OPERATION MANUAL

DIGITAL SOUND LEVEL METER

$C E$

Model:8928

INTRODUCTION

Your digital sound level meter provides automatic or manual ranging 4 measurement ranges from 40 to 130dB, and features 0.1dB resolution.

The meter allows you to select between fast and slow response times as well as A and C weighting.

A maximum hold function is provided. Jacks on the meter provide AC analog output.

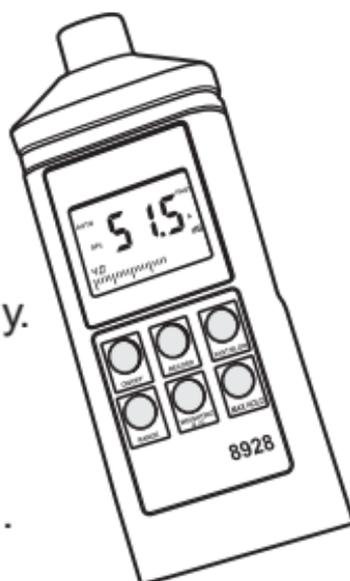## BUTTON DESCRIPTION

ON/OFF: Power on or power off the meter.

RANGE: Auto range/ Manual range select key.

RECORD: Record Maximum and Minimum sound level measurement.

WEIGHTING A/C:
A weighting and C weighting select key.

FAST/SLOW:
Response select key.

MAX HOLD:
Freeze Maximum sound level reading.

MEASURING SOUND LEVELS

Sound levels are displayed both
digitally and in a bar graph.
The digital display is updated every
160ms, while the bar graph is updated
every 40ms.

1. Press the **ON/OFF** key to turn the
   meter on. The unit will first display
   the full screen and "**18:18.8**" then
   count down from **99.9** to zero.
   The meter will now begin measuring
   the current sound levels.
   SPL (Sound Pressure Levels)
   appears on the left side. "**A**", "**dB**" on
   the right side of screen.
   Point the microphone toward the
   source of the sound to be
   measured.

Diagram A→

REC MAX HOLD MIN
AUTO   **FAST**
MANU   **SLOW**
SPL   **A C**
BAT   **dB**
40
+0   +10   +20   +30

Diagram B→

SPL   99.9 **dB**
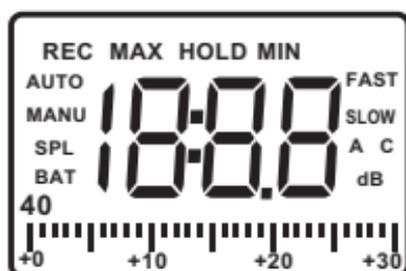**90**
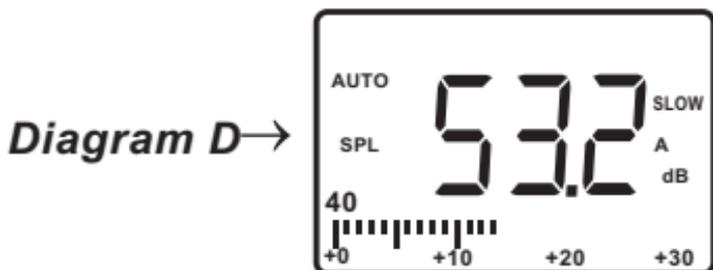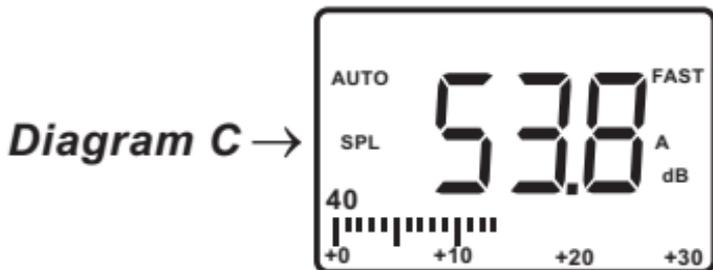**+0   +10   +20   +30**

SELECTING THE RESPONSE TIME

You can select fast or slow response
time to suit different applications and
standards.

For example, most OSHA-related testing is done using slow response time and A weighting.
When you turn the meter on, it will be in fast response mode. Press the **FAST/SLOW** key to toggle between fast and slow response.
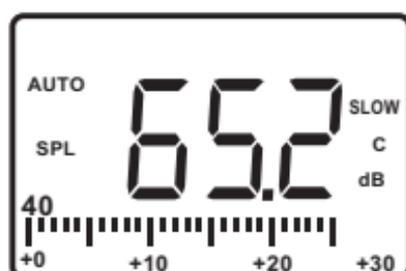
Diagram C →

```
AUTO                    FAST
SPL    53.8              A
                        dB
40
+0      +10     +20     +30
```

Diagram D →

```
AUTO                    SLOW
SPL    53.2              A
                        dB
40
+0      +10     +20     +30
```

A small **FAST** or **SLOW** will be displayed on the right side of the screen to indicate the current mode.

SELECTING A AND C WEIGHTING

When you turn the meter on, it will be in A weighting mode.
A weighting enables the meter to respond in the same manner as the human ear, which increases and decreases amplitude over the frequency spectrum. Applications for A weighting include OSHA regulatory testing, and the environmental measurement, workplace design, and low enforce-ment.

Diagram E →

```
AUTO                    SLOW
SPL     65.2             C
                        dB
40
+0      +10    +20    +30
```
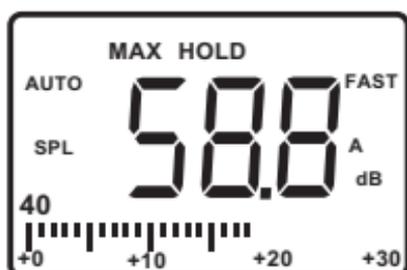
C weighting is suitable for flat response measurements with no increase or decrease of amplitude over the frequency spectrum. Applications for C weighting include the sound level analysis of engines and machinery.

Press the **"WEIGHTING A/C"** key to select between A and C weighting. A small **A** or **C** will be displayed on the right side of the screen to indicate the current mode.

FREEZING THE MAXIMUM SOUND LEVEL READING

1. Press the **ON/OFF** key to turn the meter on.
2. When measuring sound levels, press the **MAX HOLD** key to freeze the maximum reading. **MAX HOLD** will be displayed.
   The digital display will remain unchanged until a higher reading is detected. Note that the bar graph will continue to record the current reading.
3. Press the **MAX HOLD** key again to exit maximum hold mode.

Diagram F →

```
        MAX HOLD
AUTO              FAST
  58.8
SPL               A
                  dB
40
+0   +10   +20   +30
```

RECORDING THE MAXIMUM AND MINIMUM MEASUREMENTS

1. Press the **ON/OFF** key to turn the meter on.

2. Press the **RECORD** key. **RECORD REC** will be displayed on the up the corner of the screen. The meter will begin tracking the maximum and minimum sound level measurements.

3. Press the **RECORD** key again. **MIN** will appear on the middle up of screen and the minimum sound level measurement will be displayed.
The unit is not recording at this time , but the bar graph will continue to show the current reading.

Diagram G→

```
REC
AUTO              FAST
  69.4
SPL               A
                  dB
40
+0   +10   +20   +30
```

Diagram H→

```
REC         MIN
AUTO              FAST
  60.1
SPL               A
                  dB
40
+0   +10   +20   +30
```

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4. Press the **RECORD** key again. **MAX** will appear on screen side by the "REC" and the maximum sound level measurement will be displayed. The unit is not recording at this time, but th bar graph will continue to show the current reading.
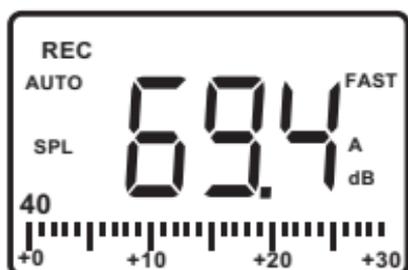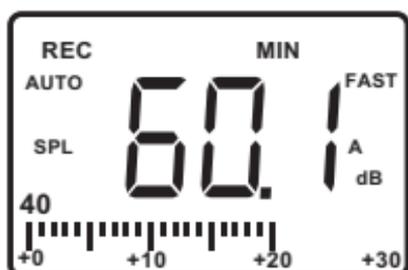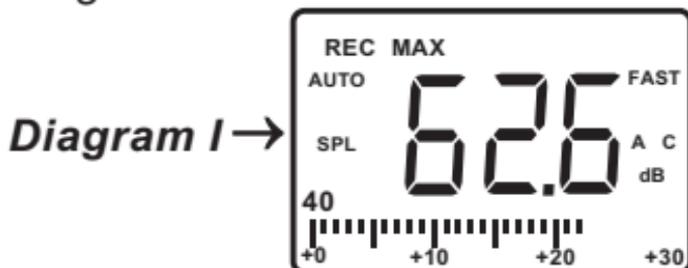
Diagram I →

```
REC MAX
AUTO              FAST
SPL    62.6    A  C
                  dB
40
+0      +10     +20    +30
```

5. Press the **RECORD** key again to resume recording and repeat the process.

6. Press and hold the **RECORD** key until the **RECORD** indicator disappears to exit recording mode.

SELECTING AUTOMATIC AND MANUAL RANGING

The meter features 4 measurement ranges in 10dB steps:
40~70dB, 60~90dB, 80dB~110dB, 100dB~130dB.

When you turn the meter on, it will be in automatic range mode and a small **AUTO** will be displayed on the left side of the screen. In this mode, the meter will adjust the measurement range automatically for accuracy.

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The two digit number to the left of the bar graph on the LCD will show the low end of the current range.
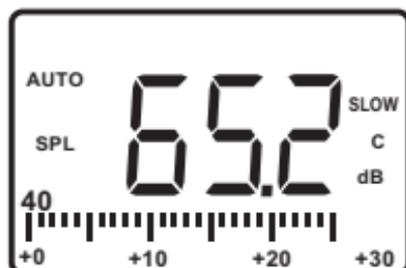You can also set the range manually.

Diagram J →

```
AUTO        SLOW
SPL      65.2  C
                dB
40
+0   +10   +20   +30
```

Diagram K →

```
            FAST
MANU     52.2  A
SPL            dB
40
+0   +10   +20   +30
```

The meter will be able to take readings more quickly, because the unit does not need to first establish the range before displaying the measurement.
This is helpful when you know the measurement range in advance.
To adjust the range manually:

1. When measuring sound levels, press the **RANGE** keys as needed to adjust the measurement range. **MANU** will appear on the display. Note that the two digit numbers to the left of the bar graph will change to reflect the low of the newly selected range.
2. Press **RANGE** key to switch back to automatic ranging.

If the meter is operating in manual range and "**LO**" is displayed, the sound is too low or the range.
If "**HI**" is displayed, the sound is too loud.
In either case, you must adjust the measurement range or your readings will be inaccurate.

Diagram L →

```
MANU          FAST
SPL    LO.    A
100           dB
+0  +10  +20  +30
```

Diagram M →

```
MANU          FAST
SPL    LO.    A
60            dB
+0  +10  +20  +30
```

AUTOMATIC SHUTOFF

The meter will turn off automatically after 20 minutes to preserve the battery.
To override this feature:
1. Make sure the unit is turned off.
2. Press the **ON/OFF** and **MAX HOLD** buttons simultaneously.
3. When the full display appears, release the **MAX HOLD** button first, "⊓" will replaced full display.

4. Release the **ON/OFF** key.
   The meter will remain on until the
   ON/OFF button is pressed again.
   The automatic shutoff feature will
   resume the next time the meter is
   turned on.

Diagram N →

```
┌───────────────┐
│               │
│      ┌┐       │
│      ││       │
│               │
└───────────────┘
```

CALIBRATION

Using a standard Acoustic Calibrator
(Recommend B&K type 4231 model)
which generate "94dB" output.
1) Set whichever time weighting :
   Fast or Slow.
2) Set sound level range at:80~110
   dB.
3) Select weighting A or C .
4) Max.Hold function measurement
   mode unenabled
5) Better to calibrate under 60dB
   sound environment.

Insert the microphone into the hole
of the calibrator . Press calibrator
ON/OFF key to power on, and
adjust the CAL potentiometer of
the unit, the level display will
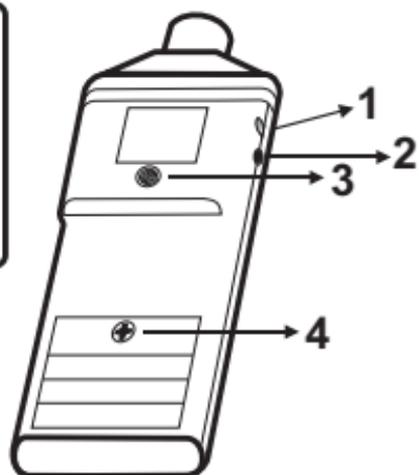indicate the desired level.
While selecting C weighting ,display
+/-0.3dB deviation is reasonable.

REPLACING THE BATTERY

When the screen display "**BAT**" down at the left corner , the 9V battery has fallen to a critically low voltage level and should be replaced as soon as possible. Use a screwdriver to unscrew the back battery compartment cover. Insert a fresh 9V battery and screw the cover.

Diagram O ↑

1. Calibration Adjustment (side)
   By using a "+" screw driver to adjust the calibration (Follow the calibration instruction).

2. Analog output jack (side)
   Connect to external test instrument or to a datalogger , chart recorder, ...for logging purposes.

3. Tripod mount
   Mount the meter to a camera tripod for increased stability and accuracy , further eliminate hand or any sound reflected from the user .

4. Battery compartment
   By using a screw driver to remove the battery cover on the meter .

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RETURN AUTHORIZATION

Authorization must be obtained from the supplier before returning items for any reason. When requiring a RA (Return Authorization), please include data regarding the defective reason, the meters are to be returned along with good packing to prevent any damage in shipment and insured against possible damage or loss .

CE CERTIFICATION

The meter conforms to the following standards:
EN 50081-1/1992 : EN 55022
EN 50082-1/1997 :
(EN 61000-4-2/-3/-8,ENV 50204)
The meter complies with the essential protection requirements of Council Directive 89/336/EEC on the approximation of the laws of the Member States relating to electromagnetic compatibility.

WARRANTY

The meter is warranted to be free from defects in material and workmanship for a period of one years from the date of purchase.
This warranty covers normal operation and does not cover batteries, misuse, abuse, alteration, tampering, neglect, improper maintenance, or damage resulting from leaking batteries.
Proof of purchase is required for warranty repairs.

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- ⚠ K.J.T.R.S.E. type Thermometer
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