

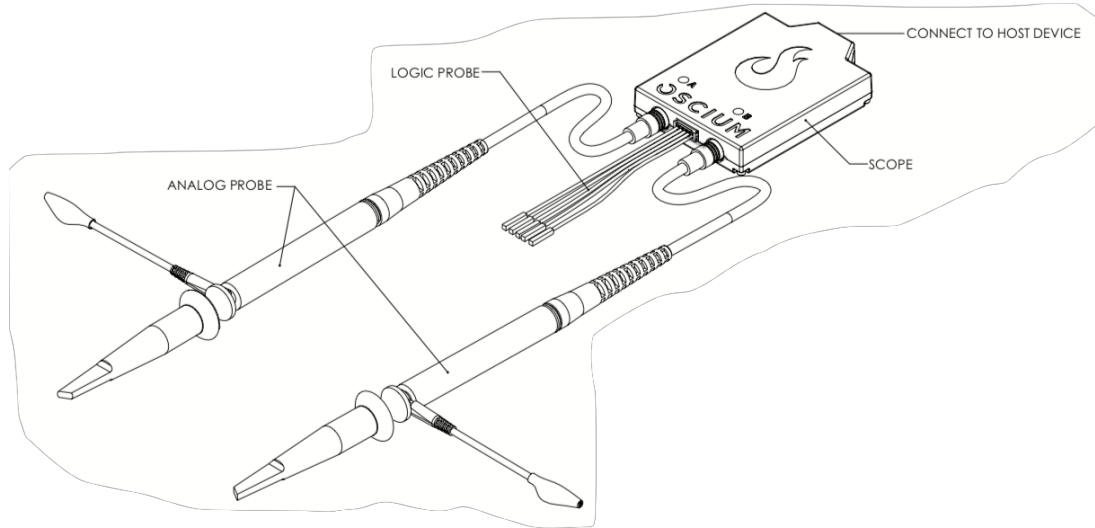


# Educators FAQ for the iMSO-204x

This document will address the most frequently asked questions from educators.

## INTRODUCTION

The iMSO-204x digital storage oscilloscope is the most versatile, student (and instructor) friendly scope available. The basic hardware is a iMSO-204x, a digital recording instrument that measures electrical signals, through the analog or digital inputs. It is capable of recording two analog signals and four digital sources simultaneously. The connections to the iMSO-204x are shown in Figure 1.





**Figure 1. Principle components of the iMSO-204x digital storage oscilloscope.**

1. Power indicator light: illuminates when the iMSO-204x is connected to and recognized by a computer or mobile device.
2. Analog probe input channel A
3. Analog probe input channel B
4. Logic Probe input
5. Digital Input Connector
6. Micro USB connector: connects a computer or mobile device to the iMSO-204x

The iMSO-204x should be connected to your computer or mobile device using the appropriate cable. The iMSO-204x hardware is controlled through the iMSO software, so there are no knobs or dials on the scope. iMSO software displays the electrical signals measured by the scope on the screen. The display format resembles a traditional digital oscilloscope.

## SAFETY

1.  **The maximum input voltage for the iMSO scope when using the BNC-SMB adaptor or analog probe in 1X mode is -8v / +13v.**
2. In other applications you will use the analog probe which has a sliding red lever  that allows the use in 10x mode.
  - a. The maximum voltage limit for the analog probe in 10x mode is -40V / +40V.
  - b. To enable 10x mode, slide the red lever located on the probe itself.

- c. The 10x option located in software only changes the voltage scales in software; it does not actually divide the input voltage. Please remember to slide the red lever on the physical probe for all 10x measurements.

### GENERAL QUESTIONS

#### Who do I contact for support?

- Please contact us at [product@zcanalytics.com](mailto:product@zcanalytics.com). We will make every effort to respond to your request within one business day.

#### What devices are compatible with iMSO-204x?

- iOS devices (iPad, iPhone, iPod) running iOS version 7.0 & higher
- Android devices running version 4.0.3 & higher
- PC computers Windows 7 & higher
- Apple computers Mac OS 10.10 (Yosemite) & higher

#### Which app do I download for iMSO-204x?

- For all Apple iOS devices please see the [Apple App Store](#)
- For Android devices please visit [Google Play Store](#)
- For Windows please download the installer from this link: [PC Installer - iMSO-204x](#).
- For Apple Macintosh OS computers, please download the installer from this link: [Mac Installer - iMSO-204x](#).

#### Can I measure AC voltage and in what voltage range?

- Yes, you can measure either AC or DC voltage on the analog channel. The maximum voltages are -8v to +13v in 1x mode and with the SMB-BNC adaptor and -40v to +40v in 10x mode.

### HARDWARE QUESTIONS

#### What is the threshold of the digital inputs? At what value do they switch from high to low and vice versa?

- The digital threshold is fixed at 1.7v.

#### What is the input impedance of the analog channel?

- The input impedance is 1Mohm in 1x mode & 10Mohm in 10x mode.

#### The iMSO oscilloscope uses the battery from my mobile device. How does this affect battery life of these devices?

- If you're using an iPhone / iPod touch, you can use your iMSO oscilloscope continuously for approximately five hours. If you're using an iPad, you can use your scope continuously for approximately eight hours. Please understand that these battery times are just estimates. Your results may vary based on your background usage level (WiFi, email push, other apps, etc).

#### What is the meaning of 204x in the name iMSO-204x?

- The numbers on the hardware translate into 2 analog channels / 04 digital channels. The x represents universal or cross platform support.

#### Does iMSO-204x come with a warranty?

- Yes, all our oscilloscopes come with a one year warranty. Probes and SMD grabbers are not included in warranty.

### Where are student data logs and screen shots stored?

- Mac: Drive> Users>\*user\*>Document>iMSO
- PC: C:\Users\\*user\*\AppData\Local\iMSO
- Android and iOS devices should use the Manage Files button under the settings menu for data logs and screen shots captured via the button in the iMSO software.
- iOS mobile devices will store screenshots (by pressing Home and Power button) in the photos app.

## SOFTWARE QUESTIONS

### I am in Demo Mode, what types of signals that I can view?

- Find the demo menu on the menu bar. Select the type of signal that you wish to view from the pick wheel. The following signals are currently available in demo mode: sine, square, triangle, sawtooth.

### What is the format of the .csv data logging file?

- **Rows**

When the time scale is set to less than 100ms, each row is a single screen capture. When the time scale is greater than or equal to 100ms, each row is a data point in time.

- **Columns**

Each column (excluding the first) is the data point in time shown on the screen. Also, please reference [this example blog](#) for an illustration on how to re-graph the csv data.

### What is the array sample size for FFT?

- The array sample size is 1024.

### The trigger menu has disappeared from the application! How do I re-enable it?

- Triggering is not available with 100ms and greater timescales. That's why the menu and the bubble disappear.
- Consider using the delay along with a timescale that has triggering to troubleshoot your device under test.

### I'm having trouble downloading the PC version. Where are the drivers located?

- Assuming you install on c:, the drivers are located here:  
For 32-bit OS: C:\Program Files\Oscium\iMSO\driver  
For 64 bit OS: C:\Program Files (x86)\Oscium\iMSO\driver