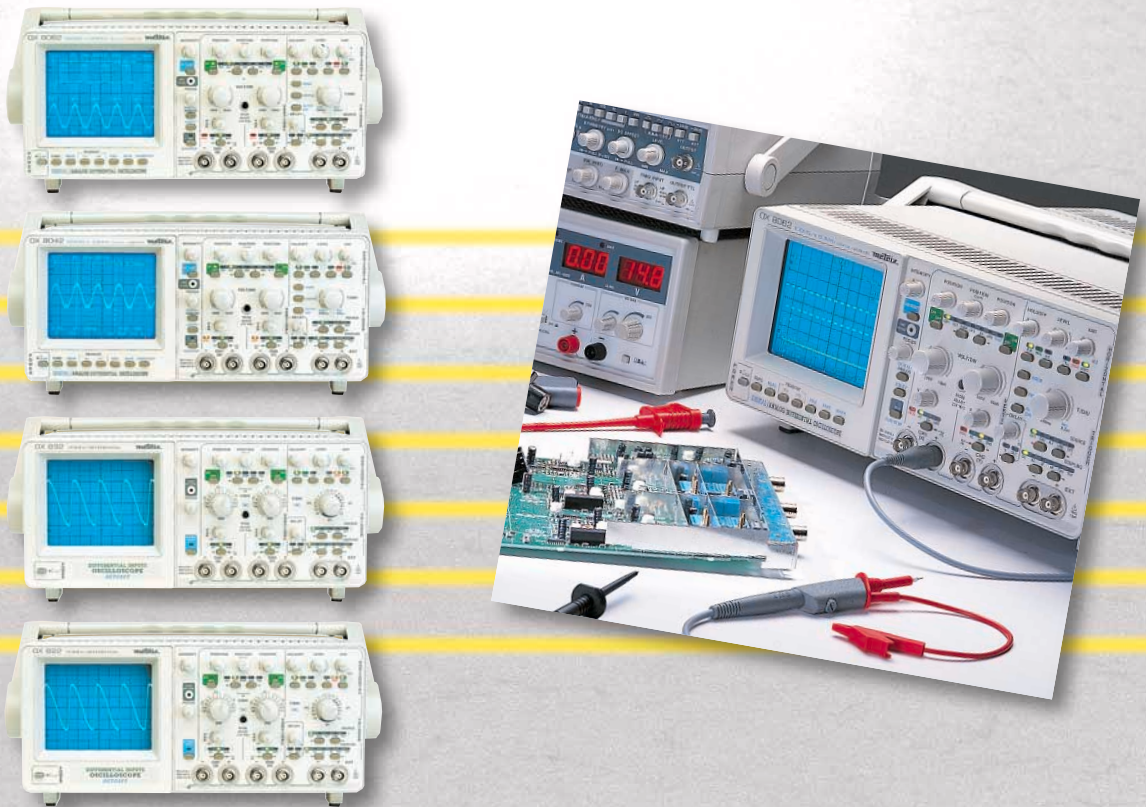


# Mixed and analogue differential oscilloscopes



Metrix dares to offer a unique, global solution

- Two in one: operation of each channel in differential or traditional mode
- Standard delivery includes FFT and harmonics analysis
- A unique level of protection: IEC 61010, Cat.III, 300 V – Cat.II, 600 V
- Unequaled input dynamic: 10 mV/div. to 200 V/div. in 14 calibres
- Differential inputs: 600 V<sub>max</sub> on the inputs, up to 600 V common mode
- A complete family: 2 analogue models, 2 digital/analogue models
- For applications up to 60 MHz

# OX 8062 - OX 8042 - OX 822: Mixed and analogue differential oscilloscopes

The only genuine protection against dangerous voltages

In today's world, nobody can ignore safety any more. But are you always sure that the voltage measured is earthed? Do you always have a single reference potential for the 2 channels? If you look objectively at the various cases of measurement on site, whether in electronics or the electrotechnical field, you will see that it is often necessary to set up a costly and complex assembly. With METRIX's differential-input oscilloscopes, no need to use accessories to observe the signals superimposed on the mains signal or to analyze the command voltage and the output from any circuit at the same time, with a common mode voltage of up to 600 V.

IEC 61010, Cat.III, 300 V Cat.II, 600 V, what could be better?

The OX 8062, OX 8042, OX 832 and OX 822 oscilloscopes can be used in the laboratory or on site, even in difficult industrial environments, as shown by their installation category...



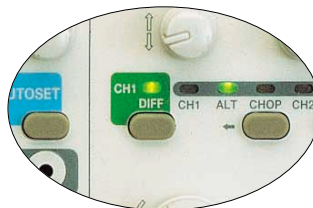
Only METRIX oscilloscopes are suitable for such a wide range of uses.



Oscilloscope on site

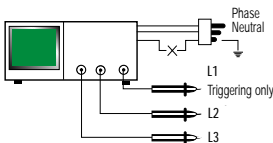
Change the mode as you want

With no danger, it is possible to switch from one operating mode to the other at any time simply by pressing a button. This flexibility will be particularly appreciated for electronic applications that use miniature probes.

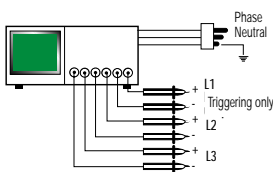


Each channel operates independently in differential or conventional mode. All you have to do to choose the mode is press a key.

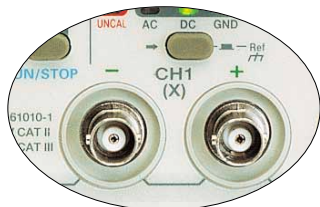
With a conventional oscilloscope



With a differential oscilloscope



Example of use of a differential oscilloscope

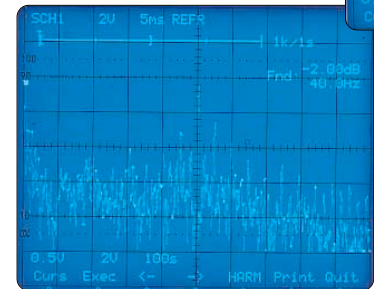


In differential mode, one BNC connector corresponds to the + terminal and another to the - terminal. In conventional mode: CH1- and CH2- are inhibited

Up to 200V/div. without accessories

Whether the signal amplitude is high or low, the OX 8062, OX 8042, OX 832 and OX 822 offer a sufficiently wide dynamic range (from 10 mV/div. to 200 V/div.) for measurement without probes. More savings and more flexible use!

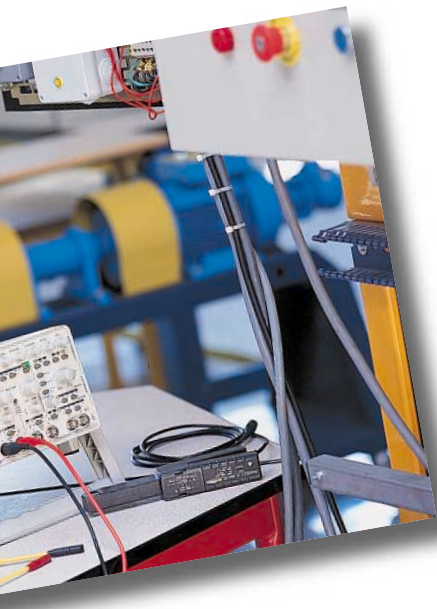
The FFT and harmonics analysis displays particularly distinctive because of the way the cursor moves and the nature of the information indicated on the screen.



A complete family

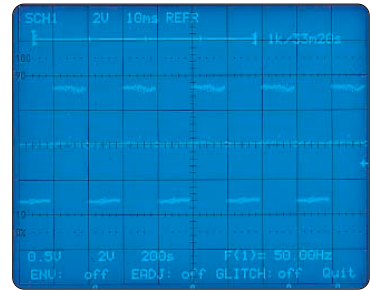
With the OX 8062, OX 8042, OX 832 and OX 822 oscilloscopes, METRIX gives users the opportunity of choosing the instrument best suited to their requirements: for repetitive, relatively low-frequency signals, the OX 832 and OX 822 provide an excellent price/quality ratio; for repetitive or other signals, when their shape or the events preceding triggering have to be memorized, the OX 8062 and OX 8042 stand out because of their bandwidths of 60 and 40 MHz respectively.



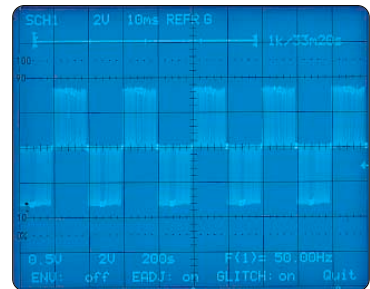


## Print quality equal to display quality

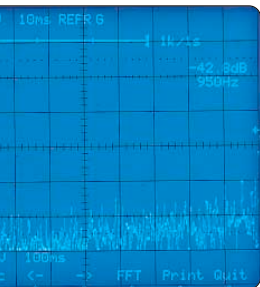
The sampling concept quickly demonstrates its limits when the signal includes steep rises and falls. The solution currently used involves interpolating dots between them (METRIX EADJ dot-join function). Although this process has been around for some time, its extension to printing is much rarer. Unlike many oscilloscopes, the OX 8062 and OX 8042 offer the same quality of representation for display and printing (subject to the performance of your printer).



Representation of rapid rises and falls on screen without the EADJ function.

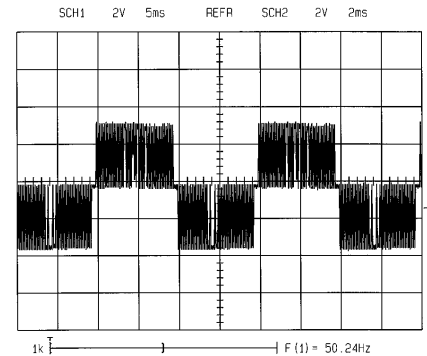


Same signal with the EADJ function.



## A wide range of digital functions

As well as their 5 cursors, the OX 8062 and OX 8042 propose up to 17 automatic measurements. Their "GLITCH" mode, for capturing parasites, and "ENVELOPE" mode, for storing the minimum and maximum values of several successive acquisition operations, allow a large number of events to be displayed. Lastly, because RS 232 and Centronics links are standard features, users can take advantage of the possibilities offered by digital techniques: analysis and processing on PC by the SX-METRO software, direct printout of the screen on a printer, etc.



Printout of the same signal

## Standard delivery includes FFT and harmonics analysis

The two digital models in the range include the FFT function, for studying the frequency breakdown of the signal, and harmonics analysis, both as standard features.

In FFT mode, the cursor follows all the signal counts, each time indicating the amplitude (in Volts or dB) and the frequency.

In harmonics mode, the cursor automatically jumps from one overtone to the next, indicating the number of the overtone, its amplitude as a percentage of the fundamental and its frequency.

This representation of the harmonics is richer than a conventional bar display. In particular, it even works on MLI-type signals.

## Accessories and ordering information

### Accessories included

Each oscilloscope is delivered with 4 screened BNC/Banana safety leads (2x AG0484), a mains lead and a user's manual.

### Optional accessories

|                   |  |
|-------------------|--|
| <b>AE0189</b>     | Carrying bag                                   |
| <b>HA1255</b>     | RS 232 interface for OX 822                    |
| <b>SX-METROV3</b> | Data acquisition and processing software       |
| <b>HA1342</b>     | Safety probe 1/10 -250 MHz                     |
| <b>HA1315</b>     | Switchable probe 1/1, 1/10 - 150 MHz           |
| <b>AM0030N</b>    | Current probe 100 A AC/DC - 100 mV and 10 mV/A |
| <b>AM0031N</b>    | Current probe 600 A AC/DC -10 mV and 1 mV/A    |

### To order

|                   |   |
|-------------------|---|
| <b>OX8062-CFG</b> | Digital differential oscilloscope 2 x 60 MHz  |
| <b>OX8042-CFG</b> | Digital differential oscilloscope 2 x 40 MHz  |
| <b>OX0832-CFG</b> | Analogue differential oscilloscope 2 x 30 MHz |
| <b>OX0822-CFG</b> | Analogue differential oscilloscope 2 x 20 MHz |

| TECHNICAL SPECIFICATIONS                                  | OX 8062   | OX 8042   | OX 832/OX 822                              |
|---|---|---|--|
| <b>• Vertical deviation</b>                               |   |   |  |
| Bandwidth   | Analogue: >30 MHz<br>Digital: >60 MHz                 | Analogue: >20 MHz<br>Digital: >40 MHz                 | >30 MHz (OX 832)<br>>20 MHz (OX 822)       |
| Cathode ray tube  | 14 kV   | 2 kV  | 2 kV                                       |
| Number of channels  | 2 Differentials<br>2 BNCs per channel                 | 2 Differentials<br>2 BNCs per channel                 | 2 Differentials<br>2 BNCs per channel      |
| Input impedance   | 1 M $\Omega$ / 12 pF                                  | 1 M $\Omega$ / 12 pF                                  | 1 M $\Omega$ / 12 pF                       |
| Max. input voltage  | 600 V Differential                                    | 600 V Differential                                    | 600 V Differential                         |
| Sensitivity   | 10 mV – 200 V/div.                                    | 10 mV – 200 V/div.                                    | 10 mV – 200 V/div.                         |
| Continuous gain adjustment                                | 1 to 2.5  | 1 to 2.5  | 1 to 2.5                                   |
| Operating modes "Normal"<br>(CH1, CH2 or CH1 & CH2.)      | CH1, CH2, ALT, CHOP,<br>ADD, MULT, XY                 | CH1, CH2, ALT, CHOP,<br>ADD, MULT, XY                 | CH1, CH2, ALT, CHOP,<br>ADD, XY            |
| Operating modes "Differential"<br>(CH1, CH2 or CH1 & CH2) | CH1, CH2, ALT, CHOP,<br>ADD, MULT, XY                 | CH1, CH2, ALT, CHOP,<br>ADD, MULT, XY                 | CH1, CH2, ALT, CHOP,<br>ADD, XY            |
| <b>• Horizontal deviation</b>                             |   |   |  |
| Time bases  | 1 + Delay   | 1 + Delay   | 1 + Delay                                  |
| Scan speed  | Analogue: 20 ns-200 ms/div<br>Digital: 5 ns-200 s/div | Analogue: 50 ns-200 ms/div<br>Digital: 5 ns-200 s/div | 50 ns-200 ms/div                           |
| L.V. expansion (Ana.)                                     | 10  | 10  | 10   |
| L.V. continuous adjustment (Ana.)                         | 1 to 2.5  | 1 to 2.5  | 1 to 2.5                                   |
| Analogue XY mode  | 2 MHz   | 2 MHz   | 2 MHz                                      |
| HOLD-OFF  | 1 to 10   | 1 to 10   | 1 to 10                                    |
| Z modulation  | 4 MHz   | 4 MHz   | 4 MHz                                      |
| <b>• Triggering</b>                                       |   |   |  |
| Source  | CH1, CH2, ALT, LINE, EXT                              | CH1, CH2, ALT, LINE, EXT                              | CH1, CH2, ALT, LINE, EXT                   |
| Coupling  | AC, DC, LFR, HFR,<br>TVV, TVH                         | AC, DC, LFR, HFR,<br>TVV, TVH                         | AC, DC, LFR, HFR,<br>TVV, TVH              |
| Sensitivity   | Int.: 0.7 to 2 div.<br>Ext.: 100 to 400 mV            | Int.: 0.7 to 2 div.<br>Ext.: 100 to 400 mV            | Int.: 0.7 to 2 div.<br>Ext.: 100 to 400 mV |
| <b>• Digital memory</b>                                   |   |   |  |
| Max. sampling rate  | Single-shot: 100 Msam./s<br>ETS: 20 Gsam./            | Single-shot: 100 Msam./s<br>ETS: 20 Gsam./s           | -  |
| Memory capacity   | 2x (1, 8 or 16K)                                      | 2x (1, 8 or 16K)                                      | -  |
| Vertical resolution                                       | 8 bits  | 8 bits  | -  |
| Converters  | 2   | 2   | -  |
| FFT and harmonics analysis                                | Yes   | Yes   | -  |
| Glitch mode   | 20 ns   | 20 ns   | -  |
| Envelope mode   | Yes   | Yes   | -  |
| Triggered Roll Mode                                       | Yes   | Yes   | -  |
| Digital XY mode   | 20 MHz  | 20 MHz  | -  |
| <b>• Specific features</b>                                |   |   |  |
| AUTOSET   | Yes   | Yes   | Yes  |
| Compensation of probe ratios                              | 1/1, 1/10, 1/100                                      | 1/1, 1/10, 1/100                                      | -  |
| Cursors (analogue and digital)                            | Vt, 1/t, phase  | Vt, 1/t, phase  | -  |
| Auto. measurements (ana. and digi.)                       | 17  | 17  | -  |
| <b>GENERAL SPECIFICATIONS</b>                             |   |   |  |
| Memorized configuration                                   | 1   | 1   | 1  |
| READOUT   | Yes   | Yes   | -  |
| Interfaces  | RS232C and Centronics                                 |   | RS232C option = HA1255                     |
| Interface drivers   | PC + Printers   |   | -  |
| Power supply  | 110-230 V $\pm$ 10% / 50-60Hz                         |   | 110-230 V $\pm$ 10% / 50-60Hz              |
| Dimensions / Weight                                       | 435 x 330 x 163 mm / 7 kg                             |   | 435 x 330 x 163 mm / 6.5 kg                |
| IEC 61010 safety  | Cat.III 300 V / Cat.II 600 V Class 1                  |   | Cat.III 300 V / Cat.II 600 V Class 1       |
| Warranty  | 24 months   |   | 24 months                                  |

Characteristics subject to modifications according to technological developments.

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For assistance and ordering

