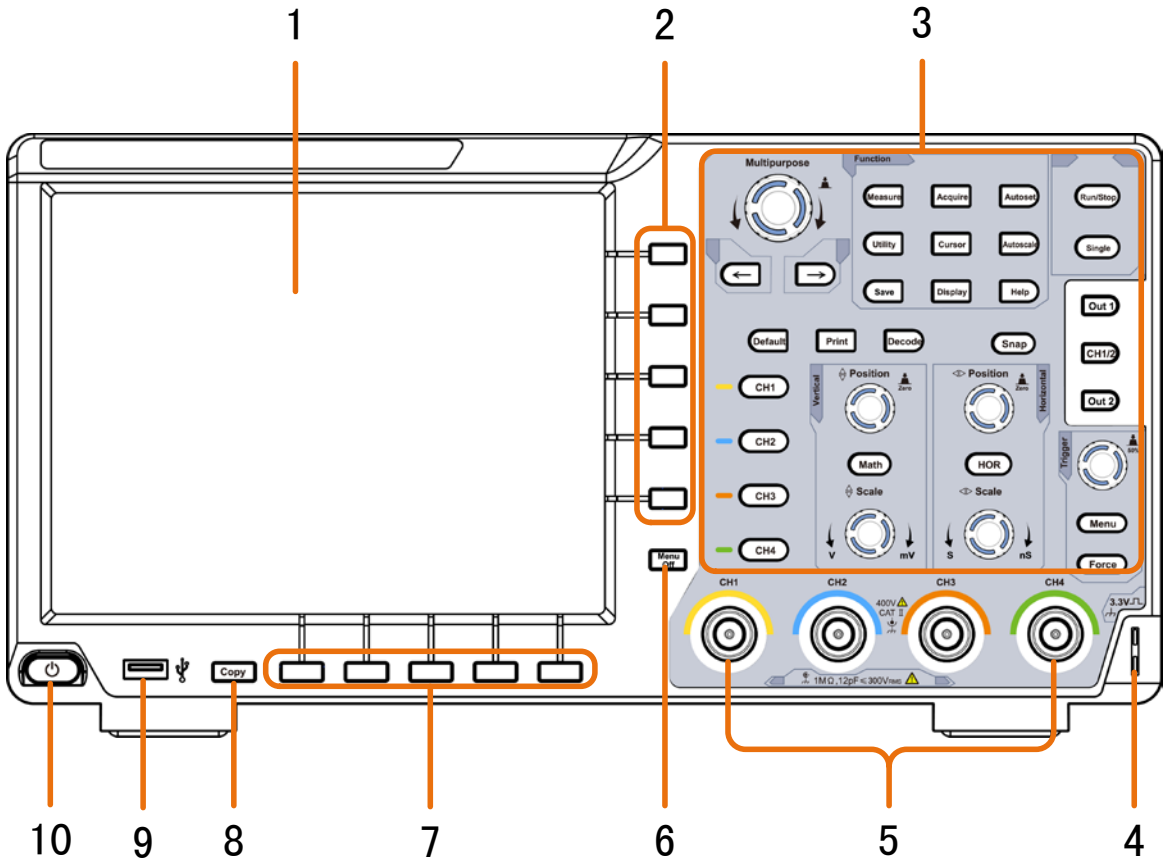
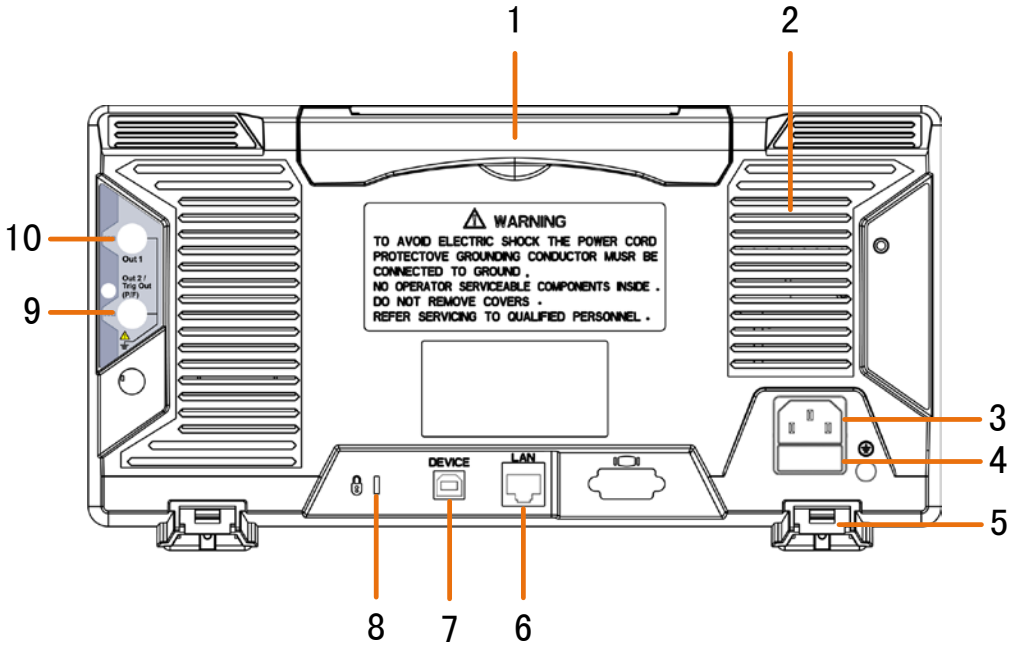
Quick Guide

Front Panel



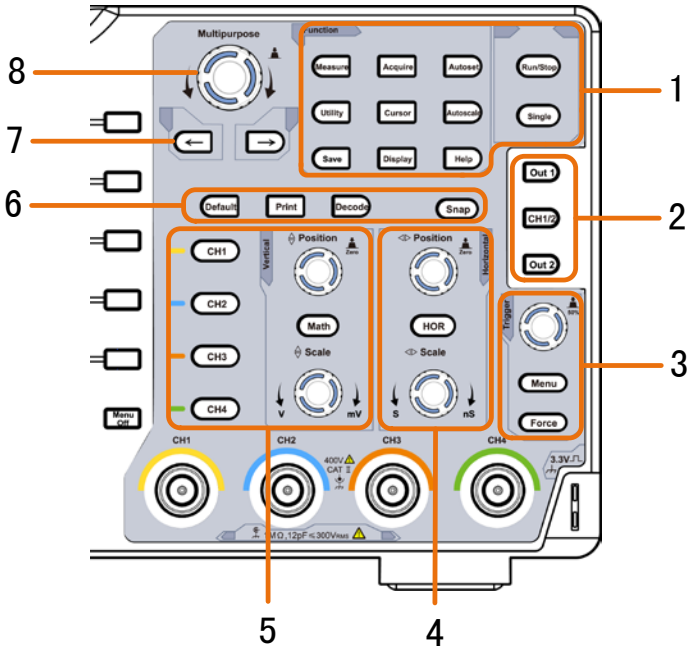
1. Display area
2. Select the right menu item
3. Control (button and knob) area
4. Probe Compensation: Measurement signal (≈ 3.3V/1kHz) output.
5. Input connectors of four channels
6. Remove the left and right menu
7. Select the bottom menu item
8. **Copy** button: You can save the waveform by just pressing this button in any user interface.
9. **USB Host port:** It is used to transfer data when external USB equipment connects to the oscilloscope regarded as "host device". For example: Saving the waveform to USB flash disk needs to use this port.
10. Power on/off

Rear Panel



1. Handle
2. Air vents
3. AC power input jack
4. Fuse
5. **Foot stool**: Adjust the tilt angle of the oscilloscope.
6. **LAN port**: the network port which can be used to connect with PC.
7. **USB Device port:** It is used to transfer data when external USB equipment connects to the oscilloscope regarded as "slave device". For example: to use this port when connect PC to the oscilloscope by USB.
8. **Lock Hole**: You can lock the oscilloscope to a fixed location using the security lock (please buy it yourself) to secure the oscilloscope.
9. **Trig Out(P/F)** port: Trigger signal output or Pass/Fail output, also can be used as the port of CH2 Output of optional dual-channel waveform generator. The output type can be set in the menu (Utility menu→Output→Output).
10. **Out 1** port: Output (single-channel) or CH1 Output (dual-channel) of optional waveform generator.

Control Area



1. **Function button area**: Total 11 buttons
2. **Waveform generator controls (optional)**
   or
   DAQ: This function is not available.
   P/F: Pass/Fail
   W.REC: Waveform Record
3. **Trigger control area** with 2 buttons and 1 knob.

   The Trigger Level knob is to adjust trigger voltage. Other 2 buttons refer to trigger system setting.
4. **Horizontal control area** with 1 button and 2 knobs.

   "HOR" button refer to horizontal system setting menu, "Horizontal Position" knob control trigger position, "Horizontal Scale" control time base.
5. **Vertical control area** with 5 buttons and 2 knobs.

   CH1 - CH4 buttons correspond to setting menu in CH1 - CH4. "Math" button provides access to math waveform functions (+, -, ×, /, FFT, user function, digital filter). The "Vertical Position" knob control the vertical position of current channel, and the "Scale" knob control voltage scale of current channel.
6. **Default**: Call out the factory settings.

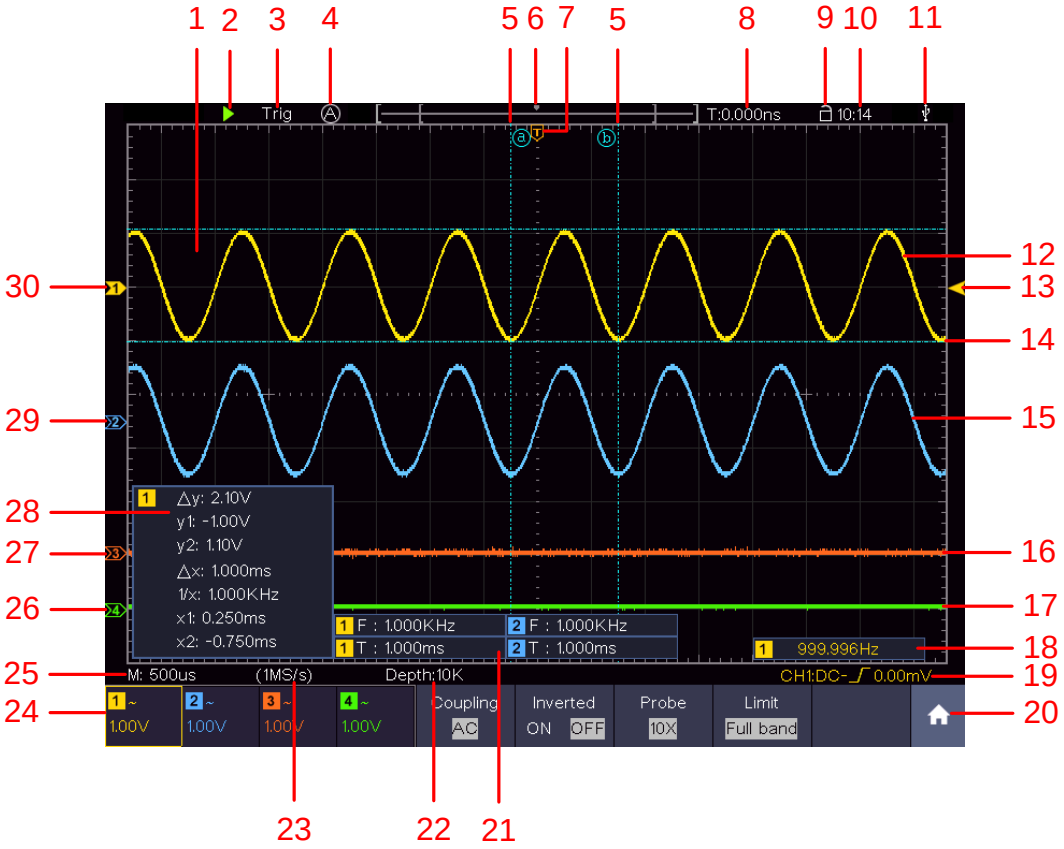
   Print: Print an image of what appears on the instrument screen.

   Decode: Turn on/off Decode function.

   Snap: Shortcut button for measurement snapshot.
7. **Direction key:** Move the cursor of the focused parameter.
8. **M** knob (Multipurpose knob): when a M symbol appears on the menu, it indicates you can turn the **M** knob to select the menu or set the value. You can push it to close

the menu on the left and right.

User Interface Introduction



1. Waveform Display Area.
2. Run/Stop (touchable)
3. The state of trigger, including:

   Auto: Automatic mode and acquire waveform without triggering.

   Trig: Trigger detected and acquire waveform.

   Ready: Pre-triggered data captured and ready for a trigger.

   Scan: Capture and display the waveform continuously.

   Stop: Data acquisition stopped.
4. Click to auto set.
5. The two blue dotted lines indicates the vertical position of cursor measurement.
6. The pointer indicates the trigger position in the record length.
7. The T pointer indicates the horizontal position for the trigger.
8. It shows present triggering value and displays the site of present window in internal memory.
9. Touchable icon is to enable ( ) or disable ( ) the touchscreen controls.
10. It shows setting time.
11. It indicates that there is a USB disk connecting with the oscilloscope.

12. The waveform of CH1.
13. The pointer shows the trigger level position of the source in trigger menu.
14. The two blue dotted lines indicate the horizontal position of cursor measurement.
15. The waveform of CH2.
16. The waveform of CH3.
17. The waveform of CH4.
18. The frequency of the trigger signal.
19. The icon shows the selected trigger type, e.g. ⎍ represents triggering on the rising edge for an Edge trigger. The reading shows the trigger level value of the corresponding channel.
20. Click to show/hide the touchable shortcut menu.
21. It indicates the measured type and value of the corresponding channel. "**T**" means period, "**F**" means frequency, "**V**" means the average value, "**Vp**" the peak-peak value, "**Vr**" the root-mean-square value, "**Ma**" the maximum amplitude value, "**Mi**" the minimum amplitude value, "**Vt**" the Voltage value of the waveform's flat top value, "**Vb**" the Voltage value of the waveform's flat base, "**Va**" the amplitude value, "**Os**" the overshoot value, "**Ps**" the Preshoot value, "**RT**" the rise time value, "**FT**" the fall time value, "**PW**" the +width value, "**NW**" the -Width value, "**+D**" the +Duty value, "**-D**" the -Duty value, "**PD**" the Delay A->B⏃ value, "**ND**" the Delay A->B⏄ value, "**TR**" the Cycle RMS, "**CR**" the Cursor RMS, "**WP**" the Screen Duty, "**RP**" the Phase A->B⏃, "**FP**" the Phase A->B⏄, "**+PC**" the +Pulse count, "**-PC**" the - Pulse count, "**+E**" the Rise edge count, "**-E**" the Fall edge count, "**AR**" the Area, "**CA**" the Cycle area.
22. The readings show the record length.
23. The readings show current sample rate.
24. The readings indicate the corresponding Voltage Division of the channels. "BW" indicates bandwidth limit.

    The icon shows the coupling mode of the channel.

    "—" indicates direct current coupling

    "∼" indicates AC coupling

    " ⏚ " indicates GND coupling
25. The reading shows the setting of main time base.
26. The green pointer indicates the grounding datum point (zero point position) of the waveform of the CH1 channel.
27. The orange pointer indicates the grounding datum point (zero point position) of the waveform of the CH1 channel.
28. It is cursor measure window, showing the absolute values and the readings of the cursors.
29. The blue pointer indicates the grounding datum point (zero point position) of the waveform of the CH1 channel.
30. The yellow pointer indicates the grounding datum point (zero point position) of the waveform of the CH1 channel.

Technical Specifications

Oscilloscope

Performance Characteristics	Instruction		
Vertical Resolution (A/D)	8 bits		
Bandwidth	DSO-6084	80 MHz	
	DSO-6104	100 MHz	
	DSO-6204	200 MHz	
Rise time	DSO-6084	≤ 4.375 ns	
	DSO-6104	≤ 3.5 ns	
	DSO-6204	≤ 1.75 ns	
Horizontal Scale	DSO-6084 DSO-6104	2ns/div - 1000s/div, step by 1 – 2 - 5	
	DSO-6204	1ns/div - 1000s/div, step by 1 – 2 - 5	
Sample rate (real time)	DSO-6084 DSO-6104	Four CH	250 MSa/s
		Dual CH*	500 MSa/s
		Single CH	1 GSa/s
	DSO-6204	Four CH	500 MSa/s
		Dual CH*	1 GSa/s
		Single CH	1 GSa/s
Waveform Refresh Rate	DSO-6084 DSO-6104	45,000 wfms/s	
	DSO-6204	70,000 wfms/s	
Display	8" color LCD, TFT display , 800×600 pixels		
Channel	4		
Record length	4 channels ON: max 10M; 2 channels ON: max 20M; 1 channel ON: max 40M.		
Input coupling	DC, AC , Ground		
Input impedance	1MΩ±2%，in parallel with 15pF±5pF		
Max. input voltage	400 V (DC + AC Peak)		
DC gain accuracy	DSO-6084 DSO-6104	1 mV	±4%
		≥2 mV	±3%
	DSO-6204	1 mV	±3%
		≥2 mV	±2%
Vertical sensitivity	1 mV/div-10 V/div		
Trigger type	Edge, Video, Pulse, Slope, Runt, Windows, Timeout, Nth Edge, Logic, I2C, SPI, RS232, CAN		
Decoding Type	RS232, I2C, SPI, CAN		
Trigger mode	Auto, Normal, Single		
Line/field frequency (Video)	Support standard NTSC, PAL and SECAM broadcast systems		

Automatic measurement	Period, Frequency, Mean, PK-PK, RMS, Max, Min, Top, Base, Amplitude, Overshoot, Preshoot, Rise Time, Fall Time, +Pulse Width, -Pulse Width, +Duty Cycle, -Duty Cycle, Delay A→B 卐, Delay A→B 卍, Cycle RMS, Cursor RMS, Screen Duty, Phase, +Pulse Count, -Pulse Count, Rise Edge Count, Fall Edge Count, Area, and Cycle Area.	
Waveform Math	＋, －, ×, ÷, FFT, FFTrms, Intg, Diff, Sqrt, User Defined Function, digital filter (low pass, high pass, band pass, band reject)	
Waveform storage	100 waveforms	
Communication interface	USB, USB flash disk storage, Trig Out(P/F), LAN,	
Power supply	100V - 240 VACRMS, 50/60 Hz, CAT Ⅱ	
Power Consumption	DSO-6084 DSO-6104	＜15 W
	DSO-6204	＜24 W

* For DSO-6084 and DSO-6104, Max Sample rate (real time) for Dual CH should meet either following condition:
1. CH1&CH2 on, CH3&CH4 off;
2. CH1&CH2 off, CH3&CH4 on.

For DSO-6204, Max Sample rate (real time) for Dual CH should meet the following condition: CH1 and CH2 can not be turned on simultaneously, CH3 and CH4 can not be turned on simultaneously.

Waveform Generator (Optional)

Max Frequency Output	25 MHz (Sample 125 MS/s)
Channel	1 or 2
Vertical Resolution	14 bits
Amplitude Range	2 mVpp - 6 Vpp
Waveform length	8K
Standard Waveforms	Sine, Square, Ramp, and Pulse