

Third Revision of Calibration Fixture for LCR-Reader and Other Tweezer-like LCR- and ESR-meters

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Canadian Siborg Systems Inc revises a fixture performing calibration of digital handheld multimeters; allowing to issue NIST traceable calibration



Siborg's new calibration fixture testing an LCR-Reader LCR and ESR meter

"With this new fixture, we can offer our customers an NIST traceable calibration certificate with every LCR-Reader LCR- and ESR-meter

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Tweezer-like LCR- and ESR-meters such as LCR-Reader and [Smart Tweezers](#) have become essential tools for quick L, C, R and ESR measurements since Smart Tweezers' debut over ten years ago. LCR-Reader is getting more and more popular because of its simplicity and stability over a wide measurement range. It offers an attractive price and the same functionality as other similar tools but has less features. Over the past years Siborg has worked in creating a

new calibration fixture that is able to calibrate and re-calibrate LCR-Reader and other tweezer-like LCR-meters. This new fixture allows Siborg to offer NIST traceable calibration for virtually all tweezer-like LCR-meters.

In a continuous effort to create an accurate and reliable calibration fixture Siborg collaborated with the Institute of Automation and Electrometry of the Russian Academy of Sciences in Novosibirsk, Russia. The goal was to create a calibration fixture that was able to handle the full dynamic range of measurements that LCR-Reader and other tweezer-like tools offer. Siborg has recently sent the fixture to Navair Technologies, leading calibration facility in Toronto, Ontario for the calibration.

Siborg's previous calibration fixtures were created for older [LCR-meter](#) models, and presented a problem when calibrated newer models, including the LCR-Reader. The previous fixtures employed a 2-wire connection; the same found on older models that connects the tweezers' probes to the LCR-meter. This connection was not able to handle the full measurement range of newer models of LCR-meters including the LCR-Reader that use a 4-wire connection that is less sensitive to parasitics on the fixture's PCB. The older calibration fixture was not able to handle the lower values of capacitance and inductance or higher values of resistance, leaving only the mid-range values testable.

In the new fixture internal parasitic resistances have been reduced and a new 4-wire connector has been designed and manufactured. The connector combines regular 4 BNC female sockets with a custom made 4-

wire connector fitting the LCR-Reader probe connector on the tweezer handles. Besides, the custom made connector is used in the [LCR-Reader Probe Connector](#) recently offered by Siborg.

“We are happy to finally be able to provide LCR-Reader customers with calibration certificates and re-calibration for many other models of tweezer-like LCR-meters. We have had a lot of feedback regarding the ability to perform periodic calibration for these devices; many professionals have overlooked the device due to this. LCR-Reader is an affordable option to those that want a [Smart Tweezers](#)-like device, but without the high price. With this new calibration fixture, we are able to offer these customers just what they wanted.” says the Director of Siborg Systems Inc., Michael Obrecht.

Siborg has begun offering calibration certificates with their LCR-Readers and began offering a new bundle. This bundle called the LCR-Reader Professional includes LCR-Reader, calibration certificate, spare bent probes, hard-shelled carrying case and the wall charger with either European or US Plug. This new bundle is available in the LCR-Reader Store as well as on world-wide Amazon sites.

The newly revamped LCR-Reader Store has a whole range of tweezer-like devices for SMD measurements. The [Smart LED Test Tweezers](#) tests LEDs, switches, circuitry and more with adjustable current ratings and fixed 12 VDC output and comes with a special connector cable that allows the device to be used as tweezer-probes with various kinds of multimeters. [SMD Multimeter Test Tweezers](#) give any multimeter tweezer-like functionality. LCR-Reader Probe Connector extends LCR-Reader and Smart Tweezers into a probe station for full PCB probing, as well as allows the device to measure components larger than the tweezer probes would allow.

Siborg’s newest offering is the [Smart Tweezers ST5S-BT](#); this device is the ST-5S model with the added ability to remotely record measurements over a Bluetooth connection. Using a USB receiver stick, the device opens a virtual serial port and sends data in a comma-separated string of values that can be used a quick reference or be saved into a file or database. The ability to instantly record all measurement data boosts efficiency, especially for those who are required to keep track of measurement values for quality control.

Visit the LCR-Reader Store to see all that Siborg has to offer, and keep track of all the latest news on the LCR-Reader Blog.

About Siborg Systems Inc.

Established in 1994, Siborg is a source of engineering hardware and software tools for the semiconductor and electronics industry. Located in the city of Waterloo, Ontario, they enjoy being a part of the local world-renowned high-tech community.
