

## OD-570/OD-580 Series

At 60 MHz, 150MHz or 250MHz bandwidth with Color or Mono LCD display, are designed and built to meet the demands of a modern DSO in the main stream market today. The unmatched performance, valued plus features, user-friendly design and versatile interface make **OD-570/OD-580** series a very useful equipment for most of the applications in circuit design, production test, repair service and education lab. With almost everything you could expect from a DSO, **OD-570/OD-580** series provides you with the best solution for waveform measurement at a surprisingly affordable price.

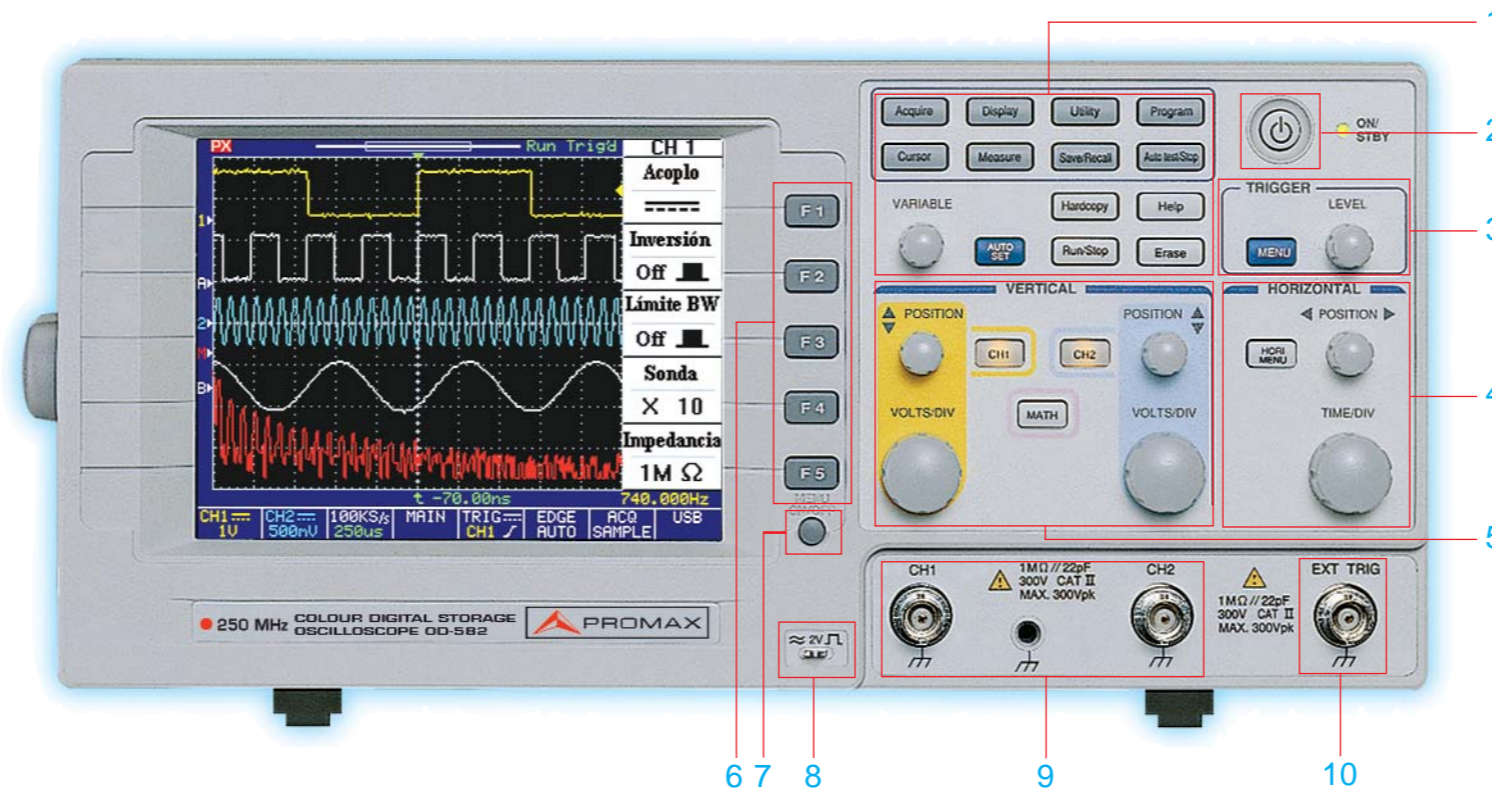
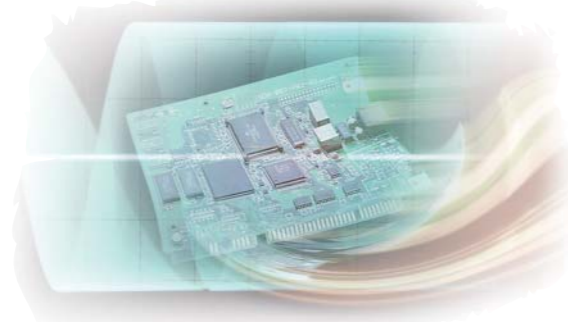
### Features

- 60 MHz, 150 MHz and 250 MHz Bandwidth
- Color or Monochrome LCD Display
- 25GS/s Sampling Rate for Repetitive Waveforms
- 125k Long Memory and 12 Division Horizontal Display
- 15 Auto Measurements and simultaneous  $\Delta T / \Delta V$  Cursors
- FFT Function
- Zoom IN/OUT
- Advanced Trigger: Pulse Width, TV Line, Event Delay and Time Delay
- Adjustable Probe Compensation Signal  
 Adjustable Frequency Range: 1 kHz-100 kHz  
 Adjustable Duty Cycle: 5%- 95%
- Frequency adjustable probe calibration signal (only **OD-576/OD-586**)
- Go/NoGo and Auto Setup Sequence\*
- Built-In Help Manual, PC Software and Multi-Language
- Interfaces\*
  - USB
  - RS-232C
  - Printer Centronics Port
  - GPIB

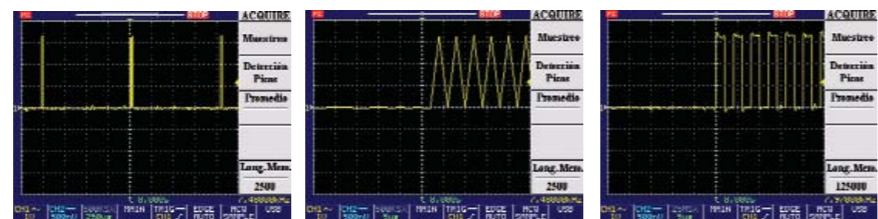
(\*) According to model, refer to specifications table

### Panel Introduction:

1. Miscellaneous
2. Power Switch
3. Trigger Function
4. Horizontal System
5. Vertical System
6. Function Keys
7. Menu ON/OFF
8. Cal. System
9. Vertical Input
10. External Input



### 25 GS/s ET Sampling Rate and 125 k Memory



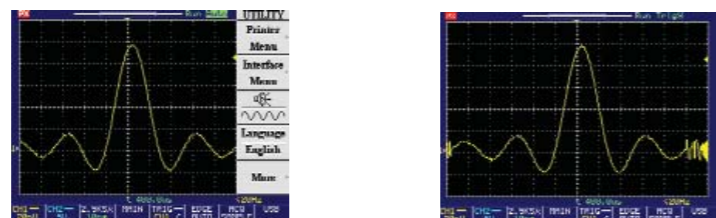
RS-232C Signal

Distorted RS-232C Signal With Short Memory

RS-232C Signal With Long Memory

**OD-570/OD-580** Series, with its superior sampling rate up to 25GS/s, provides high resolution of 40ps point to point for repetitive waveform display. With 125k long memory, **OD-570/OD-580** series gives higher or equal sampling rate and longer record length for the transient signal under test. In general, the longer memory a DSO has the higher sampling rate it performs under the same time base setting. This is among the reasons that **OD-570/OD-580** series could always give a better waveform display than the DSO that only has short memory.

### 12 Division Horizontal Display

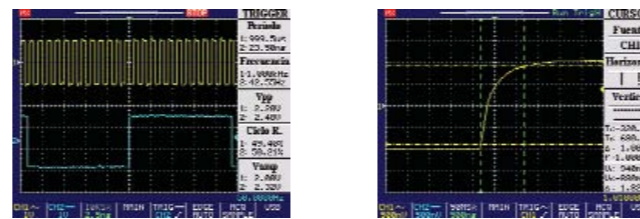


10 Division Horizontal Display

12 Division Horizontal Display

The on-screen menu of a DSO gives the convenience of operation, but it also limits the screen space of waveform display. **OD-570/OD-580** series offers you with the alternative to view the waveform with 12 divisions when the on-screen menu is not in use. At a press of a button, the screen is available for 12-division waveform display. Press the button again, you have the display get back to normal. It is a very useful feature when you expect to view a longer portion of the signal under test.

### 15 Auto Measurements and simultaneously $\Delta T / \Delta V$ Cursors

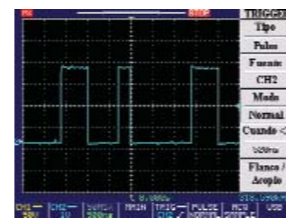


Display 10 Auto-Measurement Data at One Shot

Using Vertical and Horizontal Cursors Simultaneously

The 15 Auto Measurement functions of **OD-570/OD-580** series enables you to get the most frequently tested parameters easily. **OD-570/OD-580** series is able to display 10 auto measurement data on the screen for two channels at one shot. At a glance, you get all your measurement results immediately.

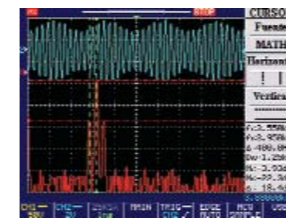
### Advanced Trigger Functions



Pulse Width Trigger

**OD-570/OD-580** series provides advanced trigger features such as TV line trigger, pulse width trigger, event delay trigger and time delay trigger, which could only be found in a higher-end DSO. The advanced trigger capability of **OD-570/OD-580** series makes the waveform capture in a broad range of applications possible.

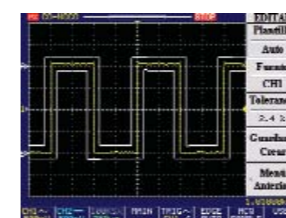
### FFT Function



FFT Function for AM Signal

With FFT function, **OD-570/OD-580** series could easily transform the signal display from time domain into frequency domain. Most remarkably, **OD-570/OD-580** series is able to display a signal by the forms of both time domain and frequency domain at the same time. The cursors under FFT mode are used to indicate the  $\Delta$  values of frequency and voltage, and the relative values of  $\Delta$  frequency and voltage of the signal components. All these measurement readings could be shown on the screen simultaneously.

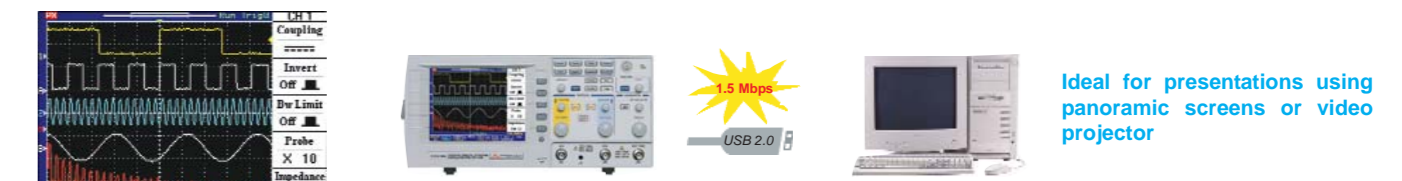
### Go/NoGo Mode



Go/NoGo Testing

Utilizing the saved waveforms in Ref A and Ref B memories of **OD-570/OD-580** series, the user could easily create the template to monitor the abnormal signal or event and perform the Go/NoGo test on the DSO. For convenience, the template could also be generated by the % deviation from the displayed waveform. Whenever the abnormal signal violates the pre-set NoGo condition, **OD-570/OD-580** is capable of calculating the failure rate, taking the appropriate action of warning, and sending the status signal of NoGo through rear panel.

### Versatile Interface

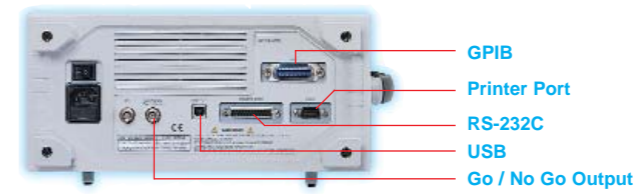


Waveform real-time Monitoring via USB Interface

Ideal for presentations using panoramic screens or video projector

### USB Interface for Video Output

The **OD-570/580** series offer different types of communication interfaces: RS-232C, USB, Centronics and GPIB, as well as Go-No Go signal generation. The USB port FreeView communication software is provided for viewing quasi-synchronous waveform on both, the instrument display and PC screen. Also FreeCapture software is available for bi-directional data transfer and commands via RS-232C or GPIB interface to the Personal Computer.



- GPIB
- Printer Port
- RS-232C
- USB
- Go / No Go Output

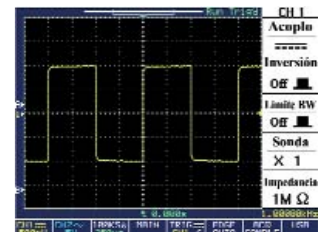


Waveform Captured via RS-232C or GPIB Interface

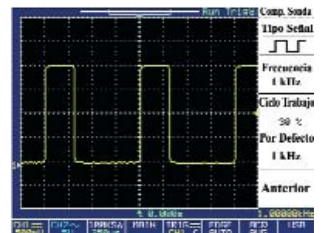
125,000 Points Acquisition Memory can be Transferred to a Personal Computer

### Frequency Adjustable Probe Calibration Signal

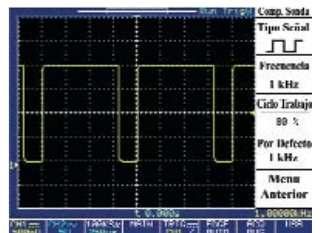
The probe calibration signal is frequency adjustable from 1 kHz to 100 kHz with 1 kHz per step, and duty cycle adjustable from 5% to 95% with 5% per step. This probe calibration signal is provided mainly for the accurate adjustment of probe compensation, but is also adequate to be used as a signal source for teaching and basic testing. (This function is only available for **OD-576/OD-586**)



Frequency at 1 kHz, Duty Cycle at 50%



Frequency at 1 kHz, Duty Cycle at 30% (for OD-576/OD-586 only)



Frequency at 1 kHz, Duty Cycle at 80% (for OD-576/OD-586 only)

### Auto Set-Up Sequence



Auto Set-Up Sequence

Auto Set-Up Sequence enables the testing engineers to carry out ATE test without software programming. After programmed with a sequence of front panel Set-Ups, **OD-570/OD-580** series starts to perform the measurements step by step according to the sequence of front panel Set-Ups until it completes the whole cycle of ATE test. The ATE test cycle on **OD-570/OD-580** series could be programmed to repeat continually by a number of times as you wish.

### On-Screen Help Menu



"Real-Time" On-Screen Help Menu

On-Screen Help Menu allows you to get the real-time help whenever you need to know the details of the function of any operation key. Press the "Help" key first, then press any other function key on the front panel, you will get the On-Screen Help Menu for that specific function key you just pressed.

Specifications	OD-571	OD-576	OD-582	OD-581	OD-586
<b>Display System</b> Display Device Display Contrast Waveform Display Graticule Display mode	Monochrome, 320 x 240, 5.7" LCD		Color, 320 x 240, 5.7" LCD		
	Adjustable				
	Selectable, 8x10 divisions (8 x 12 divisions when menu off)				
	Dot, Vector, Accumulate Acquisitions				
<b>Vertical system</b> Bandwidth Channels Vertical resolution Vertical sensitivity Vertical accuracy Rise time Input coupling Input impedance Polarity Maximum voltage between signal Waveform signal process Bandwidth limit	DC-150 MHz (-3 dB)	DC-60 MHz (-3 dB)	DC-250 MHz (-3 dB)	DC-150 MHz (-3 dB)	DC-60 MHz (-3 dB)
	2				
	8-Bit				
	2mV/div. ~ 5V/div.				
	± 3%				
	<2.3 ns	<5.8 ns	<1.4ns	<2.3ns	<5.8 ns
	AC, DC, Ground				
	1 MΩ ±2%, ~22 pF	1 MΩ ±2%, ~18 pF		1 MΩ ±2%, ~22 pF	1 MΩ ±2%, ~18 pF
	Positive & negative				
	300V (DC+AC peak), CAT II				
CH1+CH2, CH1-CH2, FFT, Go/No Go					
Selectable <20 MHz (-3 dB)					
<b>Horizontal system</b> Time base range Time base mode Time base accuracy Delay range	1ns/div~10s/div; (Roll mode 250ms/div~10s/div)				
	Main, Window, Window Zoom, Roll, X-Y				
	± 0,01%				
	Pre-trigger 20 div; Post-trigger 1000 div maximum				
<b>X-Y Mode</b>	X axis: CH1; Y axis: CH2 phase Shift < ± 3% to 100 kHz				
<b>Signal Acquisition System</b> Real-time Sample Rate Vertical resolution Record length Peak detection Average	100 MS/s maximum on each channel				
	25 GS/s maximum on each channel equivalent or repetitive mode				
	8 bits				
	125 kbytes/Channel				
	10 ns (500 ns/div~10s/div)				
	2, 4, 8, 16, 32, 64, 128, 256 acquisitions				
<b>Trigger</b> Trigger source Mode Coupling Sensitivity	CH1, CH2, Red, Ext.				
	Auto, Auto-Level, Normal, Single, TV, Time delay, Event delay, Edge, Pulse width				
	AC, DC, AF Reject, BF, Reject noise				
	DC~30 MHz:Aprox. 0.5 div. or 5 mV; 30 MHz~150 MHz: Aprox. 1.5 div or 15 mV	DC~25 MHz:Aprox. 0.5 div. or 5 mV; 25 MHz~60 MHz: Aprox. 1.5 div or 15 mV	DC~30 MHz:Aprox. 0.5 div. or 5 mV 30 MHz~150 MHz: Aprox. 1.5 div or 15 mV 150~250 MHz:~150 mV Aprox. 2.0 div or 20 mV	DC~30 MHz:Aprox 0.5 div. or 5 mV; 30 MHz~150 MHV Aprox. 1.5 div. or 15 mV	DC~25 MHz:Aprox. 0.5 div. or 5 mV; 25 MHz~60 MHz: Aprox.1.5 div or 15 mV
<b>Cursor &amp; measurement</b> Autovoltage measurement Auto time measurement Cursor measurement	Vpp, Vamp, Vavg, Vrms, Vhi, Vlo, Vmax, Vmin				
	Freq. Period, Rise Time, Fall Time, Positive width, negative width, Duty Cycle				
	Voltage difference between cursors (ΔV) Time difference between cursors (ΔT)				
<b>Frequency Counter</b> Signal source	6 digits				
	All available trigger source except the Pulse width & video Trigger mode				
<b>External Trigger</b> Range Sensitivity Input impedance Maximum Input	DC: ± 15 V, AC: ±2 V				
	DC~30 MHz:~50 mV; 30~150MHz:~100 mV	DC~25 MHz:~50 mV 25~60 MHz:~100 mV	DC~30 MHz:~50 mV; 30~150MHz:~100 mV 150~250 MHz:~150 mV	DC~30 MHz:~50 mV 30~150MHz:~100 mV	DC~25 MHz:~50 mV 25~60MHz:~100 mV
	1 MΩ±2%, ~ 22 pF	1 MΩ±2%, ~ 18 pF	1 MΩ±2%, ~ 18 pF	1 MΩ±2%, ~ 22 pF	1 MΩ±2%, ~ 18 pF
	300V (DC+AC pico), CAT II				
<b>Control panel function</b> Autoset Save/Recall Waveform Trace Save/Recall	Autoset can adjust vertical (Volt/div.), Horizontal (Sec/div.) and Trigger level automatically				
	Up to 15 sets of measurement can be saved and recalled				
	2 sets of waveform can be saved and recalled				
<b>Interface</b> RS-232C USB Printer Centronics port Output Go/No Go GPIB	Included				
	Included	Option (1)	Included	Included	Option (1)
	Included	Option (1)	Included	Included	Option (1)
	Included	Option (1)	Included	Included	Option (1)
	Option (2)	—	Option (2)	Option (2)	—
<b>Power supply</b>	100V ~ 230V AC 48 kHz ~ 63 Hz, 45 W, 65 VA maximum				
<b>Dimensions and weight</b>	310 W. x 142 H. x 254 D. (mm), Aprox. 4.1 kg				
<b>Accessories</b> Probes x1 and x10	Power Cord x 1, User's Manual x1, Probe x2				
	SA-017, 250 MHz	SA-016, 150 MHz	SA-018, 350 MHz	SA-017, 250 MHz	SA-016, 150 MHz

**Option (1):** Only installed in factory by requesting. **Option (2):** Could be installed in factory when ordering or later by means of a self-install Kit.

## OD-582



### 250 MHz

## OD-581



### 150 MHz

## OD-586



### 60 MHz



## OD-571 150 MHz



## OD-576, 60 MHz

## Applications

### Circuit Design and Debug

With 25GS/s sampling capability, **OD-570/OD-580** series is able to capture and reconstruct waveforms at a very high resolution of 40ps. The 125k long memory of **OD-570/ OD-580** series enables the observation of a transient signal in more detail than any other Short-Memory DSO can do. The advanced trigger capability, including Pulse Width, TV Line, Event Delay and Time Delay, greatly facilitate the complicated signal tests for the performance evaluation of the products under development. The higher sampling rate, longer memory and advanced trigger make the **OD-570/ OD-580** series suitable for circuit design and debug.

### Production Test and Quality Inspection

As far as the speed of production test is concerned, the Auto Set-Up Sequence and Go/NoGo features give you a fast and convenient way to perform the routine tests without tedious software programming. Under Auto Set-Up Sequence mode, the saved front panel Set-Ups in the memories could be recalled to tailor an auto test routine with user assigned test time period of each individual test step. At a push of the button, **OD-570/ OD-580** series automatically goes through all the test procedures you want. The Go/NoGo mode allows you to easily create the template to monitor abnormal signals or events. The ratio of failure events to all events is also shown to give a real time statistics.

### Repair and After Service

The straightforward operation of **OD-570/OD-580** series requires little knowledge from a user as for him to quickly get started with his job. At a press of the Auto- Set button, the DSO automatically adjusts its Set-Up, and displays waveforms in the manner of most convenient view. With 15 auto measurement functions and 10 measurement readings shown simultaneously, **OD-570/OD-580** series easily gets your test data all on a screen at once. These features give service engineers an easy start and time-saving solution under a limited budget consideration.

### Education Lab. and Training Institution

The Built-In FFT feature of **OD-570/OD-580** series provides a useful mean to convert a waveform display from time domain to frequency domain . The capability of simultaneous displays of time domain and frequency domain of a signal is especially suitable for the educational purposes. The embedded USB interface of the DSO along with USB PC software gives nearly synchronous waveform display on the DSO and PC monitor respectively. This makes the training effective and easy through sharing waveform measurement procedures and results among the instructor and the students. The on-screen Help Menu is also useful to give students an environment for Self-Study of the DSO features and operations.