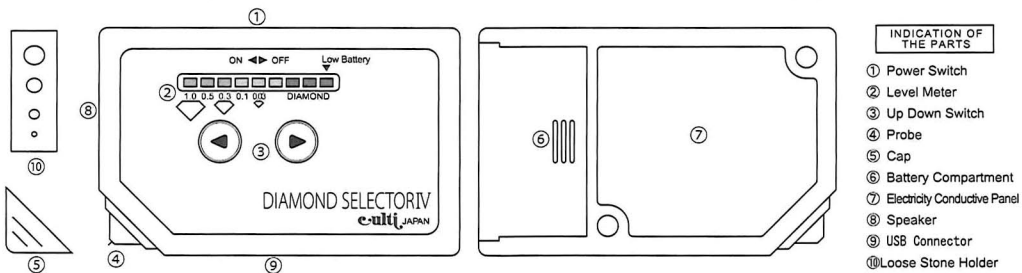


# ◆◆DIAMOND SELECTOR IV INSTRUCTION MANUAL◆◆

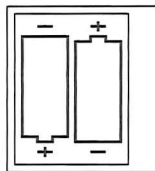


### INDICATION OF THE PARTS

- ① Power Switch
- ② Level Meter
- ③ Up Down Switch
- ④ Probe
- ⑤ Cap
- ⑥ Battery Compartment
- ⑦ Electricity Conductive Panel
- ⑧ Speaker
- ⑨ USB Connector
- ⑩ Loose Stone Holder

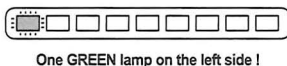
## Battery Setting

1. Slide off the lid of ⑥ Battery Compartment.
  2. Carefully set 2 pieces of AAA alkaline batteries according to the illustration of polarity. !!! Wrong polarity setting may damage the equipment !!!
  3. Slide back the lid of ⑥ Battery Compartment.
- ※By connecting USB power supply device, like PC with MicroUSB cable (Optional), the power can be drawn from USB. Detail information and the software for PC is available from <http://www.gem.or.jp/culti/ds4/>



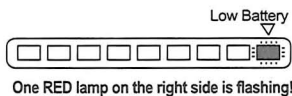
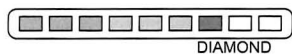
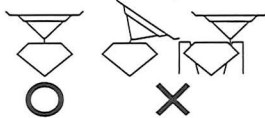
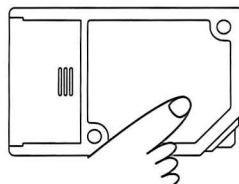
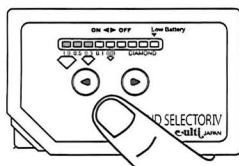
## Power ON and Preparation

1. Slide ① Power Switch to ON direction.
2. Check that a GREEN lamp on the left side of ② Level Meter. It is ready for measuring when the flashing stops.
3. Take out ⑤ Cap slowly. ④ Probe may be broken down easily, so do not force to replace / remove the cap.



## Measurement / Discrimination of Diamond

1. Please adjust ② Level Meter depending on the size of the stone to be measured. Push ③ Up Down Switch to adjust ② Level Meter according to the numeric of Carat indicated under ② Level Meter. You do not have to set the Carat exactly but please remember that, turn on ONE GREEN lamp for Diamond (more than 1.0 ct), TWO GREEN lamps for Diamond (0.5 ct), ONE YELLOW lamp for small stones like melee or taper. (Pay strict attention not to touch ③ UP DOWN switch while testing.)
2. Be sure to touch ⑦ Electricity Conductive Panel on the backside with your finger when you hold the equipment (without touching ⑦ Electricity Conductive Panel, you cannot measure correctly).
3. For measuring a loose stone, put a test stone on the ⑩ Loose Stone Holder and be sure to touch the Holder with your bare hand. If the stone is already mounted on a ring or set, be sure to touch the metal part (frame) with your bare hand. Diamond Selector IV has a function of metal contact proof for avoiding wrong measurement.
4. Put the tip of ④ Probe on the test stone vertically and softly. If you forced to put it on incorrectly, the tip may be bent or damaged.
5. When you measure a diamond test stone, the indication of ② Level Meter will be turned on from GREEN > YELLOW > RED and finally ⑧ Speaker will beep several times. If the stone is fake, ② Level Meter reacts only slightly. When an alarm sounds, it indicates that ④ Probe is touching a metal part. So, make sure that the tip of ④ Probe touches only on the stone.



## Trouble Shootings:

1. **One RED lamp on the right side of ② Level Meter is flashing during the measurement:** This alarm indicates that batteries are low. Please replace the batteries. (When sliding ① Power switch ON>OFF>ON quick, RED lamp on right side will be flashing. If the batteries levels are fine, it gets back to normal stand-by mode. )
2. **② Level Meter is not turned on:** Batteries may be completely run out. Please replace the batteries.

# ◆◆About Diamond Simulants◆◆

With the development of scientific technology, many artificial stones with the same chemical constituents or completely new synthetic stones that never exist in the natural world have been produced. There are artificial diamonds with the same chemical components or the one with different constituents while they look similar to the real diamond.

Now the most of the diamond simulants in the market are cubic zirconia (they say that more than 90% of the diamond simulants). Also, even inferior-looking glass ball are often sold in the market. Many of those conventional simulant stones including YAG, GGG, Rutile, and Strontium Titanate were used to be sold in the market. Recently, synthetic moissanite has been developed and is already in the market. Moreover, there is a report that the production of an artificial diamond with the same chemical constituents has been successful.

**Diamond Selector IV can measure the difference of heat conductivity of individual stones and discriminate it through one-touch operation.** However, those stones with the heat conductivity similar to the natural diamonds cannot be discriminated.

### ◆◆Stones Difficult to be Discriminated◆◆

**Corundum / Zircon:** Since these stones have the heat conductivity similar to the natural diamonds, the equipment may react in the same manner as for the natural diamonds. However, it would be possible to discriminate with adjusting the level meter according to the size of the stone. Also, the reaction of level meter shows slower than the natural diamonds.

### ◆◆Stones Impossible to be Discriminated◆◆

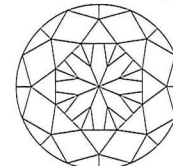
**Moissanite:** This cannot be discriminated because the heat conductivity is very similar to the natural diamonds (It can be discriminated by optional test: See detail described below).

**Artificial Diamond:** This cannot be discriminated because it has completely the same characteristics as the natural diamonds.

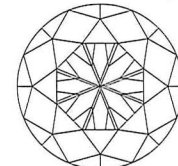
### ◆◆How to Discriminate Those Stones that cannot be Discriminated by Diamond Selector IV◆◆

Those stones that can hardly discriminated by Diamond Selector IV, corundum (white sapphire), zircon, and moissanite are all double-refracting. If you observe them through a loupe or microscope, you can see the cut surface doubly. Since the natural diamond is a single refracting, you cannot see the cut surface doubly. When these hard-to-be-discriminated stones are measured with Diamond Selector IV, there may be differences on the reaction or lighting of level meter comparing to the natural diamond under the same conditions (such as the size / configuration of the stone). When you doubt that it is not a natural diamond or you need to discriminate more carefully, we strongly recommend you to use a loupe or microscope.

Diamond  
Single-Refracting



Zircon / Moissanite  
Double-Refracting



Enlarged top view of the stone. The cut surface of pavilion can be seen doubly

### ◆◆Precautions for Use◆◆

1. The result of discrimination may vary depending on the condition and environment of use. Please be sure to use the equipment according to this instruction manual.
2. When you accidentally drop, wet, or do not use for a long time, please check the function with a diamond and other stones before using.
3. You can use this equipment only for those stones suspicious whether diamond or not. Other usage may show totally different result.

### GUARANTEE FOR DIAMOND SELECTOR IV

#### TERMS

1. The guarantee is valid for one year from the date of purchase, and covers any faulty operation caused by defects in the manufacture of the Diamond Selector IV.
2. The guarantee does not apply to damages caused by
  - A. misoperation, opening the dustproof body cover of the unit or reconstruction attempts;
  - B. careless or improper placement, transportation or handling of the unit after the purchase;
  - C. fire, earthquake or other natural disasters, voltage changes in the AC-current, or operation that is different from that described in the Instruction Manual.
3. The guarantee does not apply, if guarantee card is not properly filled out or cannot be produced.

VALID FOR 1 YEAR	DAY	MONTH	YEAR
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1. The guarantee is not valid unless the card is correctly filled out. So, please ask your distributor how to fill here.
2. Guarantee card will not re-issued if lost.

### SPECIFICATION

Product name: Diamond Selector IV	Dimensions: 85x54x14mm
Model: DS3-0409	Net weight: 64g (Including Batteries)
Power source: AAA alkaline battery X2 (LR03)	Accessories: Viny case, Battery, Loose Stone Holder

Produced by  
**culti** Culti Corporation