

# MTX COMPACT

**Oscilloscope-Analyzers**  
**Generator-Measurer**  
**Multimeter-Analyzer**

**MTX 3252 - MTX 3352**  
**MTX 3240**  
**MTX 3250**



## So smart, you can choose them just for their looks!

- An innovative ergonomic design for unmatched comfort and user-efficiency; "Windows-like" environment and mouse control for the oscilloscope-analyzers
- A light and compact case having operations zones which are least twice as large as those of traditional instruments
- A display with see-it-to-believe-it dimensions and legibility; oscilloscope-analyzers: LCD colour, pivoting screen
- Technological alterations associating new, yet necessary features
- Digital calibration at 100% for controlled accuracy
- Completely programmable models per SCPI protocol
- Optional Ethernet network interface
- Assets that even appeal to the world of industry and technical education

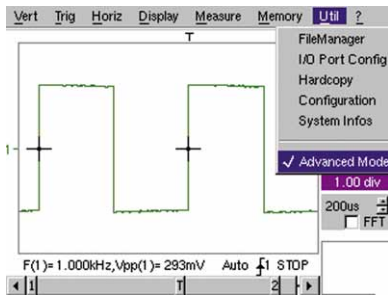
# MTX 3252 and MTX 3352: 60 and 100 MHz oscilloscope-analyzers

## Expert oscilloscopes for personalised communications...

Once the screen of the oscilloscope is up, communications are operative between the unit and the user who chooses both its mode and its control style.

### ● Mode:

The complex functions may be "hidden". Easily accessed using "Advanced Mode", they do not disrupt navigation, or analysis, in standard mode.

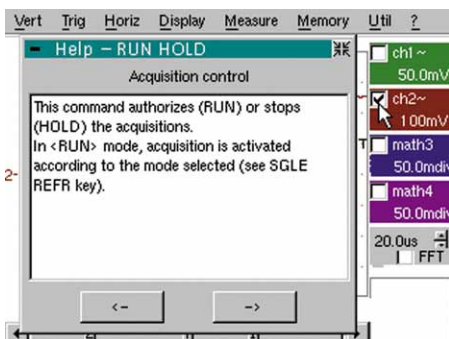


### ● Control style:

1- In "keyboard" use, you achieve record efficiency since twenty keys and the encoder enable direct access and adjustments on a very simplified front panel.

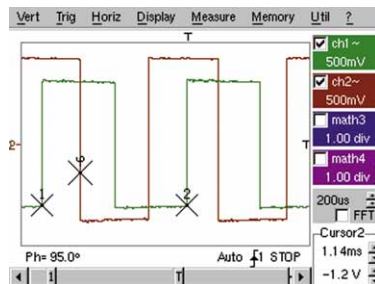


Furthermore, on-line help is available, at all times, for each function, and in five languages using the **?** key.

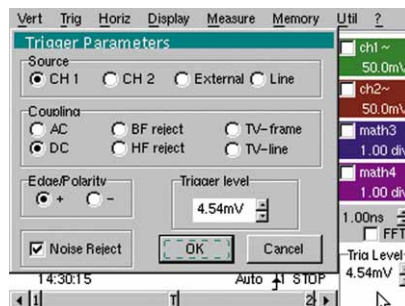


2 - Using the "mouse", you pull down menus in a "windows-like" users-friendly environment.

Oscilloscopes, high-performance instruments, are reputed as hard to access for neophytes or occasional users. Thanks to "Windows-like" ergonomics and its universal utilisation mode, unique for this category of instrument, use of the MTX 3252 and MTX 3352 is particularly accessible. The mouse is used to pull down the menus and navigate with ease; it is also used for direct and effective action on the graphic elements (cursors, trigger, trace position...). Cursors may be placed at any time on the signals to perform measurements as precise as they are varied, such as, for example, the phase shift between two signals. "Magnetised" to the curve, the encoder or the mouse moves them in one horizontal movement.



Genuine lists of the available functions, the menus are also used as learning tools and the "Pop-Up" windows present all of the adjustments at a glance.

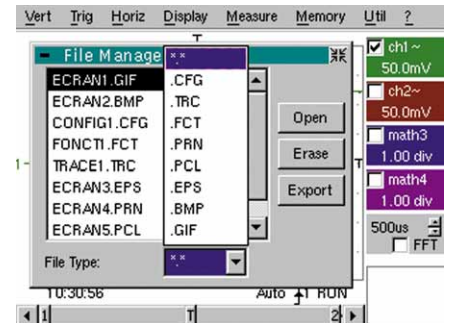
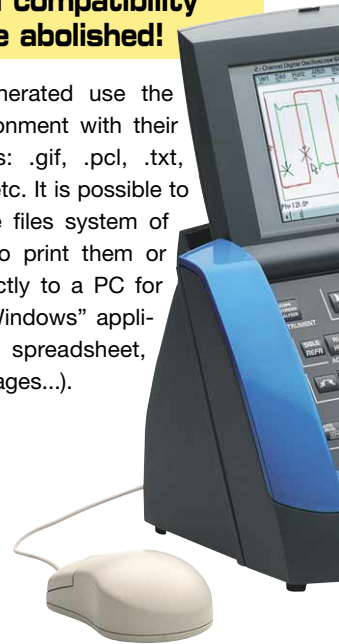


● The MTX 3352 and 3252 oscilloscopes are fitted standard with an RS232 link with a speed of 230 kbauds and the Centronics interface, essential to communicate with a printer or a PC.

● An optional Ethernet communications interface is also available.

## "Windows Like" environment: guaranteed compatibility and distance abolished!

● The files generated use the "Windows" environment with their standard formats: .gif, .pcl, .txt, .bmp, .eps, .prn etc. It is possible to save them in the files system of the instrument, to print them or export them directly to a PC for analysis using "Windows" applications (reports, spreadsheet, printable files, images...).



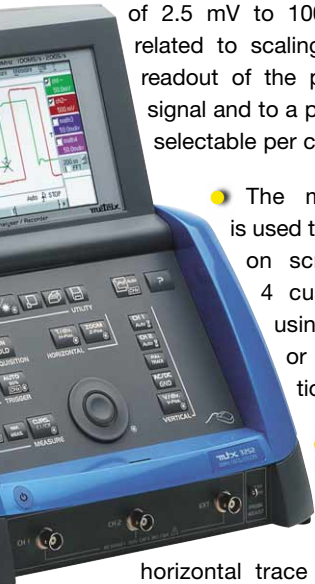
● A state-of-the-art device, the Ethernet network interface and the HTML server can be used for further enhancements (options): Using only the Ethernet address of the unit, with no additional software, the user can take charge of the oscilloscope(s) installed in the network. This can solve certain remote management problems in industrial environments, but also in teaching. Displaying these signals, controlling the instrument, sending messages to the different users, downloading curves, results or configurations. All operations and manipulations are accessible remotely, still with 100% "Windows" compatibility.

Light, compact and fitted with a handle, the instruments can also accompany professionals who need to move around as part of their jobs. A "field pack" can even be used for measurements and handling of the oscilloscope without removing it.

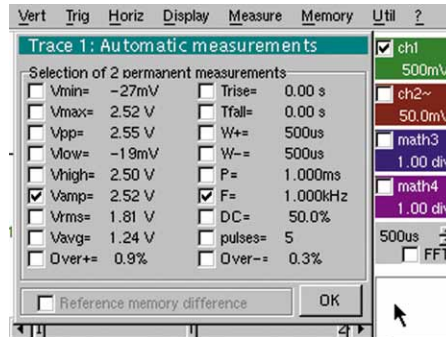



## Performance in everyone's grasp

- The exceptional vertical dynamic of 2.5 mV to 100 V per division is related to scaling on channels with readout of the physical unit of the signal and to a performant "Autoset" selectable per channel.
- The mathematics editor is used to display in real time on screen the result of 4 customised functions using acquired signals or in complete simulation.
- Thanks to its 50,000 count memory, reference in this category, its horizontal trace zoom, and unique vertical "winzoom", it can enlarge by a factor of 200, while displaying only the true points of acquisition. You can then take full advantage of its maximum sampling speed of 20 Gsam/s and its time base performance (1 ns at 200 s per division).



Remember that a memory depth 20 times larger than other oscilloscopes means a recording time 20 times longer or a sampling frequency 20 times greater!

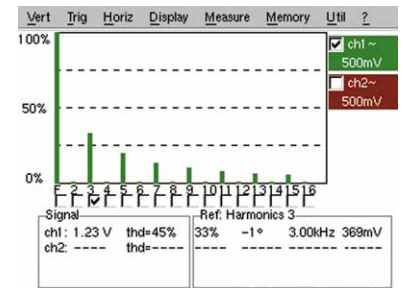


- The window of automatic measurements displays simultaneously the 18 parameters of the signal. For precise and unambiguous analysis, 2 markers display the portion of the signal on which the first automatic measurement selected was performed; you can then select another zone by framing it using the manual cursors.
- The fast comparison of two signals could not be simpler: after pressing the  key you compare directly the 2 traces and by checking "reference difference" you measure the differences of all the 18 parameters of the new signal.

## Integrated instruments for a "global" tool

Originally a tool for displaying signals, the oscilloscope has become a true analytical tool.

- Thus, the MTX 3352 and 3252 are capable of real time FFT and multichannel analysis of the signal.
- For users working more in the electrical engineering field, the analysis of 31-rank multichannel harmonics is proposed as an option.
- Finally, for all those who monitor the variations of physical or mechanical phenomena over time, a genuine fast digital logger can be integrated into the instrument, in the form of a software module.



### SPECIFICATIONS:

#### MTX 3252

#### MTX 3352

#### MAN -MACHINE INTERFACE

|                                   |                                                                                                                                                                          |         |
|-----------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------|
| Display                           | LCD monochrome or colour 5"7 – Backlit CCFL                                                                                                                              |         |
| N° of curves on screen            | 4 curves + 4 references                                                                                                                                                  |         |
| Controls                          | 20 direct short-cut keys + 1 encoder + 1 "integrated help" key<br>Windows-like menus – 100% control accessible via mouse<br>Choice of language by menu (FR/ENG/SP/IT/GE) |         |
| <b>VERTICAL</b>                   |                                                                                                                                                                          |         |
| Bandwidth                         | 60 MHz                                                                                                                                                                   | 100 MHz |
| N° channels                       | 2 class 1 channels– Cat. II 300 V                                                                                                                                        |         |
| Sensitivity                       | 2.5 mV –100 V/div + vertical "Winzoom" expansion                                                                                                                         |         |
| <b>HORIZONTAL</b>                 |                                                                                                                                                                          |         |
| Sweep speed                       | from 1 ns to 200 s/div                                                                                                                                                   |         |
| <b>TRIGGERING</b>                 | Auto, Normal, Single shot – CH1, CH2, EXT, LINE                                                                                                                          |         |
| <b>DIGITAL MEMORY</b>             |                                                                                                                                                                          |         |
| Max. sampling                     | Repetitive = 20 Gsam/s – Single shot = 100 Me/s                                                                                                                          |         |
| Capacity                          | 50,000 counts – 4 references + 4 50-k curves                                                                                                                             |         |
| <b>MODES</b>                      | GLITCH, ENVELOPE, AVERAGING, XY DIGITAL                                                                                                                                  |         |
| <b>OTHER FUNCTIONS</b>            | Complete Autoset, FFT and "MATH", cursors V / T / Phase, 18 automatic measurements                                                                                       |         |
| <b>LOGGER (option)</b>            |                                                                                                                                                                          |         |
| Acquisition rate                  | from 10 µs to 10 min sampling interval                                                                                                                                   |         |
| Analysis                          | Direct time stamping, conversion and physical quantity units, measurement by cursor and event search, files may be analysed on standard spreadsheets                     |         |
| <b>HARMONIC ANALYSER (option)</b> |                                                                                                                                                                          |         |
| Extent of analysis                | 31 ranks simultaneously on 1 or 2 channels                                                                                                                               |         |
| Analysis                          | Permanent display: total RMS value and THD – Selected Rank: %F, phase, freq., Vrms                                                                                       |         |
| Interfaces                        | RS232C, Centronics (standard)<br>Ethernet, HTML Server (options)                                                                                                         |         |

#### DIMENSIONS: (H X L X W) – Weight

170 x 270 x 190 – 2.5 kg

### Accessories and ordering information:

The oscilloscope is delivered with 1 European mains power cable, 1 set of leads, 1 mouse pad, 1 mouse, 1 CD-ROM. Guarantee: 3 years

#### To order

|                  |                      |                     |                   |                           |                                               |
|------------------|----------------------|---------------------|-------------------|---------------------------|-----------------------------------------------|
| <b>MTX3252-M</b> | Digital oscilloscope | 2 X 60 MHz, B & W   | <b>MTX3252E-M</b> | Digital oscilloscope      | 2 X 60MHz, B & W with Ethernet network link   |
| <b>MTX3252-C</b> | Digital oscilloscope | 2 X 60 MHz, Colour  | <b>MTX3252E-C</b> | Digital oscilloscope      | 2 X 60 MHz, Colour with Ethernet network link |
| <b>MTX3352-M</b> | Digital oscilloscope | 2 X 100 MHz, B & W  | <b>MTX3352E-M</b> | Digital oscilloscope      | 2 X 100 MHz, B & W with Ethernet network link |
| <b>MTX3352-C</b> | Digital oscilloscope | 2 X 100 MHz, Colour | <b>MTX3352E-C</b> | Digital oscilloscope      | 2 X 100 MHz, Colour                           |
| <b>HX0024</b>    | Field Transport Pack |                     | <b>HX0028</b>     | Harmonics analysis option |                                               |

# MTX 3240: the stand-alone generator-measurer

## A generator with innovative features

Its advanced technology allows each user to benefit from its new, yet essential functions:

- Frequency settings - guarantees stability to the nearest digit, and intelligent accelerator - with automatic range change for frequency



- Automatic range changing optimized for "LEVEL and OFFSET" amplitude



- Duty cycle adjustable without varying or dividing the frequency

- "LOGIC" function for a fast and simple answer to generating logic signals with directly adjustable thresholds



- A robust generator with protected 60 Vdc / 40 Vac outputs



## Associated features

Another advantage of these innovations: full functionality for the user's investment. The MTX 3240's associated features give it stand-alone implementation which means that, when simply testing settings, one can avoid the systematic use of an oscilloscope or multimeter.

- Frequency control loop and display
- AMPLITUDE Vpp (peak/peak) and OFFSET Vdc check and display
- Duty cycle check and display

The MTX 3240 is also a rational investment for it is also a 100 MHz frequency meter (Cat. I, 300 V), which means that it is not necessary to purchase an instrument that one doesn't use that often.

And in order to meet the user's expectations of automated systems in an economical way, a 100% programmable version of this generator exists via a rapid, SCPI-compatible link.



MTX 3240 with built-in frequency meter

### SPECIFICATIONS

| Display                                                        | Frequency range                                                                                    | Signal forms                                                          | Outputs                                                                                            | Sweep                                                                       | External frequency meter                                                                | Power supply                                          | Dimensions H x L x W                 | Interface MTX 3240-P |
|----------------------------------------------------------------|----------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------|----------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|-------------------------------------------------------|--------------------------------------|----------------------|
| LCD 50 x 140 mm<br>Main display 20 mm<br>4 variables at a time | 0.1 Hz to 5.1 MHz<br>7 ranges + fine-tuning to the nearest digit + accelerator<br>Accuracy: 0.05 % | Sine, square, triangle, pulse, ramp, TTL, LOGIC<br>Distortion < 0.5 % | 1) Main: up to 20 Vpp open circuit, automatic range<br>2) TTL Protection: overload 60 Vdc / 40 Vac | LIN or LOG<br>CONTINU<br>1: 50 Min<br>10 ms to 10 s<br>Internal or external | 0.1 Hz to 100 MHz<br>Accuracy: 0.05 %<br>Input 300V, Cat. I<br>Automatic responsiveness | 115 V - 230 V - 240 V<br>50 / 60 Hz<br>300 V, Cat. II | 170 x 270 x 190 mm<br>Weight: 2.8 kg | optical<br>RS232     |

### Accessories and information for ordering

**Standards:** safety as per IEC 61010-1, 2001 and EMC as per NF 61326-1, 1998

**Warranty:** 3 years

The MTX 3240 generator is supplied with a mains power cable, a user's manual and an interactive presentation of the instrument on CD-ROM.

**To order**

**MTX3240**  
**MTX3240-P**

Functions Generator 5.1 MHz

Functions Generator 5.1 MHz + RS232

Supplied with an RS232 optical link, a programming manual and Labwindows / Labview drivers on CD-ROM.

# MTX 3250: the built-in multimeter-analyzer

## A multimeter at the leading edge of modes

It all begins with a connection reduced to 3 terminals which limits maneuvers and errors and allows complete current "AUTORANGING" between 50  $\mu$ A and 20 A. Then with its 3-way display, the MTX 3250 gives measurement combinations that meet current applications simply and efficiently, as for example, bandwidth measurement (attenuation in dB and frequency display).

- For metrology control, the "SPEC" Mode calculates and displays the instrument's uncertainties according to the ranges and the measured value



- Mode **MATH** gives a direct reading of the measured quantity, as well as the corresponding physical unit

- "Surveillance" Mode **SURV** records the minima and maxima so to catch and date faults

- "RELATIVE" Mode, expressed in absolute, percentage or dB (ratio), makes direct operations

## Associated features

Like the generator of the same family, the MTX multimeter is an exceptional, multifunctional device. Thanks to its signal analysis, there is no need for the user to use other instruments (an oscilloscope for example) when verifying made measurements.

Impossible to make errors, which are so frequent and yet often ignored, due to very high crest factor. In fact, the MTX 3250 measures rapid peaks at 500  $\mu$ s non-stop and lets you know when it finds a fault. Better still, when "AUTO PEAK" Mode is validated, the multimeter automatically switches to the range best suited to the type of signal measured. Since crest factor is displayed, one can also make an initial quantitative diagnosis on signals.



The MTX 3250 is a rational investment for it is also a frequency meter, a thermometer and even a logger, which means that it is not necessary to purchase instruments that one doesn't use that often. Also for recording up to 4 channels and 12 parameters in the laboratory, the "data logger"



version of this multi-purpose instrument offer high-performance service with its associated PC software.



Temperature is measured directly starting from Pt 100 or Pt 1000, and in the same way that frequency is measured, up to 1 MHz, with period and duty cycle.



And in order to better meet the users' expectations of automated systems, a 100% programmable version of this instrument exists via a SCPI-compatible, RS232 optical link at 57,600 bauds.

## SPECIFICATIONS

| Display                                                   | Vdc ranges and basic accuracy        | Vac ranges and basic accuracy<br>Bandwidth                 | I dc ranges and basic accuracy            | I ac ranges and accuracy<br>Bandwidth            | Ohm ranges and basic accuracy              | Dimensions<br>H x L x W              | Interface<br>MTX 3250-P<br>MTX 3250-A |
|-----------------------------------------------------------|--------------------------------------|------------------------------------------------------------|-------------------------------------------|--------------------------------------------------|--------------------------------------------|--------------------------------------|---------------------------------------|
| 50,000 counts<br>LCD 50 x 140 mm<br>Backlit 3-way display | 500 mV - 500 V & 1000 V<br>0.08%L+3D | 500 mV - 600 V<br>0.5%R + 3D<br>(50,000 counts)<br>100 kHz | 500 $\mu$ A - 500 mA & 10 A<br>0.2%R + 3D | 5 $\mu$ A - 500 mA & 10A<br>0.5%R + 3D<br>10 kHz | 500 $\Omega$ - 50 M $\Omega$<br>0.1%L + 3D | 170 x 270 x 190 mm<br>Weight: 2.3 kg | optical RS232<br>57,600 bauds         |

- Other measurements: continuity test, diode test, 50 nF - 50 mF capacitance, frequency 1 Hz -1 MHz, duty cycle 0.01% to 100%, temperature - 200 to + 800°C, pt 100 and pt 1000.
- PEAK HOLD function: Pk+/- -500  $\mu$ s on I & V, crest factor
- Additional features: SURV = dated MIN/MAX / MATH = dB, dBm, ax+b / OFFSET (Offset, nil, delta%) / Data HOLD & Auto HOLD

- Additional features on the MTX 3250-P: PRINT, 0.5 s to 10 h rate, clock and calendar, RS232 optical drive
- Additional features on the MTX 3250-A: DATA LOGGER with 1,500 stored measurements, 1 or 3 values at a time.

## Accessories and information for ordering

**Standards:** safety as per IEC 61010-1, 2001 and EMC as per NF 61326-1, 1998

**Warranty:** 3 years

The MTX 3250 multimeter is supplied with 1 mains power cable, 1 set of measurement leads, a user's manual and an interactive presentation of the instrument on CD-ROM.

### To order

**MTX3250** 50,000-count Benchtop Multimeter

**MTX3250-P** 50,000-count Benchtop Multimeter + RS232

Supplied with an RS232 optical link, a programming manual and Labwindows / Labview drivers on CD-ROM.

**MTX3250-A** 50,000-count Benchtop Multimeter + Logger

Supplied with an RS232 optical link, a programming manual and Labwindows / Labview drivers and the SX-DMM data logger software on CD-ROM.



# Efficiency displayed with elegance

## An attractive structure and a shape that makes room

The MTX family's appealing and modern design, which is especially compact, will fit perfectly into your workspace.

Placed directly on a counter top, their design leaves great room in front of them. Their height has been calculated so they fit nicely in half-shelf spaces. Having a standard length and not very deep, they can be placed on top of another instrument.

Since they have a built-in handle and are light in weight, these instruments are easy to displace and carry.

## A leader in technology, innovative to the fingertips

The qualities of the MTX do not limit themselves to their looks.

With the latest 16 or 32-bit microprocessors, a downloadable software and a 100% digital calibration, these instruments are smart too. As for safety, a resettable electronic protection eliminates the need for the mains fuse on certain models.

All the models in the MTX Compact family can be fitted with high-performance communications interfaces and communication standard SCPI.

Even the selection keyboard is the latest in technology with its microswitch contacts that have an exceptionally long life span: more than 100,000 maneuvers. The markings on the keys are made with permanent laser engraving.

With the MTX family, Metrix makes it possible for each professional to access instruments which are the best of the best.

## A user-friendly, man-machine interface with exceptional legibility

Even at a distance or in poor light (sun, neon), the measurements are perfectly readable, perfectly legible thanks to its large (50 x 140 mm), dark background display and adjustable led-matrix backlighting as well as the exceptional height of the main display of 20 mm (MTX 3240 and MTX 3250).

The very attractive adjustable LCD screen of the MTX 3352 and MTX 3252 is available in monochrome and colour versions, with also excellent legibility.

Situated on the front panel, the operations zones of the whole MTX Compact family are large, coherent, and organized; and the measurement connections are easily accessible.

On the generator and multimeter, primary functions are selected directly with keys that are marked with their function and a led. A high-performance encoder makes it possible to make settings, and contextual keys located at the edge of the screen clearly show the configuration.

In addition to direct access via the keyboard, the oscilloscope is also controlled via the mouse, under a "Windows-like" environment, facilitating learning. Unprecedented in this device category.



Characteristics subject to modifications according to technological developments.

# metrix®

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