

MiniLab E100
Frequently Asked Questions (FAQ)
Updated: 10/3/2008

General Questions:

How can I control my MiniLab remotely?

To remotely access the eBench software, we recommend a remote desktop sharing service such as LogMeIn. The basic service is free and provides a secure link over the internet to your PC. For further details please see the LogMeIn website (<http://www.logmein.com>).

Of course, you will need to set up the circuit to be tested and the MiniLab connections before remote control of the MiniLab is possible.

Can I use the MiniLab with LabView?

Yes. LabView virtual instrument (VI) files are available for download [here](#).

Do I have to use the eBench software?

Although the eBench software is designed to optimize the usefulness of the MiniLab for most applications, you may desire to create your own user interface or use the MiniLab with third-party applications. In these cases, An [API](#) is available for download from our website. You can also download the document "[Using the MiniLab API](#)" which explains the use of the API in detail.

The PC won't recognize the MiniLab when I plug in the USB cable. What do I do?

1. Be sure to install the eBench software and drivers before connecting the MiniLab. The Quick Start instructions can be found [here](#).
2. The MiniLab E100 requires an external power source. Be sure that the supplied power supply is properly connected.
3. The MiniLab requires a USB 2.0 compatible connection to your PC.

What external power supply do I need for the MiniLab E100?

You should only use the power supply included with your MiniLab E100 to power the unit.

What accessories come standard with the MiniLab E100?

Each MiniLab E100 comes standard with one 100 MHz oscilloscope probe, one function generator probe, one set of DMM cables, one USB cable, and a power supply (110 V input).

I get an error that .net framework is incompatible with the eBench application. How do I get the compatible version?

.net framework is available from Microsoft. The eBench software requires [.net framework version 3.5](#).

Oscilloscope:

Why is the data display area blank?

After selecting the Oscilloscope from the startup screen, you must click on the Power button in the bottom-left corner of the oscilloscope to turn the oscilloscope on.

I have a signal on channel 1, so why don't I see any data?

1. You must enable each channel that you wish to view. If a channel's data is not visible, click on the channel Menu button. Pressing this button again while the channel menu is displayed will disable the channel and remove its data from the screen.
2. If you have selected Normal or One-Shot triggering, the data will not be displayed until a trigger event happens.

Why does my signal look distorted when I use the x1 setting on the probe?

When the probe is in the x10 setting it has a resistance of 10 M-ohm; however, in the x1 setting the probe has a resistance of 1 M-ohm. The increased load on the circuit under test can produce two effects:

1. It may be significant enough to noticeably change the characteristics of the circuit under test and produce distortion;
2. The lower input resistance to the oscilloscope reduces the effective bandwidth of the oscilloscope so that it cannot faithfully reproduce the data for fast-changing signals.

What is probe compensation, and how do I know if my probes are compensated correctly?

Probe compensation adjusts the impedance of the oscilloscope probe so that in combination with the oscilloscope input impedance the attenuation of all frequencies into the oscilloscope will be equal. The procedure is described in the "Probe Compensation" section of the [User Manual](#).

Function Generator:

Why is the output range specified for 50 ohm load?

The function generator has an output impedance of 50 ohms. Fifty ohms was selected for several reasons:

- It is desirable for a function generator to have low output impedance so that it can drive the load of the circuit under test.
- Fifty ohms is the standard impedance used in test equipment. By matching this impedance, the MiniLab can be directly connected to other test equipment.
- The 50 ohm output impedance provides short-circuit protection for the function generator.

Note that if the input resistance of the circuit under test is high impedance, the voltage range of the function generator can be up to 2x the specified voltage.

How do I adjust the voltage amplitude to less than 1V?

To adjust the amplitude below 1 V, you must click on the -20 dB button on the function generator panel. Clicking on the button again increases the amplitude by 20 dB (back to the original state).

Do duty cycle adjustments affect sine or triangle outputs?

Duty cycle only affects the square wave output.

Why do the Duty Cycle and DC Offset knobs seem to have no effect?

The Duty Cycle and DC Offset knobs must be enabled before they will have any affect on the output signal. The Duty Cycle knob is enabled by clicking on the Duty Cycle button. The DC Offset knob is enabled by clicking on the DC Offset button. Clicking these buttons again will disable the associated knob function.

DMM:

Why can't I see current readings?

1. The DMM probe needs to be plugged into the current jack, labeled "A," in order to take current measurements.
2. The DMM will not read values below 1 mA.

Is the AC voltage reading an RMS value?

The DMM does not provide "true" RMS value. It will match the RMS value for sine waves, but will not equal the RMS value for non-sinusoidal signals.

What is a 3 ½ digit display?

The half-digit refers to the most significant digit of the display which can be either 1 or -1, while the other three digits can be integers 0 – 9. This gives a display range of -1999 to 1999. A decimal point can also be used to modify the magnitude of the readings.

How do I reset the Max and Min readings?

The Minimum, Maximum, and Average calculations are begun when the Min/Max button is clicked. The values are calculated as long as the DMM remains in Min/Max/Avg mode. The values are reset when the DMM returns to normal operation.