

# Contents

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## English Version

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|---|--------|
| I. Disclaimers, Exclusions and Limitations of Liability | pg. 05 |
| II. About this book                                     | pg. 06 |
| III. About ARI by Presidium                             | pg. 07 |
| 1. GETTING STARTED with your ARI by Presidium           | pg. 12 |
| 2. PERFORMING A TEST with your ARI by Presidium         | pg. 16 |
| 3. READING TEST RESULTS on your ARI by Presidium        | pg. 21 |
| 4. OTHER FUNCTIONS of your ARI by Presidium             | pg. 22 |
| IV. Important Notice                                    | pg. 25 |

## **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 are 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.

In pursuing continuous product improvement and enhancements, Presidium reserves the right to revise the product software data, including the ARI Mechanical, Hardware, and Firmware.

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 ARI 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 ARI by Presidium.

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 your ARI by Presidium

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ARI is developed as a handheld PRESIDIUM DIAMOND VERIFICATION INSTRUMENT<sup>®</sup> to help identify colourless diamond against CVD/HPHT lab grown colourless diamond and all types of moissanite.<sup>1</sup> It is suitable for testing on both loose and mounted stones, including jewelry pieces with a closed back setting.

Through advanced proprietary technology, ARI measures the UV light absorbance ability of diamonds and moissanites. With its touch screen colour LCD display, ARI provides a clear and accurate result of “Diamond”, “CVD/HPHT/Type IIa” and “Moissanite” within 3 seconds.

ARI has been subjected to thorough factory quality control, 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.

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<sup>1</sup>PRESIDIUM DIAMOND VERIFICATION INSTRUMENT is a registered trademark of Presidium Instruments Pte Ltd.

## IV. Technical Specifications

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### **Presidium Universal Power Adaptor Information:**

- Input Voltage: 100 – 240Vac
- Input Frequency: 50 – 60Hz
- Rating Output Current: 1.5A (7.5W)
- Rating Output Voltage: 5V

### **Power and Battery**

- DC 1.5V (3) x AAA alkaline batteries
- USB port to be used with supplied USB cable and appropriate Presidium Universal USB Power Adaptor (not included in your package)
- Minimum Power rating: 5V, 0.5A (2.5W)

### **Dimension and Weight**

- Length 190mm
- Width 46mm
- Height 25mm
- Weight: 60 grams

## V. Operations

### **Recommended Operating Conditions**

- Only for colorless diamonds
- Color Grade: D color to J color
- Carat Size: 0.02 carat and above
- Cut: All proportional diamond cuts
- Mounted jewelry: For jewelry in all types of settings

### **Working temperature**

- Operating temperature: 18°C – 27°C (65°F - 80°F)
- Storage temperature: 10°C - 51°C (50°F - 124°F)
- Air Relative Humidity: 35 - 65%

The tester is designed with the following objectives:

- Help in the identification of colorless diamond against CVD/HPHT lab grown colorless diamond and moissanite
- Test for loose and mounted stones
- Stylish ergonomic handheld design for portability and ease of use
- Provides consistent and reliable test results under proper use and understanding of its functions

The capabilities of the ARI by Presidium are as follows:

- Test on colorless diamonds (From D to J color) with a minimum table width of 1.30mm (approx. 0.02 carat)
- Test on polished stones of all proportional diamond cuts
- Can be used on both loose stones and mounted stones jewelry in all settings
- Fast testing time of 3 seconds

The user is cautioned against using ARI by Presidium on the following as it may affect the accuracy of the readings:

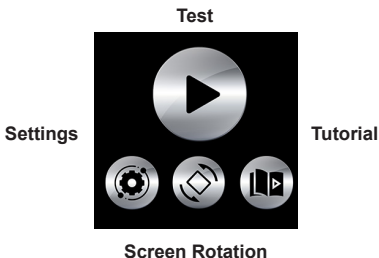
- Diamond of colors other than colorless (D to J)
- Testing to identify other forms of diamond simulants i.e. sapphire, spinel, cubic zirconia, etc. are not possible

## The ARI by Presidium features the following:

- Clear display of results for “Diamond”, CVD/HPHT/ Type IIa” or “Moissanite”
- Resistive touch screen
- Replaceable probe function
- Retractable probe function that maintains constant pressure between optical probe tip and gemstone
- Alert buzzer for loss of contact during testing
- Stylish ergonomic design
- User-safe function to shut off UV light when not in testing
- USB Inlet at the top end of unit for connecting to external power source
- International voltage compatibility
- Low battery indicator
- Powered either through the use of batteries or electrical power via Presidium Universal USB Adaptor
- Tip assessment tool in the settings

## Functions of your ARI by Presidium.

Your ARI by Presidium has 4 functional options on the main screen menu as follows:



To activate a function, use finger to press any of the function on screen to activate them. To return back to the previous page, press the power button.

The rest of this handbook will give further information on how to use the various functions.

## Included in your package:

- ARI by Presidium
- Protective Carrying Case
- Stone rest
- Quick Guide
- QR Code Card
- USB Cable
- Replaceable Probe Tip

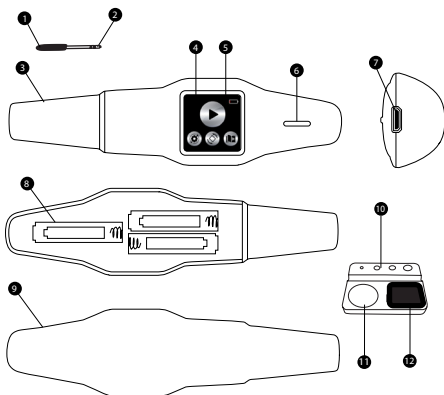


Fig. 1

1	Protective Tip Cap
2	Replaceable Probe Tip
3	360° Textured Metal Plated Ergonomic Grip
4	Display Screen with OLED Illumination
5	Low Battery Indicator
6	On/Off/Back Button
7	USB Inlet
8	Battery Compartment (beneath the lid)
9	Battery Cover
10	Stone Rest
11	Clear Test Disk
12	Black Platform



## 1. GETTING STARTED with your ARI by Presidium

### Powering up your ARI by Presidium

This tester can be powered either through electrical power via the Presidium Universal USB Adaptor (not included in your package) or through the use of batteries.

If electrical power is preferred, please ensure that only the Presidium Universal USB Adaptor is used.

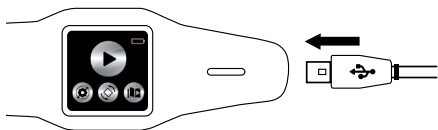


Fig. 1.1

If batteries are preferred, please use 3x AAA batteries. The use of alkaline batteries is recommended as it should generally give approximately 4 hours of continuous operation, while the use of ordinary batteries will give a shorter operating life.

Remove the battery cover lid on the back of the tester. (Fig 1.2).

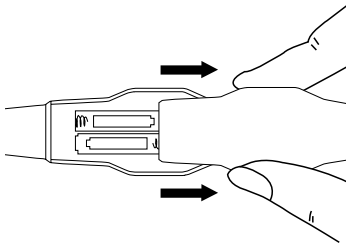


Fig. 1.2

Take note of the positive (+) and negative (-) directions of the batteries when inserting them into the tester (Fig. 1.3).

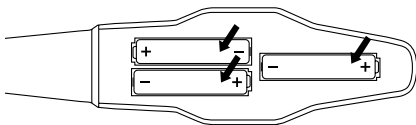


Fig. 1.3

### Turning on/off your ARI by Presidium

Before turning on your tester, insert probe tip into tester and remove the tip cap. Press and hold the button (Fig. 1.4.1) to turn ON the tester.

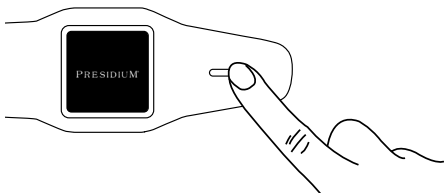
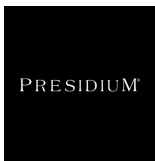


Fig. 1.4.1

“PRESIDIUM” logo will appear on the display screen, followed by Product name.



To turn OFF the tester, press and hold the button (Fig. 1.4.1). Remove the probe tip from tester and keep it in probe tip cap when not in use.

### Calibration of your ARI by Presidium

Depress tip against black platform on metal stone rest and follow the instruction on the screen to complete set up of your tester.

## Cleaning of 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 1.5a)

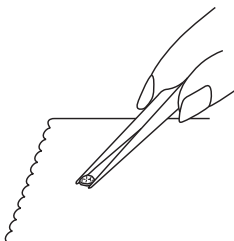


Fig. 1.5a

Gently rub the table of the gemstone against the tissue/ jewelry cloth (Fig. 1.5b).

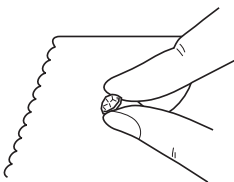


Fig. 1.5b

If your stone is mounted in jewelry, please carefully clean the stone (Fig 1.6).

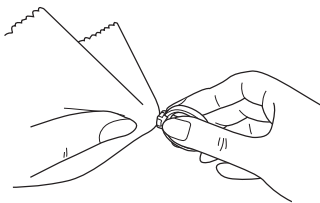
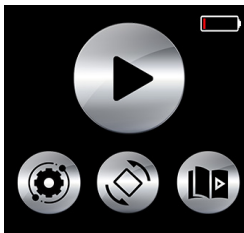


Fig. 1.6

## Operating Conditions

The gemstone should be clean and dry before testing. Elaborate cleaning procedures are not normally necessary.

Low Battery is indicated by the icon at the top right-hand corner of the display screen.



Note: The power-saving feature will ensure the tester shuts down automatically after 10 minutes of inactivity.

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

Batteries do not have to be removed when the electrical power via a power adaptor is used.

## 2. PERFORMING A TEST with your ARI by Presidium

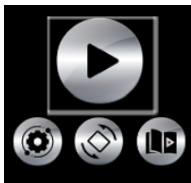


Fig. 2.1

To begin testing, press the “Test” icon as indicated.  
(Fig. 2.1)

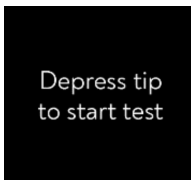


Fig. 2.2

When prompted, depress the probe tip 90 degree perpendicular to the table of the gemstone. Testing will begin. You will need to hold the tester in this position till the testing bar on the screen is completed (Fig 2.3).



Fig. 2.3

It is important not to remove the tester from the gemstone during test. As the tester detects 'lift' from gemstone and test will have to be reconducted. A result will not be shown.



Fig. 2.4

Beeping sound will be used to indicate the type of results:

- Single beep indicates Diamond
- Single long beep indicates CVD/HPHT/Type IIa Diamond
- Double beep indicates Moissanite

The testing results will be displayed on the screen.



### **For mounted jewelry or gemstones:**

Hold the jewelry or mounted gemstone with one hand and the tester with the other hand (Fig. 2.5).

For proper operation of the tester, the probe tip should be at a upright position 90 degrees perpendicular to the table of the gemstone.

Ensure the tip is fully depressed for consistent pressure between the tip and the gemstone, for the duration of the testing bar.

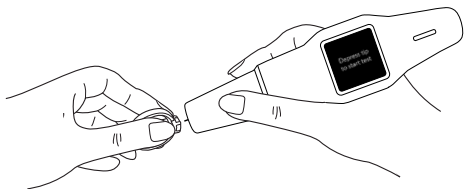


Fig. 2.5

Note: Care should be taken when testing mounted jewelry. Users must ensure that the stones are securely mounted before conducting the test as the gap between the stone and setting might lead to an inaccurate reading.

### **For loose gemstones:**

Place the gemstone into the supplied stone rest while holding the tester with the other hand (Fig. 2.6).

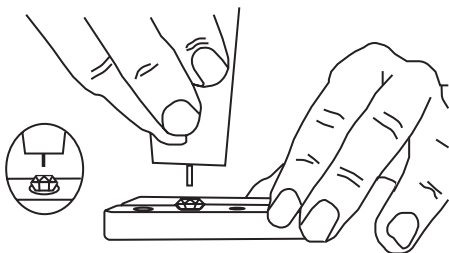


Fig. 2.6

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

Tests should be conducted on the table of the gemstone only

It is advisable to conduct multiple tests on the gemstone as to ensure accuracy.

### **Cleaning of Optical Probe Tip**

A clean optical probe tip helps to attain consistent and accurate readings.

To clean the optical probe tip,

- Ensure the unit is switched off.
- Hold the device with the pen tip forming right-angle (90-degree) with alcohol wipe.

Gently move in circular motion without retracting the tip (Fig. 2.7) or apply too much force

- Repeat the same motion several times. The cleaning process is completed and the tester is now ready for use

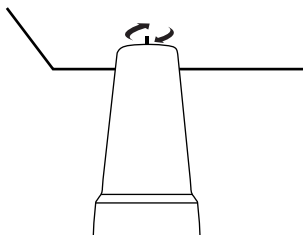


Fig. 2.7



## Removing and Replacing the Optical Probe Tip

To remove the optical probe tip, carefully pull out the tip to/and replace it with a new one. (Fig. 2.8)

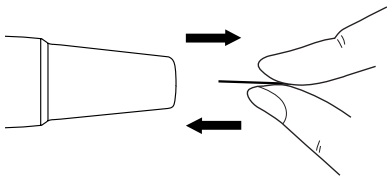


Fig. 2.8

For optimal tester performance, it is recommended to replace a worn-out optical probe tip when prompted.

### 3. READING TEST RESULTS on your ARI by Presidium

Testing specification of the tester:

<b>Result</b>	<b>Description</b>	<b>Sound</b>
<b>Diamond</b>	The tested gemstone has the characteristic light transmittance ability of a Type Ia diamond, suggesting that this could be a Natural Diamond	Single beep
<b>CVD/HPHT/ Type IIa</b>	The tested gemstone has the characteristic light transmittance ability of a Type IIa diamond, suggesting that this could be a CVD/HPHT/Type IIa Diamond	Single long beep
<b>Moissanite</b>	The tested gemstone has the characteristic light transmittance ability of a Moissanite, suggesting that this could be a Moissanite	Double beep

## 4. OTHER FUNCTIONS of your ARI by Presidium

### 4.1 Settings Function

Press the gear icon to enter the settings function.  
(Fig 4.1a)



Fig. 4.1a

In the Settings function, you may adjust the Volume level and Language selection by pressing on left/right buttons to toggle between selections.

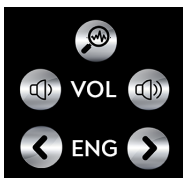


Fig. 4.1b

There are 6 types of languages available:

1. English
2. Simplified Chinese
3. French
4. German
5. Italian
6. Spanish

## Optical Tip Assessment Tool



Fig. 4.1c

Press the Diagnostic Tool to assess the condition of fibre tip. Depress tip against the clear test disk on the metal stone rest.

List of error codes:

Error Code	Action
Error 100	Please clean probe tip or contact Presidium
Error 101	Please change probe tip or contact Presidium
Error 200	Please change probe tip or contact Presidium
Error 201	Please contact Presidium
Error 202	Please contact Presidium
Error 300	Please contact Presidium

For troubleshooting, contact Presidium at [service@presidium.com.sg](mailto:service@presidium.com.sg) and provide error code.

## 4.2 Tutorial Function



Fig. 4.2

Press the Tutorial icon to enter tutorial quick guide for proper testing procedures.

## 5. TAKING CARE of your ARI by Presidium

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The optical probe tip is extremely sensitive and should be handled with care, especially during the replacing of the tip. Always remove the probe tip when tester is not in use.

Your ARI by Presidium is a product of extensive design and craftsmanship, please treat it with care.

Thank you for taking the time to go through the user handbook which will enable you to understand your recent purchase better.

Presidium also recommends that you register for product warranty by sending in the enclosed warranty registration card or registering online at <http://www.presidium.com.sg>

## IV. IMPORTANT NOTICE

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- Due to the testing methodology, this tester is not intended to test for any coloured diamonds.
- Keep the tester dry. Precipitation, humidity, and all types of liquids or moisture can contain minerals that will corrode electronic circuits. If your tester does get wet, remove the battery, and allow the tester to dry completely before replacing it.
- Do not use or store the tester in dusty, dirty areas. Its moving parts and electronic components can be damaged.
- Do not store the tester in hot areas. High temperatures can shorten the life of electronic devices, damage batteries, and warp or melt certain plastics.
- Do not store the tester in cold areas. When the tester returns to its normal temperature, moisture can form inside the device and damage electronic circuit boards.
- Do not attempt to open the tester other than as instructed in this handbook.
- Do not drop, knock, or shake the tester. Rough handling can 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** or:

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