

# Contents

(English Version)

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## **I. Disclaimers, Exclusions and Limitations of Liability**

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PLEASE READ AND NOTE PRESIDIUM WARRANTY TERMS AND CONDITIONS as stated in the warranty card. Presidium warranty for its testers is subject to proper use by its users in accordance with all the terms and conditions as stated in the relevant user handbook and shall cover only manufacturing defects.

Due to continuous product improvement, Presidium reserves the right to revise all documents including the right to make changes to the handbook without notice and without obligation to notify any person of such revisions or changes. Users are advised to check Presidium's website at <http://www.presidium.com.sg/> from time to time.

Presidium shall not be responsible for any damage or loss resulting from the use of this tester or handbook, and under no circumstances shall Presidium, its manufacturer or any of its subsidiaries, licensors, distributors, reseller, servant and/or agent be liable for any direct or indirect damages, resulting from the use of this tester.

TO THE MAXIMUM EXTENT PERMITTED BY APPLICABLE LAW, under no circumstances shall Presidium, its manufacturer or any of its subsidiaries, licensors, distributors, reseller, servant and/or agent be responsible for any special, incidental, consequential or indirect damages howsoever caused.

The tester or SAM referred to in this handbook is provided and/or sold on an "as is" basis. Except as required by applicable law, no warranties of any kind, either expressed or implied, including, but not limited to, the implied warranties of merchantability and fitness for a particular purpose.

## II. About this book

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Thank you for purchasing SAM.

This handbook is designed to help you set up your tester and describes all you need to know about how to use your tester accurately and take care of it in line with its requirements. Please read these instructions carefully and keep them handy for future reference.

This book also contains the terms and conditions in relation to the use of the tester including the **Disclaimer, EXCLUSION and Limitation of Liability clauses stated above in Section I.**

### III. About SAM by Presidium

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SAM has been developed upon existing thermal and electrical conductivity technology with addition of technologically advanced circuitries as well as a highly sensitive thermoelectric probe for distinction between colorless diamonds against a wider range of moissanites.

The thermoelectric probe is designed with highly sensitive electronic circuitry to detect and segregate data collected from the gemstones via a customized micro-controller. The information gathered will be displayed within seconds.

SAM has been subjected to thorough and extensive laboratory tests, and will generally give a clear and reliable reading of the gemstone being tested under proper use. However, you are advised to conduct further supporting tests.

#### **This tester was designed with the following objectives:**

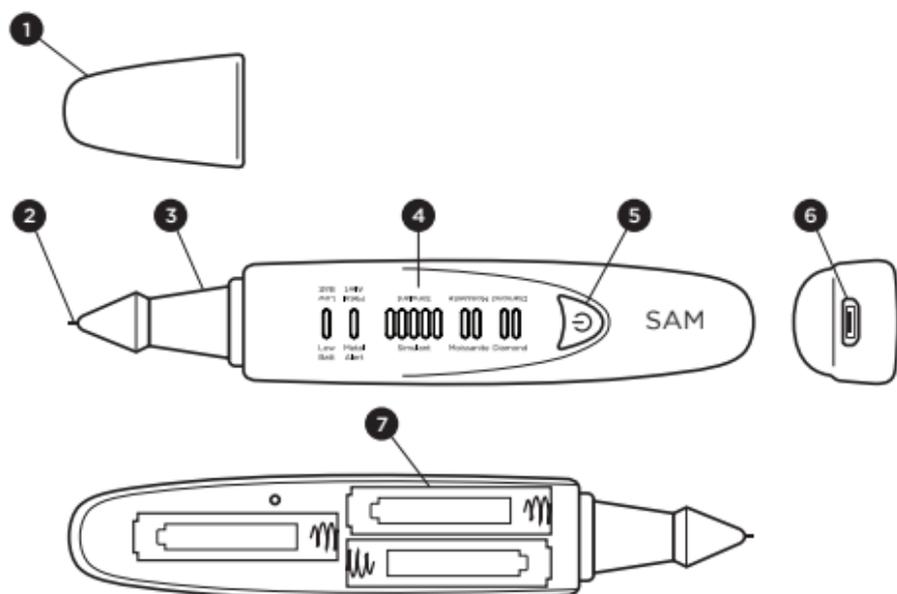
- Help in the identification of colorless diamonds, moissanites and simulants with a single instrument
- Able to distinguish a wider range of moissanites, including the new “low electrical conductivity moissanite”
- More advanced processing and detection algorithm
- Provide fairly consistent and reliable test results under proper use

#### **SAM features the following:**

- Retractable thermoelectric probe tip that ensures constant pressure between probe tip and gemstone
- Industry’s thinnest probe tip (0.45mm) that can test on diamonds as small as 0.01 carats
- Power via USB
- Metal alert buzzer to ensure that probe tip is in contact with gemstone during testing
- No waiting time between tests
- Stylish ergonomic design
- 180-degree multi-viewing LED display
- International voltage compatibility
- Low battery indicator
- Automatic power off of 10 minutes of inactivity

## Included in your package:

- SAM
- Metal stone rest
- Quick Guide
- QR Code Card
- Protective carrying case



1	Probe Protective Cap
2	Retractable Probe
3	360° Textured Metal Plated Ergonomic Grip
4	Display with LED Illumination
5	Power button and 'Ready' Display
6	Adaptor Inlet
7	Battery Compartment (beneath the lid with Presidium wording)

#### IV. IMPORTANT NOTICE

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- Due to the testing methodology, this tester is not intended to test for any colored diamonds, such as blue and black diamonds, as the electrical conductivity of these colored diamonds differs from colorless diamonds.
- Keep the tester dry. Precipitation and all types of liquids or moisture can contain minerals that will corrode electronic circuits. If your tester gets wet, remove the battery, and allow the tester to dry completely before replacing it.
- Do not use, store or expose the tester in dusty and dirty areas. Its moving parts and electronic components can be damaged.
- Do not use, store or expose the tester in hot areas. High temperatures can damage or shorten the life of the tester, damage batteries, and warp or melt certain plastics.
- Do not use, store or expose the tester in cold areas. When the tester returns to its normal temperature, moisture can form inside the tester and damage electronic circuit boards.
- Store the tester at room temperature (23°C – 27°C or 73°F – 80°F).
- Do not attempt to open the tester, including the removal of the tip, other than as instructed in this handbook.
- Do not drop, knock, or shake the tester. Rough handling might break internal circuit boards and fine mechanics.
- Do not use harsh chemicals, cleaning solvents, or strong detergents to clean the tester.
- Do not paint the tester. Paint can clog the moving parts and prevent proper operation.

If the tester is not working properly, kindly contact Presidium Customer Service at [service@presidium.com.sg](mailto:service@presidium.com.sg) or:

Presidium Instruments Pte Ltd  
Unit 7, 207 Henderson Road  
Singapore 159550  
Attn: Customer Service Executive

## 1. GETTING STARTED with your SAM

### Powering up your SAM

This tester can be powered by either the use of an AC adaptor (optional item sold separately) or through the use of batteries. If AC adaptor is used, connect one end of the AC adaptor to the tester (**Fig. 1.1**), and the other end directly into an electrical outlet. Please ensure that only the adaptor supplied by Presidium is used.



Fig. 1.1

If batteries are used (3 x AAA batteries), take note of the positive (+) and negative (-) directions of batteries when inserting the batteries into the tester (**Fig. 1.2**). The use of alkaline batteries is preferred, as it should generally allow for approximately 2,000 tests, while the use of ordinary batteries will give a shorter working life.

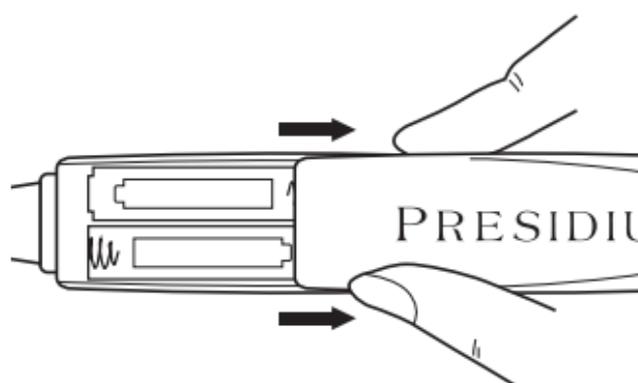


Fig. 1.2

(**Fig. 1.3**) Take note of the positive (+) and negative (-) directions of the batteries when inserting the batteries into the tester. Secure back the battery cover.

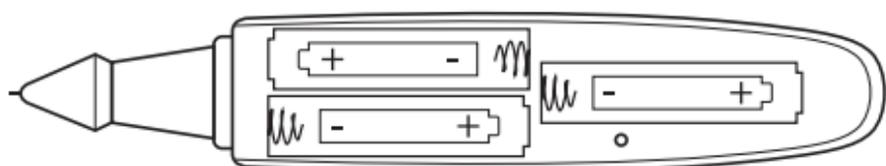


Fig. 1.3

## Turning on your SAM

Remove the protective cover from the tester. For first time use, please remove the plastic cap from the probe tip. **(Fig.1.4).**

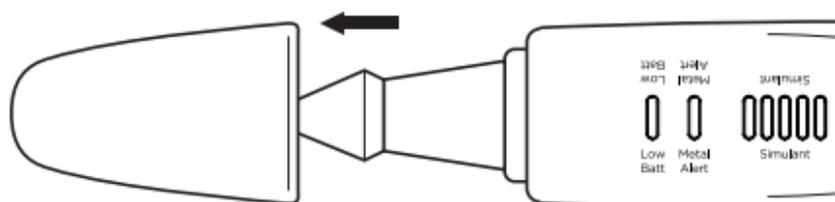


Fig. 1.4

Press the Power button located at the lower end of the device. **(Fig. 1.5).** Wait for approximately 10 seconds to warm up to the predetermined tip temperature.

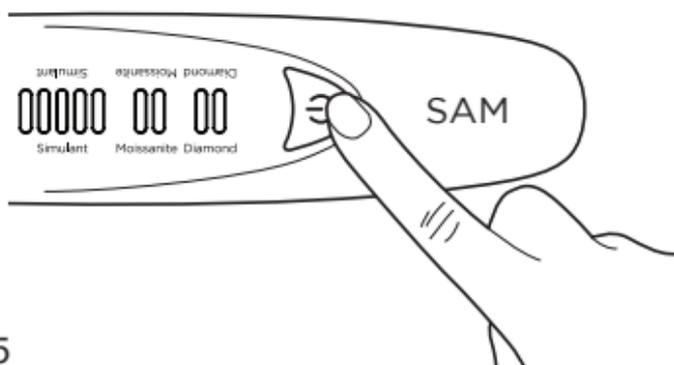


Fig. 1.5

While in the warming up period, a Blue light will blink continuously. The light will stop blinking when it is "READY" to be used **(Fig. 1.6).**

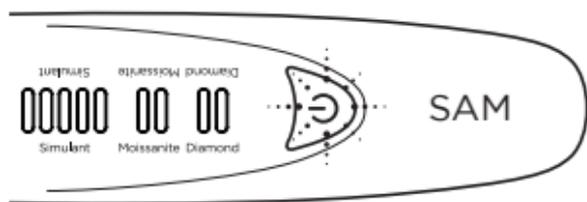


Fig. 1.6

The tester will shut down automatically after 10 minutes of inactivity on battery mode.

## Recommended testing conditions

### Cleaning your gemstone prior to testing

Prepare a clean tissue or jewelry cloth. Carefully retrieve the gemstone with tweezers and place the gemstone face down on its table facet (**Fig. 1.7**).

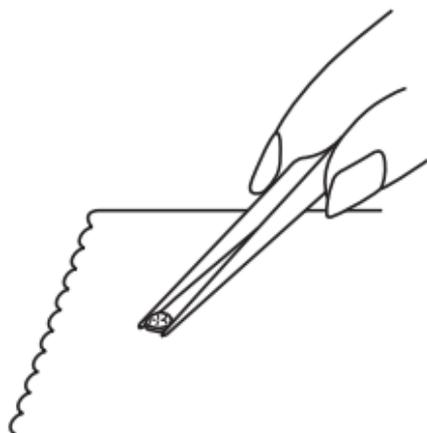


Fig. 1.7

Gently rub the table of gemstone against the tissue/ jewelry cloth (**Fig. 1.8**).

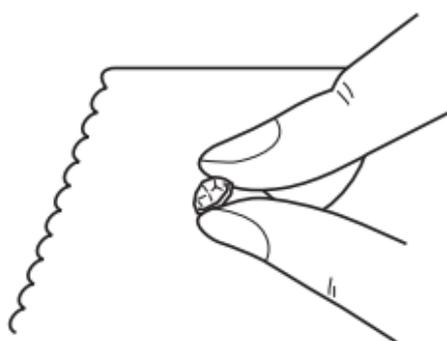


Fig. 1.8

If your stone is mounted jewelry, please carefully clean the stone (**Fig. 1.9**).

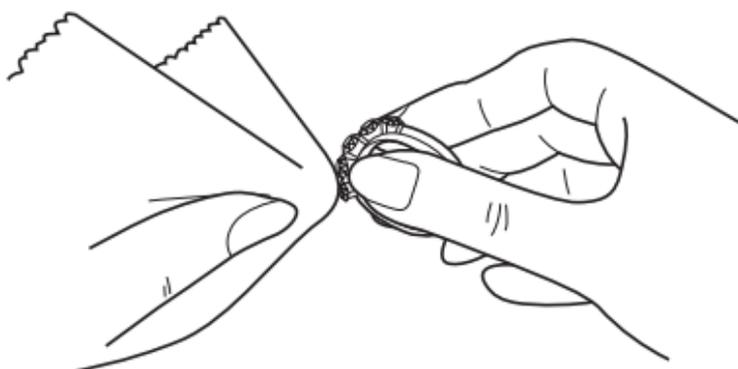


Fig. 1.9

## **Operating Conditions**

### **Calibration**

All testers have been calibrated during the manufacturing process and no further adjustment or user intervention to the tester is needed.

Self-calibration should not be attempted. To minimize any risks associated, user should contact Presidium at [service@presidium.com.sg](mailto:service@presidium.com.sg) or its service center for assistance. In the event that users require the manufacturer to re-calibrate the unit, the users will bear the associated to/fro freight cost for shipping of unit to the service center.

### **Recommended Normal Operating Conditions**

The recommended testing temperature is 23°C – 27°C or 73°F – 80°F. Please allow the gemstone or jewelry piece to adjust to room temperature prior to testing. Exposure and/or operation of the tester outside the room temperature would affect the results and performance of the tester.

### **Battery information**

Do not leave worn out batteries in the battery compartment as the batteries may corrode, leak or damage the tester. Batteries should be removed when the tester is expected to be stored for an extended period of time.

To prevent inaccurate readings, replace with new batteries as soon as the low battery indicator lights up or starts to blink. A test should not be performed when the battery power is low or weak.

Batteries do not have to be removed when the AC adaptor is in use.

## 2. PERFORMING A TEST with your SAM

Depress the tip of the probe pen against the gemstone. Ensure the tip is fully depressed for consistent pressure between the tip and gemstone for correct reading.

### For mounted jewelry or gemstones:

Hold the jewelry or gemstone with one hand and the tester with the other hand (**Fig. 2.1**). For proper operation of the tester, the thumb and index finger must always be placed on the metal-plated serrated part located on both sides of the tester at all times. Care should be taken when testing mounted jewelry. User must ensure that the stones are securely mounted before conducting a test as gap between stone and setting might lead to inaccurate reading.

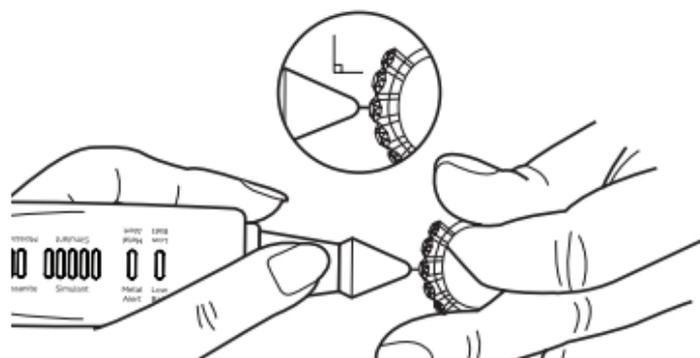


Fig. 2.1

### For testing loose gemstones:

Place the gemstone on the metal stone rest and hold the metal stone rest with one hand while holding the tester with the other hand (**Fig. 2.2**).

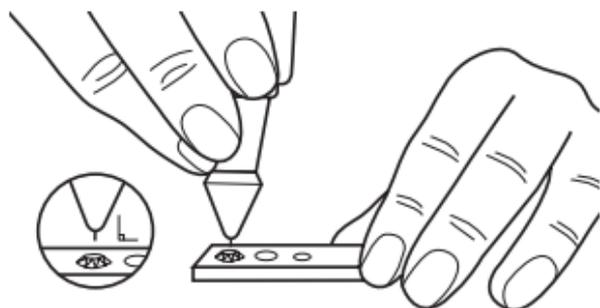


Fig. 2.2

## **Tips for using your SAM**

The electrical conductivity of the new low electrical conductivity moissanite may differ across various points and vary from stone to stone. It is therefore advisable to perform more tests on different points across the surface of the suspected gemstones.

In the event of an alternating reading on the suspected gemstone, it is recommended to refer the gemstone to a reputed gemological laboratory for further analysis and verification.

Do not use the tester without its battery cover during the testing. Secure back the battery cover at all times for safety measures.

The probe tip must be placed at a right angle or perpendicular to the facet of the gemstone for an accurate reading.

For proper operation of the tester, fingers must be placed on the metal grip of the tester at all times.

To achieve optimum accuracy for tests involving very small mounted gemstones (1.2 mm exposed diameter and below), it is extremely important that no contact is made on any mounted/ metal part of the jewelry piece. The test results will likely result in confusion, as metal is highly conductive and results may indicate that a moissanite is detected instead.

To achieve optimum accuracy for tests involving very small gemstones (10 points and below), it is important to allow the gemstone to cool down before subsequent tests.

## Cleaning the probe tip

Please note that if the tester is being used for the first time, or if the tester has not been used for a week, it is advisable to clean the probe tip using a piece of paper to attain a consistent and accurate reading.

- Ensure the unit is switched off.
- Hold the probe pen with the pen tip forming a right-angle (90-degree) with any paper or stone rest (as provided). Gently move in a circular motion without retracting the tip (**Fig. 2.3**).
- Repeat the same motion several times. The cleaning process is completed and the tester is now ready for use.

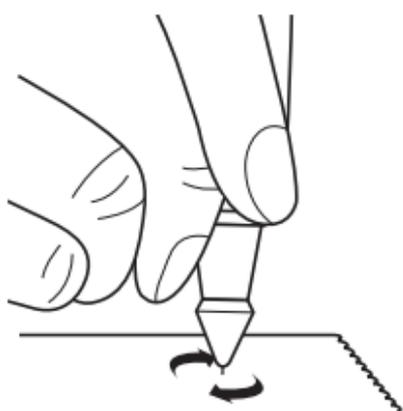


Fig. 2.3

### 3. READING TEST RESULTS on your SAM

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The test results are indicated as follows:

#### 1. Green LED lights up:

- Diamond is detected with a continuous audible beep.

#### 2. Yellow LED lights up:

- Moissanite is detected.

#### 3. Red LED lights up:

- Gemstone with high thermal conductivity such as sapphire or topaz is detected when red LED at “Simulant” segment lights up.
- Low battery is indicated when red LED at “Low Batt” segment lights up.

#### 4. Orange LED lights up:

- Metal is detected when orange LED at “Metal” segment lights up with an intermittent beep.

#### 5. No LED lights up:

- Gemstone with low thermal conductivity such as glass or cubic zirconia will not give any reading on the tester.

Note: For stones with lower thermal inertia, the Presidium Gem Tester / Color Stone Estimator (PGT/ CSE), the Presidium Duo Tester (PDT) or the Presidium Gem Indicator (PGI) can be used to further differentiate the type of simulants as they detect a wider simulant range.

#### 4. TAKING CARE of your SAM

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- The probe and wire tip are extremely sensitive and should be handled with care, especially during the removal of the protective cap from the pen tip. Always replace the protective cap of the pen tip when the probe is not in use. Caution should be taken so as not to damage the probe and wire tip.
- Do not leave worn-out batteries in the battery compartment as the batteries may corrode, leak or damage the tester. Batteries should be removed when the tester is expected to be stored for an extended period of time.

Your tester is a product of extensive design and craftsmanship and should be treated with care.

Thank you for taking the time to go through the user handbook, which would allow you to understand your recent purchase better.

Presidium also recommends that you register your warranty by sending the warranty registration card to us or registering online at <http://www.presidium.com.sg/>