

## DOX2025B, DOX2070B & DOX2100B

### 2-CHANNEL BENCHTOP DIGITAL OSCILLOSCOPES

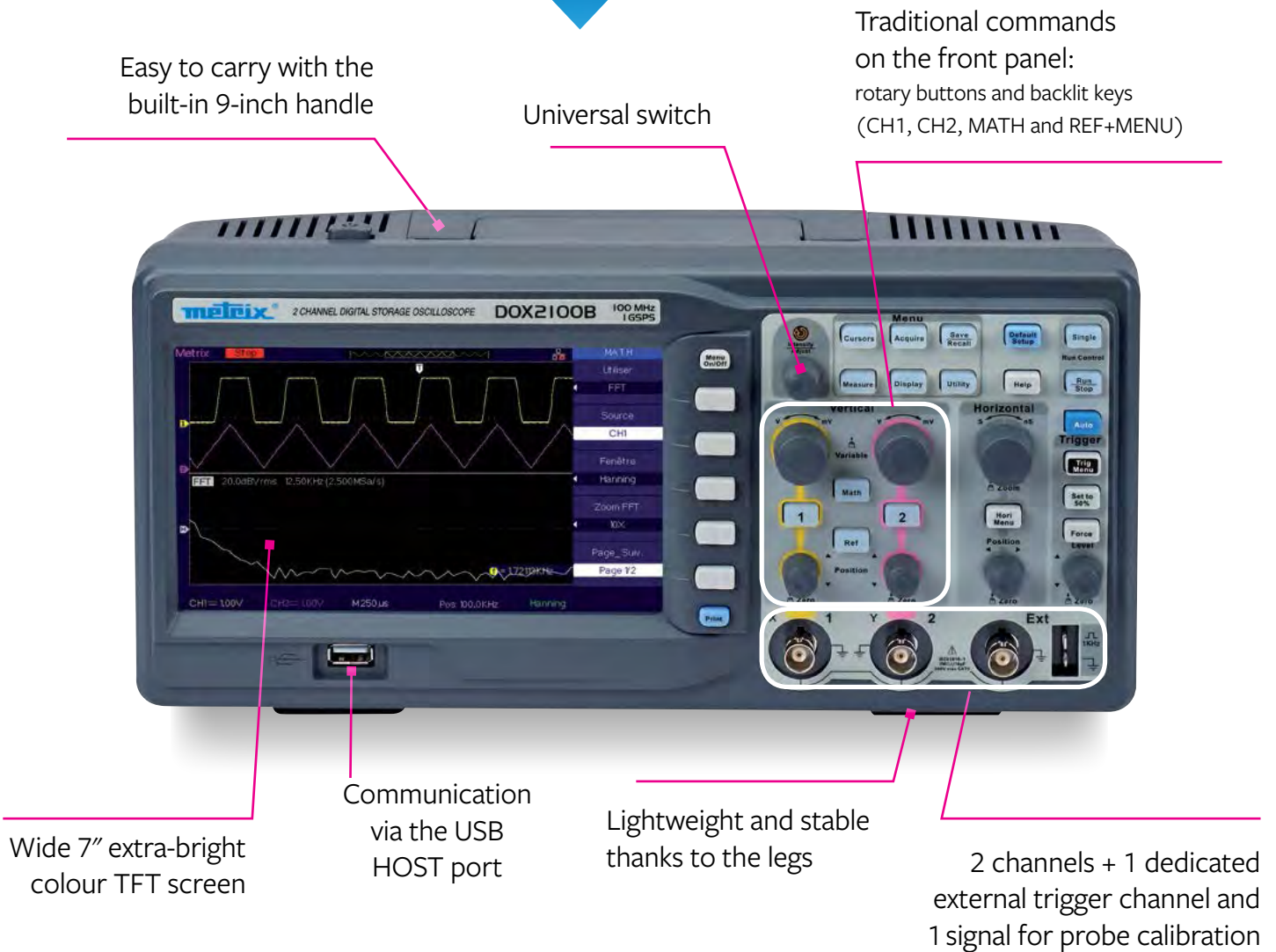


- **7" panoramic colour LCD screen, resolution 800 x 480 pixels**
- **Multiple communication interfaces**
- **High performance and multiple functions for acquisition and analysis:**
  - Sampling rate of up to 1 GS/s in one-shot mode and up to 50 GS/s in ETS mode
  - Vertical sensitivity from 2 mV/div. to 10 V/div. in 12 ranges
  - 32 simultaneous automatic measurements on screen plus measurements by manual cursors
  - Simple MATH functions  $+/-/*/\div$  and "real-time" FFT function
  - Configurable digital filters and waveform recording mode

Particularly simple to use, the oscilloscopes in the DOX 2000B series are equipped with a wide screen offering 16 div horizontally in full-screen mode. It allows you to customize the display: choice between normal or persistent display, YT or XY format, plus adjustment of the colours, the graticule, the brightness, the contrast, etc.

The menus are available in 5 languages (English, French, Spanish, Italian, German) according to your selection. The oscilloscope also saves energy because it takes less than 10 s to start up and shut down.

The "soft key" icons to the right of the screen are intuitive and offer instant access to the type of signal that you wish to view.



Wide 7" extra-bright colour TFT screen

Communication via the USB HOST port

Lightweight and stable thanks to the legs

2 channels + 1 dedicated external trigger channel and 1 signal for probe calibration

## High performance with the best possible Quality/Price ratio

The DOX 2000B Series oscilloscopes are equipped with an extended memory of 2 MB, as well as multiple acquisition and analysis modes with advanced trigger functions. Thanks to bandwidths from 25 MHz to 100 MHz on 2 channels, a 2 GS/s sampling frequency and a waveform memory with a maximum capacity of 1 Mpts / channel (2 Mpts in interlaced mode), the DOX 2000B models offer the best value for money on the market for oscilloscopes with protective earths.

The display allows you to view 32 measurements simultaneously with the measurement dashboard.

Analysis is facilitated by the 32 standard automatic measurements available for selection and can be refined using the measurement cursors which may or may not be tied to the trace. The extensive range of advanced timing parameters makes it possible to compare the signals on two separate channels and to zoom, if necessary. For more detailed analysis, the DOX 2000B models offer 5 mathematical functions for real-time analysis on 2 different displays: addition, subtraction, multiplication, division and FFT.

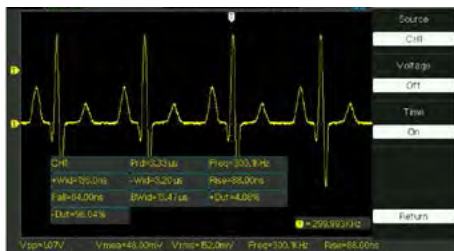
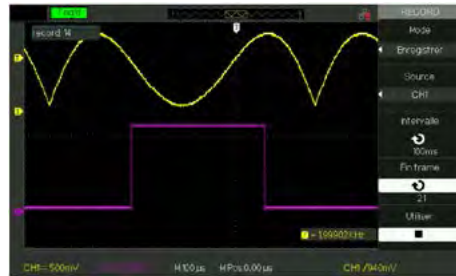
### Instant display of the measurement result

The built-in pass/fail mask test allows rapid identification of problems in a signal. This Pass/Fail function can be used to track the evolution of signals. For example, it can be used to determine whether or not the input signal remains within a specified profile.



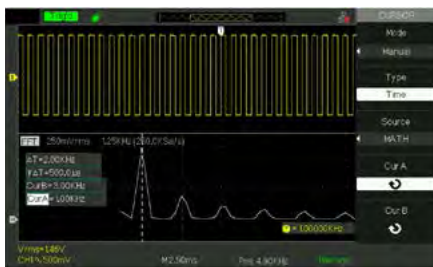
# Advanced measurement functions

- ▶ **Auto-calibration** is a procedure used to optimize the accuracy of the acquisition system for channels CH1 and CH2.
- ▶ The **"Pass/Fail"** function, which compares the real-time signal to a predefined profile (MASK) and instantaneously indicates its Pass or Fail status.
- ▶ The **RECORD** mode and the Pass/Fail function for monitoring the signals.
  - The RECORD mode allows signals to be recorded over a maximum recording length of 2,500 frames of 2.5 kpts each.
  - can be triggered by an output of the Pass/Fail test signal, and thus record the signals for long periods.
- ▶ The **ROLL** and **RECORDER** modes allow continuous real-time surveillance of slow signals.
  - ROLL mode: time base ranges > 100 ms.
  - RECORDER mode: continuous real-time recording of the signals. The internal recording memory depth of this mode is 7 Mpoints maximum.

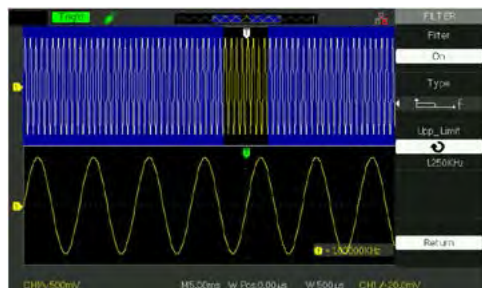


Advanced performance for more detailed analysis (acquisition depth and zoom, 32 selectable automatic measurements).

The FFT function can be displayed in four different windows and on two different vertical scales to provide a pertinent view of the frequency domain.



- ▶ **Simple to use** thanks to its digital filters to prevent high and low-frequency noise from disturbing the trigger:



- 2.5 kHz low-pass filter for viewing the fundamental while suppressing the harmonics.
- 2.5 kHz high-pass filter for viewing the edges and suppressing low-frequency plateaux.
- 5 Hz FcB and 2.5 kHz FcH band-stop filter for attenuating the harmonics.

# COMMUNICATION

On the front panel, the user has direct access to the HOST USB port to optimize the recording storage capacity.



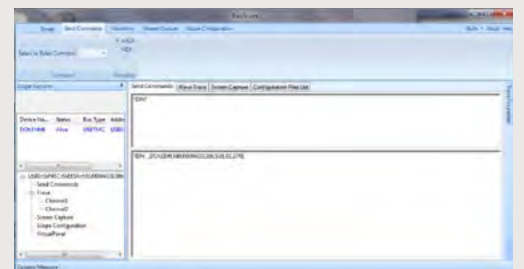
Provided with a built-in Kensington anti-theft system USB port for communicating with a PC

On the rear panel, the USB and RJ45 (Ethernet) ports enable PC communication with the related software to control the instrument, perform the tests and recover trace and screenshot files. These oscilloscopes have 20 setups and 20 waveforms in internal memory. For greater security, there is a locking system (Kensington lock) with a security slot to receive a plug-in padlock. This means that the device can be immobilized.

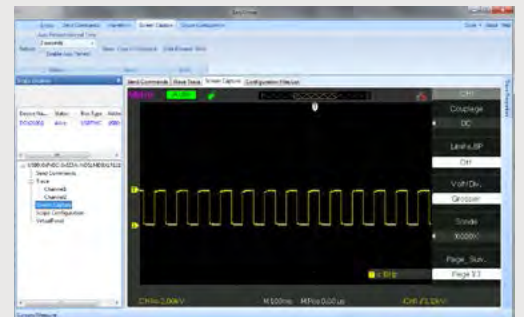
# EASYSCOPE PC software

With **Easyscope**, users can access a large number of complementary functions via USB or Ethernet in order to:

- ▶ send programming commands: "SEND COMMAND"



- ▶ recover screenshots: "SCREEN CAPTURE"



- ▶ test remote commands: "VIRTUAL PANEL"
- ▶ recover files: "TRACES"



Technical specifications	DOX 2025B	DOX 2070B/DOX 2100B
<b>Human-Machine Interface</b>		
Type of display	7" WGA colour LCD screen (resolution 800 X 480) – Adjustment of brightness and contrast	
On-screen display of curves	Trace area, 8 x 16 divisions 2 curves + reference + Maths function - Full graticule or edges Display mode: Samples or Vectors with interpolation, or Persistence mode	
Commands	Usual direct commands by buttons/knobs on front panel System of menus on right side of the screen with selection by 5 buttons next to them – "Menus On/Off" command	
Choice of language	By menu, 5 languages (FR/EN/DE/IT/ES), online help in English and French	
<b>Vertical deflection</b>		
Bandwidth	25 MHz	70 MHz / 100 MHz – 20 MHz bandwidth limiter
Number of channels - Impedance	2 channels, common chassis-earths - 1 MΩ / 18 pF and External Trig channel	
Display of traces	Channel number, earth reference indicator and trace in the colour of the channel	
Maximum input voltage	± 300 Vp-p (without probe)	
Vertical sensitivity	12 ranges from 2 mV – 10 V/div - Basic accuracy ± 3 %	
Rise time	< 7 ns	< 5 ns (DOX 2070B) < 3.5 ns (DOX 2100B)
Factors of compensated probes	0.1 X, 0.2 X, 1 X, 10 X, 50 X, 100 X, 500 X, 1000 X, 2000 X, 5000 X, 10000 X	
<b>Horizontal deflection</b>		
Sweep speed	5.0 ns/div - 50 s/div. (Oscilloscope mode)	2.5 ns/div - 50 s/div (configurable digital filters)
Scan	100 ms/div - 50 s/div. (Recorder mode - Scan)	
Horizontal zoom	Yes	
<b>Trigger</b>		
Sources / Modes	CH1, CH2, Ext, Ext/5, mains / Automatic, Triggered, One-shot - XY	
Roll mode	100 ms/div. to 50 s/div.	
Type	Edge, pulse width (20 ns-10 s), video (Pal, Secam, NTSC), slope, alternate	
Coupling	AC, DC, HFR (HF rejection), LFR (LF rejection)	
<b>Digital data storage</b>		
Maximum sampling rate	One-shot = 250 MS/s (2 channels), 500 MS/s (1 channel) Repetitive = 10 GÉ/s	One-shot = 500 MS/s (2 channels), 1 GS/s (1 channel) Repetitive = 50 GÉ/s
Vertical resolution	8 bits (vertical resolution 0.4 %)	
Memory depth	Max. depth = 32 kpoints "Unlimited" storage capacity (USB key)	Max. depth = 2 Mpoints (long MEM) "Unlimited" storage capacity (USB key)
File management	Trace files (proprietary format and spreadsheet-compatible ".CSV" format) for the signals Complete instrument setup files – Screenshot files (Windows-compatible ".BMP" format)	
PEAK DETECT mode (capture of transients)	Minimum event duration = 10 ns	
Display modes	Points or vectors – Persistence mode (1 s, 2 s, 5 s, 10 s, 20 s or infinite) or Averaging mode (factor from 4 to 256)	
XY mode	Yes	
<b>Other functions</b>		
AUTOSET	AUTO-adjustment of the amplitude, the time base and the trigger position	
MATH functions on the channels	Trace calculated in real time: CH1 and CH2: addition, subtraction, multiplication, division	
FFT analyser	FFT calculated over 1,024 points – Simultaneous display of trace + FFT – 4 windows (rectangle, Hamming, Hanning, Blackman)	
Manual measurement cursors	Manual, tracking and automatic modes	
PASS/FAIL	Pass/Fail test using a limit envelope	
Automatic measurements	32 time-based or level measurements	
Filters	Yes	

General specifications	
Data storage and printing	On USB device only
PC communication	USB Device and ETHERNET RJ45 for PC communication with EASYSKOPEX software
Mains power supply	Universal 100-240 V / 50/60 / 400 Hz / 50 VA max. - removable mains power cable
Safety – EMC –anti-theft	Safety as per IEC 61010-1 300 V Cat II – EMC as per EN61326-1 – Kensington lock
Environment	Storage: -20 °C to +60 °C – Operation: +10 °C to +40 °C
Mechanical specifications	Dimensions (L x W x H): 323 x 135 x 157 mm – Weight: 2.385 kg
Warranty	2 years

## STATE AT DELIVERY

Benchtop digital oscilloscopes, European mains power cable, 2 switchable voltage probes with 1/1 and 1/10 ratios, USB A/B cable, CD-ROM with PC software and user's manual.

DOX 2070B version:  
with HX0074 signal generation board.



## References to order

DOX 2025B oscilloscope..... DOX2025B  
DOX 2070B oscilloscope..... DOX2070B  
DOX 2100B oscilloscope..... DOX2100B

## Optional accessories

2 x 30 MHz differential probe with banana inputs  
MTX1032-B.....MTX1032-B

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