RAY-2000A Product Manual

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1. Greetings

RAY-2000A contains advanced micro processer, and it detects χ and γrays highly accurately.

It operates even under harsh environment, and the LD screen shows amount of radiation and accumulated radiation amount.

Alarm can be set at the pre-set value.　Before starting to use, remove the protective film which is attached to the LD screen.

It is hard to recognize the protective film. So please use adhesive tape or scratch the edge of the film with finger nail to remove.

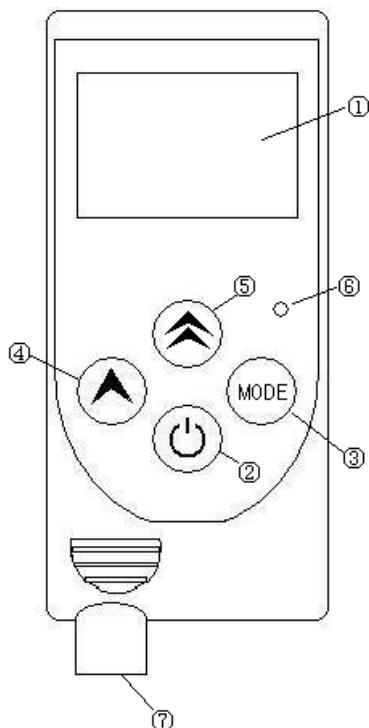## 2. Characteristics

1.　Very sensitive, stable and reliable.
2.　Large screen for easy view.
3.　Alarm threshold can be set for the measurement and accumulated amount of radiation exposure.　Measurement interval depends on the radiation amount and accuracy, usually 2 seconds.
4.　The measured data is recorded even after the battery wears out.
5.　Low power consumption, small and handy.

3. Device Description

① LD Monitor

② Power Switch ⏻

③ Mode Button

④ Clear Button

⑤ Cursor Button

⑥ Power Lump

⑦ Sensor

※ Dose Rate · Accumulated Value · Memory ·

Battery Life are shown as below.

剂量率: 🔋	累积剂量: 🔋	存储累积剂量:
000.00 usv/h	000.00 usv	000.00 usv
00.5 usv/h 02s	00.5 usv/h 02s	10年10月

4. Major Specification

1. Measuring Radiation：γ, χ
2. Measurement Range：
   a. Dose Rate：0.01uSv/h — 999.99mSv/h
   b. Accumulated Amount：000.01 — 999.99mSv（5 Digits）
   c. Count ：0 – 99999 cps
3. Measurement Interval：1〜20seconds（Adjustable）
4. Energy Measurement Limit：50keV
5. Margin of Error：＜±10%
6. Dose Rate Threshold Alarm
7. Accumulated data can be recorded 1,000,000times.
8. Working Temperature：-10〜+50℃, Humidity Tolerance：≦90%
9. Battery： AAA Battery x 2（Not Included）
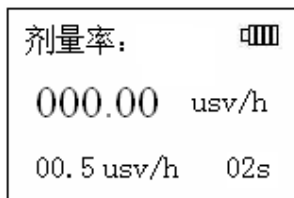10. Attachments：Device Body, Guarantee, Manual

※This product uses high performance GM tube and counts the radiation rays which was detected during certain period of time (Set Measurement Interval). The system processes the measured value with its high speed processor and turn into Sv/h unit. Accordingly very weak radiation would not be detected under the default interval time, 2 seconds, and the screen shows just 0.00uSv/h. There should not be any problem with this zero value. In case you feel uneasy about the situation, you can raise the sensibility by resetting the measurement interval to 10-20 seconds. Accumulated dose rate includes and shows all the accumulated value through activated time.
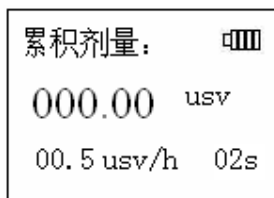
5. How to Use

1. Turn on The System
2. Activation

（1）Press the Power Supply Button ⏻. Then the beep sound comes out and the message as the example appears.

```
剂量率:          ▭▭▭
000.00   usv/h
00.5 usv/h    02s
```
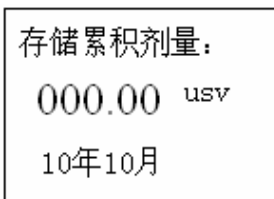
In case the system can't be activated, immediately press the power supply button and shut down. Wait more than 3 seconds, and re-activate the system.

(2) When the mode button is pressed, the screen with accumulated dose rate appears. The screen is shown as the right hand example.

```
累积剂量:        ▭▭▭
000.00   usv
00.5 usv/h    02s
```

(3) By pressing the mode button again, the memory screen appears as right hand example.

```
存储累积剂量:
000.00   usv
10年10月
```

The first line shows the recorded accumulated dose rate.

The second line shows the date that was set when the product was used first time.

By pressing "⋀" button once, the screen shows "解 1".
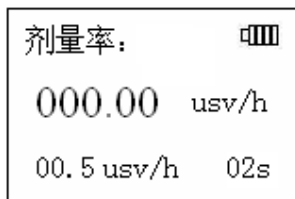
These characters mean "Memory #1".

By pressing the button twice, the screen shows "解 2". These characters mean "Memory #2".

By pressing the button 3 times, the screen shows "开".

This character means "clear". By pressing the button once again, the recorded accumulation data is reset.

Set the year and date by pressing "⋀" button and "⩘" button.

As the setting process completed, press the mode button once again. And go back the the dose rate screen as right hand example.

剂量率：	⬛⬛
000.00	usv/h
00.5 usv/h	02s

Note: As the year and date are changed, the recorded accumulation data is cleared to zero.

※ Other than Dose Rate measurement, there is a function called count mode. This mode has the function which counts the number of the detected radiation every second.

By pressing "⩘" button while pressing "⋀" button, the mode turns into "count mode". (To cancel this function, turn off the switch.)

This product calculates the detected radiation which is counted during the set time (1-20 seconds) into the hourly dose and shows on the screen.

If the counted number is small, the dose rate remains 0.00uSv/h.

3. Measurement Functions

    This product has the 3 measuring function as below.

    (1) Dose Rate

    (2) Accumulated Dose Rate

    (3) Memory Accumulation Amount

（1）With the Mode shown as"剂量率", dose rate is measured. Based on the measurement result, RAY-2000A chooses either uSv or mSv to show the data.

Setting threshold alarm : Press "⋀" button, then press"⋀" button. Threshold value can be changed.

With this mode, the screen shows the continuous dose rate measured during the time set in the way described in 2-(2). The screen shows the sign as soon as the system detects radiation.

（2）With this mode shown as "累积剂量", accumulated dose rate is measured. Based on the measurement result, RAY-2000A chooses either uSv or mSv to show the data.

Measurement interval setting : After pressing "⋀" button, press "⋀" button. This maneuver will change the interval time. The interval time will appear on the right side bottom on the screen. 01s, 02s, 05s, 10s, 20s

4. Turn Off

    Turn off the system by pressing the power button as you finish using RAY-2000A. Remove the battery if RAY-2000A would not be used for long time.