

OPERATING INSTRUCTIONS FOR THE CERES RELIANCE AC DIAMOND TESTER

Congratulations on purchasing the Reliance AC diamond tester from Ceres Electronics Corporation, the pioneer in electronic gemological products. The Reliance AC is rugged and simple to operate and will provide years of service. However, the life of the instrument and its ability to perform accurate tests will be largely dependent upon the care taken by the user. ***Failure to read this manual carefully and follow its instructions could lead to improper identification of gemstones and/or to damage to the product, which will void its warranty.***

HOW IT WORKS

One of the properties unique to natural diamond is the ability to conduct heat very rapidly. All common diamond simulants such as Glass and Cubic Zirconia are typically poor conductors of heat. Ceres Electronics was first to recognize the importance of this significant difference in thermal conductivity as a practical, simple method of gem identification. The thermal gem-testing technique, developed and patented by Ceres Electronics, is now universally accepted by gem and jewelry professionals.

WHAT IT CAN AND CANNOT DO

The Reliance AC has been designed to assist the professional jeweler and gemologist who can visually identify older diamond simulants such as YAG, Sapphire, or Titanite, but who may have some difficulty in spotting CZ gems, particularly smaller stones set in gold or silver. For this purpose the Reliance AC provides a fast, reliable, and universally accepted method to confirm the user's judgment.

While Ceres thermal conductivity testers have been proven themselves as inexpensive and practical aids to identify diamond-like gems, positive identification should be confirmed by the use of more sophisticated methods of evaluation, coupled with the experienced skills and judgment of the user.

The Reliance AC is not intended to identify Moissanite. For proper identification of Moissanite, the Reliance AC must be used in tandem with the Ceres Secure II ® moissanite detector.

PERFORMING A TEST

Plug the Reliance AC into an electrical outlet. Remove the protective cover from the probe tip and move the power switch from the Off to the On position. The Red (READY) light will flash for approximately 15 seconds as the probe tip is warmed up. At the conclusion of the warm-up period, the READY light may go out very briefly, but the READY light will re-illuminate and will remain on, and you will hear a short beep. The Reliance AC is now ready to operate.

To perform a test, place the probe tip squarely against the facet of the gemstone, using sufficient pressure for the spring-loaded metal tip to retract partially into its plastic housing. Press firmly and quickly, but do not press so hard that the probe tip retracts fully into the housing.

- ❖ If the gemstone is a diamond*, the Green (DIAM) light will illuminate and you will hear a short beep.
- ❖ If the gemstone is a CZ, the Red (READY) light may extinguish but will probably remain lit.
- ❖ If the gemstone is some other type of diamond simulant, the Red (READY) light will extinguish, and there will be no beep.

* Please note that a Moissanite stone could test as a Diamond. It is highly recommended that the Reliance be used in tandem with the Ceres Secure II ® Moissanite Detector whenever a "Diamond" reading is received.

METAL WARNING BUZZER

The Reliance AC incorporates a Warning Buzzer indicating that the probe tip has come in contact with metal. Since gold and silver share diamond's high thermal conductivity, many diamond testers provide a diamond reading when you are actually touching the metallic setting of CZ jewelry.

For proper operation of the Warning Buzzer, you must hold the piece of jewelry in one hand while touching the Reliance AC's ribbed Contact Plate with the thumb of your other hand. Although it is possible that the Green (DIAM) light could illuminate when metal is contacted, the Warning Buzzer will also sound, indicating that you must retest.

LOOSE STONE HOLDER

Located in the small compartment on the back of the Reliance AC, the Loose Stone Holder is designed to assist the jeweler in testing unset gemstones. To ensure that the Metal Warning Buzzer is functional when testing loose stones, be sure to be touching the Loose Stone Holder with one hand while touching the Reliance AC's ribbed Contact Plate (as directed above).

DIAMOND AND SIMULANT TEST PLATES

It is highly recommended that the Reliance AC's computer chip calibration be tested periodically to ensure that it is testing accurately. For this purpose, test pads have been provided and can be found on the back of the door to the small compartment located on the Reliance AC case. To check the unit's calibration, simply touch the probe tip to the test plates to ensure that the correct reading is provided.

TROUBLESHOOTING

- Test only clean gemstones, since body oil, dirt, and dust can produce incorrect readings. Make sure that the stone is completely dry after cleaning, as water and other liquids could causing improper readings.
- For accurate operation, the Reliance AC and the gems should be at room temperature (65-75F/18-24C).
- Clean the probe tip frequently. It is recommended that the tip be cleaned during each warm-up period when the unit is turned on, and after a few minutes of continual operation. The probe may be cleaned by scratching it vigorously against a piece of paper. Do not use coated or waxed paper and be careful to point the probe tip straight down at the paper.
- Do not test the same stone repeatedly, especially a very small stone. A diamond that has been warmed by repeated tests will test as a simulant unless sufficient time is given for the stone to cool to room temperature.
- Always test with sufficient pressure to ensure solid contact between the probe and the gemstone. Tests must be made firmly and quickly, particularly on small stones. Apply pressure to the probe tip the moment that contact is made with the stone.
- Always keep the protective cover on the probe tip when not using the instrument. Turn the unit off when it is not in use.

SERVICE AGREEMENT

In the event that your Reliance AC is not performing to your expectations, we strongly recommend calling Ceres Electronics' Customer Service Department before returning it for repair. Many problems

can be solved quickly and easily over the telephone, without the need to return the unit for service. Specifically, make sure you have cleaned the probe tip thoroughly before shipping, as this is the most common cause of improper function.

WARNING

There are no user-serviceable parts in the unit. Do not take it apart, as there are areas on the circuit that when touched will give an uncomfortable electrical shock. Evidence of tampering also voids the Limited Lifetime Warranty.

WARRANTY AND DISCLAIMER

CERES ELECTRONICS CORPORATION WARRANTS THAT THIS CERES RELIANCE AC WILL BE FREE FROM DEFECTS IN MATERIAL AND WORKMANSHIP FOR AS LONG AS YOU OWN IT. THIS WARRANTY EXTENDS ONLY TO THE ORIGINAL PURCHASER OF THIS INSTRUMENT AND DOES NOT INCLUDE THE PROBE TIP OR POWER ADAPTOR, WHICH ARE WARRANTED FOR TWO (2) YEARS.

In the event of a defect during the warranty period, CERES ELECTRONICS CORPORATION should be notified and the purchaser should return the instrument to CERES ELECTRONICS CORPORATION, freight prepaid, properly identified, and with proof of purchase date. The sole obligation of CERES ELECTRONICS CORPORATION, after reasonable opportunity to inspect the instrument, will be to repair or replace the defective instrument, or any part of the instrument that is proven to the satisfaction of CERES ELECTRONICS CORPORATION to have been defective at the time of purchase, or that has become defective in normal use during the warranty period, at its option and at no charge to the purchaser.

The above warranty is void if the instrument has been serviced by anyone other than CERES ELECTRONICS CORPORATION or has been altered, abused, misused or used for purposes other than those for which it was designed.

CERES ELECTRONICS CORPORATION MAKES NO WARRANTIES REGARDING THE CERES RELIANCE AC OTHER THAN THOSE EXPRESSLY CONTAINED HEREIN. ALL OTHER WARRANTIES OF ANY KIND WHATSOEVER, WHETHER EXPRESSED OR IMPLIED, INCLUDING WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, ARE HEREBY DISCLAIMED AND ARE EXCLUDED BY IT.

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