

SCOPEin@BOX digital recorder-analyser oscilloscopes

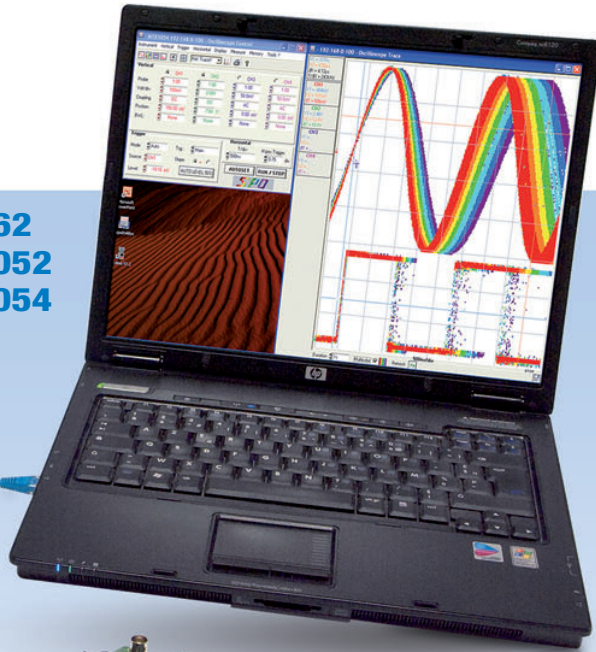
MTX 162 digital oscilloscope **NEW**

MTX 1032 differential probes

MTX 1050 spectrum analyser



**MTX 162**  
**MTX 1052**  
**MTX 1054**



**MTX 1032-B & MTX 1032-C**



**MTX 1050**

- **SCOPEin@BOX oscilloscopes with FFT analysis, harmonic analysers and recorders**

- 2 channels (MTX 1052) or 4 channels (MTX 1054) / 150 MHz / Vertical sensitivity 250  $\mu$ V – 100 V/div
- Advanced trigger modes and SPO analysis

- **MTX 162 low-cost oscilloscope** **NEW**

- 2 channels / 60 MHz
- Normal or analogue-type remanent display

- **MTX 1032 differential probes for measuring signals not referenced to earth**

- Input voltage 600 V and 600 Vrms in common mode
- Attenuation 1/10 and 1/100
- Bandwidth 50 MHz / BNC (MTX 1032-C) or 30 MHz/banana (MTX 1032-B)

- **MTX 1050 spectrum analyser (400 kHz to 1 GHz)**

- Ideal for EMC prequalification tests with built-in FM demodulator



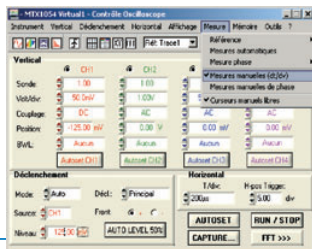
## SCOPEin@BOX Virtual Oscilloscopes

### Ergonomics and PC environment

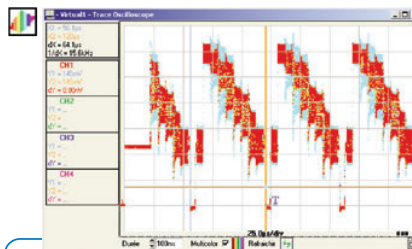
The **MTX-1052-PC**, **MTX 1054-PC** and **MTX 162** are genuine "oscilloscopes in a box". Compact, lightweight and stackable, these measurement instruments can be connected directly to a PC via a USB or Ethernet interface with PC software.

Users benefit from all the PC's advantages in terms of **storage capacity** and display capabilities (minimum resolution 1024x768), allowing **much more precise analysis of curves**.

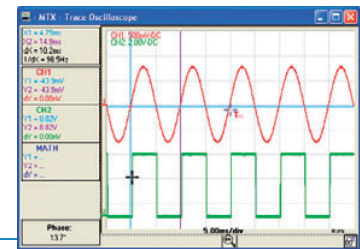
The functions are directly accessible from the menus and the "Windows" toolbar, via keyboard shortcuts or by using the mouse. Users control the oscilloscope with the "instrument" control panel, which contains all the standard commands for oscilloscopes. **Online help** is also available.



► **SCOPEin@BOX control panel**  
General commands



► **SCOPEin@BOX display of "X(t)" traces in SPO mode**



► **MTX 162**  
Display of traces

Multi-windowing means you can simultaneously display the traces, the zoom, the FFT analysis, the measurements, etc. In this way, users can choose among multiple combinations so that they have all the useful information available at a glance. The **MTX 1052 & MTX 1054** are both equipped with the SPO (Smart Persistence Oscilloscope) display mode. The **MTX 162**, a "double time-base" oscilloscope, offers **normal or remanent** display (like on an analogue oscilloscope).

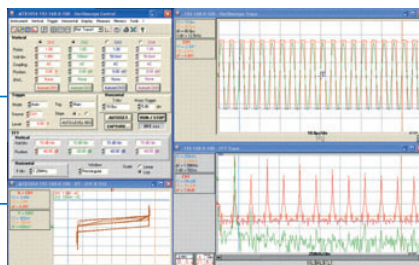
### Functions

Each of these models offers functions which are rare on this type of instrument: real-time FFT analyser (lin/log), recorder or dedicated ROLL mode simplifying adjustments (MTX 162), bandwidth limiters, simultaneous automatic measurements with markers and cursors, etc.

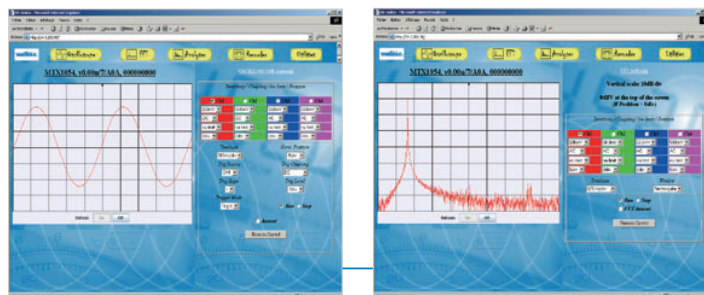
**NEW**

To simplify use of the instrument, the MTX 162 includes **vertical and horizontal Autorange** functions.

The MTX 1052 & MTX 1054 also offer extensive advanced triggering possibilities.



► **SCOPEin@BOX:**  
simultaneous display  
of "X(t)", "XY" and "FFT"



► **The "Web server":** remote control  
without extra software

### Universal communication

Each oscilloscope is equipped with a universal USB communication mode and a 10 Mb Ethernet interface for integration in a local or remote network.

**NEW**

When started up in **USB or Ethernet** mode, the software automatically detects the instruments connected to the PC or network.

"Unlimited" storage of the traces is possible simply by saving the files. Firmware upgrades are automatic. 1 or 2 clicks are all it takes to export the results into Excel or print them out in Word. With the "Web server" available on the MTX 1052 & MTX 1054, you can control the instruments remotely without extra software and exchange files via FTP very simply.

**NEW**

The **MTX 162** is equipped with WiFi communication.



## MTX 1032 differential probes

The **MTX 1032-B** and **MTX 1032-C** differential probes are essential tools for viewing signals not referenced to earth on analogue or digital oscilloscopes. They can be used separately or hooked up to MTX oscilloscopes or the SCOPEin@BOX models (MTX 1052 / MTX 1054 or MTX 162). They then enable the oscilloscopes to display signals in differential mode up to 600 V / CAT III.

These laboratory-grade probes powered by the mains can operate with coaxial/banana cables, oscilloscope probes or banana leads.



	MTX 1032-B	MTX 1032-C
Channels	2 differential channels	
Measurement connection	Banana leads	BNC / banana cables or oscilloscope probes
Bandwidth / rise time	30 MHz / 11.7 ns	50 MHz / 7 ns
Differential input voltage range	± 40 V or ± 400 V	
Attenuation / noise	1/10 and 1/100 / < 10 mVp-p	
Electrical safety	IEC 61010-1 600 V CAT III	IEC 61010-1 600 V Cat. II
EMC	NF EN 61326-1 (07/97) + A1 (10/98) + A2 (2001)	
Dimensions / Weight	270 x 250 x 63 mm / 1.2 kg	

## MTX 1050 spectrum analyser



The SCOPEin@BOX and MTX 162UE models are ideal for use with the **MTX 1050** spectrum analyser. Lightweight, portable and **suitable for general-purpose applications**, the **MTX 1050** ensures accurate results with its **4 simultaneous measurement cursors**: peak detection mode, automatic marker and two deviation cursors.

In addition to the usual applications, when the **MTX 1050** is used with the HX0082 & HX 0083 near-field probes, the Q-Peak detection mode is ideal for measurements in the context of **EMC prequalification** tests. FM demodulation is also available with a built-in loudspeaker.

Economical and simple to use, the **MTX 1050-PC** offers a Windows environment which makes it easy to copy screens for reports or for data transfers into Excel.

	MTX 1050
Display	Up to 5,000 sweep points with horizontal resolution
Frequency / Excursion	400 kHz to 1 GHz / Zero span, 1 MHz to 100 MHz/div (1-2-5 sequences)
Frequency drift	± 5 ppm/year
Analysis	6 sweep speeds, 3 analytical filters and 3 video filters
Detection modes	Peak (standard mode) or Q-Peak (EMC analysis; sweep 1 s, RBW 120 kHz)
Dynamic range for measurement	-90 dBm to +20 dBm
Communication	"Plug & Play" USB as standard
Safety / Standards	IEC 61010-1 – Cat. II / NF EN 61326-1: 98
Dimensions / Weight	270 (L) x 63 (H) x 215 (D) mm / 1.7 kg

## Oscilloscope Selection Guide

	MTX 1052-PC / MTX 1054-PC*	MTX 162UE / MTX 162UEW**
<b>MAN-MACHINE INTERFACE</b>	Colour PC screen display / 8 x 10 div / Multi-windowing with up to 4 curves on screen / "Windows-like" interface & online help	
<b>OSCILLOSCOPE MODE</b>		
<b>VERTICAL DEFLECTION</b>		
Bandwidth	150 MHz (bandwidth limiter: 15 MHz, 1.5 MHz or 5 kHz)	60 MHz (bandwidth limiter: 15 MHz, 1.5 MHz or 5 kHz)
Number of channels	2 or 4 channels, class 1, common chassis earths	2 channels, class 1, common chassis earths
Vertical sensitivity	2.5 mV – 100V/div, up to 250µV/div with vertical expansion	5 mV to 100 V/div
<b>HORIZONTAL DEFLECTION</b>		
Sweep speed	35 calibres from 1 ns to 200 s/div	32 calibres from 5 ns to 100 s/div
<b>TRIGGERING</b>		
Mode	Auto, Triggered, One-Shot, auto level at 50%	
Sources	CH1, CH2, EXT, Mains or CH1 to CH4, Mains*	CH1, CH2, Mains
Type	Edge, Pulse Width or Delay (40 ns-10.5 s), Counting (2 - 16,384 events), TV (525 = NTSC, 625=PAL/SECAM), adjustable pretriggering from 0 to 100%, Hold-off (40 ns-10.5 s)	Rising or falling edge adjustable pretriggering from 0 to 100%
<b>DIGITAL MEMORY</b>		
Maximum sampling rate	Repetitive = 100 GS/s – One-shot = 200 MS/s	Repetitive = 20 GS/s – One-shot = 50 MS/s
Vertical resolutions	10 bits (9 bits used)	8 bits
Memory capacity	Depth = 50,000 points – storage capacity depends on PC configuration	
<b>SPO (Smart Persistence Oscilloscope)</b>		
Persistence duration	100 ms, 200 ms, 500 ms, 1 s, 2 s, 5 s, 10 s and infinite	Analogue remanence mode
Performance	Acquisition rate: 50 waveforms/s/channel, No. of samples acquired: 19 MS/s/channel	-
<b>MEASUREMENT PROCESSING</b>		
FFT analyser & MATH functions	FFT, +, -, x, / - "made-to-measure" function editor	FFT, +, -, x, /
Manual cursors	dv, dt, 1/dt, PHASE - Cursors linked to trace	
Automatic measurements	2 or 19 measurements from among 19 + Automatic phase – On any type of curve- Markers and Limits	
<b>RECORDER MODE</b>		
Duration / Sampling	Duration: 2 s to 31 days / Sampling interval: 40 µs to 53.57 s	ROLL mode from 2 s to 33 min
<b>HARMONIC ANALYSER MODE</b>		
Range for analysis	Fundamental from 40 Hz to 1 kHz + 31 orders, on1 to 4 channels	-
Operation	Permanent display: total RMS value & THD – Selected harmonic order: %F, phase, freq, Vrms	-

### GENERAL SPECIFICATIONS - MTX 1052 / MTX 1054

Memory & printing	"Unlimited" but depending on PC configuration / Via "Windows" environment	
Communication	USB / local or remote 10 Mb Ethernet	USB, local or remote 10 Mb Ethernet, WiFi
Power supply	100 to 240 VAC / 47-63 Hz / <16 W	
Electrical safety	IEC 61010-1 / Cat. II 300 V	
Casing / Environment	270 x 213 x 63 mm – 1.8 kg / Storage -20°C to +60°C – operation 0°C to 40 °C	
Warranty / Origin	3 years / France	

### To order

<b>MTX1052-PC:</b>	Digital analyser-oscilloscope, Ethernet, 2 channels, 150 MHz, colour, SCOPEin@BOX PC software, mains power cable, 1/1 - 1/10 voltage probes - 200 MHz 300 V (x2), crossed Ethernet cable, straight Ethernet cable, USB A/B lead
<b>MTX1054-PC:</b>	Digital analyser-oscilloscope, Ethernet, 4 channels, 150 MHz, colour, SCOPEin@BOX PC software, mains power cable, 1/1 - 1/10 voltage probes - 200 MHz 300 V (x2), crossed Ethernet cable, straight Ethernet cable, USB A/B lead
<b>MTX162UE:</b>	MTX 162 oscilloscope delivered with 2 x 100 MHz probes (HX0210), 1 standard USB A/B lead, 1 removable mains power cable and a CD-ROM containing the PC software, the operating manual in 5 languages, the programming manual and the drivers
<b>MTX162UEW:</b>	MTX 162 WiFi oscilloscope delivered with 2 x 100 MHz probes (HX0210), 1 standard USB A/B lead, 1 removable mains power cable and a CD-Rom containing the PC software, the operating manual in 5 languages, the programming manual and the drivers
<b>MTX1050-PC:</b>	MTX 1050 spectrum analyser, 1 USB communication cable, 1 mains power cable, 1 CD-ROM containing the PC application software and the operating manual, 1 FM antenna with BNC connection
<b>MTX1032-B:</b>	1 differential probe, 2 x 50 MHz, delivered in casing with 2 BNC cables 20 cm long, 2 sets of PVC banana leads 1.10 m long, 1 European mains lead, 1 operating manual in 5 languages
<b>MTX1032-C:</b>	1 differential probes, 2 x 30 MHz, delivered in casing with 2 BNC cables 20 cm long, 1 set of 2 shielded BNC-banana cables 2 m long, 2 crocodile wire grips for probes, 1 European mains lead, 1 operating manual in 5 languages



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