# DS1000A Series
## Digital Oscilloscopes
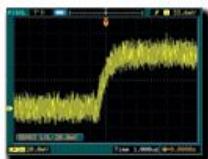
## Application

1. Design and Debug
2. Education & Training
3. Manufacturing
4. Service & Repair

Product Dimensions: Weight: 2.3 kg
Width×Height×Depth 303mm×154mm×133mm

| Model | DS1062CA | DS1102CA | DS1202CA | DS1302CA |
|---|---|---|---|---|
| Bandwidth | 60MHz | 100MHz | 200MHz | 300MHz |
| Real-time Sample Rate | 2 GSa/s(Single Channel), 1 GSa/s(Dual Channels) | | | |
| Equivalent Sample Rate | 50 GSa/s | | | |
| refresh rate | 2000 wfms/s | | | |
| Memory Depth | 10 kpts (Single Channel), 5 kpts (Dual Channel) | | | |

## Versatile Trigger Modes

### Adjustable Trigger Sensitivity

The ability to filter noise from the signal avoids false triggers

### Alternative Trigger

Provides a true dual time base display that was common in analog oscilloscopes

### Slope Trigger

Triggers on the signals rise time or fall time that is user defined

### Rise Edge and Fall Edge Trigger

Mainly used to view eye-diagrams formally only available in more advanced DSO's

## Easy to Use Features

### Waveform Intensity

Adjustable waveform intensity provides a personalized waveform display
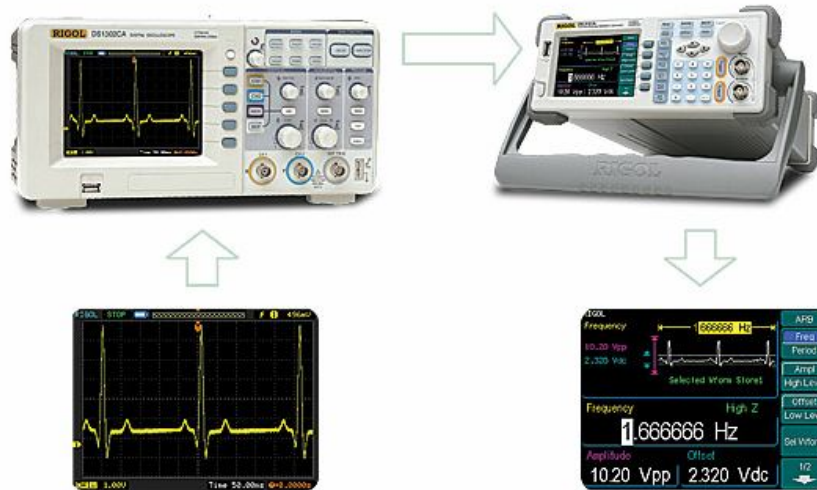
### File System

Easy-to-use file system allows for both USB disk and local file storage

# Advanced Features

1. The 2 GSa/s maximum real-time sample rate,the 50 GSa/s maximum equivalent time sample rate and up to 300 MHz of bandwidth ensures you capture and observe your entire signal
2. Up to 2000 wfms/s refresh rate
3. Ultra Compact Design with small footprint save your bench space
4. 5.7' 64K TFT color LCD, bright and vivid waveform display
5. Memory depth: 10 kpts (Single Channel), 5 kpts (Dual Channels)
6. Versatile trigger modes: Edge, Video, Pulse Width, Slope, Alternate
7. Adjustable trigger sensitivity: Effectively filter noise from trigger signal and avoid false trigger
8. 20 automatic measurements
9. Cursor measurements: Manual, Track and Auto Measure modes
10. 10 waveforms, 10 setups, BMP and CSV storage
11. Math functions: Add, Subtract, Multiply, FFT, Invert
12. Special digital filter and waveform recorder
13. Built-in hardware frequency counters
14. Dual channels plus external trigger. Bandwidth including 60 MHz, 100 MHz, 200 MHz, 300 MHz
15. Standard interface: USB Device, RS-232ⵧUSB Host, to support USB disk and USB printer
16. Standard configuration: Pass/Fail test,the signal out of the pass fail function is isolated to prevent unwanted interference
17. Multi-language user interface, built-in help system

# Signal Regeneration

The DS1000CA series can be directly connected with the Rigol DG series function/arbitrary waveform generators. When connected with the built-in USB port of DS1000CA, the DG series function/arbitrary waveform can regenerate waveforms by visiting waveform memories of the latter's.

## Standard Accessories

Power Cord

Probe × 2

User Manual

## Optional Accessories

USB-GPIB interface

USB Data wire

RS-232 Cable

Instrument Bag

## Performance Characteristics

| Model | | DS1062CA | DS1102CA | DS1202CA | DS1302CA |
|---|---|---|---|---|---|
| Bandwidth | | 60 MHz | 100 MHz | 200 MHz | 300 MHz |
| Memory Depth | | 10 kpts (Single Channel), 5 kpts (Dual Channel) | | | |
| Channels | | Dual Channels + External Trigger | | | |
| Real-time Sample Rate | | 2 GSa/s(Single Channel), 1 GSa/s (DUal Channel) | | | |
| Equivalent Sample Rate | | 50 GSa/s | | | |
| Rise Time | | 5.8 ns | 3.5 ns | 1.7 ns | 1.1 ns |
| Time Base Range | | 5 ns/div to 50 s/div | 2 ns/div to 50 s/div | | 1 ns/div to 50 s/div |
| Input Impedance | | 1 MΩ || 15 pF | | 1 MΩ || 15 pF□50 Ω | |
| Time Base Precision | | ±50ppm | | | |
| X-Y Operation | Bandwidth | 60 MHz | 100 MHz | 200 MHz | 300 MHz |
| | Phase Difference | ± 3° | | | |
| Trigger Modes | | Edge, Video, Pulse Width, Slope, Alternative | | | |
| Trigger Sources | | CH1□CH2□Ext□Ext/5□AC Line | | | |

| Common Parameters | |
|---|---|
| Vertical Sensitivity | 2 mV/div to 10 V/div |
| Vertical Resolution | 8 bits |
| Input Coupling | DC, AC, Ground |
| Maximum Input Voltage | 300 V (DC + AC peak) |
| Roll Range | 500 ms/div to 50 s/div |
| Automatic Measurements | Vpp, Vamp, Vmax, Vmin, Vtop, Vbase, Vavg, Vrms, Preshoot, Overshoot, Frequency, Period, Rise Time, Fall time, Positive Width, Negative Width, Positive Duty Cycle, Negative Duty Cycle, Delay1→2 , Delay 1→2 |
| Cursor Measurements | Manual, Track and Auto Measure modes |
| Math | Add, Subtract, Multiply, FFT, Invert |
| Storage | Internal□10 Waveforms and Setups |
| | USB□BMP, CSV, Waveforms and Setups |
| I/O | USB Device□USB Host□RS-232□P/F Out (Isolated) |
| Display | TFT (64K, Color LCD), 320 x 234 |
| Power | Worldwide Use, 100 – 240 V / 50 VA Max |
| Weight | 2.3 kg |