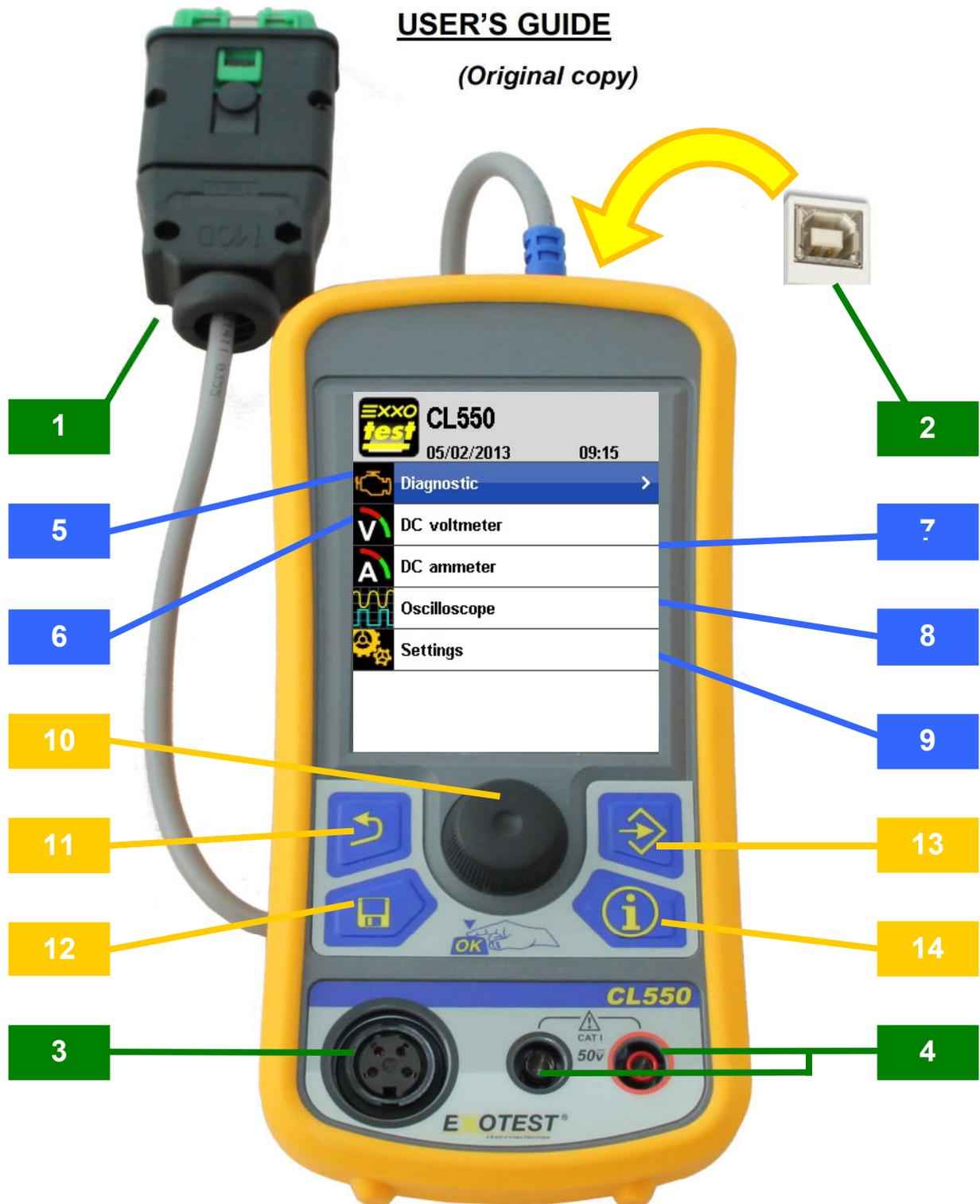


## MULTIFUNCTION DIGITAL CONTROLLER CL550

For automobile diagnostics Oscilloscope, Voltmeter, EOBD reader

### USER'S GUIDE

(Original copy)



(Key on last page)

[www.exxotest.com](http://www.exxotest.com)

**WARRANTY: 2 years parts and labour**  
48h-repair on return to factory, shipping paid  
by sender

Document N° 00297502-v1

**ANNECY ELECTRONIQUE S.A.S.**

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WARNINGS AND PRECAUTIONS FOR USE  
READ CAREFULLY BEFORE USING THE CL550

**To ensure that the CL550 is used safely and to prevent damage to the device:**

- Use the CL550 in full respect of the instructions given in this manual, to avoid damaging its built-in protection.
- Do not use the CL550 if the device or its measuring cords are damaged, or if the device does not seem to be working correctly.
- Check that the CL550 is operating correctly by measuring a known voltage. If there is any doubt - have the equipment checked.
- Never apply a voltage higher than 50V to the measurement terminals.
- Do not use the device in the vicinity of explosive gases, steam or dust.
- Respect all safety instructions concerning the equipment being tested.

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## 1. GENERAL PRESENTATION

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### CONNECTING THE DEVICE

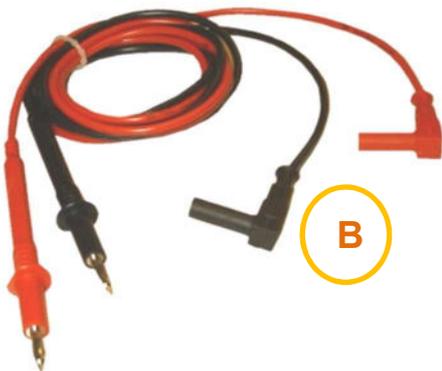
The EXXOTEST® CL550 digital controller can be used in different ways:

#### - EOBD reader:

In this case, connect the CL550 to the diagnostic port of the vehicle inspected. This mode uses the device's EOBD connection (item **A**).



#### - Voltmeter, Oscilloscope:



The voltage readings require the use of one or both of the measuring wires provided (item **B**).

#### - Power supply:

If the EOBD reader is not used, the CL550 can be powered directly by the vehicle battery, using the adapter provided (item **C**).

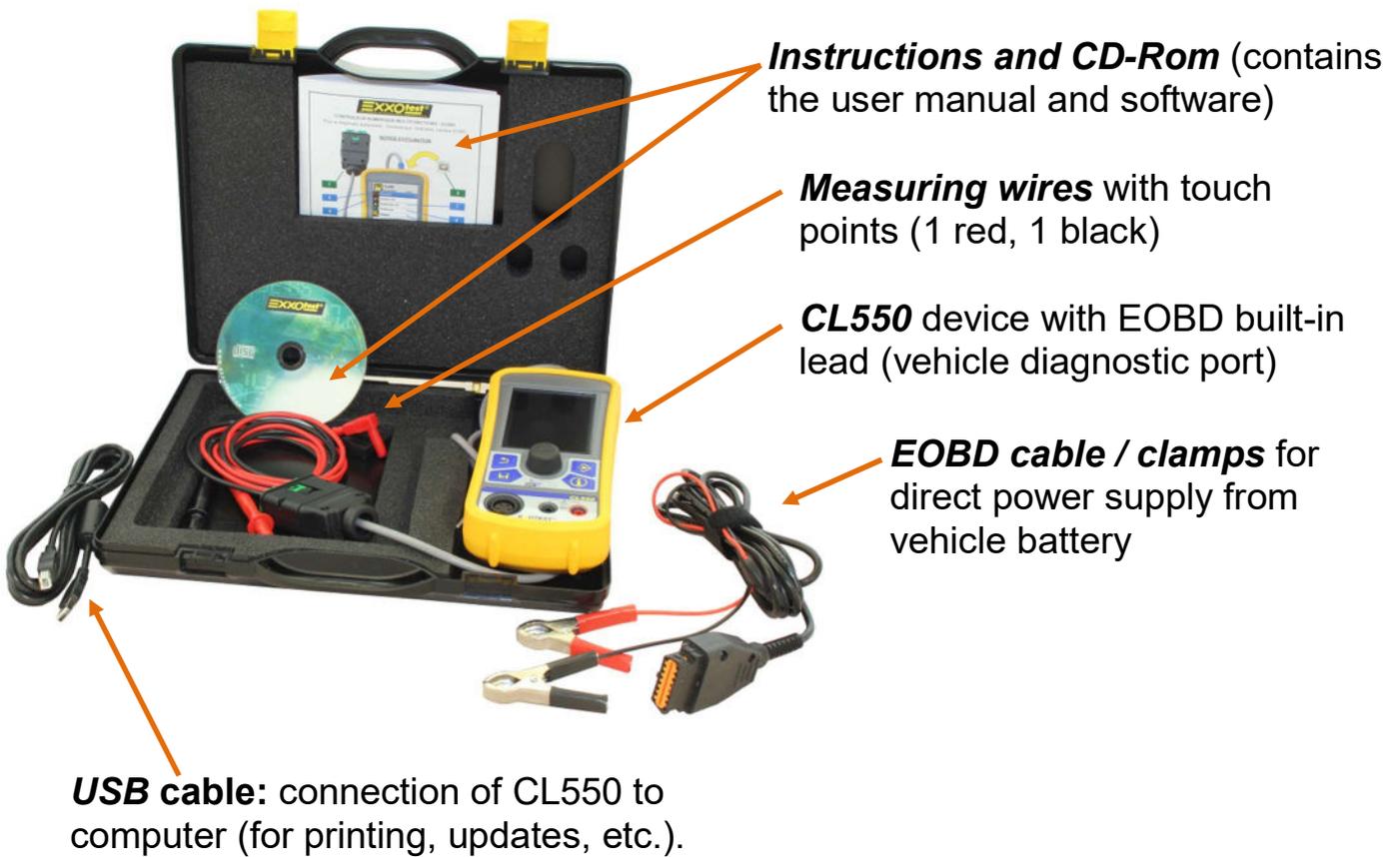


#### - Dialogue with PC:



The USB cable (item **D**) enabling dialogue with a computer and the **USBCapture** software are also provided in the case with the CL550 device.

## CONTENTS OF CL550 CASE



Once connected to the vehicle (diagnostic port or battery), or to the computer (USB port), the **CL550** emits an audible signal and displays the home screen:

*The device is ready for use*

## AVAILABLE OPTIONS

- Optional cord (**AMUX-COBD3-L**): used to power the CL550 from the 4 mm terminals featured on training mock-ups or stabilised power supply.



- Ammeter clamp (ref.: **PA25**)

## 2. MAIN SCREEN

When the **CL550** device is powered up, it emits an audible signal and the home screen is displayed. The first line **Diagnostic** is selected by default (see illustration).



Use the centre button (item 10) to browse the device menus.

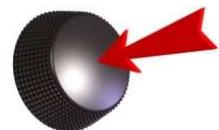
**Select:**

Rotate the selector button to move the cursor.



**Confirm:**

Press the selector button to access the mode selected.



**The menu selected is highlighted in blue:  
in the example above: Diagnostic is selected.**

## CONTROL BUTTONS

### Back:

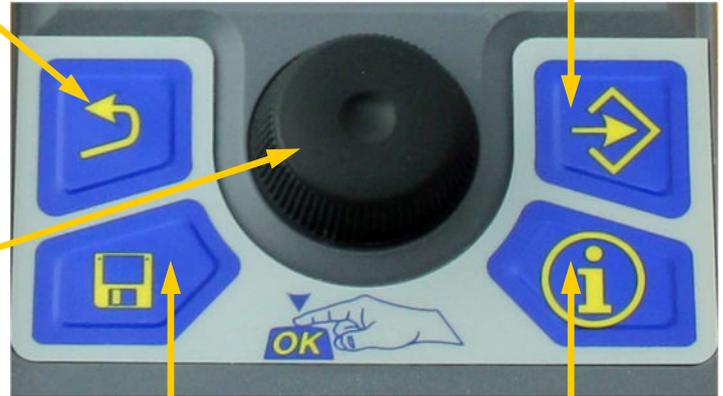
Closes a menu or quits the current mode.

### Settings:

Shortcut to Settings menus (general or oscilloscope).

### Selector button:

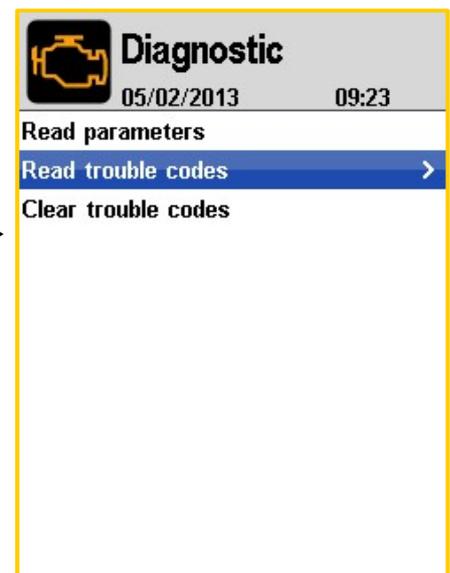
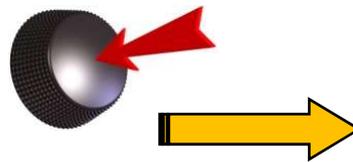
Rotate to change the selection  
Press to confirm the selection



Inactive buttons

## 3. DIAGNOSTIC FUNCTION

The diagnostic function is selected by default when the device is powered-up. Press the centre button to enter this mode:

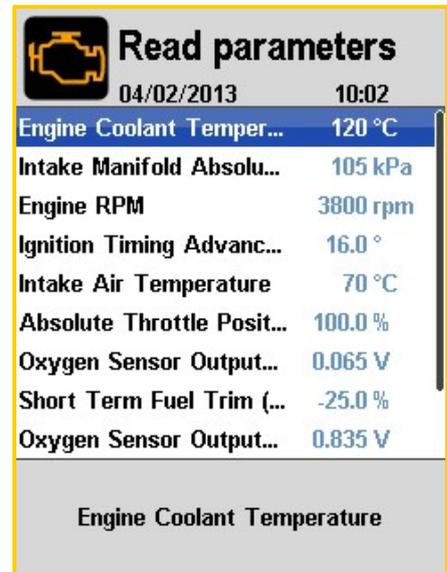
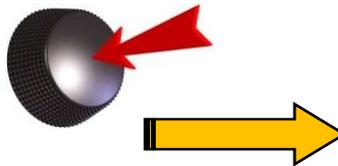
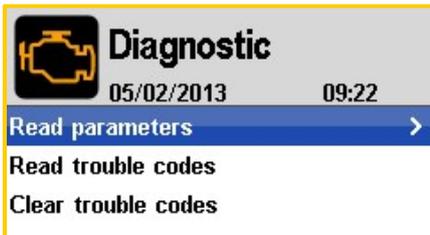


If the following screen is displayed, several situations are possible:



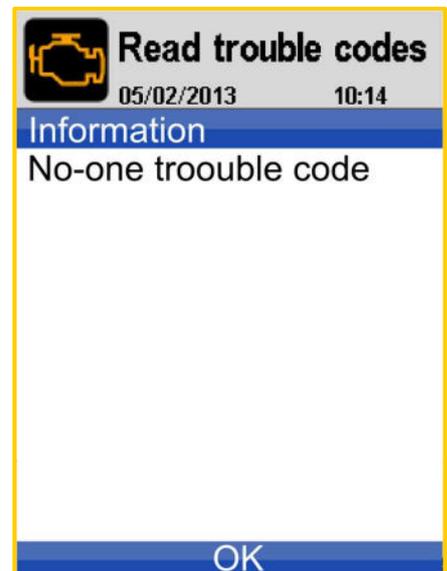
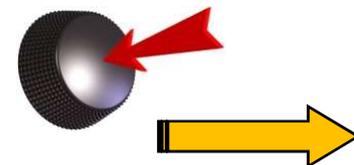
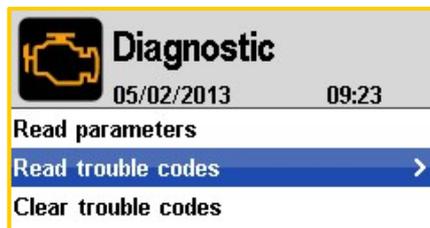
- ✓ Either the EOBD port is not connected, or
  - ✓ The vehicle (or equipment) connected does not use the EOBD standard, or
  - ✓ The vehicle ignition is off.

Once the device is connected, three choices are available:



**- Read parameters:**

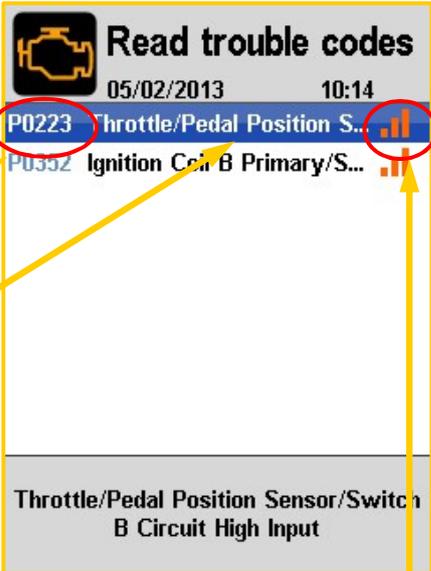
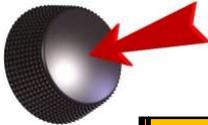
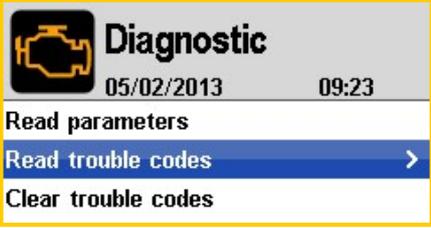
The parameters returned by the vehicle are displayed; the selected parameter is described in the bottom part of the screen.



**- Read fault codes** without the presence of faults:

If the engine management system queried is operational, the message 'No fault code' is displayed. Otherwise, the faults present are listed (see next page).

✓ **Read fault codes** with presence of faults:

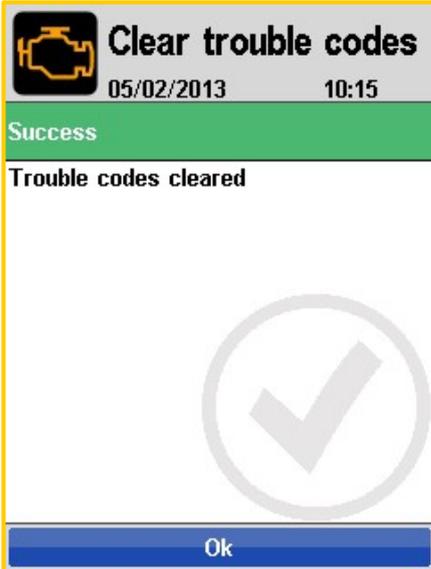
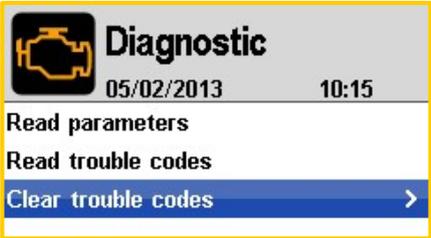


Number of fault code

Description of fault code

Full description of the fault code **selected**

Fault code level: transient, awaiting confirmation or confirmed.



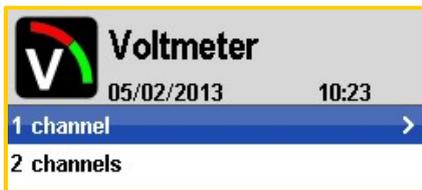
**- Erase fault codes:**  
Select this line and confirm to erase fault codes, confirmation is shown in the illustration.

## 4. DC VOLTMETER FUNCTION

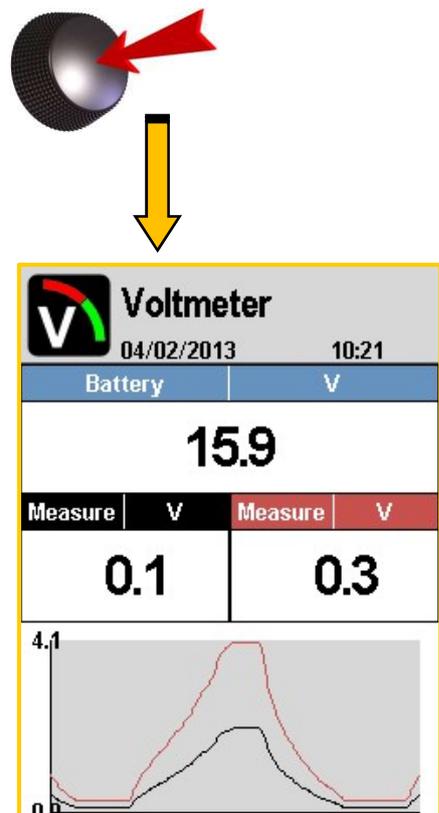
Select the **DC Voltmeter** mode on the main screen (rotate the centre button to reach it) and confirm (press the centre button) to be presented with two possibilities: 1 channel or 2 channels



Use the red wire to measure a single voltage in relation to the battery Earth (1 channel) or the red and black wires to measure two distinct voltages in relation to the battery Earth (2 channels).



OR



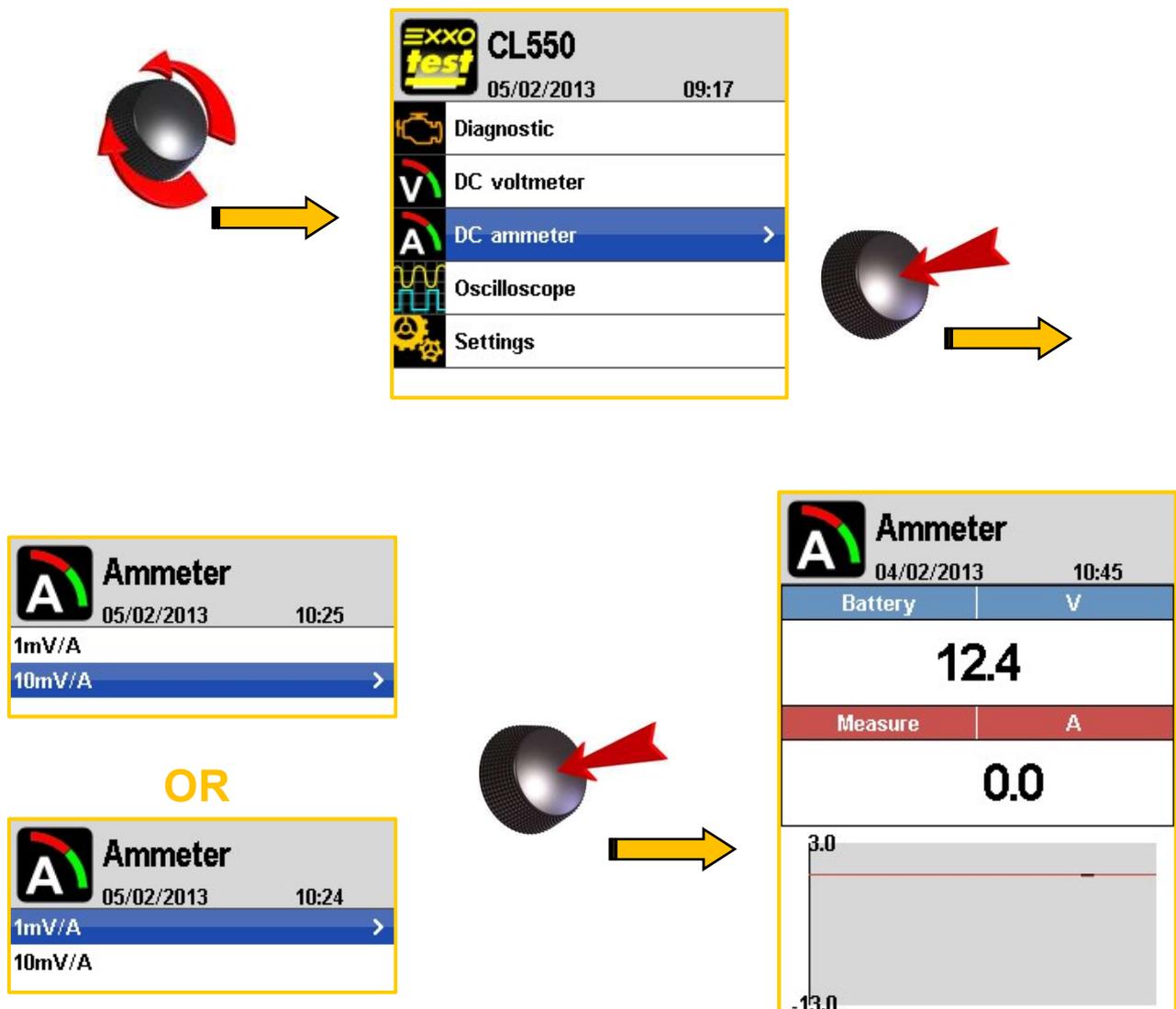
✓ **DC Voltmeter**, additional information:

In 1 channel mode, the measurement is taken by default in relation to the battery Earth, but it may pertain to the difference in potential between the two inputs (red in relation to black), if the black terminal is connected to another potential than the battery Earth.



## 5. DC AMMETER FUNCTION

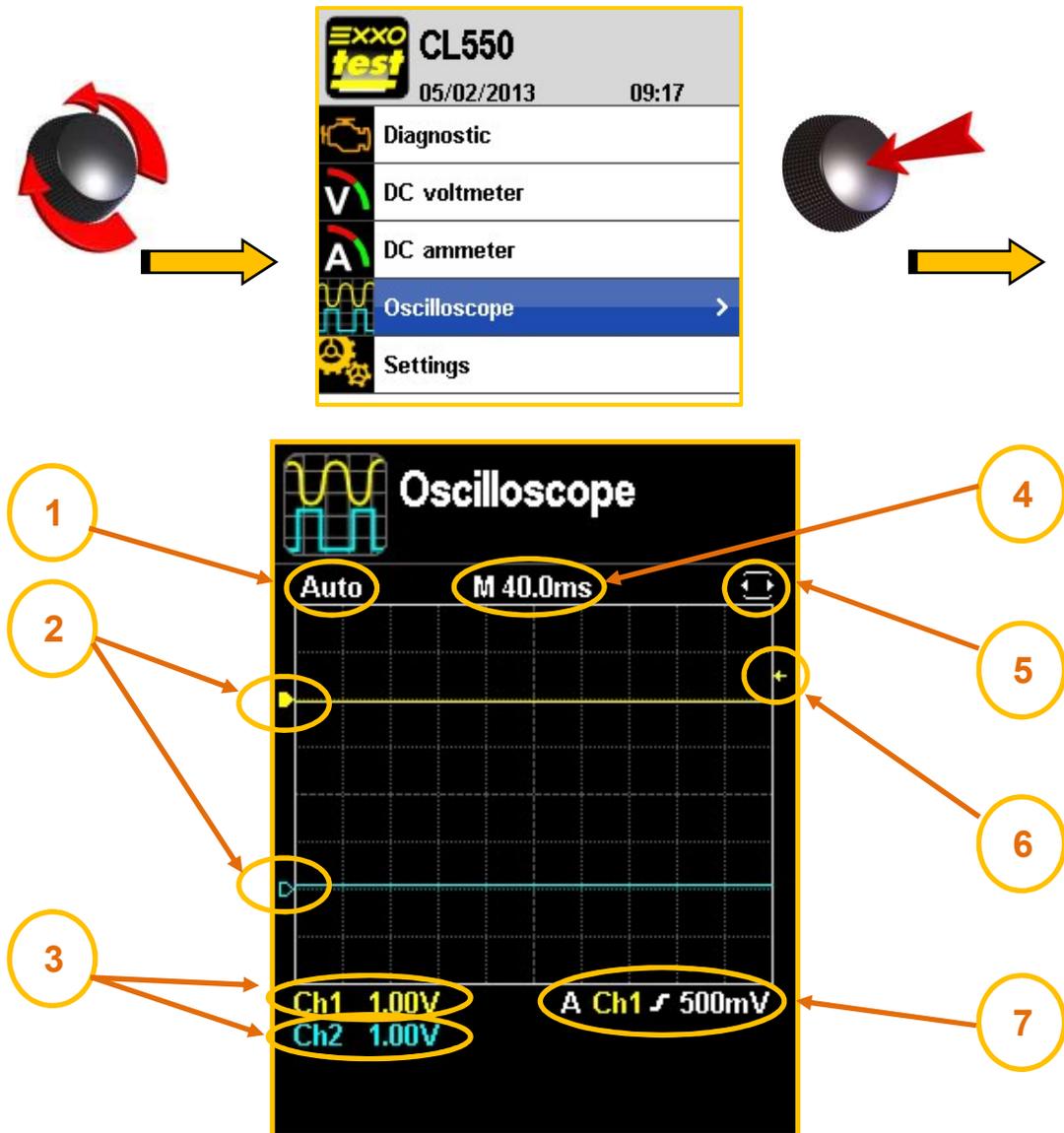
Select the **DC Ammeter** mode on the main screen (rotate the centre button to reach it) and confirm (press the centre button) to be presented with two calibrations (depending on the ammeter clamp used and the intensity measured): 1 mV / A or 10 mV / A.



✓ **The DC Ammeter mode** requires the use of an ammeter clamp that is not supplied with the CL550 device (see options on page 5).

## 6. OSCILLOSCOPE FUNCTION

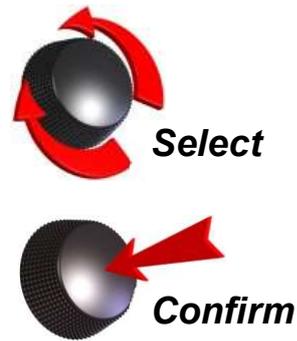
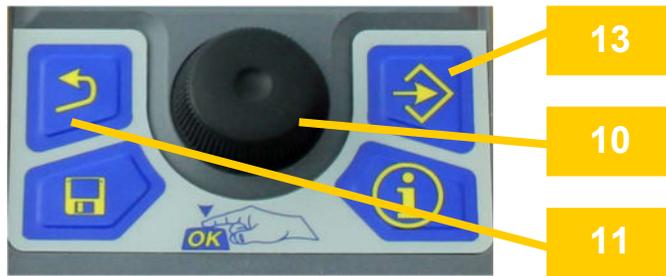
Select the **Oscilloscope** mode on the main screen (rotate the centre button to reach it) and confirm (press the centre button) to be presented with two traces.



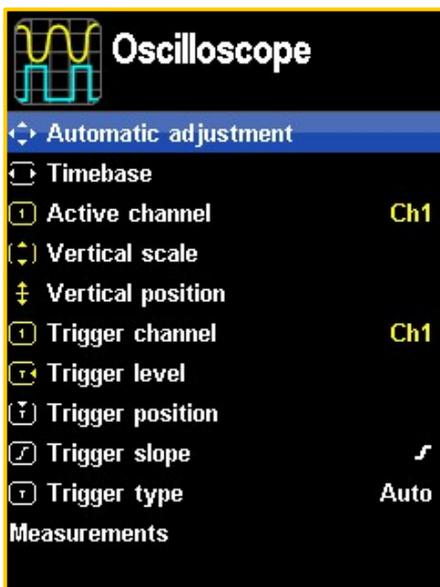
*The configuration details are indicated at the top and bottom of the oscilloscope:*

1. Trigger mode: Normal or Auto Stop indication when acquisition is paused
2. Position of trace 1 (yellow line, red terminal) / trace 2 (blue line, black terminal)
3. Calibration of channel 1 (in yellow) and calibration of channel 2 (in blue)
4. Time base (from 100  $\mu$ s to 10 sec).
5. Indication of current setting: icon same colour as signal concerned
6. Trigger level
7. Trigger channel, type of edge, trigger level (in V), trigger position (in %)

## CONFIGURING SETTINGS



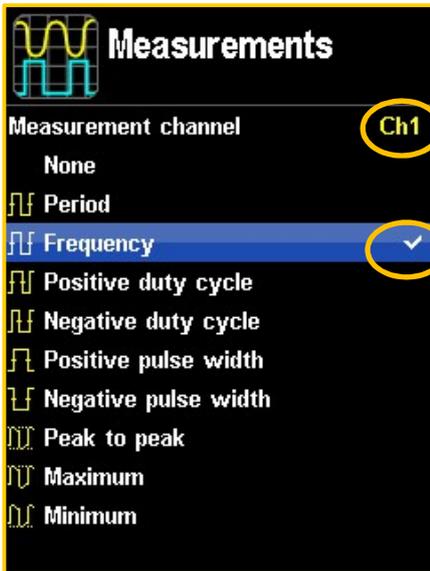
Press button **13** to view the oscilloscope settings menu (press again to close the menu). Use the centre button **10** to select and confirm a setting. Use button **11** to return to the previous screen.



- **Automatic setting:** the CL550 automatically manages the trace display.
- **Timebase:** serves to define the time scale for traces (possible values from 100  $\mu$ s to 10 sec).
- **Active channel:** selects the channel on which you wish to adjust the settings.
- **Calibration:** defines the calibration assigned to the active channel (possible values from 500 mV to 10 V).
- **Trace position:** serves to modify the position of the active channel trace.
- **Trigger channel:** selects the trigger channel (channel 1 or channel 2).
- **Trigger level:** defines the voltage level at which measurement will be triggered.
- **Trigger position:** positions the trigger point on the trigger channel.
- **Trigger edge:** defines whether measurement is triggered on the rising edge  or falling edge  on the trigger channel.
- **Trigger type :** select the trigger mode: Auto or Normal
- **Measurements:** selects the measurements to display (see next page).

## SELECTING MEASUREMENTS, PAUSE FUNCTION, EXAMPLES

Select and confirm the menu choice **Measurements** in the previous screen and confirm one of the 4 lines proposed, then you will be able to:

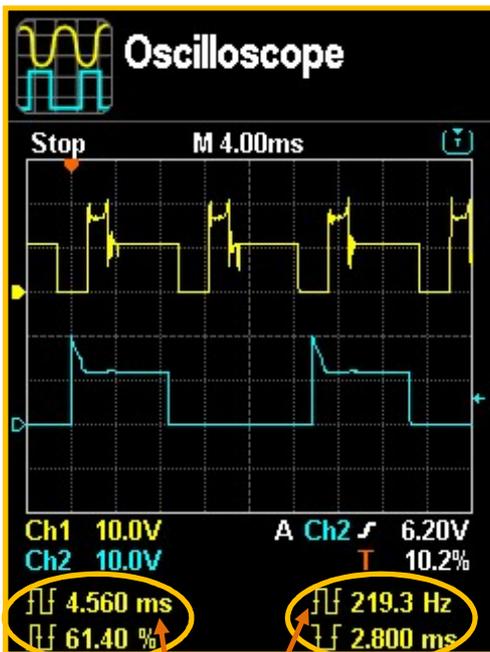


Select the channel for which you wish to display the measurement,

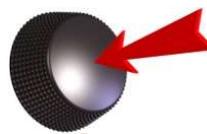
Select a measurement amongst those proposed.

Define one measurement then use the **Back** button (item 11, p.13) to define another.

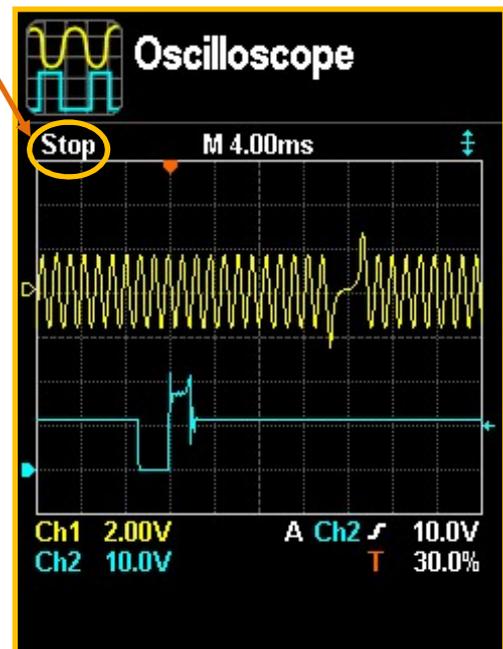
Press the **Menu** button (item 13, p.13) to return to the oscilloscope.



The pre-defined **measurements** are displayed at the bottom of the screen.



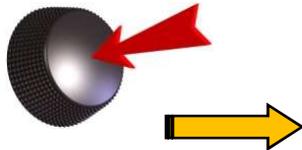
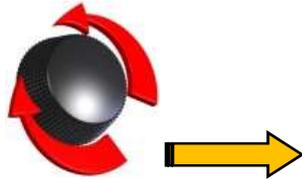
While taking a measurement, press the centre button once to pause the oscilloscope, press it again to restart.



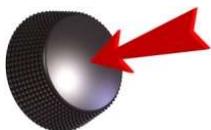
## 7. SETTINGS MENU

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From the home menu:



Rotate the centre button to move the cursor and make your selection.



Press the same button to confirm your settings.

## 8. USE WITH A COMPUTER

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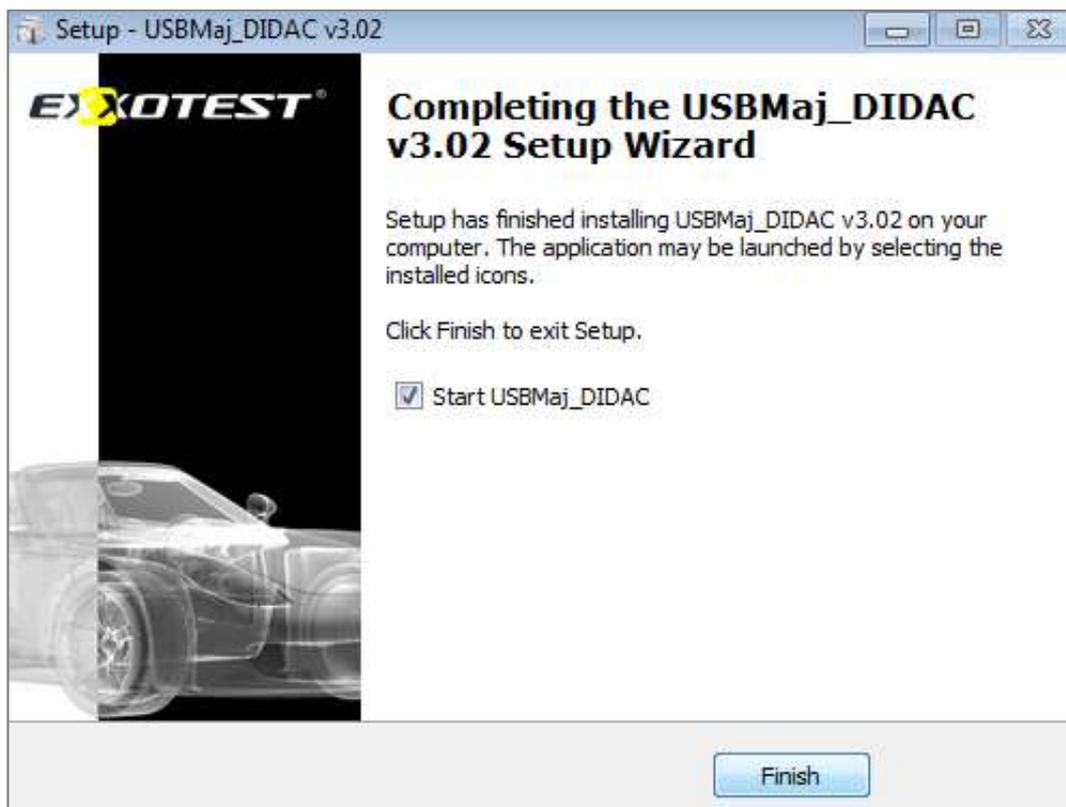
### INSTALLING THE DRIVER

The CD-Rom provided with the CL550 device contains 3 executable files.

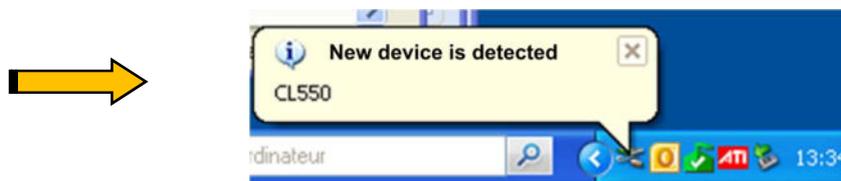


But before connecting the device to a PC using the USB cable supplied, you need to install the device driver. To do so, double-click the file 'Exxotest\_driver\_Setup....exe'.

The install wizard will start and asks you to select the installation language. Then validate a succession of screens to reach that shown below:



Once the installation is complete, you may connect the CL550.



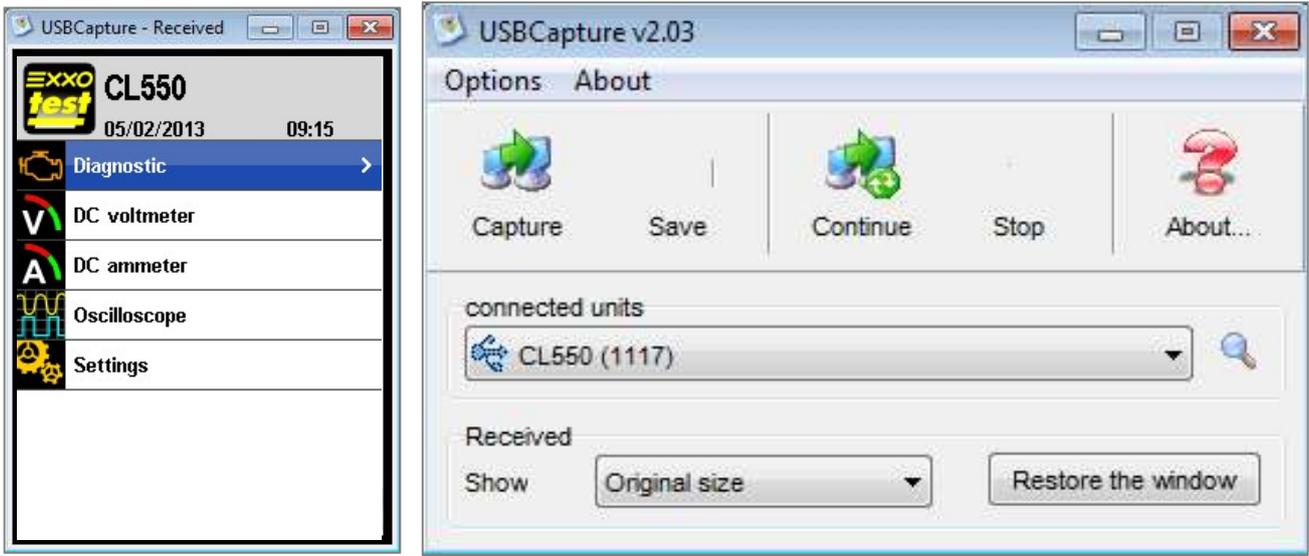
## INSTALLING THE USB CAPTURE SOFTWARE

The CD-Rom supplied with the CL550 device contains the following program

### *USBCapture\_Setup\_....exe*

Double-click the .exe file and complete the installation steps.

When installation is complete, run the software. When the CL550 is connected using the USB cable, the following windows appear:



- The magnifying tool to the right of **Connected devices**, serves to recognize the device if it was not connected when the software was opened.
- The serial number of your device appears alongside the product name.
- The parameters in **Preview** serve to centre and enlarge the preview window (x2 or x3 zoom).





- Click this icon to refresh the preview.

**Important note:** for the oscilloscope windows, you also need to press one of the CL550 buttons!



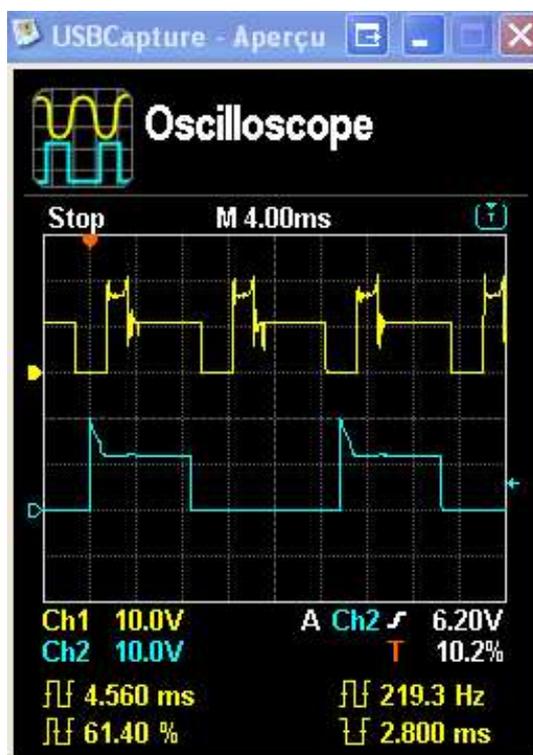
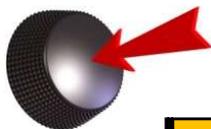
- Used to save the screen display as an image.



- Continuously refreshes the screen preview of the CL550  
(in this case, it is not possible to save the image).



- Stop continuous reading.



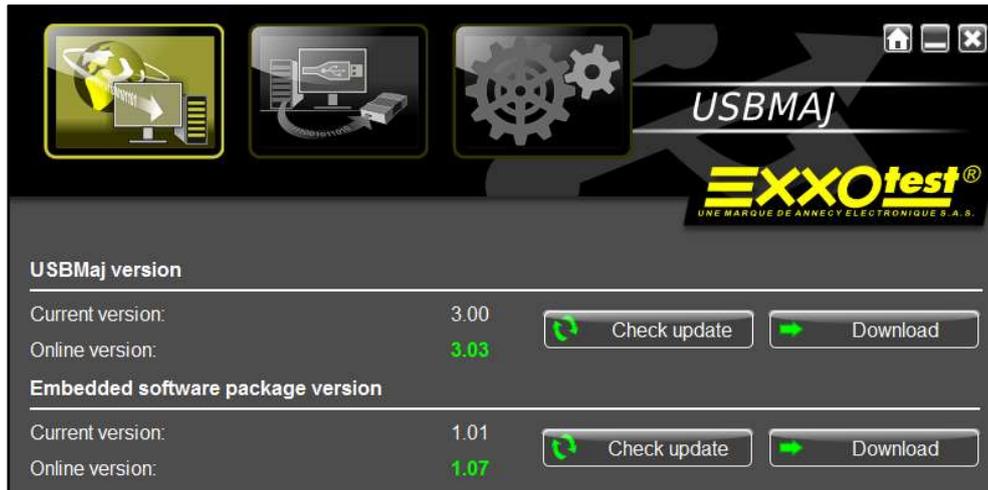
## INSTALLING THE USB UPDATE SOFTWARE

The CD-Rom supplied with the CL550 device contains the following program

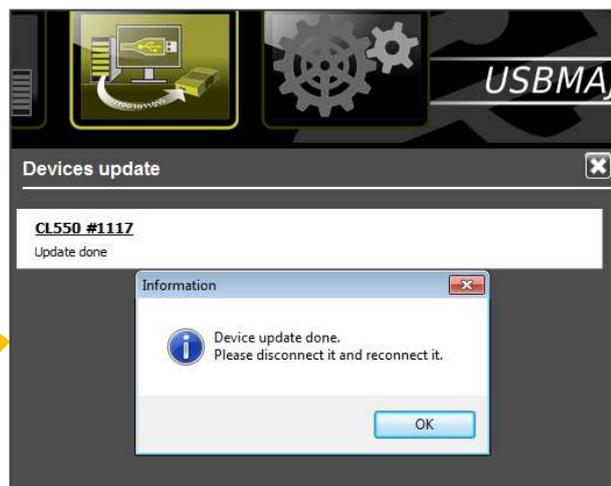
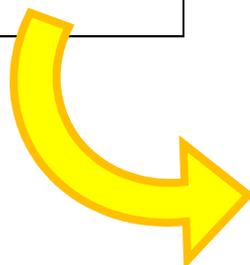
### ***Setup\_USBMAj\_DIDAC.exe***

Double-click the .exe file and complete the installation steps.  
When installation is complete, run the software.

When the CL550 is connected using the USB cable, the following windows appear:



*This program updates  
your **CL550** device  
online.*



## 9. TECHNICAL SPECIFICATIONS

<b>GENERAL SPECIFICATIONS</b>	
Power supply	On the vehicle diagnostic port or on the battery: +7V to +36V On USB port: +5 V +/-0.25 V
Display	3.5" colour screen 1/4 VGA 240 320
PC connection	High speed USB 2.0 link
Max. admissible voltage on measurement terminals	50 V DC
Reference temperature	23°C +/-2°C
Operating temperature	From -20°C to +70°C
Storage temperature	From -30°C to +80°C

<b>BATTERY VOLTAGE MEASUREMENT (CL550 power voltage)</b>			
Range	Reading resolution	Accurate from -20°C to +70°C	Impedance
0 to 36 V	0.1 V	0.25V	7,3 kΩ

### VOLTAGE MEASUREMENT

with black and red terminals (item **4** on cover page),  
in relation to power supply Earth

Range (full scale)	Reading resolution	Accurate from -20 to 70°C	Impedance
-15 V to +15 V	0.01 V	+/-0.25 V	2 MΩ
-50 V to +50 V	0.01 V	+/-0.25 V	2 MΩ

### VOLTAGE MEASUREMENT

red terminal in relation to black terminal  
(item **4** on cover page)

Range (full scale)	Reading resolution	Accurate from 18 to 28°C	Accurate from -20 to 70°C	Impedance
-15 V to +15 V	0.01 V	+/-3 mV	+/-15 mV	2 MΩ
-50 V to +50 V	0.01 V	+/-50 mV	+/-150 mV	2 MΩ

### AMMETER

with DC/DC clamp on black and red terminals  
(item **4** on cover page)

Range (full scale)	Reading resolution	Accurate from 18 to 28°C	Accurate from -20 to 70°C	Impedance
+/-2 V	1 mV	+/-0.25 mV	+/-1.5 mV	2 MΩ

### DUAL-TRACE OSCILLOSCOPE MEASUREMENT

with black and red terminals  
(item **4** on cover page)

Scale	Time base	Sampling frequency	Bandwidth
0.5 / 1 / 2 / 5 / 10 Volt / division	from 100 μs to 10 sec	500,000 samples/sec	50 kHz

## EOBD READING II

Physical connections	ISO 9141-1 (ISO) ISO14230-1(KWP2000) ISO15765-2 (DiagOnCan)
Communication protocols and OBD modes	SAE J1979 (April 2002)/ISO 15031-5 (April 2002) ISO 9141-2 (ISO) ISO14230-1(KWP2000) ISO15765-2 (DiagOnCan)
Known fault codes	SAE J2012 / ISO 15031-6
OBC connector	SAE J1962 / ISO 15031-3
PC function	Update via USB
Measurement units	Metric
Communication speed	10.4 kbit/s on ISO links and KWP2000 250 kbit/s or 500 kbit/s on the CAN link

## 10. CE DECLARATION OF CONFORMITY

**ANNECY ELECTRONIQUE S.A.S**  
Parc Altaïs – 1, rue Callisto  
74650 CHAVANOD – FRANCE



Declares that the following product:

Brand	Model	Description
EXXOTEST®	CL550	Multifunction digital controller

### I. Has been manufactured in accordance with the requirements of

- EMC Directive 2004/108/EC - 15/12/2004

*and satisfies the requirements of the following standard:*

- NF EN 61326-1 dated 07/1997 +A1 of 10/1998 +A2 of 09/2001, Electrical measurement, control and laboratory equipment, EMC-related requirements.

### II. Has been manufactured in accordance with the requirements of the European Directives relating to EEE design and WEEE management for the EU :

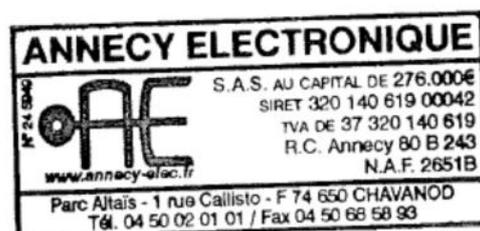
- Directive 2002/96/EC dated 27 January 2003 on Waste Electronic and Electrical Equipment (WEEE)
- Directive 2002/95/EC dated 27 January 2003 on the limitations for the use of certain hazardous substances in the construction of Electronic and Electrical Equipment (EEE).

### III. Person authorised to present technical files in the EU:

SORLIN Stéphane, Parc Altaïs, 1 rue Callisto 74650 Chavanod.

Drawn up in Chavanod on 01 October 2012,

CEO - Stéphane SORLIN



A handwritten signature in blue ink, appearing to be 'Stéphane Sorlin', written over the right side of the company stamp.

	ITEM	DESCRIPTION
CONNECTIONS	1	EOBD 16-channel connector for communication with the vehicle and/or device power supply
	2	USB port for communication with a PC
	3	Specific connector for future options
	4	Connection terminals for measurement cables 1 and 2 or the ammeter clamp
MAIN MENU	5	<b>Diagnostic</b> mode: <i>ODB Reader</i> function
	6	<b>Voltmeter</b> mode: Voltage measurements (channel 1, channel 2 and Battery voltage)
	7	<b>Ammeter</b> mode: intensity measurements using an ammeter clamp (1 mV/A or 10 mV/A)
	8	Dual-trace <b>Oscilloscope</b> mode
	9	<b>Settings</b> menu on CL550
CONTROL BUTTONS	10	Rotate the <b>centre</b> button to browse the choices on the screen and press to confirm.
	11	The <b>Back</b> button serves to close a menu or a window, or to quit the current mode.
	12	<b>Save</b> button: currently inactive
	13	The <b>Menu</b> button serves to display the oscilloscope settings.
	14	<b>Print</b> button: currently inactive.

*Description of device presented on cover page.*

[www.exxotest.com](http://www.exxotest.com)

**WARRANTY: 2 years parts and labour**  
48h-repair on return to factory, shipping paid  
by sender

Document N° 00286130-v1

**ANNECY ELECTRONIQUE S.A.S.**

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