



L/C Meter IIB (II is Roman numeral 2)

is a hand-held, digital
Inductor inductance meter
Capacitor capacitance meter
with a four digit display,

It is ideal for RF and audio work where accurate measurement of small values is needed.

maximum resolution of 1 nHy / .01 pF
maximum range of 150 mHy / 1.5 uF.

Capacitors must be non-polarized as the test signal is AC.

The unit features
AUTOMATIC RANGING and **SELF-CALIBRATION.**

[ACCURACY ANALYSIS 5/1/2005](#) analysis against standard Inductor and capacitor sets.

It is available fully assembled and tested or as a

"solder it together and it works" kit.

OK, there have been some comments about the lack of step-by-step detail in the assembly instructions.

Most people have managed to assemble it in under 2 hours anyway but I hope I have improved that with the [new instruction manual](#).

[What some of my customers have had to say.](#)

REVIEWS

L/C Meter IIB inductance / capacitance meter is widely recognized for its accuracy and low price.

- [Antennax review of L/C Meter IIB](#)
- [eHam.net reviews](#)
- [Spread Spectrum Scene Review of the AADE LC Meter](#)
- [Ian Purdie's Amateur Radio Tutorial Pages review](#)
- [Pirate Radio review](#)
- [Iowa QRP Journal review](#)
- [JH2CLV in Japanese](#)

[PRICES? click here.](#)

[Specifications? click here.](#)

[Instruction Manual? click here.](#)

[in Japanese](#)

[HOW TO ORDER?](#)

[click here](#)

I have an unconditional money back guarantee, even on kits.

SPECIFICATIONS

- **Range**
 - .001 mHy (1 nHy) to 100 mHy (most units measure to 150 mHy)
 - .010 pF to 1 mFd (most units measure to 1.5 uFd)
 - **(Capacitors must be non-polarized)**
 - AUTOMATIC RANGING
- **Accuracy** 1% of reading Typical
 - Typical means the average error for 60 inductance calibration standards:
 - 20 HP 16470A standard calibration inductors
 - 16 Booton type 103A standard calibration inductors
 - 6 Booton type 62-2A standard calibration inductors
 - 18 Marconi type TM 4520 standard calibration inductors
 - and 83 capacitance calibration standard
 - 7 Heathkit 0.25% capacitance calibration standards
 - 37 Vero 0.1% capacitance calibration standards
 - 39 0.5% decade capacitance calibration standard
 - 10 2% high value capacitance calibration standards
 - See <http://www.aade.com/lcm2binst/HP.html> for detailed results.
 - SELF-CALIBRATING

[ERROR ANALYSIS 5/1/2005](#) error analysis against standard Inductor sets.

Display:

- 16 character LCD display module
 - Four digit resolution
 - Direct display in engineering units (ie: $L_x = 1.234 \text{ uHy}$ / $C_x = 123.4 \text{ pF}$)
 - jumper option to display pF, nF, uF (ie: 10 nF instead of .01 uF)
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Operating modes:

When the L_x and C_x switches are off the ZERO switch acts as a MODE SELECT.

- The following modes are sequentially selected
 - **READY MEASURE_nMODE** - measure L_x or C_x and display in nano units when applicable
 - **READY MEASURE_uMODE** - measure L_x or C_x and display in micro units (ie: .01000 uF instead of 10.00 nF)
 - **READY MATCH_nMODE** -

- first measures your reference component Lz or Cz and displays it's value in nano mode
- measures subsequent components, Lx or Cx, and displays the difference (Lz-Lx) or (Cz-Cx) in nano mode
- **READY MATCHuMODE** -
 - first measures your reference component Lz or Cz and displays it's value in micro mode
 - measures subsequent components, Lx or Cx, and displays the difference (Lz-Lx) or (Cz-Cx) in micro mode
- **READY MATCH%MODE**
 - first measures your reference component Lz or Cz and displays it's value in nano units
 - measures subsequent components, Lx or Cx, and displays the percentage difference
 - $(Lx-Lz)/Lz*100$ or
 - $(Cx-Cz)/Cz*100$ as percent.
 - range is -100% to +9999%
 - maximum resolution is 00.01%

L/C Meter IIB zeros out stray inductance and capacitance by storing their values in RAM and subtracting them from the measured values. It can zero out any value in it's range allowing longer test leads and slightly improved accuracy over L/C Meter II.

L/C Meter IIB works by measuring the shift in frequency caused by inserting an unknown into it's oscillator tank circuit. A PIC16C61 micro-controller measures the frequency before and after. It then computes the value of the unknown using a floating point math package and displays the result on a 16 character intelligent LCD display.

L/C Meter IIB will NOT measure inductors designed for 60 or 120 Hz applications such as power transformers, filter chokes or motors. The minimum test frequency is about 20KHz and these devices have enormous core losses at that frequency.

HOW TO ORDER

"TWEEZER PROBE" kit



A Kelvin clip is an alligator clip with electrically isolated jaws.

Clip the plastic at the tips even with the copper tongs using a fingernail clipper.

Attach 4" to 6" heavy stranded wire and banana plugs as shown.

Pick up the SMT part like a tweezer and let go, it is held in the probe by springs.

Has the advantage that you can get your body out of the measurement because you don't have to hold the probe.

If this seems confusing, all will become clear when you have the clip in your hands.



Other TEST ADAPTER ideas for regular and SMD parts.

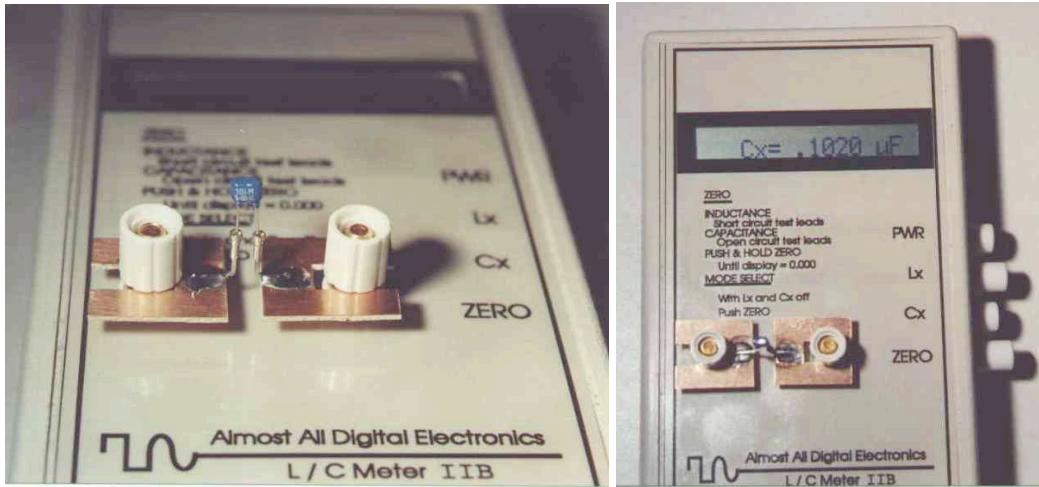
Chuck, K7QO's Patented jig

quoted from

[Chuck's homepage](#)

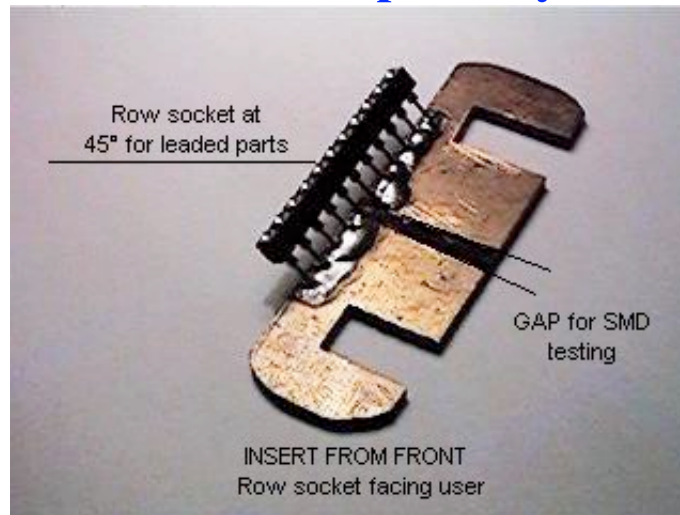
"Here are some pictures of a piece that I designed and has been published in several places. Almost All Digital Electronics, <http://www.aade.com/>, has an L/C Meter that sells for \$99.95 for the kit, which just about any experimenter must have for serious work. In order not to bend leads and mess with different geometries I used PC board material to make two rectangular pieces. I then used a nibbler to make a centered channel for the binding posts to go into. Then soldered two machined socket pins for inserting

component leads into. That's all there is to it. "



[CLICK ON IMAGE TO ENLARGE.](#)

jon, EA2SN's version as inspired by Chuck's design.



Here is a method you can use to measure Varactor diode capacitance

Hi Neil,
Attached are two pictures--of the meter with simple fixture using piece of PCB, and picture of the diagram. I can redo, if not suitable. There's

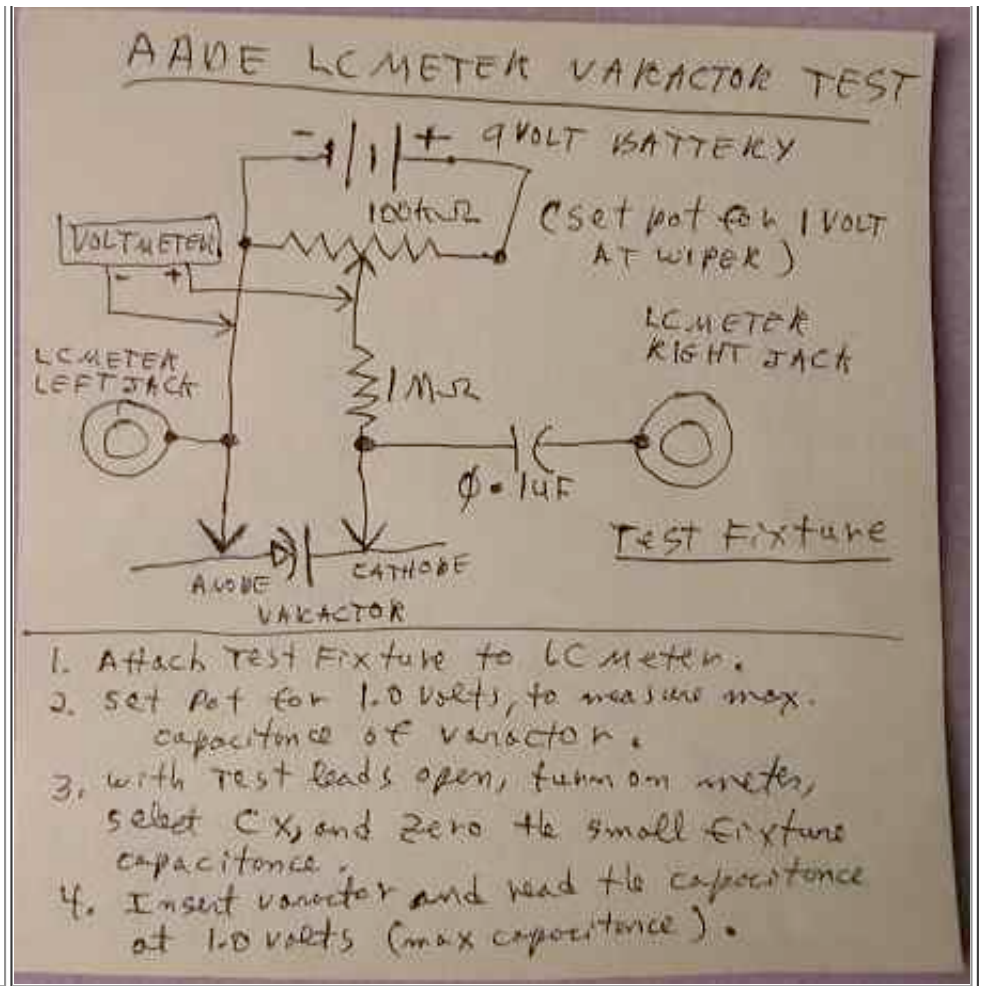
not much to it. The key is isolation of the right-side input jack with the large capacitor. 100,000pF is much larger than the largest varactor (~500pF), thus has little effect on the measurement. An accuracy check can be done by measuring an ordinary capacitor (under 1000 pF) in the fixture. Most varactors are specified at 1 volt or 4 volts for maximum capacity, and can be measured by setting the pot for the desired voltage. The voltmeter can remain connected; it doesn't affect the test. I used a Dremel tool with a narrow carbide bit to hand-cut the several lines for mounting the trimpot and for isolating the various sections. Holes were drilled and banana plugs soldered to the PCB. I used mini-clips for holding the varactor.

Steve



Steve was one of my first customers several years ago so his meter has the

older panel decal.



For those who might use the meter for long periods of time or continuously this item may be of interest.

I DO NOT SELL IT. Try googleing it.



or it would be pretty easy to make your own from an old 9 to 12 volt wall transformer. **Just remember that the buttons on the battery clip should be the reverse (male / female) of what they would be if clipped on a battery.**

How to Order



A paypal account is NOT required

By Phone with Visa/MasterCard

- Call between 9AM and 9PM Pacific time, 7 days)
- 253-351-9316 ,

By FAX with Visa/MasterCard

- 253-931-1940

By Mail **Almost All Digital Electronics, 1412 Elm St. S.E., Auburn, WA 98092**

- E-Mail neil@aade.com

L/C Meter IIB is also available from:

- [Milestone Technologies](#)

10691 E. Bethany Dr., Suite 800
Aurora, CO 80014

- [Antennex](#) the [on-line magazine](#) and shopping center for amateur radio antennas.

In Germany and Europe

- [Funk Amateur](#)

Theuberger Verlag
Berliner Str
13189 Berlin, Germany

+49-30-44 66 94 72 (8 to 12 European Standard Time)

FAX +49-30-44 66 94 69

In Norway

- Hamradio.no
 - [L/C Meter IIB order page](#)
- **Dag Traasdahl**
Partner
Postboks 1133
9261 Tromsø
Mobiltilf: 913-54550

In Italy

- ***Spin electronics***
7, via F. Gioia
10040 Rivalta di Torino
ITALY
tel +39 011 90 91 968
fax +39 011 90 47 562
www.spin-it.com

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- **PRICES:**
 - **Complete kit including machined case with front panel decal \$99.95**
 - **Assembled and tested unit \$129.95**
 - **\$6 S/H U.S.A. and Canada (\$12.00 S/H foreign)**
 - **Units with 3/4" test jack spacing are available on special order (no extra charge).**
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- [Digital Frequency Display](#)
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