

**USER MANUAL**

# Logic MSO

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## Safety Notices and Symbols

### Safety Notices in This Document

The following safety notices may appear in this document:

- Warning** calls attention to an operation that, if not correctly performed, could result in potential injury or death.
- Caution** calls attention to an operation that, if not correctly performed, could result in damage to the product or other devices connected to the product.
- Tip** calls attention to important information or reference to additional documentation resources.

### Safety Symbols on the Product

The following safety symbols may appear on the product:

- Safety Warning** - The user shall study the user manual before operating the equipment
- Power Port** - USB-C input from power supply
- Test Ground** - Test ground connection point
- Data Port** - USB-C connection to the computer

# Overview

The Logic MSO combines a high-performance logic analyzer with an oscilloscope in a compact, USB-based package specifically designed for embedded systems development. The hardware supports 200 MHz of bandwidth across all four analog channels simultaneously, with continuous gap-free recording on up to 20 digital channels for comprehensive signal analysis. Powered by the Logic 2 software with cross-platform support for Windows, macOS, and Linux, it offers advanced protocol decoding, signal integrity analysis, and embedded systems debugging capabilities, making it an ideal tool for engineers and developers requiring precise signal visualization and analysis.

## Logic MSO Models

Model	Channels & Bandwidth	Resolution & Memory	Part Number	Model Number
2x100 • Standard	2 Channels, 100 MHz	9-bit, 100 MSa	SAL-00195	992-00059
2x100 • Pro	2 Channels, 100 MHz	12-bit, 1000 MSa	SAL-00204	992-00062
4x100 • Standard	4 Channels, 100 MHz	9-bit, 100 MSa	SAL-00207	992-00063
4x100 • Pro	4 Channels, 100 MHz	12-bit, 1000 MSa	SAL-00216	992-00066
4x200 • Standard	4 Channels, 200 MHz	9-bit, 100 MSa	SAL-00219	992-00067
4x200 • Pro	4 Channels, 200 MHz	12-bit, 1000 MSa	SAL-00228	992-00070

## 200 MHz Analog Probe Accessories

Model	Description	Part Number	Model Number
10:1 Oscilloscope Probe • Yellow	200 MHz, 10:1 Attenuation, Fixed	SAL-00245	992-00005
10:1 Oscilloscope Probe • Green	200 MHz, 10:1 Attenuation, Fixed	SAL-00246	992-00006
10:1 Oscilloscope Probe • Blue	200 MHz, 10:1 Attenuation, Fixed	SAL-00247	992-00007
10:1 Oscilloscope Probe • Red	200 MHz, 10:1 Attenuation, Fixed	SAL-00248	992-00008

## Digital Probe Accessories

Model	Description	Part Number	Model Number
Digital Probe, Single Ended	4 Channels, Adjustable Threshold	SAL-00243	992-00032

☑ For detailed performance characteristics reference individual product datasheets found on <https://www.saleae.com>.

# Safety Information

This section provides comprehensive safety information for the Logic MSO oscilloscope with built-in logic analyzer. Review and understand all safety precautions carefully before using the device to ensure proper operation and prevent injury or equipment damage. If the equipment is used in a manner not specified by the manufacturer, the protection provided by the equipment may be impaired

 If the equipment is used in a manner not specified by the user manual, the protection provided by the equipment may be impaired.

## Intended Use

The Logic MSO is intended for use by qualified personnel in laboratory, industrial, and educational environments for the measurement, analysis, and debugging of electronic signals in embedded systems development. This device is designed for indoor use in dry environments and is suitable for analyzing both analog and digital signals in electronic circuits, microcontrollers, and other electronic systems. The Logic MSO is not intended for measurement of electrical mains, or use in medical applications, life support systems, or any application where failure could result in personal injury or death. Logic MSO is not intended for wet, hazardous, or polluted environments.

 The user shall study the user manual before operating the equipment.

 This document is a safety information document and documentation must be consulted in all cases.

## Use of 3rd Party Power Supplies and Accessories

Only accessories which meet the manufacturer's specifications shall be used. This includes the power supply, probes, and any other accessories.

## Use Proper Power Supply

The Logic MSO is designed to operate with USB-C PD power adapters. While third-party USB-C power adapters that follow the USB-PD specification and provide 20V/1.5A (30W) capability may be used, Saleae cannot guarantee the performance, safety, or compatibility of third-party power supplies. All safety testing and certification was performed using a Saleae-approved double insulated power supply.

### Requirements for third-party power adapters:

- Must follow USB-PD specification
- Must provide 20V/1.5A (30W) capability
- Must be double insulated for safety
- Excessive voltage ripple may impact measurement quality

 Only accessories which meet the manufacturer's specifications shall be used.

 Do not position the equipment so that it is difficult to operate or disconnect the device from its power source in case of emergency.

## Ground the Measurements Properly

The Logic MSO uses USB-C power interface and connects to a laptop or computer via USB. The system operates with a floating ground reference. The ground reference is established through the circuit under test, not through the power supply.



Do NOT energize the ground measurement terminal. It is shared ground between all measurement channels and the connected laptop or PC with no attenuation or isolation.

## Observe All Terminal Ratings

To avoid fire or shock hazard, observe all ratings and markers on the instrument and review the manual and datasheet for more information about ratings before connecting the instrument.

## Use Proper Overvoltage Protection

Ensure that no overvoltage (such as that caused by a bolt of lightning) can reach the product. Otherwise, the operator might be exposed to the danger of an electric shock.

## Ventilation Requirements

This instrument maintains a constant internal temperature using fans for active cooling. Please make sure that the inlet and outlet vents are free from obstructions and allow for free air flow. When using the instrument in a bench-top setting, provide adequate clearance around the instrument for proper ventilation. Inadequate ventilation may cause an increase of temperature and result in thermal shutdown. Do not insert objects into the ventilation openings, as doing so may cause damage to the instrument.



Inadequate ventilation may cause the internal temperature to increase and trigger thermal shutdown. Power it down and allow it to cool before resuming use.

## Do Not Operate With Suspected Failures

If you suspect that any damage may occur to the instrument, have it inspected by authorized personnel before further operations. Any maintenance, adjustment or replacement especially to the primary equipment or accessories must be performed by authorized personnel.

## Inspect the Probe Before Each Use

Inspect the probe for any damage such as broken insulation or loose connections. If you suspect damage do not use it and replace it. Loose or damaged conductors may cause electric shock by exposing you to dangerous voltages or a faulty ground connection.

## Do Not Operate in Wet Conditions

To avoid short circuit inside the instrument or electric shock, never operate the instrument in a humid environment.

## Do Not Operate in an Explosive Atmosphere

To avoid personal injuries or damage to the instrument, never operate the instrument in an explosive atmosphere.

## Keep Instrument Surfaces Clean and Dry

To avoid dust or moisture from affecting the performance of the instrument, use in a clean and dry environment.

## Measurement Category

This instrument can make measurements in Measurement Category I on the analog input and digital probe channels. Category I is for measurements performed on circuits not directly connected to MAINS. Examples are measurements on circuits not derived from MAINS, and specially protected (internal) MAINS derived circuits. It is not intended for taking measurements in high voltage or transient prone environments.

## Frequency Derating

The maximum input voltage decreases with frequency. At higher frequencies, the safe operating voltage is reduced to prevent damage to the instrument and ensure user safety.

### Logic MSO Analog Input (SMB Connector) Voltage Limits:

- DC to 20 MHz:  $\pm 30\text{V DC} + \text{AC peak}$
- Above 20 MHz: Derated at 20 dB/decade for CW signals, to 4.5V peak at 200 MHz

### 10:1 Oscilloscope Probe Tip Voltage Limits:

- Maximum Input Voltage:  $\pm 300\text{ V}^1$
- Maximum Input Voltage is frequency dependent and subject to derating: Derated at 20 dB/decade above 5 MHz<sup>2</sup>



This instrument can only be used for measurements within its specified measurement Category. Logic MSO is not suitable for unfiltered line voltage or transient prone environments.

## Environmental Specifications

### Temperature

**Operating:** 0°C to +40°C

**Non-operating:** -20°C to +70°C

### Humidity

#### Operating:

- Below +30°C:  $\leq 90\%$  Relative Humidity (without condensation)
- +30°C to +40°C:  $\leq 75\%$  Relative Humidity (without condensation)
- +40°C to +40°C:  $\leq 45\%$  Relative Humidity (without condensation)

**Non-operating:** Below +70°C:  $\leq 90\%$  Relative Humidity (without condensation)

### Altitude

**Operating:** Below 2 km **Non-operating:** Below 10 km

### Installation (Overvoltage) Category

This product is powered by USB-C PD through a floating power adapter and connects to a laptop or computer. The system operates with a floating ground reference, but may be indirectly grounded through the data cable connected to the PC or laptop (not a traditional grounded power system). Therefore, all measurements should be performed by first grounding the probe's ground conductor before touching the probe tip or probe tip accessory to a live circuit.

### Pollution Degree

Pollution Degree 2 - Normally only nonconductive pollution occurs. Temporary conductivity caused by condensation is to be expected. For example, indoor environment with normal levels of humidity and dust.

<sup>1</sup> Peak instantaneous voltage relative to input ground.

<sup>2</sup> Derating can be relaxed – to 20dB/decade after 20MHz – if the oscilloscope controls are configured such that the full signal extents are entirely within the instrument's input dynamic range setting (i.e. the signal max/min are viewable on-screen).

# Care and Cleaning

## Cleaning

Clean the instrument regularly according to its operating conditions.

1. Disconnect the instrument from all power sources.
2. Clean the external surfaces of the instrument and accessories with a soft cloth dampened with mild detergent or water.
3. Inspect the ventilation openings checking for dust. A light puff of compressed air can be used to remove dust and debris.

 Do not attempt to disassemble the device. Disassembly will void the warranty and calibration.

## Environmental Considerations

The Logic MSO complies with environmental regulations and standards for electronic equipment.

### WEEE Compliance

This product complies with the WEEE Directive 2012/19/EU. The equipment may contain substances that could be harmful to the environment or human health. To avoid the release of such substances into the environment and avoid harm to human health, we recommend you to recycle this product appropriately to ensure that most materials are reused or recycled properly. Please contact your local authorities for disposal or recycling information.

### RoHS Compliance

This product complies with RoHS (Restriction of Hazardous Substances) regulations, limiting the use of hazardous materials in electronic equipment.

### Safety Related Specifications (All Models)

Review the following information and operating limits carefully before using the device to ensure proper operation and prevent injury or equipment damage.

 Observe the voltage limits on all ports for proper operation and safety.

<b>Analog Input Specifications</b>	<b>Direct connection to Logic MSO Pod SMB analog input</b>
Analog Input Channels	2 Channels or 4 Channels
Connector Type	SMB Male
Input Impedance	1 M $\Omega$    16 pF
Maximum Input Voltage	$\pm 30$ V DC + AC peak, derated at 20 dB/decade above 20 MHz for CW signals, down to 4.5V RMS at 200MHz
Vertical Range	10 mVpp to 60 Vpp full scale
Input Coupling	AC/DC selectable
Channel-to-Channel Isolation	$\geq 50$ dB
Grounding	Single-ended, all grounds tied together
	Grounds are not electrically isolated from each other or the PC
Overvoltage Category	Logic MSO is rated as low voltage or protected equipment and is not intended for use in high voltage or transient prone environments

## Analog Probe Specifications

## Using 10:1 Oscilloscope Probe

(SKU: SAL-00245, SAL-00246, SAL-00247, SAL-00248)

Attenuation Ratio	10:1
Frequency Range	DC - 200 MHz
Input Capacitance	14 pF ± 1pF
Compensation Range	10 pF 25 pF
Input Impedance	10 MΩ, ± 1%
Maximum Input Voltage	300V AC + DC Peak
Max Input Voltage <sup>3</sup>	±300 V <sup>4</sup> , derated at 20 dB/decade above 5 MHz <sup>5</sup>
Category Rating	CAT II 300V AC RMS and DC <sup>6</sup> Not suitable for transient prone environments when used with Logic MSO

## Digital Probe Specifications

## Using included Digital Probe (SKU: SAL-00243)

Number of Channels	8 (expandable to 20)
Channel Indicator	RGB LED changes color to indicate channel
Threshold Voltage	Selectable: 0.6 V to 3.1 V
Input Voltage Range	±25 V
Maximum Input Voltage	±30 V DC + AC peak
Input Impedance	≥200 kΩ    ≤3 pF

## Physical Characteristics

### Mechanical Specifications

Pod Dimensions	4.5" × 4.5" × 1.8" (114 mm × 114 mm × 46 mm)
Pod Weight	3 lbs (1.36 kg)
Case Dimensions	14.5" × 10.5" × 3" (369 mm × 267 mm × 76 mm)
Total Weight	6 lbs (2.72 kg)
Operating Temperature (Logic MSO Pod)	0°C to +40°C
Operating Temperature (Included Power Supply)	0°C to +25°C
Storage Temperature	-20°C to +70°C
Ventilation Requirements	Vents should be free of obstruction and allow for free air flow during operation.
Logic MSO Power Requirements	USB-C PD 20V/1.5A (30W) Max
Power Supply Requirements	Any USB-C PD compliant adapter, 20V/1.5A (30W), double insulated. Excessive voltage ripple may impact measurements.
Provided USB-C Power Supply	Input: 100 - 240V AC, 50/60 Hz, 0.8A maximum  Out: 20V at 1.5A maximum (and other voltage levels. See PSU Datasheet.)
Operating Environment	Indoor use, ≤2000m altitude, pollution degree 2

3 When using the included Analog Probes (SKU: SAL-00245, SAL-00246, SAL-00247, SAL-00248)

4 Peak instantaneous voltage relative to input ground.

5 Derating can be relaxed – to 20dB/decade after 20MHz – if the oscilloscope controls are configured such that the full signal extents are entirely within the instrument's input dynamic range setting (i.e. the signal max/min are viewable on-screen).

6 Maximum Input Voltage is frequency dependent and subject to derating.

## Environmental Specifications

### Temperature

**Operating:** 0°C to +40°C

**Non-operating:** -20°C to +70°C

### Humidity

**Operating:**

- Below +30°C: ≤90%RH (without condensation)
- +30°C to +40°C: ≤75%RH (without condensation)
- +40°C to +40°C: ≤45%RH (without condensation)

**Non-operating:** Below +70°C: ≤90%RH (without condensation)

### USB-C Auxiliary Ports

Logic analyzer, digital probes, can be connected to any of the 5 USB-C auxiliary ports on Logic MSO, 4 on the front and 1 on the back. The ports are USB-C compliant and will supply +5V to any connected device, however there is no USB data connection available.

### Analog Front End

#### Calibration

Each AFE is calibrated across its full operational range at the time of manufacture for operation at constant internal temperature of 50°C, which is maintained through active cooling using variable speed fans. The device calibration can be verified at any major testing lab using a documented procedure.

- ✓ The QR code on the bottom of Logic MSO links to the manufacturing calibration certificate.

# Getting Started

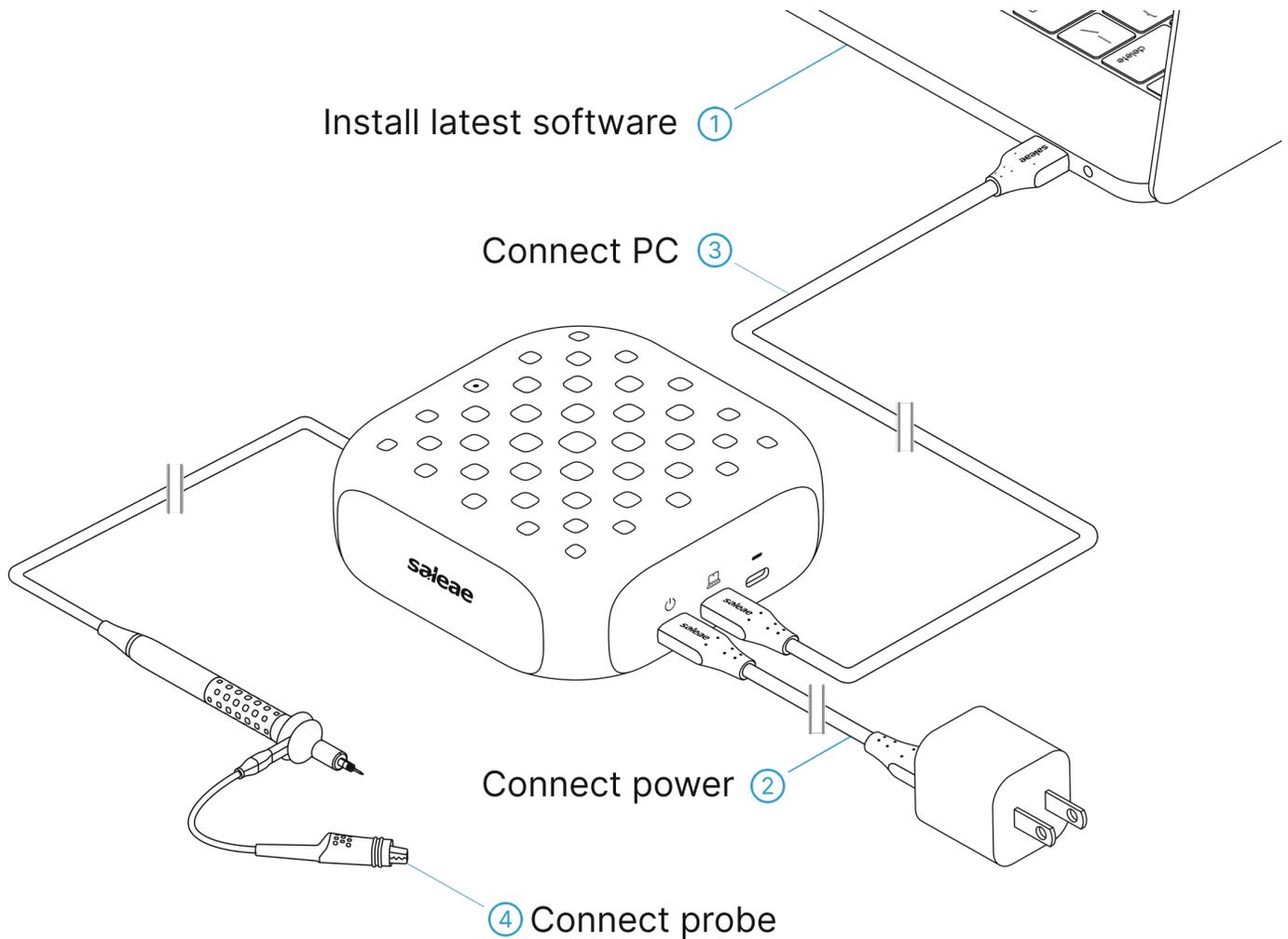


Figure 1: Logic MSO connected and ready to use.

- 0 **Read the user manual. Understand and follow all safety warnings.**
- 1 **Download and install the Logic 2 software by visiting [saleae.com/downloads](https://saleae.com/downloads).**
- 2 **Connect power with the USB-C to USB-C power cable and included wall adapter.**
- 3 **Connect the data cable with the USB-A side connected to the computer.**
- 4 **Attach the probes to the Logic MSO and the device under test.**
- 5 **Launch the Logic 2 software and press the  (record) button to start acquisition.**

# Saleae Logic 2 Software

Logic MSO utilizes the Saleae Logic 2 software common to its line of Logic Analyzers and Mixed Signal Oscilloscopes. Logic 2 is a powerful, professional-grade software designed for embedded systems engineers, hardware developers, and electronics professionals. It provides advanced analog signal capture, digital signal capture and analysis capabilities with support for multiple protocol decodes and python script based automation. Support for user authored plugins for custom measurements and protocol decoders with strong community support vastly extend the software's core capability. Its intuitive user interface enables seamless acquisition of both analog and digital channels simultaneously, for both acquisition and decoding. The software features a modern user interface for real-time signal visualization, advanced triggering options, comprehensive export capabilities, and robust protocol analysis tools that facilitate rapid debugging and development of complex digital systems. Logic 2 supports Windows, macOS, and Linux platforms, offering cross-platform compatibility and flexible integration into diverse engineering workflows.

✔ Logic 2 software, the Measurements API, Low Level Analyzer API, High Level Analyzer API, and Automation tools are available at no cost.

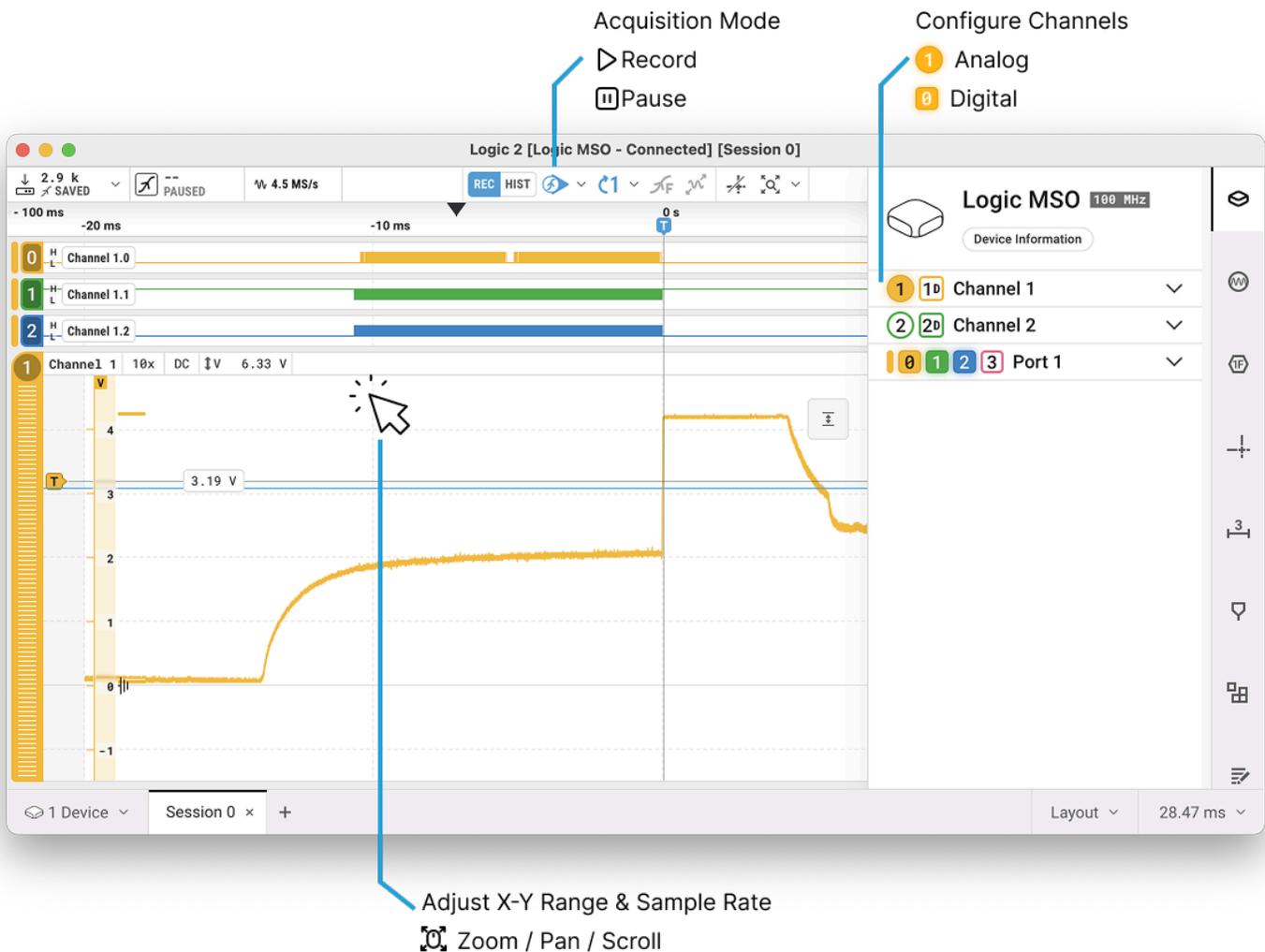


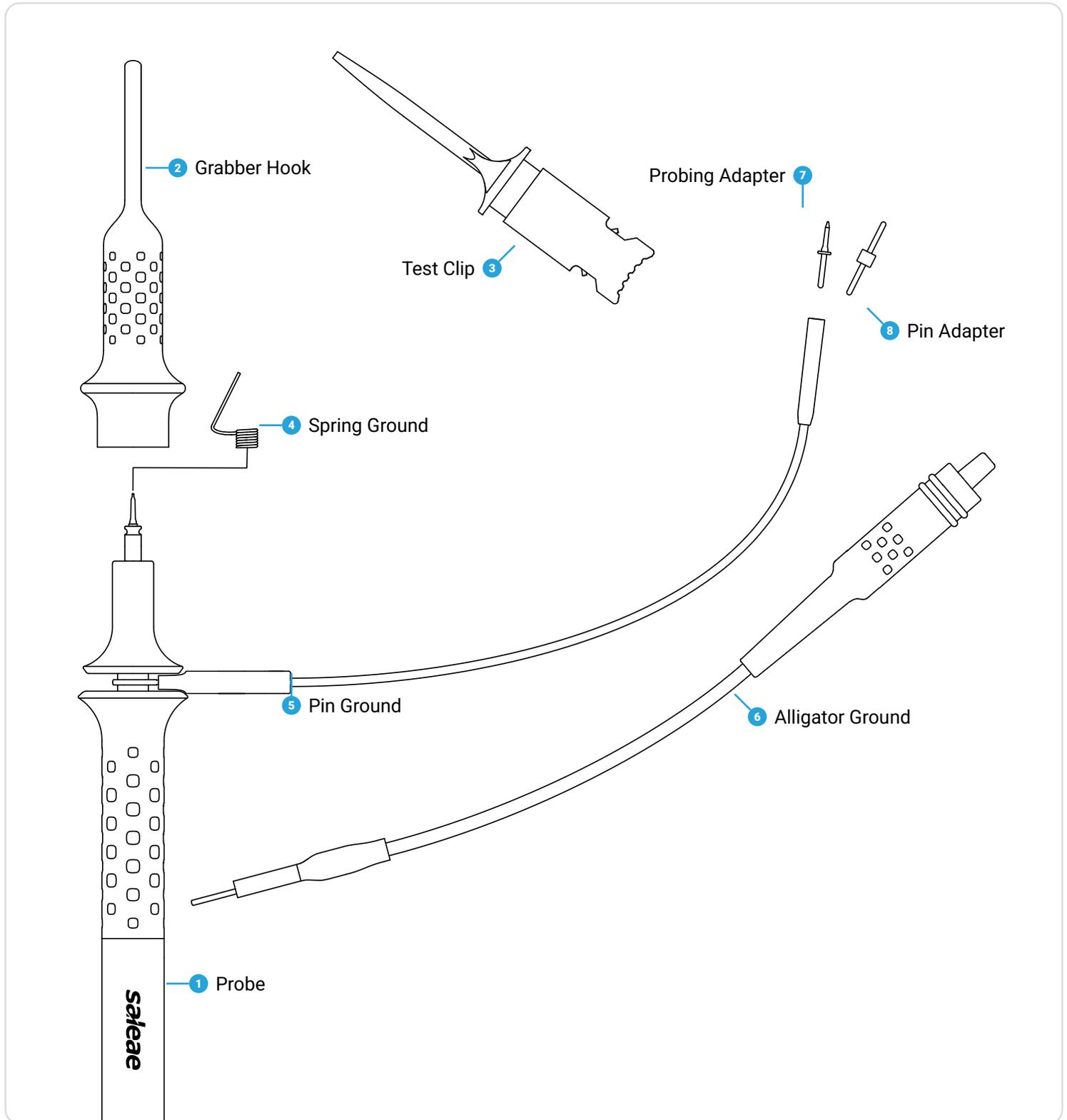
Figure 2: Logic 2 software graphical user interface.

✔ Visit <https://support.saleae.com/user-guide/using-logic> to view the complete Logic 2 software guide.

## Analog Measurements

The Logic MSO analog inputs provide high-performance oscilloscope functionality for measuring and analyzing analog signals. The oscilloscope probe connects to the Logic MSO Pod via an SMB connector located on the front panel.

### Analog Probe with Included Accessories



**1** Oscilloscope Probe, 10:1 impedance ratio

**2** Spring loaded grabber hook

**5** Ground wire with a pin socket connection (0.1 in)

**6** Ground wire with a traditional alligator clip (0.1 in)

**3 Test clip grounding option**

**7 Sharp Tip Probing Adapter (0.1 in)**

**4 Ground spring clip providing a short ground path for high frequency measurements**

**8 Male-Male Pin Adapter (0.1 in)**



If the probe assembly is used in a manner not specified by the manufacturer, the protection provided by the probe assembly may be impaired.

## Connecting the Analog Probe

1. **Connect the probe to the Logic MSO pod:** Insert the SMB connector of the oscilloscope probe into the corresponding analog input channel on the Logic MSO pod. Ensure the connection is secure and fully seated.
2. **Connect the ground:** Attach a ground clip to the probe ( item #5) to the ground reference of the circuit under test. This establishes a common ground reference between the Logic MSO and the device under test. Since the Logic MSO operates with a floating ground system, the ground reference is determined by the circuit under test.

 Ground are shared between the probe, Logic MSO Pod, and PC. This creates a risk of electrical shock if the ground becomes energized.

3. **Connect the probe tip:** Touch the probe tip to the signal point of interest in your circuit. Ensure the signal voltage is within the probe's rated limits ( $\pm 300V$  at the probe tip with 10:1 attenuation).

## Making Measurements

Once properly connected and compensated, the analog signal will be displayed in the Logic 2 software interface. The software provides various measurement tools including:

- Voltage measurements (peak-to-peak, RMS, DC offset)
- Time measurements (frequency, period, rise/fall times)
- Cursor measurements for precise analysis
- Create your own custom measurements with the Python based [Measurement Extension API](#)

 Probe tips are sharp and can cause injury. Be careful not to poke yourself or your friends.

## Safety Considerations

- Always verify the signal voltage is within the probe's rated limits before connection
- Ensure proper grounding to avoid floating measurements
- Do not exceed  $\pm 30V$  at the SMB connector or  $\pm 300V$  at the probe tip
- Use appropriate probe accessories for the measurement you plan to make
- Follow all safety guidelines outlined in the Safety Information section
- Input channel grounds are not electrically isolated from each other or the PC
- Never connect probe tip to live circuits before connecting SMB to instrument to avoid live wire hazards

## Probe Compensation

For an accurate indication of the measuring signal, it may be necessary to compensate the probe by adjust capacitance at the SMB connector. A miniature non-conductive screwdriver is included in the kit for this purpose, Figure 3 item #2.

1. Connect the probe to the corresponding input port.
2. Connect the Pulse Generator, Figure 3 item #1. to any of the 5 USB-C auxiliary ports.
3. Connect the probe ground to the Pulse Generator ground.
4. Touch (or clip) the probe to the square wave signal terminal.
5. Display the square wave signal on the screen in Logic 2 and zoom in until 2 or 3 cycles of the waveform fill the screen.
6. Use the included small ceramic screwdriver to adjust the trimmer capacitor on the probe until the waveform has flat tops and clean square edges, which indicates proper compensation.
7. Repeat the process for each color coded probe / port combination.

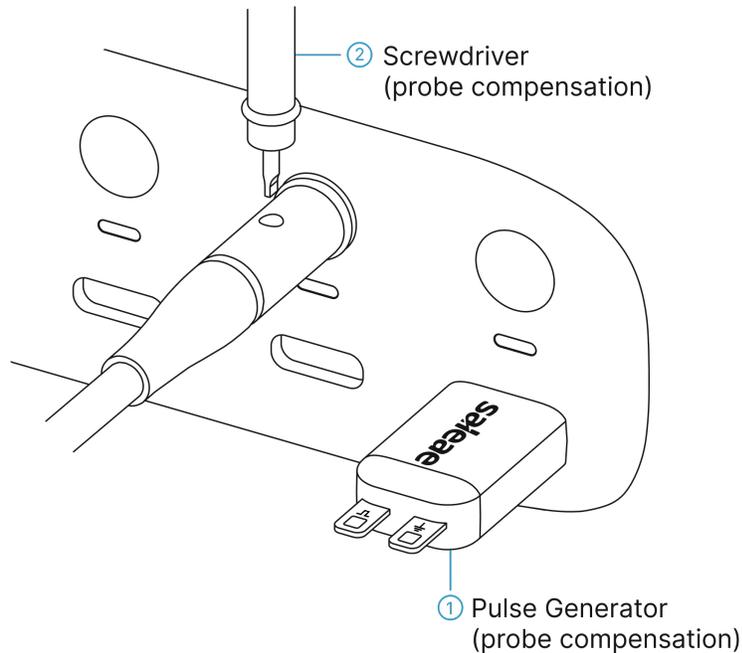
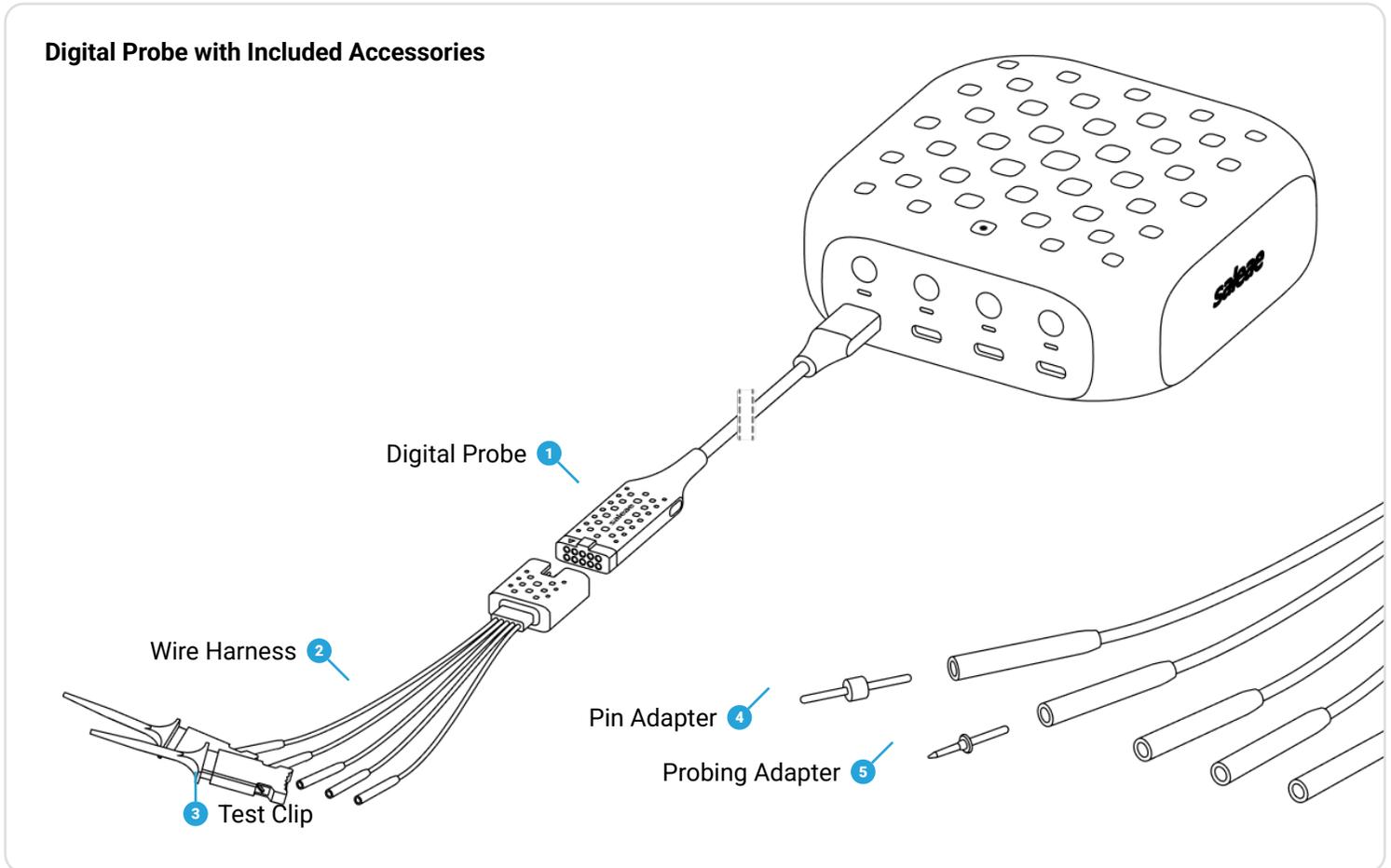


Figure 3: Probe compensation procedure (1) Pulse Generator and (2) adjusting the trimmer capacitor.

# Digital Measurements

The Logic MSO digital inputs provide high-speed logic analyzer functionality for capturing and analyzing digital signals. Each digital probe connects to the Logic MSO pod via the USB-C auxiliary ports, providing up to 4 channels each. Up to 5 digital probe cables can be used at a time providing up to 20 simultaneous digital channels.

## Connecting the Digital Probe



- 1 Digital Probe for single ended digital measurements
- 2 5 Wire Harness includes 4 signal lines + 1 ground
- 3 Test Clips
- 4 Male-Male Pin Adapter (0.1 in)
- 5 Sharp Tip Probing Adapter

## 2x5 Keyed Pin Header

- **D0, D1, D2, D3** - Digital Inputs
- **GND** - Ground
- **DNC** - Do Not Connect

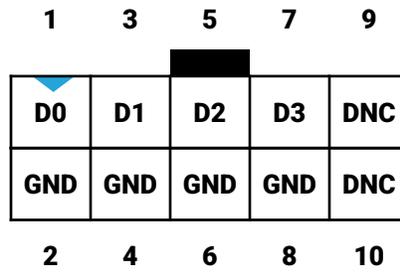


Figure 4: Standard 2x5 Pin Header. Center keyed.  
2.54 mm (0.1 in) pitch. 0.75 mm (0.03 in) round pin diameter.

## Digital Probe Mechanical Drawing

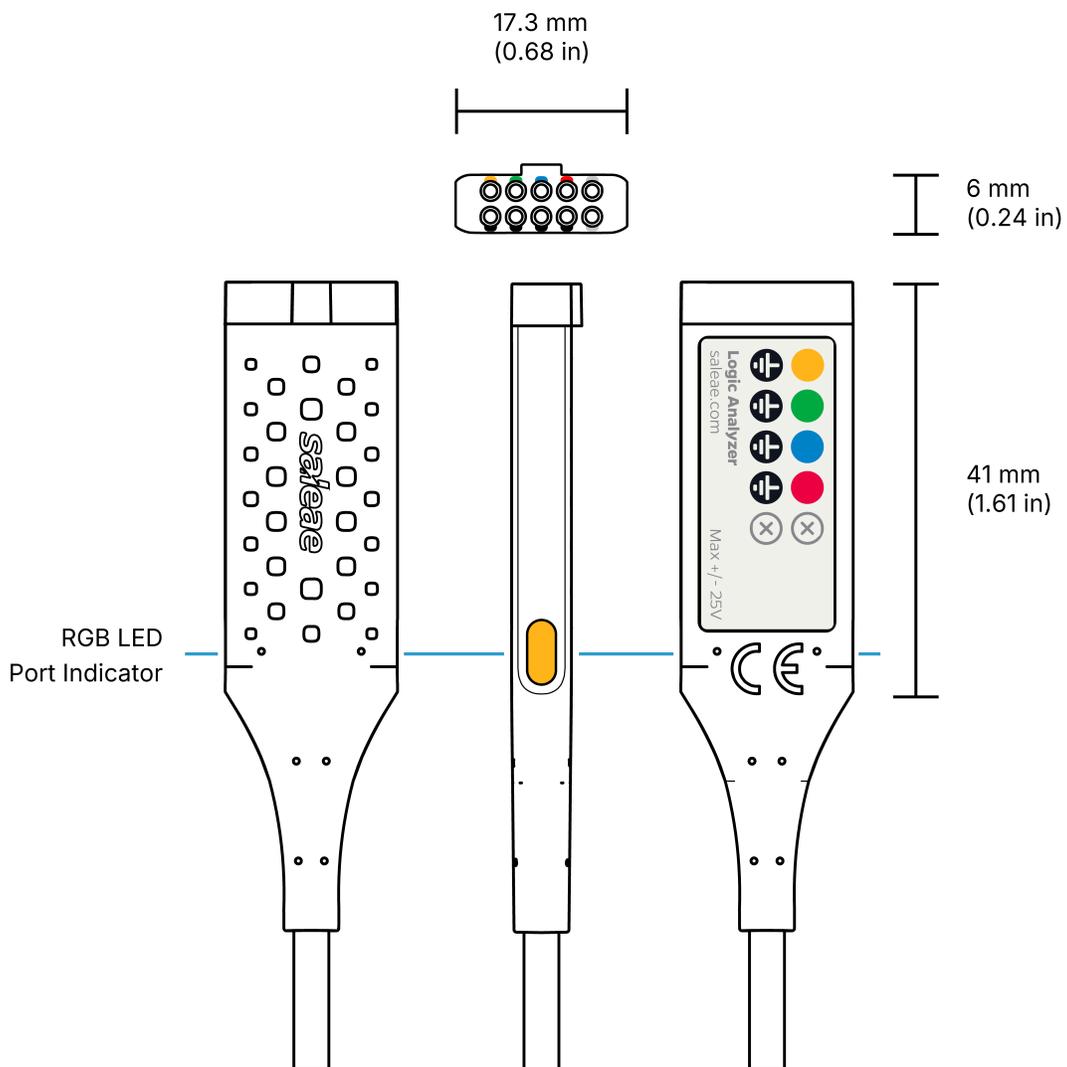


Figure 5: Digital Probe, Single Ended, Mechanical Drawing.

## Connecting the Digital Probe

### Connect Probe to Logic MSO

1. Ensure the Logic MSO is powered on and connected to your computer
2. Plug in the USB-C cable to the Logic MSO pod, choosing in of the 5 available USB-C auxiliary ports
3. Once detected the digital probe LED indicators will light up to the color of the probe port
4. Connect the the 5-wire harness as shown in item #2.
5. Attach test clips to the socket ends of the wires as needed ( item #3)

### Connect the Probe to the Circuit

1. Connect the **black ground wire (GND)** to the ground reference of the circuit under test

 Always connect ground first and remove it last to prevent electrical hazards.

2. Connect the signal wires to the digital signals you want to analyze:

- Connect **yellow wire (D0)** to the first digital signal
- Connect **green wire (D1)** to the second digital signal
- Connect **blue wire (D2)** to the third digital signal
- Connect **red wire (D3)** to the fourth digital signal

### Record Digital Signals in Logic 2

Once properly connected and configured, digital signals will be displayed in the Logic 2 software interface. The software provides various digital analysis tools including:

- Logic level analysis (high/low state detection)
- Timing measurements (pulse width, frequency, duty cycle)
- Protocol decoding for over 60 supported protocols

### Set the Threshold Voltage

The digital probe records all signals as a 0 or 1. A comparator makes the decision based on a user adjustable threshold value. Different threshold voltages are appropriate for different logic families:

1. **Select threshold voltage:** Use the Logic 2 software, to set the threshold voltage for each digital probe:
  - 3.3V logic: Set threshold to 1.65V
  - 5V logic: Set threshold to 2.5V
  - 1.8V logic: Set threshold to 0.9V
  - Custom: Adjustable from 0.6V to 3.1V
2. **Verify signal levels:** Ensure your digital signals rise above the threshold voltage for proper detection on the positive side and drops below the hysteresis voltage on the downward slope.

 If you're not sure of the digital logic levels, use the analog probe to measure the signal and the *derived digital* feature to test different threshold voltages.

### Start Recording

1. Press the record button within Logic 2 to being capturing signals for all enabled channels.
2. You're now ready to decode channels using the protocol decoders.

 Detailed information on protocol analysis is available in the Logic 2 software user manual found at <https://support.saleae.com/product/user-guide/protocol-analyzers>, 'support.saleae.com').

## **Disconnect Safely**

1. Stop any active recording or analysis in Logic 2 software
2. Remove signal wires first (red, blue, green, yellow in any order)
3. Remove ground wire last (black wire)
4. Disconnect the probe from the Logic MSO Pod

## **Safety Considerations**

- Always verify the signal voltage is within the probe's rated limits ( $\pm 25V$ )
- Ensure proper grounding to avoid floating measurements
- Follow all safety guidelines outlined in the Safety Information section
- The ground channels are not electrically isolated from each other or the PC
- Never connect signal wires to live circuits before connecting probe to instrument to avoid live wire hazards

# Mechanical Drawings

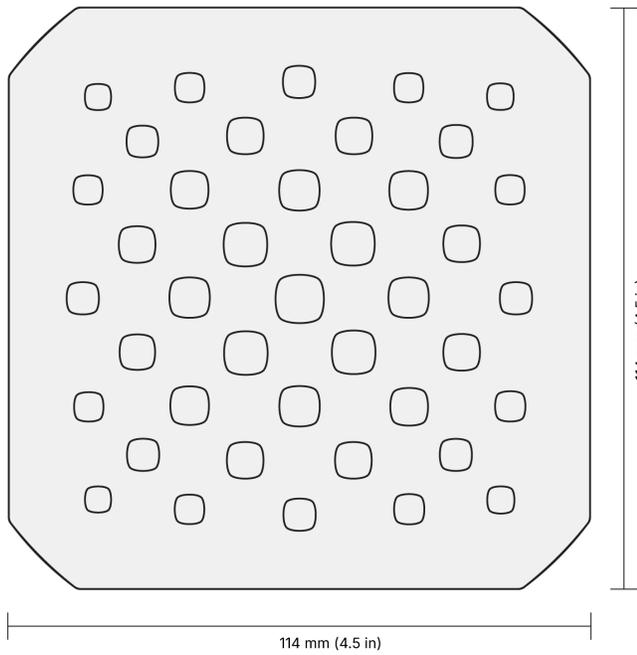


Figure 6: Logic MSO top-down view.

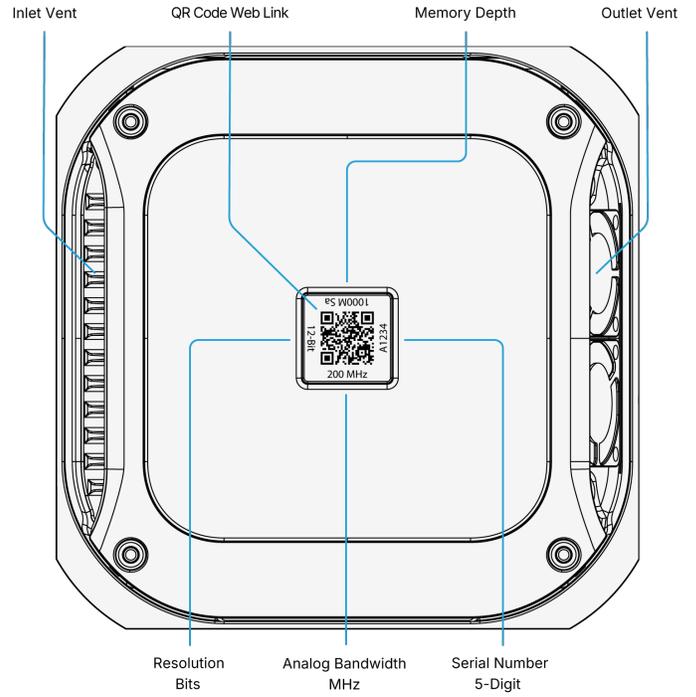


Figure 7: Logic MSO bottom view.

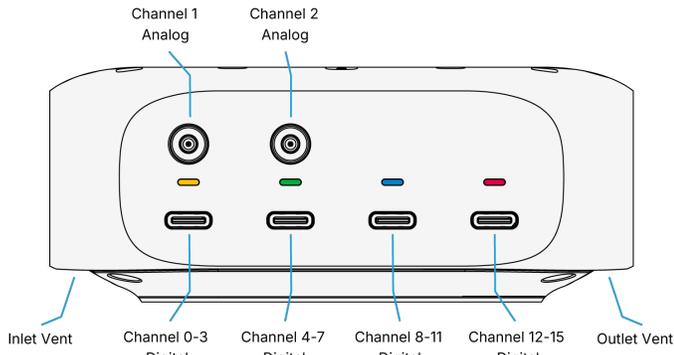


Figure 8: Logic MSO front view of 2 channel model.

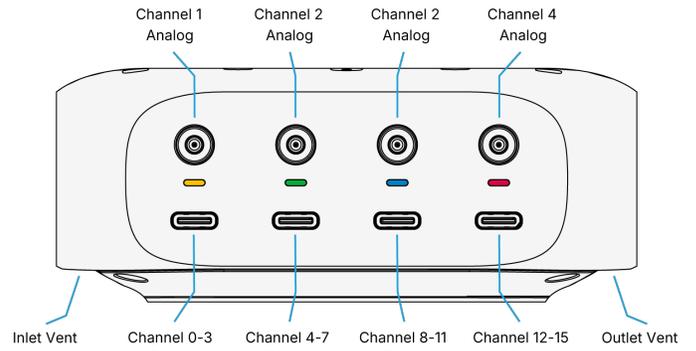


Figure 9: Logic MSO front view of 4 channel model.



Figure 10: Logic MSO left and right side view.

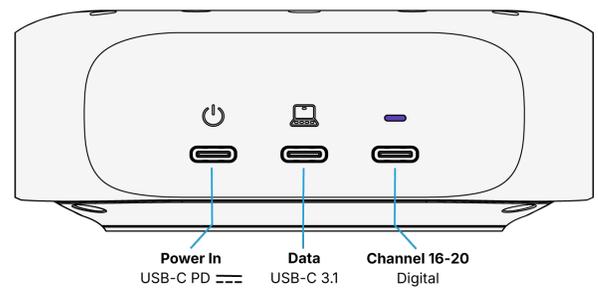


Figure 11: Logic MSO rear view.

✓ Scan the QR code on the bottom of the Logic MSO for safety compliance, and use information.

# Compliance and Certifications

Logic MSO complies with the applicable requirements of the following standards and directives.

## Electromagnetic Compatibility

### Standard

IEC 61326-1:2021 / EN 61326-1:2021  
CISPR 11:2015+A1:2016+A2:2019  
EN 55011:2016+A1:2017+A11:2020+A2:2021  
IEC 61000-4-2:2008 / EN 61000-4-2:2009  
IEC 61000-4-3:2006 +A1:2007 +A2:2010 /  
EN 61000-4-3:2006 +A1:2008 +A2:2010  
IEC 61000-4-4:2012 / EN 61000-4-4:2012  
IEC 61000-4-5:2014+A1:2017 /  
EN 61000-4-5:2014+A1:2017  
IEC 61000-4-6:2013 / EN 61000-4-6:2014  
IEC 61000-4-8:2009 / EN 61000-4-8:2010  
IEC 61000-4-11:2020 / EN IEC 61000-4-11:2020

### Test Limit

Group 1, Class A  
  
4 kV CD, 8 kV AD  
3 V/m 80 MHz – 1 GHz; 1.4 – 6 GHz  
80 % AM (1 kHz)  
1 kV 5/50 Tr/Th ns, 5 kHz or 100kHz  
0.5 kV Line to Line, 1 kV Line to Ground,  
1.2/50 Tr/Th  $\mu$ s  
3 V (0.15 – 80 MHz), 80 % AM (1 kHz)  
3 A/m (50 Hz, 60 Hz)  
0 % during half cycle, 0 % during 1 cycle,  
0 % during 250 cycles, 70 % during 25 cycles

## Safety Standards

### Standard

IEC 61010-1:2010 / EN 61010-1:2010  
IEC 61010-2-030:2023  
Canada: CAN/CSA-C22.2 No 61010-1-12  
  
Europe: EN 61010-1:2010  
Japan: JIS C 1010-1  
United States of America: UL 61010-1

### Applied Amendments and Updates

AMD1:2016  
  
UPD1:2015; UPD2:2016; AMD1:2018;  
COR1:2019; UPD3:2023; UPD4:2024  
A1:2019  
2019  
3rd Ed. Am. 1 Rev. Nov. 15, 2024

# Ordering Information

## Logic MSO Models

Logic MSO Model	w/ US Power Supply	w/ EU Power Supply	w/ UK Power Supply	w/ AU Power Supply
4 Ch x 200 MHz • Pro	SAL-00228	SAL-00229	SAL-00230	SAL-00269
4 Ch x 200 MHz • Standard	SAL-00219	SAL-00220	SAL-00221	SAL-00266
4 Ch x 100 MHz • Pro	SAL-00216	SAL-00217	SAL-00218	SAL-00265
4 Ch x 100 MHz • Standard	SAL-00207	SAL-00208	SAL-00209	SAL-00262
2 Ch x 100 MHz • Pro	SAL-00204	SAL-00205	SAL-00206	SAL-00261
2 Ch x 100 MHz • Standard	SAL-00195	SAL-00196	SAL-00197	SAL-00258

## Analog Probes

Description	SKU
200 MHz Oscilloscope Probe (fixed 10:1) • Yellow	SAL-00245
200 MHz Oscilloscope Probe (fixed 10:1) • Green	SAL-00246
200 MHz Oscilloscope Probe (fixed 10:1) • Blue	SAL-00247
200 MHz Oscilloscope Probe (fixed 10:1) • Red	SAL-00248

## Digital Probes

Description	SKU
Digital Probe, Single Ended	SAL-00243
Digital Probe, Differential	Coming Soon

## Power Adapters

Description	SKU
30W Power Adapter, USB-C • US (Type A)	SAL-00191
30W Power Adapter, USB-C • EU (Type C)	SAL-00192
30W Power Adapter, USB-C • UK (Type G)	SAL-00193
30W Power Adapter, USB-C • AU (Type I)	SAL-00194

## Analog Probe Accessories

Description	SKU
Oscilloscope Probe Accessory Kit	SAL-00249
Pulse Generator (for probe compensation)	SAL-00255
BNC to SMB Adapter for 3rd Party Probes	SAL-00256
SMB to BNC Adapter for 3rd Party Instruments	SAL-00257

## Digital Probe Accessories

Description	SKU
Digital Probe Accessory Kit, Single Ended	SAL-00244
Digital Probe, Accessory Kit, Differential	Coming Soon

## Cables and Connectivity

Description	SKU
USB-A to USB-C Adapter	SAL-00270
Data Cable • USB 3.1 A-C • 0.5 Meter	SAL-00250
Data Cable • USB 3.1 A-C • 1.8 Meter	SAL-00251
Power Cable • USB 2.0 C-C • 0.5 Meter	SAL-00252
Power Cable • USB 2.0 C-C • 1.8 Meter	SAL-00254
Power Cable • USB 2.0 C-C • 3.0 Meter	SAL-00253

# Support and Warranty

## 3-Year Warranty

Your new Logic MSO is covered against absolutely any malfunction, regardless of cause, for three years. Replacement units ship immediately, and shipping charges are on us.

## 180-Day Return Policy

Decide within 180 days that our products aren't for you, and return them for a full refund, including shipping. To arrange for a replacement or return, just contact us.

# Contact Information

408 N. Canal St. Ste A  
South San Francisco, CA 94080  
[support@saleae.com](mailto:support@saleae.com)  
[www.saleae.com](http://www.saleae.com)