An Introduction to PC Oscilloscope Diagnostics

pico®
Technology

PICOSCOPE®
THE PC OSCILLOSCOPE SOFTWARE FROM **PICO TECHNOLOGY**, IS SUPPLIED WITH EVERY PICO DIAGNOSTIC OSCILLOSCOPE

AUTO SETUP BUTTON
If your test is not in the Automotive menu, this helps you find the signal.

TIMEBASE CONTROLS
Set the time interval across the screen, zoom factor, and record length.

TRIGGER MARKER
Shows the channel, signal level and time of the trigger event. Drag to adjust level and delay.

AUTOMOTIVE GUIDED TESTS
Contains over 150 waveforms. Selecting one automatically sets up the scope to capture a waveform of that type.

BUFFER CONTROLS
PicoScope stores up to 10 000 of the most recent waveforms in a buffer. Use these controls to search through them. Useful when you are trying to find an intermittent fault that might not be present on every waveform.

ZOOM BUTTONS
These affect the entire view. Zoom in and zoom out, zoom to a specified area, or pan the display. To zoom a single channel vertically without affecting the others, use the scaling buttons at the bottom of the view.

CONNECTDETECT™
When active, the Channel LEDs of our latest automotive scopes will either be green to indicate that the test probe is directly connected to a component, or red to indicate it is not. This can be mirrored within the PicoScope screen by clicking the ConnectDetect button. This feature enables you to see whether the signal you are seeing is the intended measurement signal, rather than unintentional capacitive coupling between the test probe and other components.

WAVEFORM LIBRARY BROWSER

A library of waveforms uploaded by PicoScope users around the world. Search by make, model and signal characteristics for waveforms from working and faulty systems. Contribute your own waveforms and share your experience with the community. Free of charge to all PicoScope users.

SCOPE BUTTON
Click to return to the normal oscilloscope display mode.

CHANNEL CONTROLS
In "Auto" mode PicoScope adjusts the input range to fit the signal. You can override this to set your own range for each channel. "DC" shows the entire signal. "AC" filters out any DC offset – useful for ripple measurements.

CHANNELS A, B, C & D
These are linked to the channel controls above. Each channel corresponds to one of the BNC connectors on the PicoScope oscilloscope.

SIGNAL RULER
Drag a colored handle from the top of the window to the level you want to measure. The ruler legend shows the measurement.

TRIGGER MODE
AUTO displays a stable waveform when possible. **NONE** always displays regardless of the waveform. **SINGLE** displays a single waveform then stops. **REPEAT** displays only stable waveforms. **RAPID** captures a sequence of waveforms.

PICOSCOPE RUNS ON MICROSOFT WINDOWS 7, WINDOWS 8, AND WINDOWS 10 (32-BIT AND 64-BIT).

PICODIAGNOSTICS, THE EASY TO USE DIAGNOSTIC SOFTWARE, IS SUPPLIED WITH EVERY **PICOSCOPE** AUTOMOTIVE OSCILLOSCOPE

CYLINDER BALANCE TEST

PicoScope 6 Automotive
File Edit Views Measurements Tools Automotive Help

20 ms/div   200 kS   27 of 27   x 1

A ±20 V   B ±20 V   C ±100 V   D -3 .. 27 kV

	1	2	Δ
	5.346 ms	159.2 ms	153.9 ms
	-829.1 mV	70.38 V	71.21 V

1/Δ 6.498 Hz, 389.9 RPM

Channel	Name	Value	Min	Max	Average	σ	Capture Count	Span
B	Duty Cycle	41.63 %	41.63 %	41.63 %	41.63 %	0.000 %	1	Whole trace

Channel Labels

A	Crankshaft sensor (Inductive)	[Enter Channel Notes]	Good
B	[Select Label]	[Enter Channel Notes]	[Select Good/Bad/Unknown]
C	[Select Label]	[Enter Channel Notes]	[Select Good/Bad/Unknown]
D	[Select Label]	[Enter Channel Notes]	[Select Good/Bad/Unknown]

Stopped Trigger Auto C 8 V 10 % Measurements Rulers Notes Channel Labels

RULER LEGEND
Shows measurements of all rulers on screen. If a channel has two rulers enabled, then the legend also shows the difference between them.

CHANNEL AXIS
There is a color-coded axis for each channel. Drag it up or down to position the channel.

REFERENCE CHANNEL
This channel shows a waveform that was saved in a previous session using the Reference Waveforms tool. Retrieve it by using the Reference Waveforms tool again.

FREQUENCY & RPM INDICATOR
When you position two time rulers one revolution apart on a waveform such as a crankshaft sensor waveform, this indicator shows the frequency and RPM.

SCALE AND OFFSET BUTTONS
There is a color-coded button for each channel. Click it to reveal the scale and offset controls.

MEASUREMENTS TABLE
Lists all your dynamically updated automatic measurements with statistics. Click the Add Measurements button to add more. Choose from dozens of measurement types.

PICOSCOPE GUIDED TESTS

PicoScope includes over 150 guided tests. Each test includes all scope settings meaning there is no need to set up the scope every time.

CAN BUS H & L LINES

ABS SENSORS

COMMON RAIL DIESEL INJECTOR

CRANKSHAFT SENSOR

PRIMARY IGNITION

LAMBDA SENSORS

UPDATES TO PICOSCOPE CAN BE DOWNLOADED
FREE
FROM **WWW.PICOAUTO.COM**

STOP/START CONTROL
Click to start displaying waveforms. Click again to stop. The space bar on the keyboard has the same function.

TIME RULER
Drag a white ruler handle from left to right to mark a point on the axis. The ruler legend shows the time at each ruler and the time difference between two rulers.

TRIGGER SOURCE
Choose which channel to trigger on.

EDGE SELECT
Trigger on rising or falling edges.

THRESHOLD
Set the voltage at which the trigger operates, or drag the trigger marker.

PRE-TRIGGER
How much of the waveform is captured before the trigger event. Linked to the horizontal position of the trigger marker on the screen.

MEASUREMENT BUTTONS
Click to add an automatic measurement to the measurements table, or to delete or edit one.

CHANNEL LABELS/NOTES AREA
Type your own notes and save them with waveforms.

DO160-8 Copyright © 2009 - 2017 Pico Technology Ltd. All rights reserved.

WWW.PICOAUTO.COM