



[www.gemlogis.com](http://www.gemlogis.com)

A large, faint, abstract graphic on the left side of the page consists of several light blue, semi-transparent, three-dimensional rectangular prisms or facets arranged in a cluster, creating a sense of depth and perspective.

**USER HANDBOOK**  
ASTRO Gem Tester

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## 1. Introduction

Congratulations on purchasing of Gemlogis ASTRO Gem Tester/Referential Meter! ASTRO uses well-known thermal conductivity principle to distinguish diamonds and other simulants. A 3.5" high resolution color LCD and touch screen is available for color selection and further sorting of the color gemstone test result.

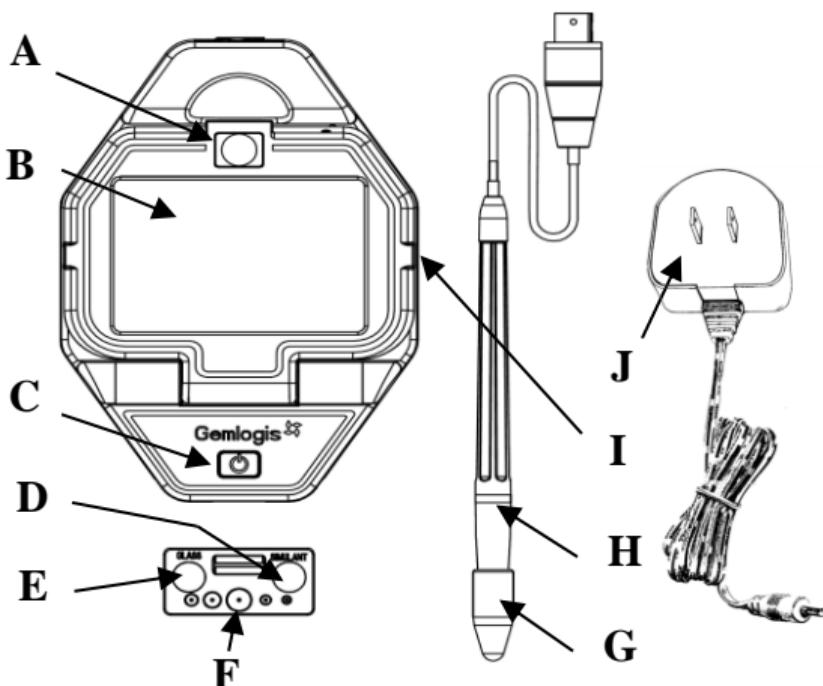
ASTRO in Wireless Mode work in conjunction with the Gemlogis MANTIS or BELIZE as referential meter to provide further analysis of color gemstones. The devices communicate via wireless infrared connection. For more details, please refer to Gemlogis MANTIS/BELIZE User Handbook.

## 2. Disclaimers, Exclusions and limitations of Liability

Under no circumstances shall Jubilee Diamond Instrument Ltd, the manufacture or any of its subsidiaries, distributors or third parties be liable for any direct or indirect damages, resulting from the use of this instrument.

Due to continuous product improvement, Jubilee Diamond Instrument 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 Gemlogis' website (<http://www.gemlogis.com>) from time to time.

### 3. Product Features



	DESCRIPTION
A	Infrared Receiver
B	LCD Screen
C	On/Off Button
D	Fool Proof Test Disk: Simulant
E	Fool Proof Test Disk: Glass
F	Metal Stone Rest
G	Probe Protective Cap
H	Probe Pen
I	External Power Input Jack
J	Accessories (Power Adaptor)

- a) 3.5" color high resolution color Liquid Crystal Display with Resistive Touch Screen Function.
- b) Retractable thermoelectric probe tip that ensures constant pressure between probe tip and gemstone.
- c) User selectable dual mode: Gem Tester or Wireless Mode (Referential Meter).
- d) Wireless IR connection with Gemlogis MANTIS/BELIZE for Wireless Mode.
- e) Metal alert buzzer to ensure that probe tip is in contact with gemstone during testing.
- f) Dual power options: power adaptor or 3 x AAA batteries.
- g) Automatic power off (After 10 minutes inactive) when powered by battery
- h) Reference Test Discs for Glass & Simulant (Sapphire) to ensure the tester provides accurate test results.

Product Dimension (mm)	153L × 107W × 30D
Probe Pen Dimension (mm)	165L × 10.6D
Weight (g)	217
Battery Info	3 AAA alkaline batteries (1.5V ea)
Operating Time	2 hours non-stop
AC-DC Adaptor	Input 100~240Vac/ 50~60 Hz, Output 4.2V, 500mA
Operation Environment	Indoor use only 18°C ~ 26°C, below 80% RH, Pressure 101 Pa
Storage Environment	15°C ~ 26°C, 30~70% RH, Pressure 101 Pa
IP Class	IPX0
Mains Supply Voltage Fluctuations	±10%

#### 4. Getting started with your Gemlogis ASTRO

This tester can be powered by either with AC adaptor (provided) or batteries.

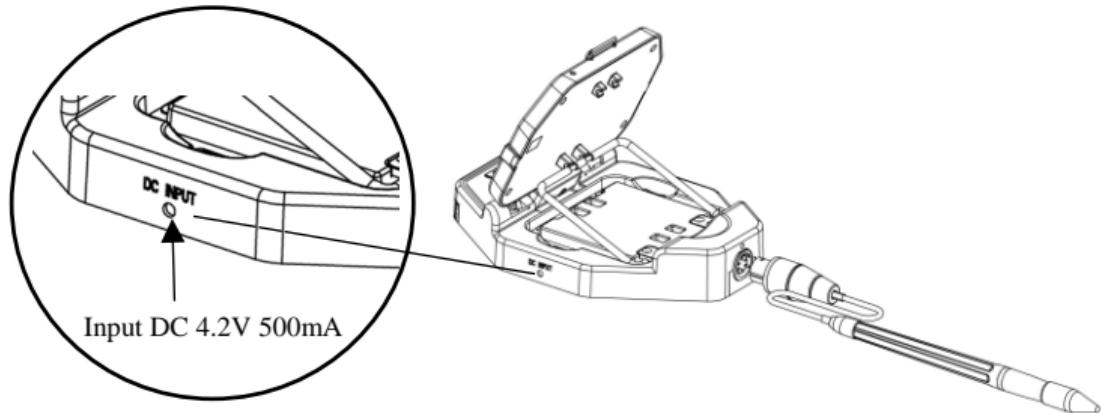


Fig.1

If AC adaptor is used, connect the AC adaptor to a power outlet of 100V ~240V and the DC plug to the input power jack of tester (Fig.1). Please use only the adaptor supplied with ASTRO.

If batteries are used, take note of the positive (+) and negative (-) polarities of the batteries when inserting the batteries into the tester.

Press and hold the ON/OFF button to turn on or off ASTRO. ASTRO has internal shutdown timer which will power off itself automatically if left idle for 10 minutes (when battery powered).

## 5. Performing a Test with Gemlogis ASTRO

ASTRO has two mode of operation i.e.

### 1. Gem Tester Mode

If you have inserted the probe pen prior to power on, ASTRO will be in Gem Tester Mode and the start-up screen will show “Heating...” as it is warming up. Please wait for indication status of “READY” before starting to use ASTRO in Gem Tester Mode.

## 2. Wireless Mode

ASTRO can be set to Wireless Mode to be used in conjunction with Belize/Mantis from Setting → Wireless Mode. ASTRO is in Wireless Mode automatically if probe pen is not inserted. The start-up screen will display “READY” status immediately in this mode.

The mode of operation can be changed from ‘Setting’ menu of ASTRO.

## 5.1 Gem Tester mode

Insert the probe pen into the socket at the back of the tester as shown in Fig 2. Note that the probe pen must be inserted into the socket prior to powering on the tester.

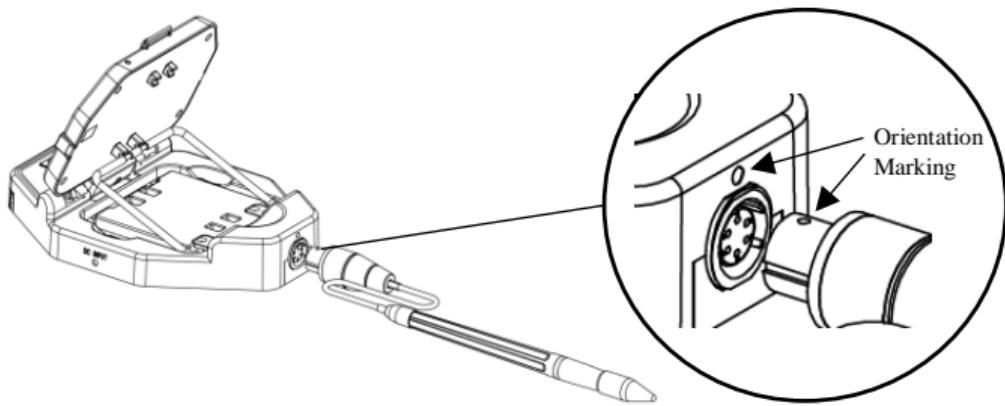


Fig.2

Press and hold the ON/OFF button to switch on the Gemlogis ASTRO. Wait for approximately 20 seconds for the initial warm-up as indicated by “Heating...” on screen. The “READY” status will display as shown in Fig. 3 when the tester is ready.



Fig. 3

It is recommended to clean the probe test tip if the tester is being used for the first time or after long periods of storage. Remove the Probe Protective Cap from the Probe Pen. Clean the probe tip by gently rubbing the tip against a piece of paper or on the backside of the Metal Stone Rest (Fig. 4) to remove the oxidation.

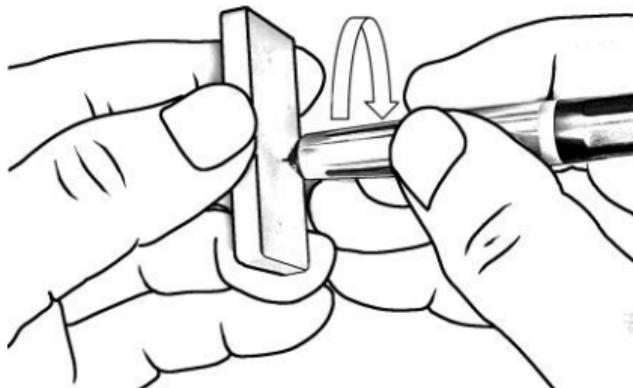


Fig. 4

To ensure your ASTRO is functioning properly before testing your gemstone, follow the steps below to perform a test on standard ‘GLASS’ and ‘SIMULANT’ disks (Fig. 5) that come with ASTRO:

1. Press the probe tip onto the Glass Test Disc. Apply sufficient pressure to retract the test tip completely into the probe pen. The indicator bar should rise at lower and ASTRO should indicate **Glass** message, or **Glass, Cubic Zirconia** result group on screen.
2. Press the probe tip onto the Simulant Test Disc. The indicator bar should rise to higher portion and indicate **Ruby, Sapphire** result group on screen.

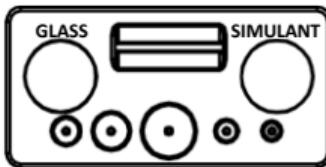


Fig. 5

Allow the gemstone or jewelry piece to settle to room temperature prior to testing. (Note: The recommended testing temperature is between 18°C ~ 26°C (64°F ~ 79°F) with relative humidity below 80%. Operating the tester outside the recommended testing temperature will affect the accuracy and consistency of the test result). It is recommended to perform test under non windy environment.

Clean the gemstone surface with a dry tissue or jewelry cloth to remove any moisture and dust before testing (Fig. 6). For loose gemstone, place the gemstone on the supplied Metal Stone Rest (Fig. 7). Extensive cleaning procedures are not necessary.

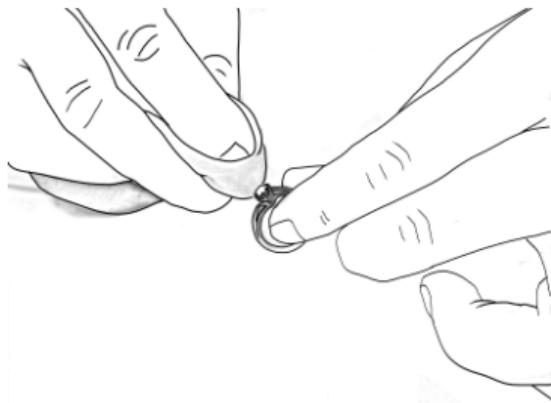


Fig. 6

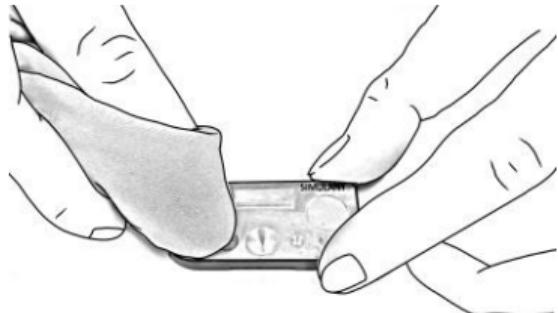


Fig. 7

## Testing Loose Gemstones

Place the gemstone on the Metal Stone Rest. Hold the metal stone rest with one hand while holding the probe pen with the other hand (Fig. 8). Place the tip of the probe pen against the gemstone. Apply sufficient pressure to fully retract the tip into the probe. This is to provide a steady and constant contact made between the probe tip and the gemstone.



Fig. 8

## Testing Mounted Gemstones on Jewelry

Hold the jewelry metal setting with one hand and the tester with the other hand (Fig. 9). Make sure that the stone is well mounted and it is in contact with its metal setting or mounting. A stone that is very loose can produce an inaccurate reading.



Fig. 9

## Test Results

For color gemstones (simulants), a list of possible gemstone names will be displayed with a color selection panel. Fig. 10 is an example of result page with multiple possible gemstones.



Fig. 10

Select the color of the gemstone by tapping the color palette on the LCD as shown on Fig. 10 to narrow down the possible type of gemstones. The final result will be displayed. For Example,

choosing the green color palette for a green gemstone under test will show listing of possible green color gemstones as shown in Fig. 11.

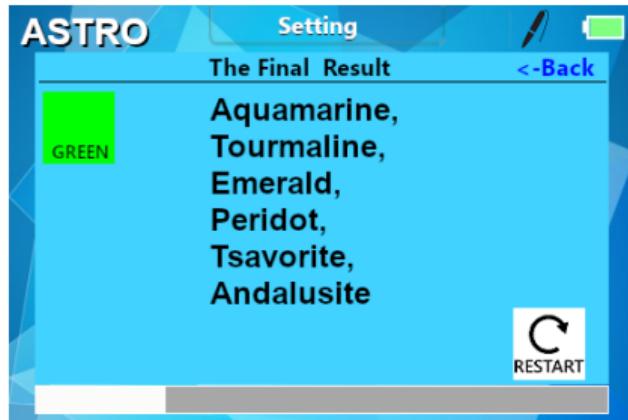


Fig. 11

Touch on the “RESTART” button to go back to the main screen to start a new test.

If the result is a diamond or moissanite, you will see the result as in Fig. 12 below.

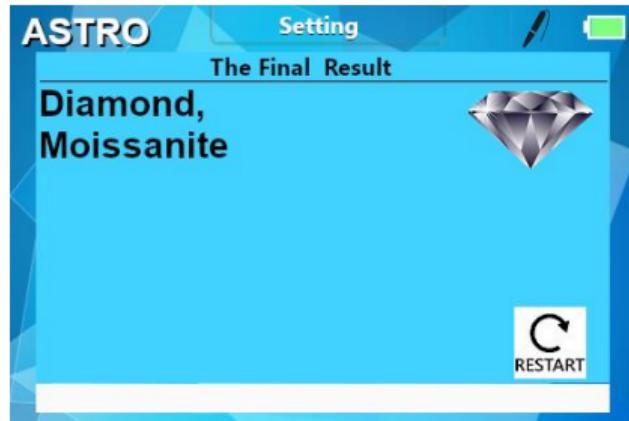


Fig. 12

If user accidentally touch the metal part of jewelry, ASTRO will show Metal result page (Fig. 13).



Fig. 13

## 5.2 Wireless Mode (Color Stone Referential Meter)

When using in conjunction with Gemlogis BELIZE/MANTIS, please ensure that the mode is set to Wireless Mode (See Fig.14) by pressing Setting → Wireless Mode. Turn on the IR function on the BELIZE/MANTIS (Please refer to respective tester's User Handbook). Please ensure that the IR LED of the BELIZE/MANTIS is facing the IR receiver of the ASTRO. Results will be displayed on the LCD screen of ASTRO when a test is performed.



Fig. 14

## 6. Battery and Power

This device is using power adaptor provided or 3 x AAA batteries. Low Battery indication is shown on Fig. 15. Please replace with new batteries when battery is low to avoid inaccurate test result.



Fig. 15

## 7. Important Notes

- **DO NOT TEST A STONE THAT IS WET OR DIRTY.** Dirt, grease or other contamination invisible to the naked eye may exist on the stone. False reading and risk of damaging the probe tip may occur if these procedures are not followed.
- The accuracy of test results will be affected if small gemstones overheat due to prolonged contact with the tester's probe tip. To achieve optimum accuracy for testing very small gemstones (0.10 carat and below), it is important to allow the gemstone to cool down to room temperature in between tests.
- The probe tip should be placed perpendicular to the facet of gemstone for an accurate reading.
- It is not recommended to perform any tests when the battery power is low. Therefore, to avoid any inaccurate readings, it is recommended to change the batteries when necessary.
- Do not attempt to dismantle the unit at all times.
- Use only the AC Adaptor delivered with the Gemlogis ASTRO. It is advisable to remove the batteries when tester is powered by AC adaptor.

- The batteries should be removed when the tester is expected to store for a long period of time. Leaving the batteries in the battery compartment for long period of time may cause battery leaking or may corrode and damage the tester.
- The Gemlogis ASTRO tester has undergone thorough and extensive laboratory trials to provide accurate and reliable readings. However, it is not intended to act as alternative to gemologists testing under lab environment. Therefore, any questionable analysis should be verified by a qualified gemologist.
- The test tip is ESD sensitive. To prevent ESD damage to the system, DO NOT touch the test tip with your fingers.

## 8. Maintenance

- Clean the tester with a dry tissue or jewelry cloth to remove any moisture and dust if the tester is being used for the first time or after long periods of storage.
- Store the tester in a place that is dry and free of direct sunlight after use.
- The probe tip should be handled with care, especially during the removal of the protective cap from the tester. When the probe is not in use, always place the protective cap to protect the probe tip from damage.
- Please note warranty conditions imposed by Jubilee Diamond Instrument Limited for its products regarding abuse, misuse and unauthorized repairs will be voided. Only defects of manufacturing and/or part failures are covered under the warranty.

## 9. International Warranty

- Gemlogis ASTRO is covered by a 12-month Factory Warranty effective from the date of purchase.
- Defects in material and workmanship are covered under this warranty.
- Warranty will be void by unauthorized repair, misuse, modification, alteration, tempering, accident damage, negligence or improper use.
- In the event that this model is no longer available or has been discontinued but warranty coverage is applicable, at the sole discretion of the manufacturer, an equivalent device may be substituted in place of the defective model.
- The purchaser shall incur the cost for postage insurance and handling for all warranty covered and non-warranty covered repairs.