The meter will start recording automatically according to the set sampling rate. When the memory is full, the

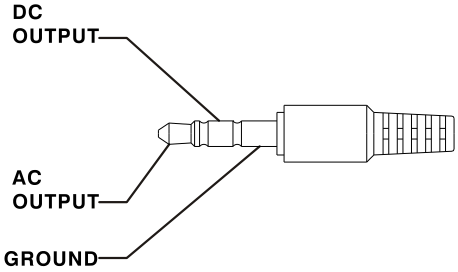
word "Full" will appear on LCD and the meter will stop recording automatically. The meter will restart recording after the memory data is cleared.

During recording, hold the "

" key for 3 seconds to exit recording mode.

Note: Adapter must be connected and the battery removed for long periods of recording to avoid the meter shutting down suddenly and the recorded data lost.

(9) **AC/DC Signal Output Earphone Outlet**



AC: Output voltage: 1Vrms corresponding to each range step.

Output impedance: 100Ω

DC: Output voltage: 10mv/dB

Output impedance：approx.1KΩ

(10) **External power supply:**

DC 9V input

External DC 9V, positive inside and negative outside

Pore size：OD 3.5mm, ID 1.35mm

7. Calibration Procedure

(1) Turn the meter on and select the following:

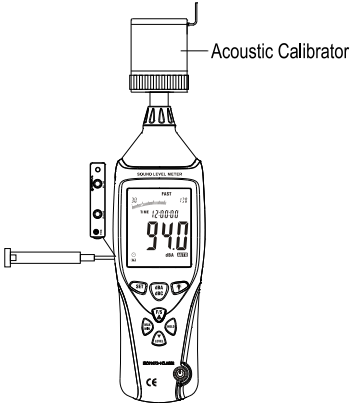
a) Frequency weighting: A-weighting

b) Time weighting: FAST

c) Level range: 50 ~100dB

(2) Insert the microphone housing carefully into the 1/2 inch insertion hole of the calibrator（94dB @ 1kHZ. (**ATP do not sell acoustic calibrators and this instrument does not come with one)**

(3) Turn the calibrator on and adjust the CALL potentiometer (using the screwdriver provided with this meter) until 94.0dB is displayed.



The recommended recalibration cycle is one year.

8. Basic Operation

(1) Open battery cover and install a 9-volt battery into the battery compartment.

(2) Close the battery compartment.

(3) When the low battery icon " " appears, replace the battery.

(4) When the AC adapter is used, insert the plug of the adapter （3.5φ）into the DC 9V connector on the side panel and you must remove the 9V battery.

Note: If the adapter and battery are used at the same time the warranty is invalid.

9. Operating Procedures

(1) Power on the meter.

(2) Press '

' button to select the desired level range.

(3) Select 'dBA' for general noise sound level and 'dBC' for measuring sound level of acoustic material.

(4) Select 'FAST' for instant sound and 'SLOW' for average sound level.

(5) Select '

' button for measuring maximum and minimum noise level.

(6) Hold the meter in your hand or use a tripod **(sold separately)** to fix the meter in the desired location. The best measuring distance is 1~1.5m away from the microphone to the sound source.

(7) To view the current time or date, press the "

" key:

10. Software Installation

Insert the CD into the CD-drive. The software will run the setup file, follow the installation tips to install the PC professional software; if the software cannot run the setup file directly, open the CD contents, double-click the file

and follow the installation tips to install the software.

11. Software Interface

(1) Menu & Toolbar

As show below:

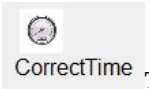
The icons on the toolbar from left to right are as below:

File opening

Open saved data files, the data and line graph will be displayed on the software.

File saving

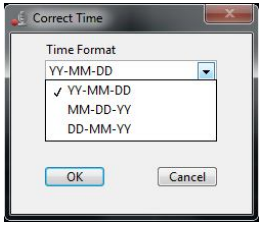
Save the data downloaded from the meter, or recordings made via the software, saving address and name can be defined by the user.



Time adjustment

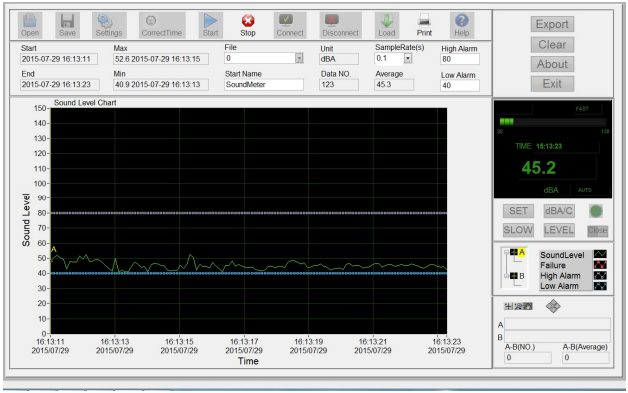
This function is to adjust the meter's time in accordance with the PC time.

The date can be set in three kinds of common format



Start real-time data recording

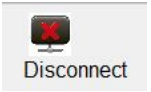
This function is to monitor the real-time environmental sounds and produce a line graph after the meter has successfully connected to the software. As shown below:



Stop real-time data recording

Zoom in

Zoom in on areas of the graph.



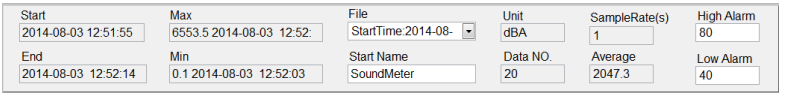
Disconnection

Disconnect the meter from the software and PC

Download

Download the recorded data in the meter to PC

(2) Real Time Display Description



Start Time： Display measuring start time

End Time： Display measuring stop time

File List: Shows date time & number of readings downloaded

MAX： Displays the maximum reading recorded

MIN： Displays the minimum reading recorded

Unit： Measuring unit

Sample Rate： Displays sample rate

High Alarm： Set high alarm limit

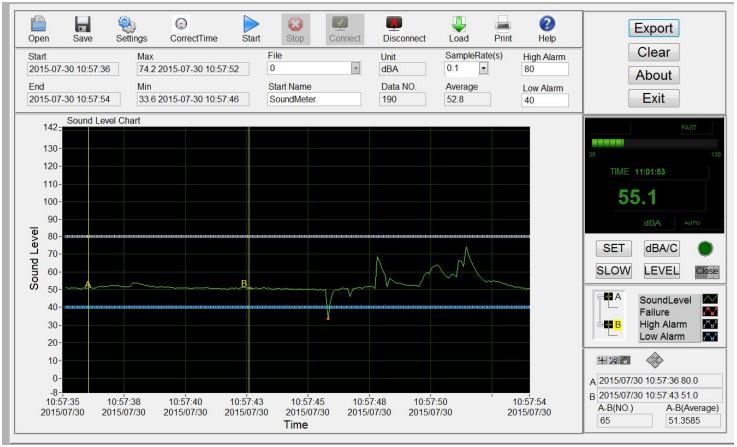
Low Alarm： Set low alarm limit

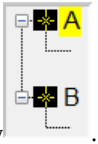
Data No： Shows number of readings recorded

Average： Display average data

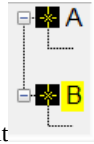
Start Name： Set save name

(3) A-B Graph

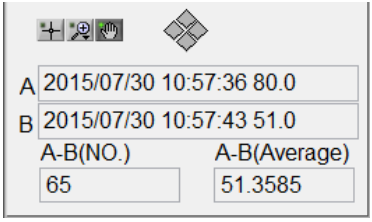


To look at a small section of the graph results, you can set markers called A and B. To move the markers select A by pressing the minus sign next to it, to highlight 'A' in yellow 

. Using the diamond arrows you can move the A marker to the desired position on the graph. Repeat for the B marker making sure that A is no longer highlighted in yellow, by pressing the

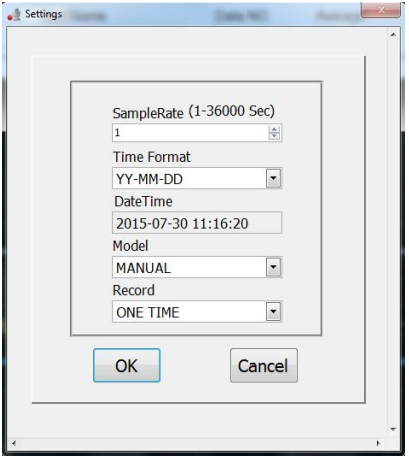


minus sign next to it . The start time, start value, end time, end value, the amount and average values between A and B will appear in the bottom left hand corner of the software



(4) **Datalogger Function**

1 SETUP

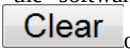


Set data sampling rate, Date, Time format, mode for recording, in the above shown table

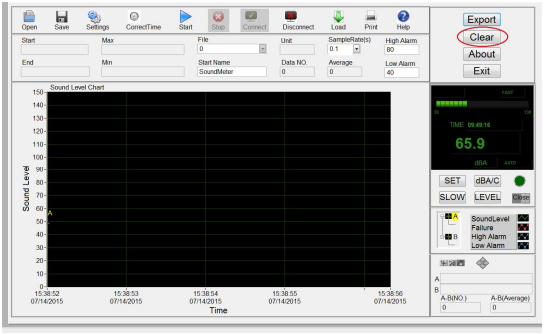
2 Down Load

This function is to download the recorded data in the meter to PC.

3 Clear Memory

To clear the memory, connect your meter to the software. Download results and save them before you press 

on the software to wipe the memory.



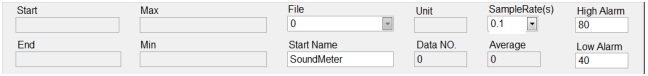
12. Operation

(1) Click " " on the desktop to open the software, connect the meter to the PC via the USB cable and turn the meter on.

(2) Click "

" to set the time and date to match your pc

(3) Set the sample rate, high alarm, low alarm and start name



then click

to start real-time measuring and monitoring.

(4) Power off

To disconnect from the software press

and turn the meter off

13. Notes

(1) Do not store or operate the meter in high temperature or humidity.

(2) Remove the battery when the meter is to be stored for long periods of time to avoid battery leakage.

(3) Wind blowing across the microphone increases the noise measurement. Use the supplied wind muffler to cover the microphone.

(4) Keep microphone dry and avoid severe vibration.

(5) If the date and time automatically resume to default settings after the meter is turned on this indicates the battery power is low, replace the meter's battery.

14. Accessories

- User's manual
- Wind muffler
- Screw driver
- 9V battery
- Software
- USB cable
- Adaptor
- Tripod (optional)

UK DISTRIBUTOR

ATP INSTRUMENTATION LTD
TOURNAMENT WAY
ASHBY DE LA ZOUCH
LEICESTERSHIRE
LE65 2UU

TEL 01530 566800
FAX 01530 560373

WWW.ATP-INSTRUMENTATION.CO.UK

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