Smart Tweezers and LCR-Reader

Frequently Asked Questions

What models of Smart Tweezers are available?

- The first model of Smart Tweezers ST-1 was released in 2004
- Smart Tweezers ST-2 was released in 2007
- A rechargeable version of the ST-2, the STIC, was released in 2008
- The ST-2.3 was released in 2010 and featured a new LCD display
- The professional model, the ST-5, was released in November of 2011
- The LCR-Reader was released in September of 2013. This model is intended for the consumer electronic market
- The ST-5S was released in 2014; it features the same functionality as the ST-5 with an updated look akin to the LCR-Reader

What is Smart Tweezers mostly used for?

Smart Tweezers are an unrivaled tool for identification and measurement of surface mount device (SMD) components. Just imaging a bunch of devices with or without labels sitting on your desk. ST can identify these with just one touch, speeding up the identification process hundreds of times.

How accurate are Smart Tweezers?

Typical accuracy is about 1% for resistance, 5% for capacitance and 10% for inductance measurements. This accuracy allows users to select and SMD component from a strip where variations between components may be higher than the measurement accuracy.

Can Smart Tweezers be used on a PCB circuit?

Yes, if you know the circuit and understand how it works. Previous models of Smart Tweezers have been able to test voltage, but this feature is not available on the newer ST-5S or LCR-Reader models.

The battery discharges very quickly, what was done wrong?

There are two main reasons as to why the battery may drain quickly.

1. The device was recently used using the 10kHz test frequency. When this setting is used, the device may be constantly measuring the parasitic capacitance between the tips. To avoid draining the battery, reset the device to "Auto" after measurements.
2. The tips were recently changed and there is a piece of debris caught between the tips and the arms. Simply remove the tips and clean both the arms and tips with isopropyl alcohol; reattach and assure that the device is no longer measuring anything.

Can Smart Tweezers measure current?

By measuring a voltage drop across a resistor Vr (resistor value R can also be measured using ST) the current through the resistor is easily calculated using Ir=Vr/R. The newer models of Smart Tweezers do offer continuity and diode testing.

Smart Tweezers automatically turns off too quickly. Sometimes it hinders me from my work.

Users can set the turn-off time by selecting SYSTEM->DISPLAY->TIME-OUT in the menu

I am left handed, can I still use Smart Tweezers?

Smart Tweezers can be used by left or right handed users. The orientation can be changed in the menu by SYSTEM->DISPLAY->LEFT or RIGHT

What does it mean that Smart Tweezers are "factory calibrated"?

Smart Tweezers do no require any calibration. Every single Smart Tweezers is calibrated upon assembly using a special calibration stand. This stand is annually certified by JOLA Instruments Inc. Each ST-5S device comes with an NIST and NRC traceable certificate.

Is Smart Tweezers design patented?

The patent is in force in Europe, USA, Canada, Japan, China, Taiwan, Hong Kong and India.

How can I extract the parasitic probe capacitance?

The parasitic probe capacitance depends on the distance between the tips, it will be different for different measured component sizes. To obtain the value of the capacitance of the Smart Tweezers' probes, do the following:

1. Select mode for capacitance measurements by setting MEASURE->MODE->CAP. The letter 'C' on the main screen indicates that you have set the device to 'Capacitance Measurement Mode'
2. Set the measurement frequency to 10 kHz by setting MEASURE->FREQ->10kHz. Or by pressing UP on the navigation button until 10kHz is selected.
3. Enable the HOLD mode by selecting MEASURE->HOLD->ON
4. Squeeze the probes to an equal distance apart as the size of the component; this number is the offset value
5. Enter the NULL menu and select SET
6. To remove the offset value, reset the device to Automatic Measurement Mode; Select 'OFF' in the HOLD menu; and select 'ZERO' in the NULL menu.

Why would I need an extra pair of Smart Tweezers' Tips?

The tips are made of gold-plated stainless steel and the gold tends to wear out with time. The life span depends on the number of touches and the quality of the surfaces being touched. A rough estimate with a moderate intensity of Smart Tweezers use would be 2-3 years. Typical contact resistance of the Smart Tweezers Tips is about 20 mOhms. It can be as high as 1 Ohm for a heavily used device.

What if my LCR-Reader needs replacement parts besides the tips, such as a screen or battery?

You can buy all sorts of accessories and replacement parts at the LCR-Reader Store. If you are unsure of what model of device you have, you can look at the Smart Tweezers Catalogue. There is an online repair guide available here.

Where can I purchase a Smart Tweezers device?

LCR-Readers are available on http://www.bomir.com/online/?module=category&id=5
and in Europe on: www.psinter.com

Purchasing Info

BOMIR Inc.

650 Scranton Pocono Hwy Covington Twp PA 18444
Tel: 570-842-4725 Fax: 570-842-4290
www.bomir.net

30 days money back guarantee if returned in original packaging and not damaged.
SALE PRICE – $ 329.90 or from Euro warehouse: Euro 329.90

How to Purchase

You may place your order in one of the following ways:

Purchase Online

Phone: +1 570-842-4725
e-mail: **bomir@bomir.com**

In Europe: European Warehouse

+48 22 353-6324
e-mail: **admin@psinter.com**