

## Recorder Mode



*It is best if the oscilloscope is plugged into the mains to operate in this mode (battery life).*

### The Keys



This key selects “**Recorder**” mode.

### 5 “UTILITY” keys (or keypad)



LCD **light** setting (see “Oscilloscope” mode).



**Full screen** display (see “Oscilloscope” mode).



Take a **screen shot** (see “Oscilloscope” mode).



No action.  
(Pressing this key displays the message: “Impossible in this mode!”).

### 1 “AUTOSET” key



No action.  
(Pressing the key displays the message: “Impossible in this mode!”).

### Selective “AUTOSET”



No action.  
(Pressing the key displays the message: “Impossible in this mode!”).

### 4 “TRIGGER” keys



No action.  
(Pressing the key displays the message: “Impossible in this mode!”).



Successively pressing the key toggles through the different types of **trigger** of the last channel selected (see § Trigger Menu).



No action.  
(Pressing the key displays the message: “Impossible in this mode!”).



This key has two functions:

**RUN** = launches an acquisition

**HOLD** = stops an acquisition

If the recorder is in memory display (see §. Memory Menu → Recall “.REC”), the message “Impossible in this mode!” appears when this key is pressed.

## Recorder Mode (cont'd)

### 3 "MEASURE" keys



Particular case

The 19 **automatic** measurements of the reference trace are displayed (see "Oscilloscope" mode).

In "fault capture" mode, if the screen shows several faults at once, the "automatic measurement" function is impossible and the message "Impossible in this mode!" is displayed.



Selection, from the traces displayed, of the **reference** trace for automatic and manual measurements (see "Oscilloscope" mode).



No action.  
(Pressing the key displays the message: "Impossible in this mode!")

### 3 "HORIZONTAL" keys (or keypads)



Setting of **recording** time and **sampling** interval.  
These two values are correlated.



- Fault capture is **not selected**:
  - ↳ After zooming in, the "Z-Pos." setting modifies the position of the screen in the acquisition memory.
- Fault capture is **selected**:
  - ↳ If the horizontal zoom is activated, the "Z-Pos." setting allows the user to move through the faults one at a time. The main cursor is positioned on the displayed fault while the auxiliary cursor is on the right of the screen.

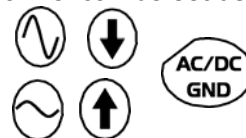


- Action identical to that in "Oscilloscope" mode, when fault capture and is **not selected**.
- Fault capture is **selected**:
  - ↳ 1st press: "Zoom on" → displays the first acquired fault.  
The main cursor is positioned over the trigger, on the magnified fault while the auxiliary cursor is on the right of the screen.
  - ↳ 2<sup>nd</sup> press: "Zoom off" → 10 consecutive faults are displayed on the screen.  
The cursors are no longer displayed.

**Definition of terms used**  
(id. "Oscilloscope" mode)

**Validated** channel: Display enabled, trace displayed after RUN  
**Displayed** channel: Channel validated, trace present on the screen  
**Selected** channel:






The parameters of this channel can be set using the following keys:





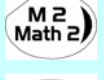
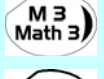
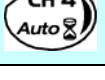
## Recorder Mode (cont'd)

### 5 "VERTICAL" keys (or keypads)

OX 7xx4

Stage 1	Stage 2	Stage 3
<b>Before</b> pressing one of the keys shown opposite:	<b>Press</b> 	<b>After</b> pressing one of these keys:
The signal concerned is not displayed.		The signal is displayed and selected.
The signal concerned is displayed but not selected.		The vertical sensitivity and vertical position are allocated to the selected channel.
The signal concerned is displayed and selected.		The signal is erased by double pressing.
		

OX 7xx2

Stage 1	Stage 2	Stage 3
<b>Before</b> pressing one of the keys shown opposite:	<b>Press</b> 	<b>After</b> pressing one of these keys:
The signal concerned is not displayed.		The signal is displayed and is selected.
The signal concerned is displayed, but not selected.		On CH1 and CH4, the vertical sensitivity and vertical position are allocated to the selected channel.
The signal concerned is displayed and selected.		The signal is erased by double pressing.
		



Deselecting the signal: 2 short taps on the key concerned (see opposite).



A long press does not trigger a vertical autoset. After a long press the message: "Impossible in this mode!" appears.




This key enables or disables the **horizontal dividing into 2 parts** of the display area (see "Oscilloscope" mode).



No action.

(Pressing the key displays the message: "Impossible in this mode!").

In "Recorder" mode, the DC input coupling is constant. The DC symbol  is permanently displayed.



To set the vertical **sensitivity** of the last channel selected (see "Oscilloscope" mode).

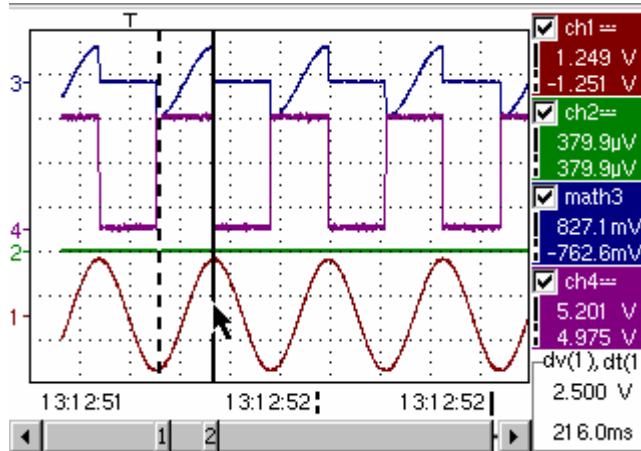


To set the vertical **position** of the last channel selected (see "Oscilloscope" mode).

## Recorder Mode (cont'd)

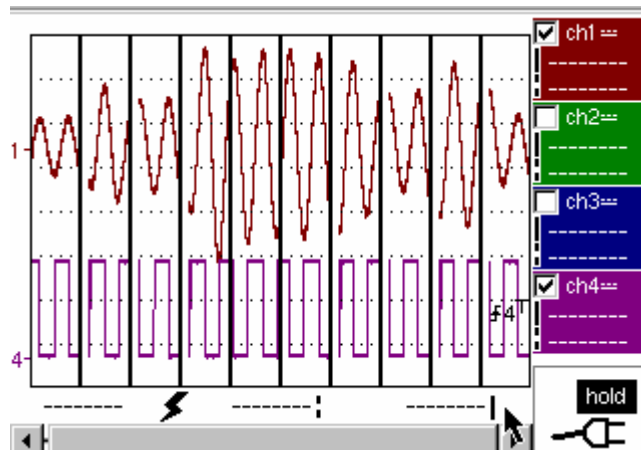
### Display

*Normal mode display*



The user views 500 points on the screen (in "MIN/MAX" mode) to eliminate the risk of information loss involving the 50,000 points in the memory.

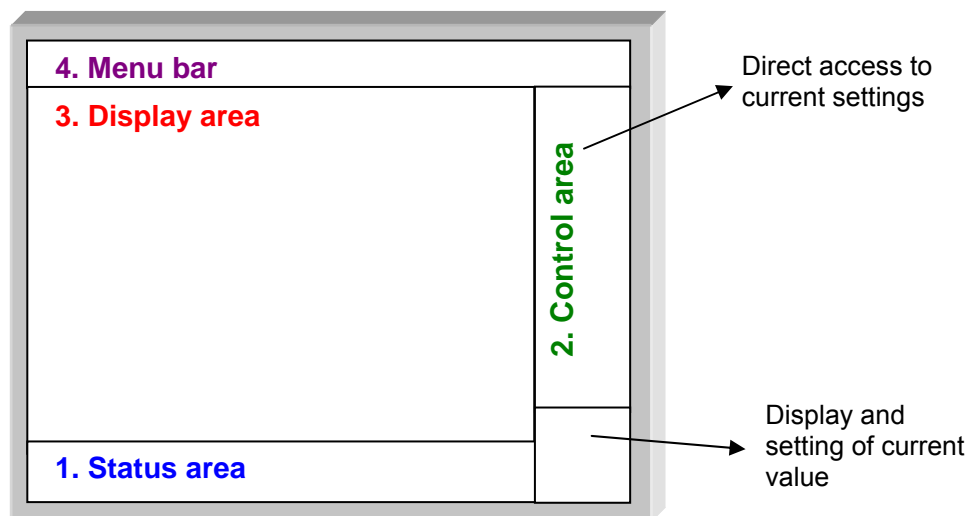
*Display in fault capture mode*



The memory is segmented to enable the acquisition of several defaults (10 defaults in the standard configuration and 100 if the EXTENDED ACQUISITION MEMORY option is installed).

**Composition** The composition of the "Recorder" mode display is identical to that in "Oscilloscope" mode.

Reminder: The display is divided into 4 functional zones.



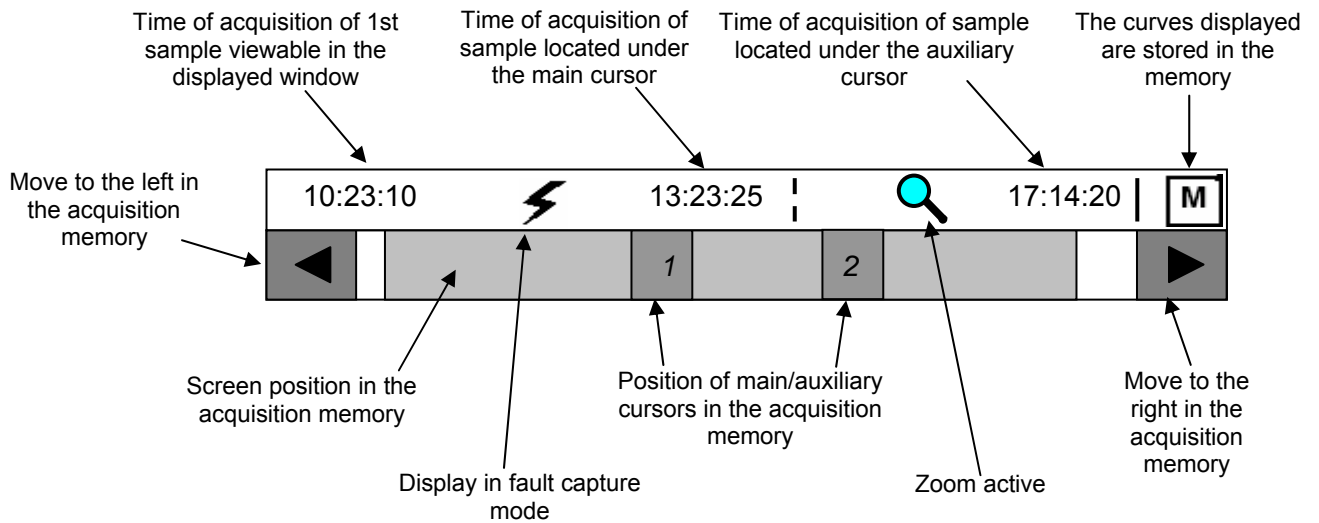
## Recorder Mode (cont'd)

### 1. Status area

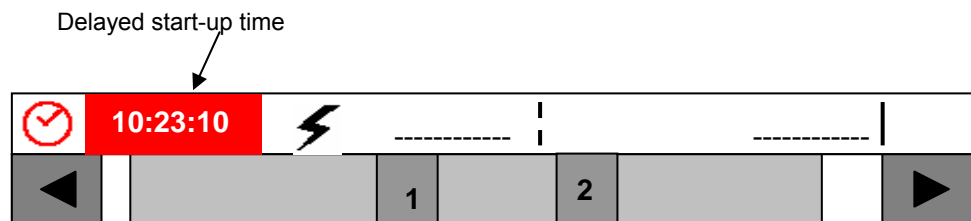
Three pieces of general information appear in this area:

- The **bargraph**, representing the screen position and the cursors in the acquisition memory;
- Instrument **settings** (fault capture mode, zoom, etc.);
- **Acquisition times:**
  - of the first sample that can be viewed,
  - of the sample under the main cursor,
  - of the sample under the auxiliary cursor.

#### Standard configuration



#### Configuration if delayed start-up is enabled

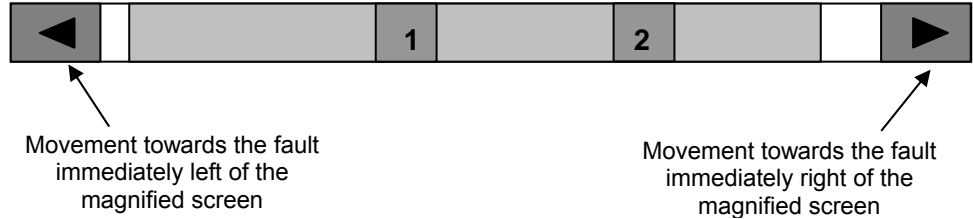


When the acquisition starts, the display returns to its standard configuration.

## Recorder Mode (cont'd)

### Bargraph

In fault capture mode, the bargraph indicates the position of the screen and cursors in the acquisition memory. The main cursor is positioned on the displayed fault and the auxiliary cursor on the right of the screen.



### Settings

Signification of symbols appearing on the bargraph:



The recorder is in **fault capture** mode.



The horizontal zoom is active.



The curves displayed are stored in the memory.



Delayed start-up is activated.

**10:23:10**

This symbol is displayed only when delayed start-up is active. It indicates the time at which recording will commence. Start-up date: see §. Trigger Menu → Delayed start-up.

### Acquisition times

These represent the times of: - the first sample viewed;  
- the sample located under the main cursor;  
- the sample located under the auxiliary cursor.

## 2. Control area

- Parameters of each channel and trace:
  - display
  - coupling
  - bandwidth limit,
  - zoom function,
  - vertical measurements of samples under the main and auxiliary cursor.
- Active adjustment of the last selected element:
  - trigger level (main and auxiliary),
  - horizontal gap between the time position of the auxiliary cursor and that of the main cursor,
  - vertical gap between the measurement of the auxiliary cursor and the main cursor on the reference trace (see §. Menu → Measurement → Reference),
  - number of faults acquired and number of fault viewed,
  - duration of recording and acquisition interval.

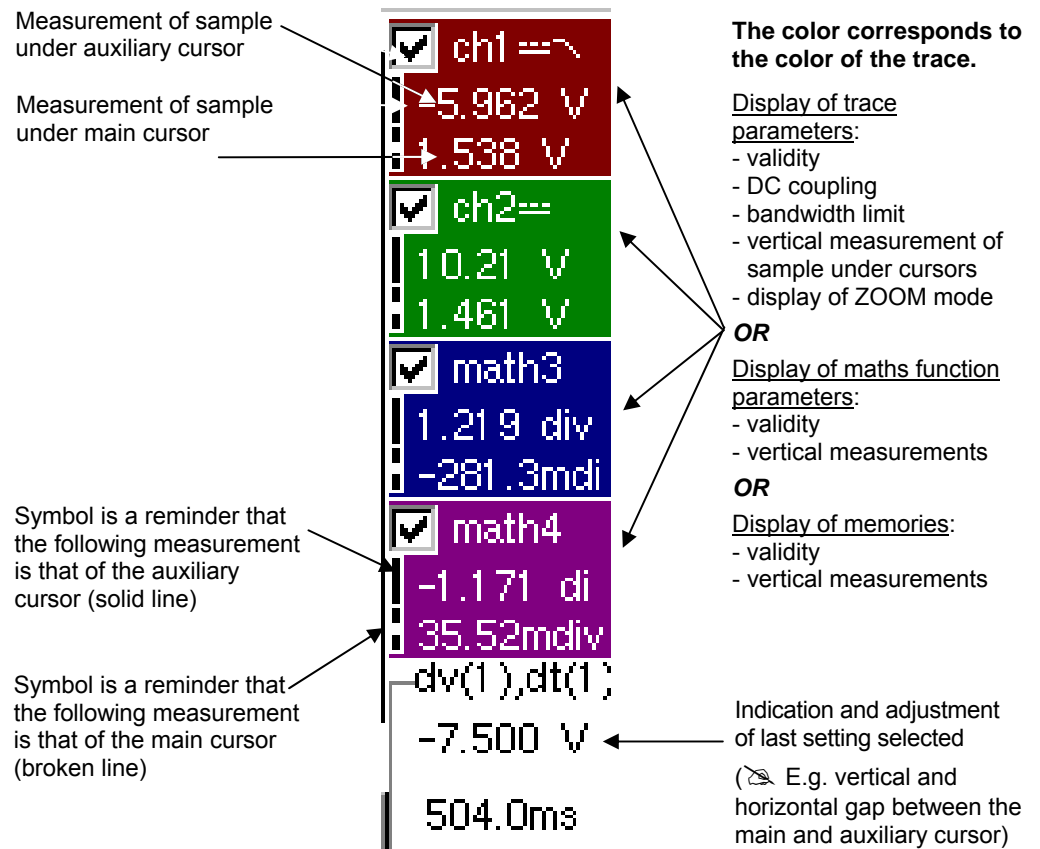


***The time position of the trigger is not displayed as it is fixed (20% of the memory). The horizontal scale is not displayed.***

- The device indicates if the acquisition is in RUN or HOLD mode.
- The other displays (battery, etc.) are identical to “Oscilloscope” mode.

## Recorder Mode (cont'd)

### 2. Control area (cont.)




- The use of controls,
- the validation of channels with the stylus,
- the menus relating to the channels and functions are identical in "Recorder" and "Oscilloscope" mode.



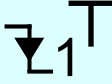
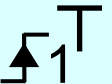


***It is not possible to mix memorized curves (Mx) and acquired curves in real-time Chx on the display (see § Memory Menu → Trace → Recall ".REC").***

## Recorder Mode (cont.)


**3. Display area** Graphic elements displayed associated with the traces in this area:


- Vertical position indicator for the reference level of each trace
- ZOOM area selection.
- Main cursor (permanent, moved using stylus) located at the left of the screen by default.
- Auxiliary cursor (permanent, moved using stylus) located at the right of the screen by default.
- Trigger time position indicator (fixed and located 20% across from the left of the screen).  
Its graphical representation is as follows : 

Level indicators representing 5 different triggers:

	- “ <b>Lower</b> trigger” option (of the last channel selected).
	- “ <b>Upper</b> trigger” option (of the last channel selected).
	- “ <b>Upper/lower</b> trigger” option (of the last channel selected).
	- “ <b>External</b> window trigger” option (of the last channel selected).
	- No symbol is displayed: <b>no trigger</b> (on the last channel selected).

 **The level indicator figure represents the channel concerned by this indicator:**

	<p>- Lower trigger option on channel 1.</p> <p>There can be trigger conditions on several channels at the same time: display by selecting the channel concerned.</p>
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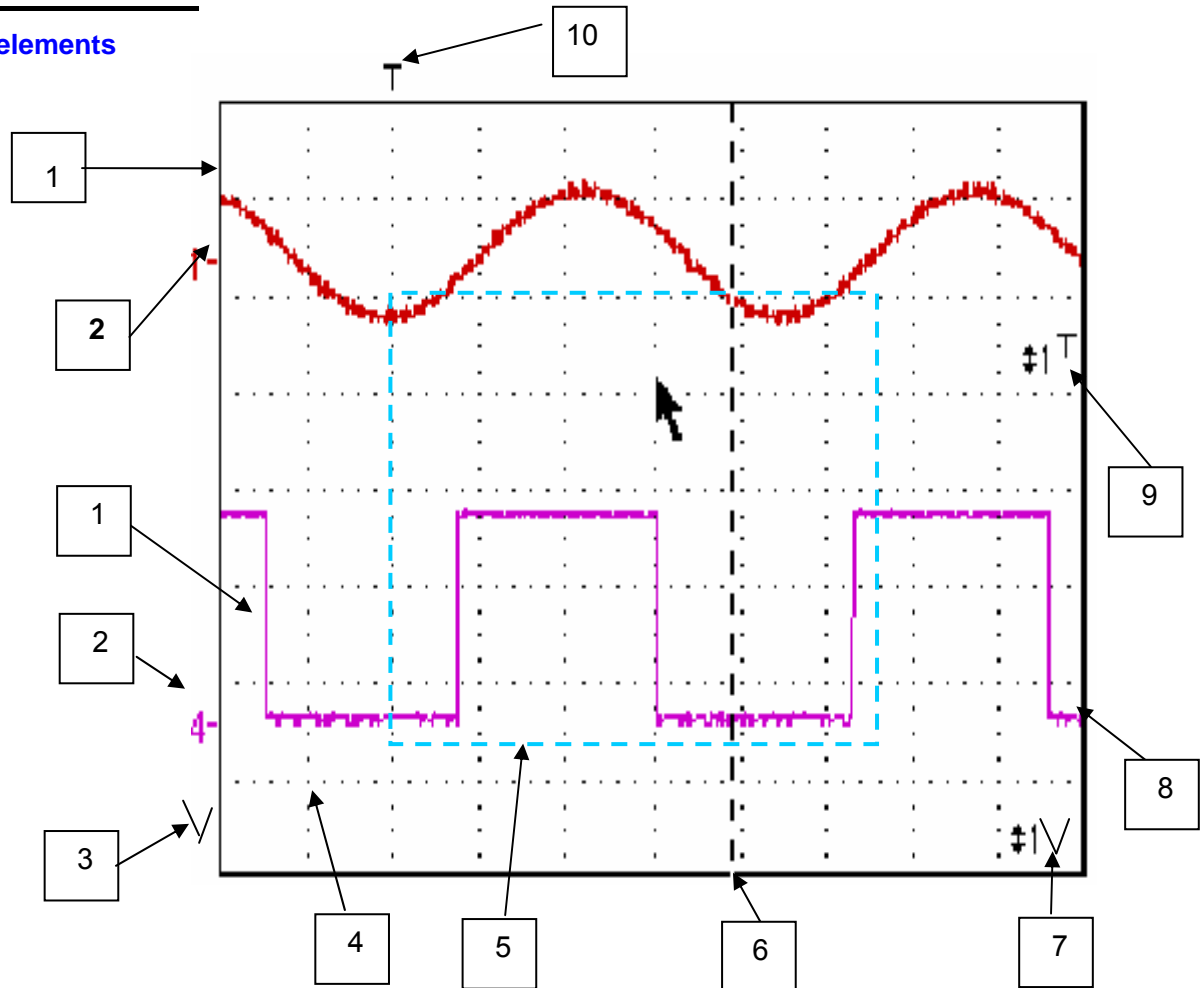
 **In fault capture mode, the grid is divided into ten sections; i.e. one section for each fault.**



**The cursors are no longer displayed: they reappear when a single fault is displayed on the screen (horizontal zoom enabled: see help for key shown here).**

## Recorder Mode (cont'd)

### Display elements



### Definition of display

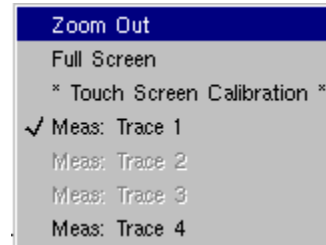
Items	Display elements
1	Trace displayed
2	Indication of vertical position of reference level of the displayed trace and identification of trace number
3	Indicator of trace outside display window
4	Graticule division
5	Zoom area selection
6	Main measuring cursor
7	Trigger level position outside window indicator
8	Auxiliary measuring cursor
9	Trigger level position indicator ( <i>here, for example: upper/lower trigger</i> )
10	Trigger time position indicator → fixed at 20%

## Recorder Mode (cont'd)

**Menu accessible from display area**

Like in "Oscilloscope" mode, the menu concerning the display can be opened directly by double-tapping with the stylus in the display area.

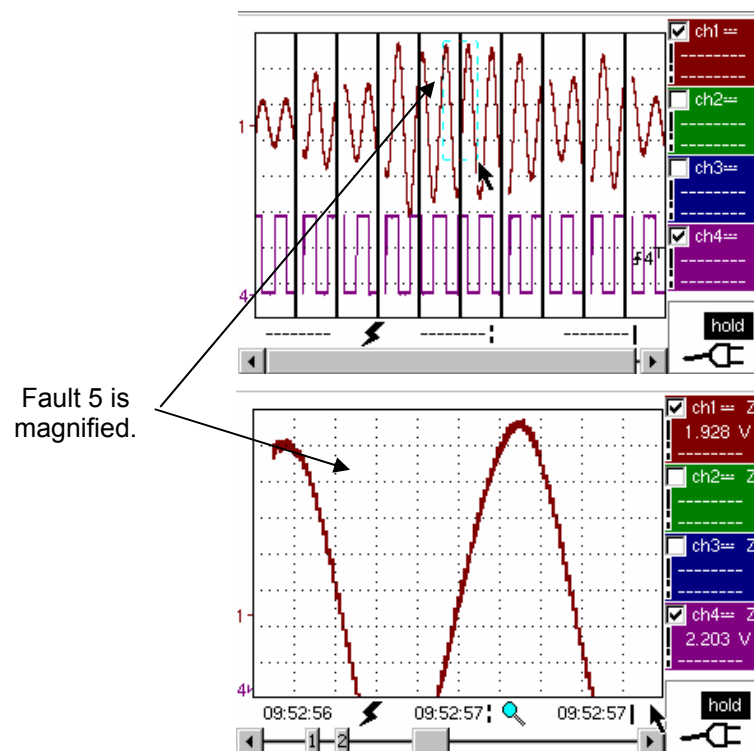
This menu, as well as the functions of the proposed options, are identical to those in "Oscilloscope" mode.



**Zoom creation in Fault Capture mode**

**Case 1** The horizontal zoom is disabled, the screen displays 10 faults:

Draw a rectangle around the part you wish to zoom in on. The screen displays, with a vertical zoom, the fault on which you began the rectangle.



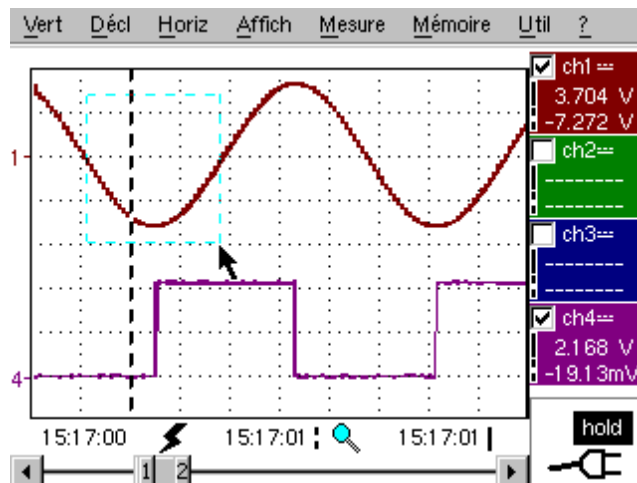
Fault 5 is displayed in full screen mode and has been vertically magnified

To return to a normal display (10 faults displayed on the screen), select "Disable zoom" in the menu,

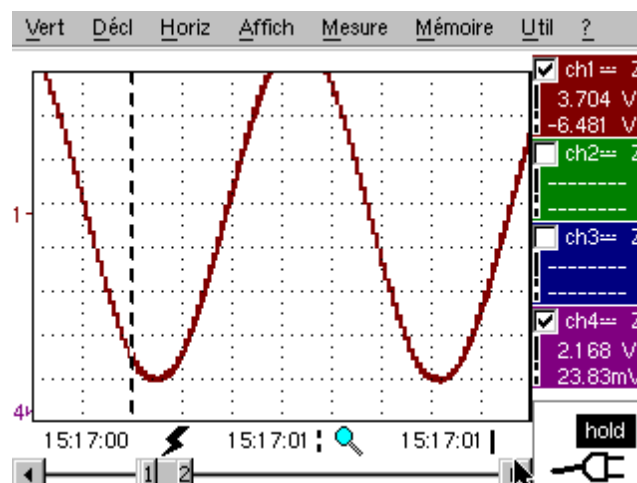
**Disabling the horizontal zoom with the zoom ON/OFF key allows the user to return to a screen with the ten faults displayed, while not disabling the vertical zoom.**

## Recorder Mode (cont'd)

**Case 2** The horizontal zoom is enabled, the screen displays one of the captured faults:



Fault capture mode: the horizontal zoom is enabled. A single fault is displayed on the screen. A zoom frame is drawn.



A vertical zoom is applied to the area containing the fault.

As in the first case, select “disable zoom” in the menu above to disable the zoom. The screen returns to the initial “10 faults on the screen” display.

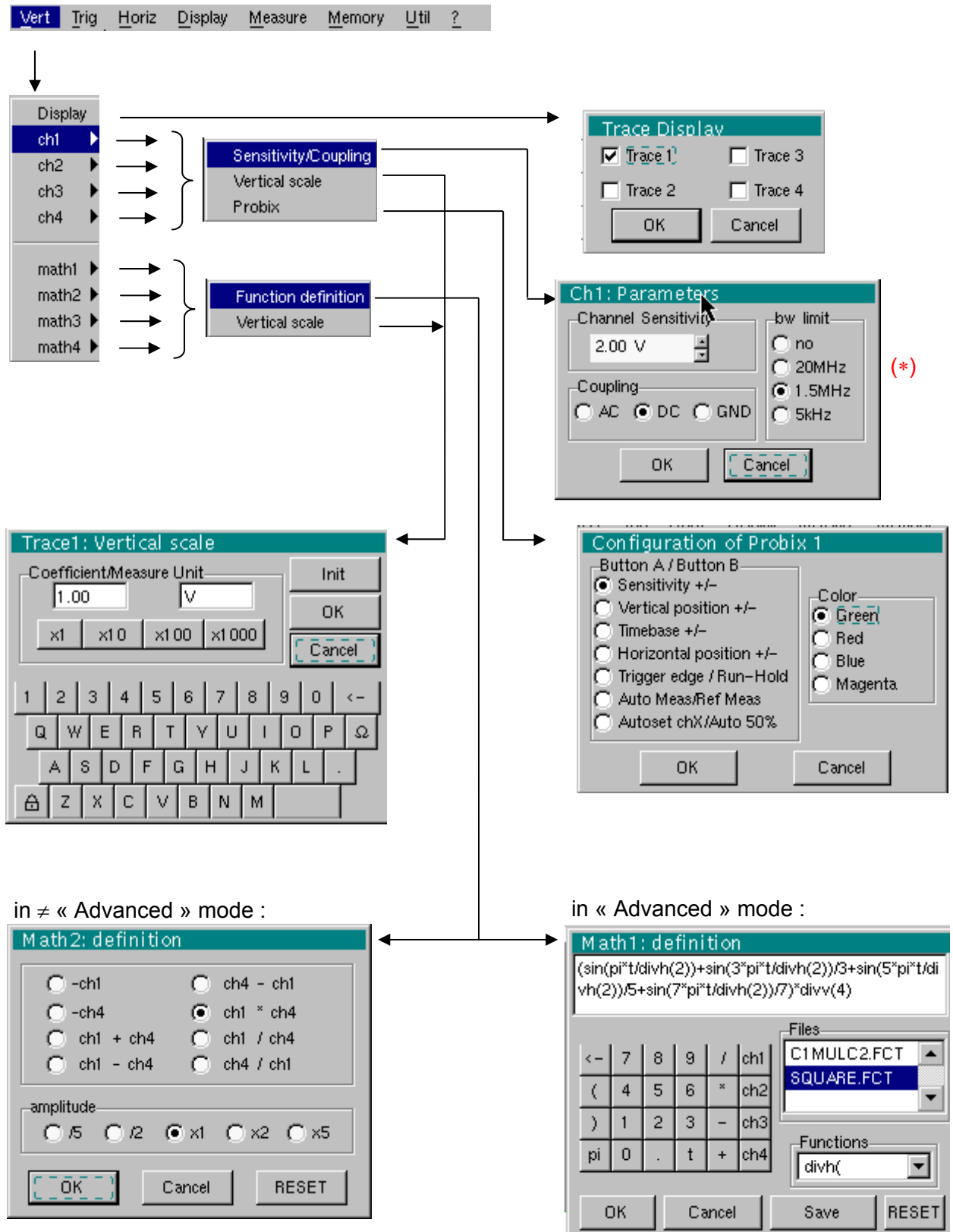


**Disabling the horizontal zoom with the zoom ON/OFF key allows the user to return to a screen displaying the ten faults, while the vertical zoom remains enabled.**

## Recorder Mode (cont'd)

### The "Vert" Menu

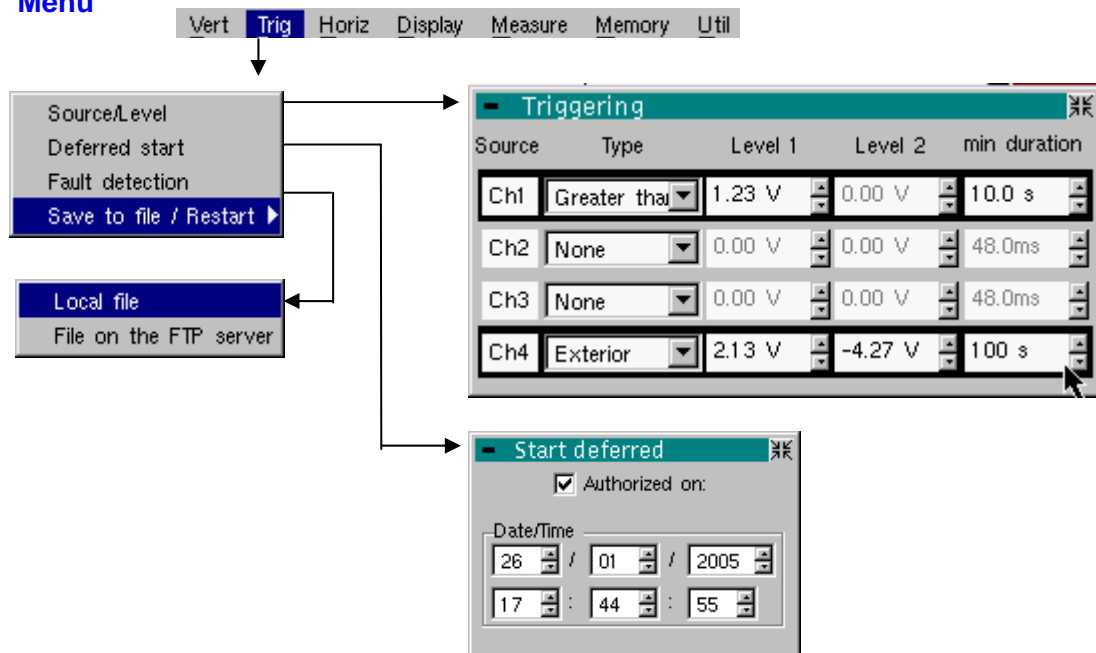
This menu is identical to that described in "Oscilloscope" mode.



(\*) The DC coupling is the only option in "Recorder" mode.

## Recorder Mode (cont'd)

### The "Trig" Menu



### Triggering

Selection of trigger type and level on each channel. Triggering takes place if a condition described by a line of the "Trigger" table is verified. The trigger level should be defined in the channel measurement dynamic.

**Source** Indicates the channel number.

**Type** The type of trigger for each channel.

There are several possible types:


- None
- Lower than
- Higher than
- Lower/Higher
- Exterior

In "Recorder" mode, several conditions are monitored simultaneously.

**Level 1** The main trigger threshold level can be set using the stylus.

**Level 2** The auxiliary trigger threshold level can be set using the stylus. This tab is enabled only if external trigger type is selected.

**min duration** The fault will be evidenced if the fault condition defined by the type and thresholds is present for a parameterisable period from 3,2 ms to 670 ks according to the used time base (from 160  $\mu$ s to 670 ks if the ' EXTENDED ACQUISITION MEMORY option).

 *Trigger levels are entered into the current value display area after modification. Fine adjustment is possible.*

In « **Save to file / Restart** » :

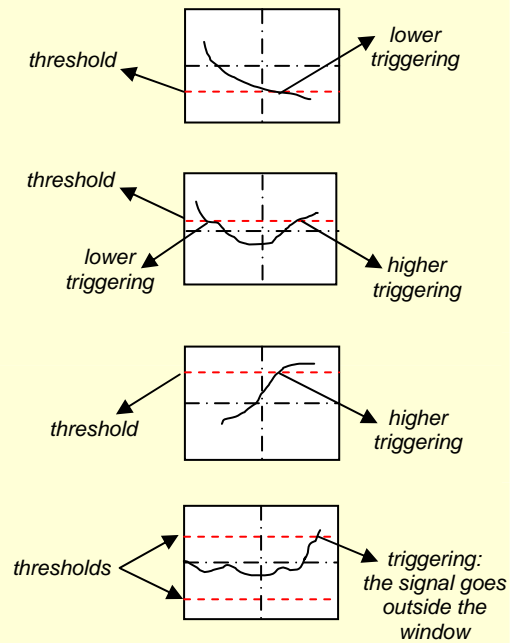
- If no trigger source is enabled, the memory is saved as soon as the acquisition memory is full, then another acquisition is initiated.
- Otherwise: Roll on the memory, the old samples are lost, new ones are registered.

## Recorder Mode (cont'd)

The Pretrig is monitored for each type of trigger.

**"No trigger"**: if all the channels are in this mode, the device records indefinitely.

- **"Lower than"**: triggering takes place when the signal drops below the threshold.
- **"Lower/higher than"**: triggering takes place when the signal drops below or rises above the threshold.
- **"Higher than"**: triggering takes place when the signal rises above the threshold.
- **"Outside window"**: triggering takes place when the signal goes outside the window defined by the two thresholds.

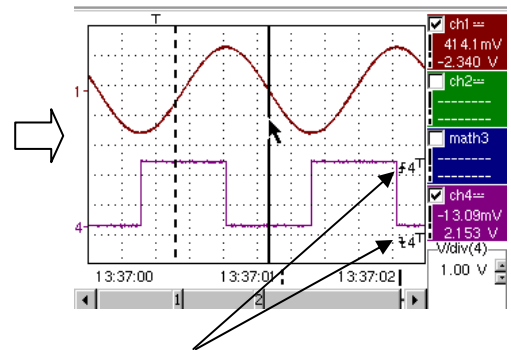


A half-division hysteresis is applied to prevent ill-timed triggers.

### Example

- Channel 1 is set with a 1.25V "higher than" trigger.
- Channels 2 and 3 do not wait for a trigger.
- Channel 4 is set with an "outside" type trigger.
- Channel 1 and 4 lines are highlighted: they wait for a trigger.

Source	Level 1	Level 2	Type
Ch1	1.25 V	0.00 V	Less than
Ch2	0.00 V	0.00 V	No triggering
Ch3	0.00 V	0.00 V	No triggering
Ch4	2.13 V	-2.27 V	Exterior



Outside trigger symbol for channel 4



Toggle through the trigger conditions for the different channels using the key shown opposite.

### Save to file/Restart

If this option is activated, all the traces acquired are saved to a .REC file as soon as the acquisition memory is full, then acquisition is restarted.

### Delayed triggering

Delayed triggering offers the possibility of starting up an acquisition at a date and time chosen by the user.

This option can be related to the previous trigger conditions.

## Recorder Mode (cont'd)

### Authorised on

This tab allows the user to validate – or not – delayed triggering.

- If the symbol "✓" is displayed, delayed triggering has been validated.
- If there is no symbol, delayed triggering has not been validated.

Use the stylus to validate or unvalidate the tab.



- *When delayed triggering has been validated, the user can no longer make an acquisition in recorder mode. He/she may, however, use the other modes as desired.*

*If the user wishes to make an acquisition in recorder mode, he/she must:*

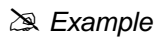
- *either unvalidate delayed start-up,*
- *or wait until the delayed start-up acquisition begins.*

- *At the time the acquisition is set to start (delayed triggering time), the instrument must be in operation and the user must have enabled recorder mode.*

### Date/Time

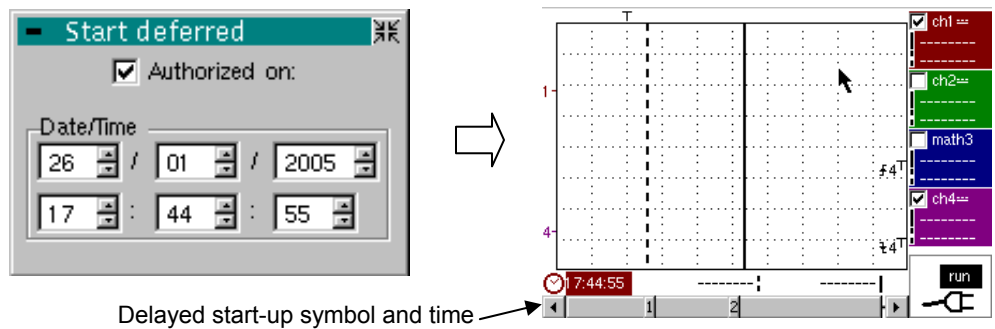
Different scroll boxes allow the user to set the date and time he/she wishes the acquisition to commence.

Use the stylus to scroll.



Example

*Delayed triggering: the acquisition will commence on January 26, 2005 at 17:44. The red clock symbol shows the user that delayed start-up is enabled.*



### Fault capture

Fault capture mode enables 10 recordings of 250 samples to be made around the trigger point (or 100 recordings of 500 samples around the trigger point if the EXTENDED ACQUISITION MEMORY option is installed).

These 10 recordings will be displayed on the screen. Each recording is separated by a solid vertical line. They are recorded in volatile memory.

## Recorder Mode (cont'd)

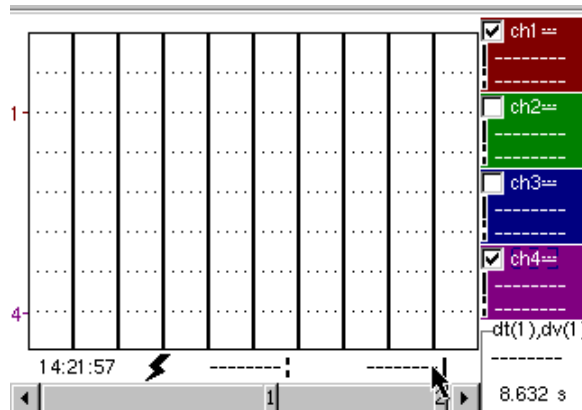
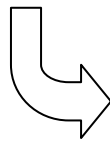
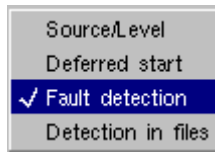
### Fault capture (cont'd)

In 'Fault capture' mode, records are saved to the file as soon as 10 faults (or 100 faults with the EXTENDED ACQUISITION MEMORY) have been acquired. You can therefore save several acquisitions and analyse them later

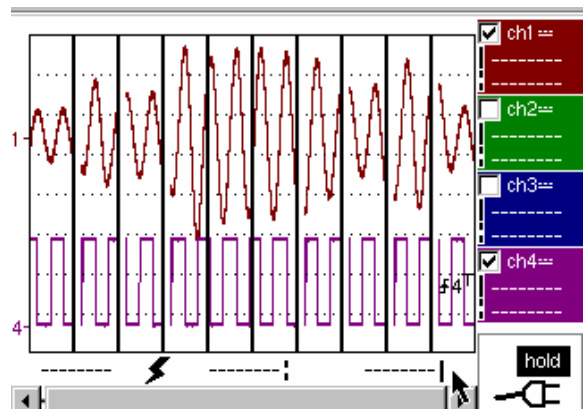
The channels are saved in files, the name of which is determined according to the date and time they are saved.

They can be saved to an FTP server or in a local file system if the parameters of the FTP server have been configured ("UTIL" → "Config I/O ports" → "Network" menu).

 Example



The fault capture mode is selected: the screen is divided into 10 sections.



Display after an acquisition in fault capture mode

## Recorder Mode (cont'd.)

### Display (fault capture, file capture)

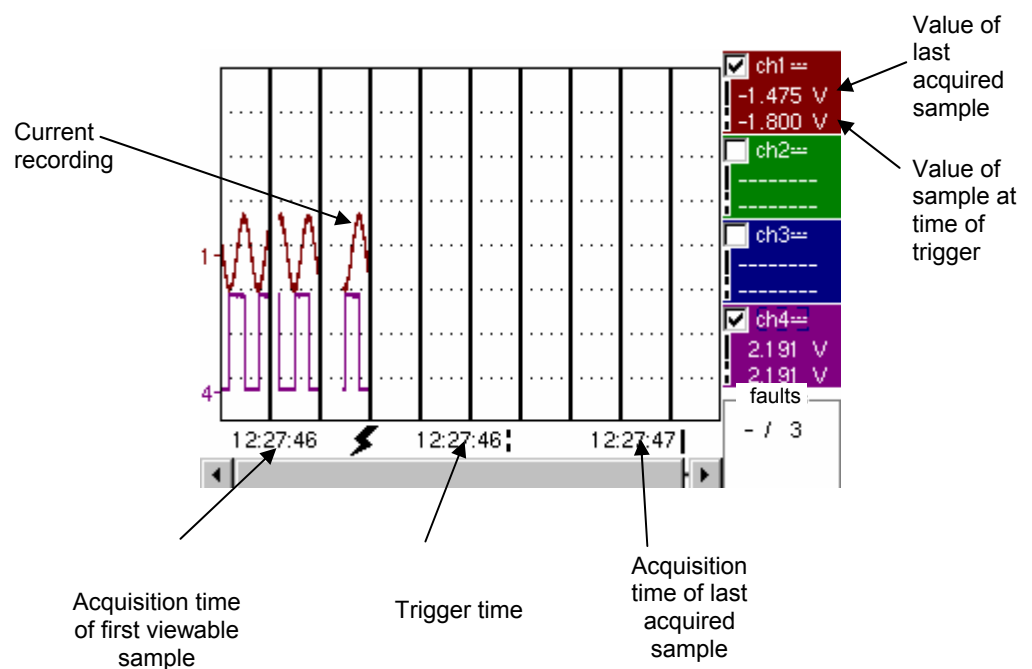
Two cases arise:

- the horizontal zoom is enabled,
- the horizontal zoom is disabled.

### Horizontal zoom disabled

Modification of display:

- The cursors are no longer displayed.
- The measurements displayed do not have the same significance.
- All the measurements are related to the current recording.



- "Trigger time" and "Sample value at trigger time" measurements are only displayed if the trigger has taken place.
- Maximum and minimum searches cannot be enabled (see §. Display Menu, p. 146).
- The automatic measures cannot be enabled (see §. Measurement Menu, p. 148).

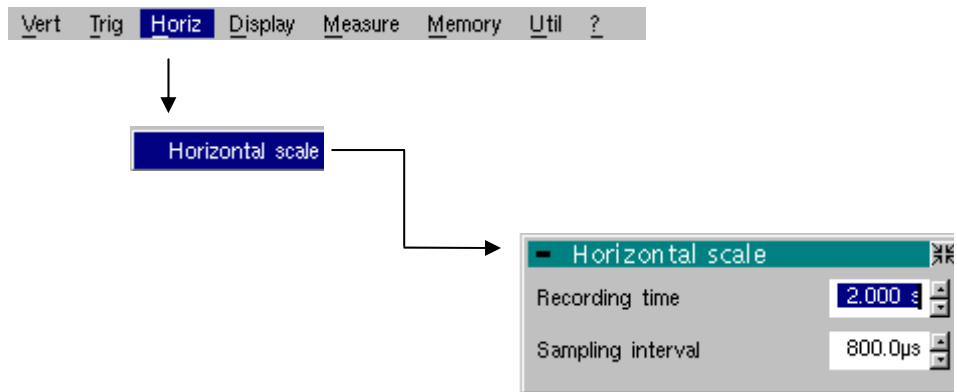
### Horizontal zoom enabled

The display is identical to normal mode.

- The measurements displayed have the same significance as in normal mode (see §. Display, p. 146).
- Maximum and minimum searches are possible (see §. Display Menu, p. 146).
- Automatic measurements can be enabled (see §. Measurement Menu, p. 148).

## Recorder Mode (cont'd)

### The "Horiz" Menu



### Horizontal scale

This function allows the user to set:

- the recording time,
- the acquisition interval.

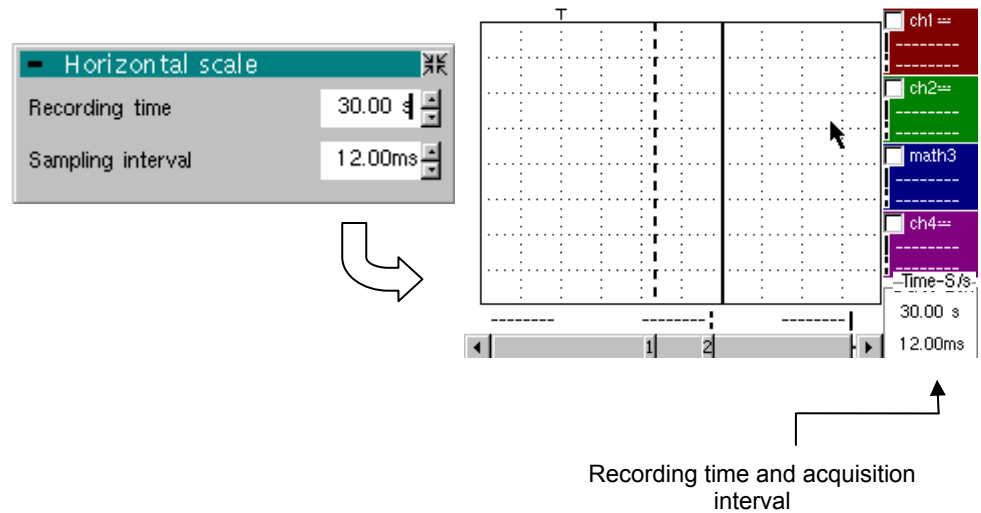
These two values are correlated. When the user modifies one, the other is modified.

Adjust the scroll boxes with the stylus to set these values.



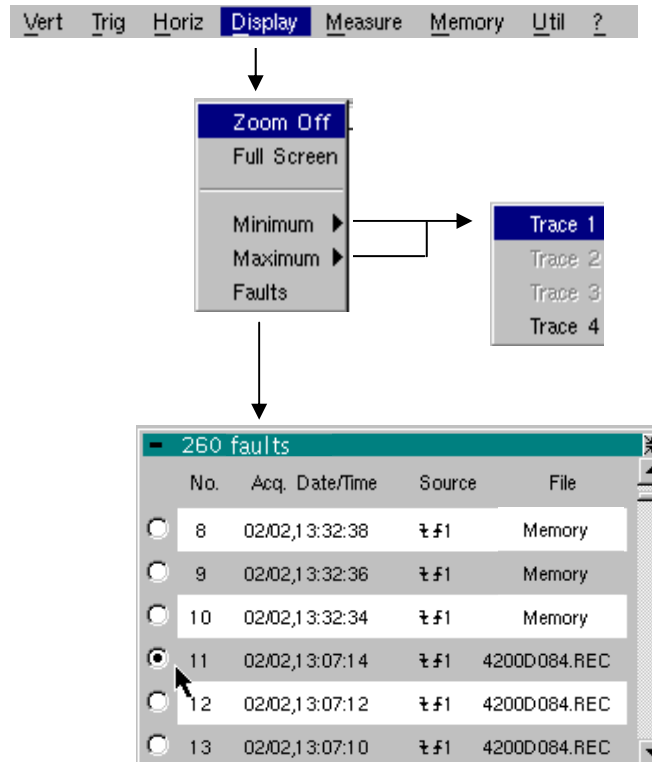
Recording time and sampling interval settings are also accessible via these keys.

*Example* The recording time is 30 seconds and the acquisition interval is 12 mins.



## Recorder Mode (cont'd)

### The "Display" Menu



#### Zoom off



Returns to the original screen size after zooming in on part of the screen.

- This function is disabled unless the screen is in zoom mode.
- If the Zoom mode is active, the letter "Z" is displayed in the trace and time-base parameter display area.



This menu can also be called up by double-tapping with the stylus inside the curve display area.

#### Maximum/Minimum

The minimum (or maximum) option consists in:

- searching for the min (or max) value of samples on trace X;
- centring, if possible (zoom), the curve on this specific point. The main cursor is now fixed on this sample.

#### Particular case

Display of 10 faults on the screen when fault capture mode is validated and the horizontal zoom is not enabled: "Minimum/Maximum" functions cannot be used.

They are greyed out in this configuration.

## Recorder Mode (cont'd)

### Faults

The search for faults enables successive recordings in "fault capture" or "file capture" (memory) mode to be explored (.REC).

All files with a ".REC" extension are analysed and each fault is displayed. When one of these faults is selected, it is displayed on the screen. The main cursor is fixed at the fault's trigger point and the auxiliary cursor is placed at the right of the screen: the window is accessible from: Display → Faults.

Various information is provided in this window:

- **Title:** total number of faults contained in the memory
- **No:** fault number
- **Acq. date/time:** date (day, month) and time of fault acquisition
- **Source:** symbol for type of trigger used for this fault and source
- **File:** name of file in which the fault is recorded



**The term "memory" in filenames means that the fault captured is in auxiliary storage. If a file is called anything other than "memory", all the faults in the "memory" file will be lost.**

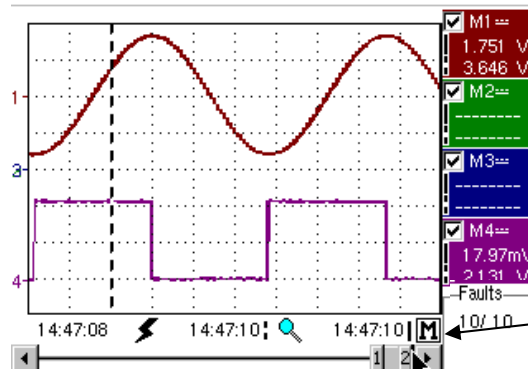


**Example** Following a file capture, the "Faults" option will allow the different recordings to be analyzed:

**Fault n°11 in file selected:**  
4214ae6e.REC. Its triggering source is outside window. It was captured on 17 February at 14:47:08.

510 faults				
No.	Acq. Date/Time	Source	File	
<input type="radio"/>	8	17/02,15:17:00	f1	Memory
<input type="radio"/>	9	17/02,15:16:58	f1	Memory
<input type="radio"/>	10	17/02,15:16:56	f1	Memory
<input checked="" type="radio"/>	11	17/02,14:47:08	f1	4214ae6e.REC
<input type="radio"/>	12	17/02,14:47:06	f1	4214ae6e.REC
<input type="radio"/>	13	17/02,14:47:04	f1	4214ae6e.REC

**Display of fault n°11** with the main cursor on the trigger point and the auxiliary cursor on the last sample acquired. The recorder is in memory display. To return to normal display, deselect Recall '.REC' in the Memory menu.



The symbol **M** is a reminder that the recorder is displaying a memory (.REC).

### Full screen

Switches from normal display mode to "full screen" display mode and vice versa.

The display is organised so as to leave the biggest surface area possible for curve plotting: only the permanent settings remain, as well as the option to display the automatic measurement window.



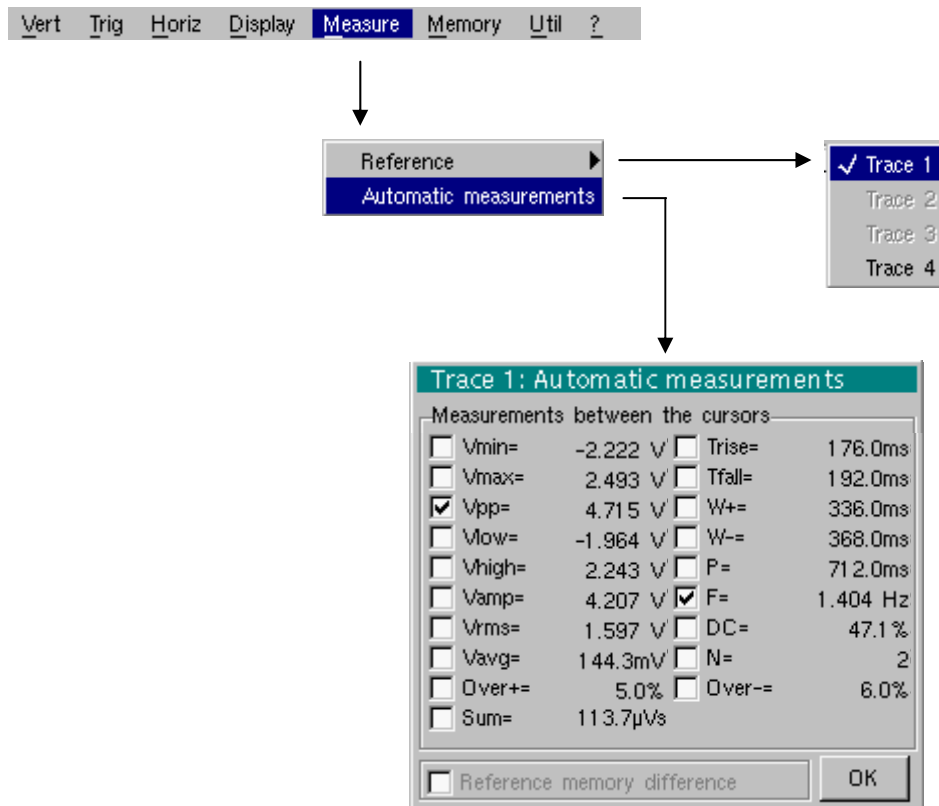
- The "full screen" function has the same effect as the key shown opposite.
- The "✓" symbol indicates that the full screen mode is enabled.



This function can also be accessed by double-tapping the trace display area with the stylus.

## Recorder Mode (cont'd)

### The "Measure" Menu



#### Reference

*Trace 1*  
*Trace 2*  
*Trace 3*  
*Trace 4*

Identical to "Oscilloscope" mode.

#### Automatic measurements

This window is nearly identical to the one in "Oscilloscope" mode.

The automatic measurement calculation area is defined by the two cursors.

It is not possible to select measurements in order to display them in the status area.

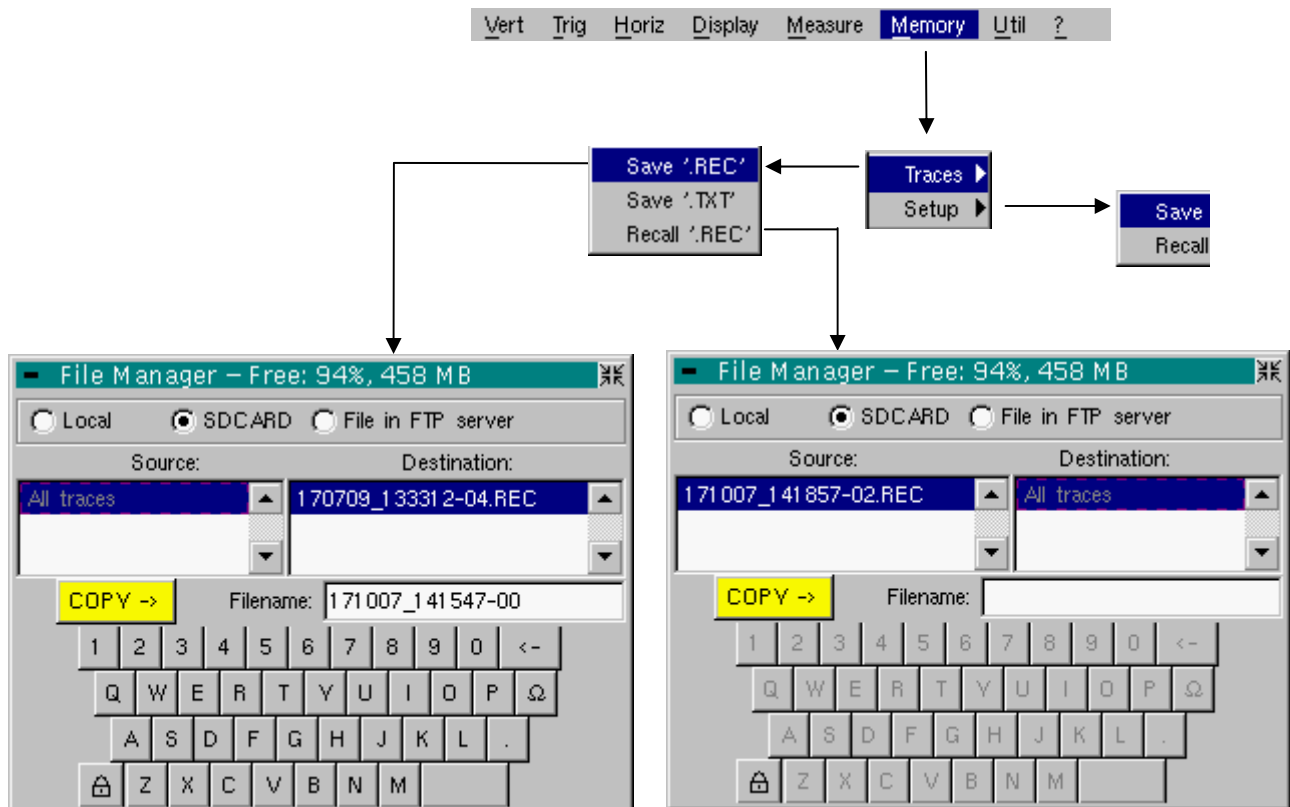
#### *Particular case*

Display of 10 faults on the screen when fault capture mode is validated and the horizontal zoom is not enabled: the "automatic measurements" function cannot be enabled.

It is greyed out in this configuration.

## Recorder Mode (cont'd)

### The "Memory" Menu



### Trace

**Save .REC** In this mode, all the traces are saved in one file (extension .REC).

The selection opens a "File Copy" menu.

A default backup filename is proposed above the keyboard. It can be modified using the virtual keyboard and stylus. The ← key deletes the character preceding the cursor in this area.

Once the name has been entered, the → key saves the data, puts it into the "destination" list and closes the menu. The backup filename takes the extension .REC (format that can be reread on the instrument). The menu can be exited without backing up by tapping the icon in the top right-hand corner of the window with the stylus.

- *The filename is limited to a maximum of 20 characters + extension. If this format is not observed, the message 'Filename too long' is displayed. When the pointer passes over a destination file, its name, date and time of saving and size are displayed.*
- *If the name already exists or is not compatible, the error message : "Impossible! File already exists" appears.*

## Recorder Mode (cont'd)

**'.TXT' save** Identical to "Oscilloscope" mode (see §. Memory Menu → Trace → Save '.TXT'). In this mode, traces are saved individually.

**Recall '.REC'** Opens a "File Copy" menu when selected. In the "Source" list, the previously saved .REC files (via the menu "Trace → Save.REC") are displayed.

The file name to recall is highlighted. It is selected using the stylus.

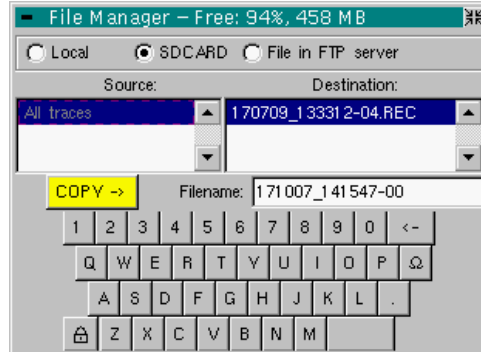
Once it has been selected, the → key opens the file and closes the menu. The menu can be exited without recalling by tapping the icon in the top right-hand corner with the stylus.



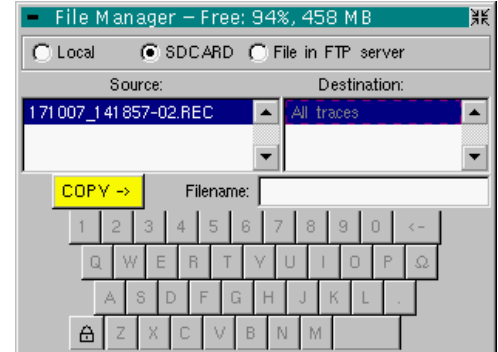
- It is impossible to launch an acquisition or deselect a channel while the recorder is in memory display mode.
- It is not possible to switch from a normal acquisition to a fault capture while the recorder is in memory display mode.
- This symbol – which is in the bottom right-hand corner of the screen – is a reminder that the recorder is in memory display mode.
- The "✓" symbol in front of Recall '.REC' in the Memory menu is a reminder that the recorder is in memory display mode.
- When a .REC file is recalled, the symbol "Mx" is displayed in the parameters of all the traces.
- The virtual keyboard cannot be used in this menu.
- To exit memory display mode, deselect Recall '.REC' in the Memory menu by tapping it with the stylus.

**M**

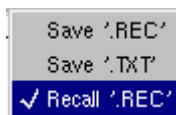
Example



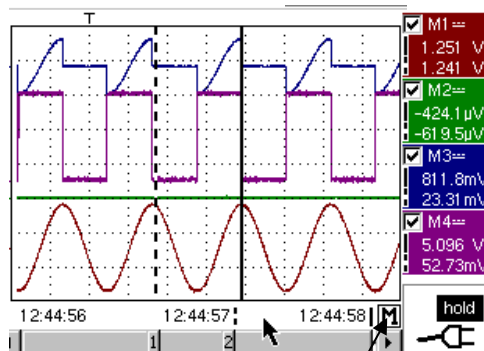
**Saving a '.REC' acquisition:**  
Enter the filename.  
Then click on → to validate the save.



**Recall '.REC':** Select the file to recall.  
Then click on → to validate your choice.



To deactivate the memory display, deselect recall '.REC' with the stylus.



**Mx symbol:**  
all the traces come from the memory.

Acquisition impossible in memory display mode.

The symbol **M** is a reminder that the recorder is in memory display mode.


## Recorder Mode (cont'd)


### Configuration

Saving or recalling an instrument configuration.

#### Save

Opens a "File copy" menu when selected.

\* There is a file called "Configuration" in the "Source" list. It contains the configuration settings for the device at the time this menu is opened. A backup filename is proposed above the virtual keyboard. The  key deletes the character preceding the cursor in this area.

\* Once the source filename has been created, the  key saves the configuration by transferring it into the "destination" list and closes the menu (backup file: extension .CFG).

The menu can be exited without saving by tapping the icon in the top right-hand corner of the window.



- *The filename is limited to 20 characters + extension. For a source file, the name is accompanied by the date and time of saving and the file size when the pointer passes over its name.*
- *If the name already exists or is not compatible, an error message appears.*

#### Recall

This opens a "File Copy" menu when selected.

\* The previously saved files (.CFG) (saved via the Configuration → Save menu) are displayed.

The filename that has been selected for recall is greyed out.

The right-hand scroll bar is used to move down the list.

\* Once the source file has been selected, the  key carries out the recall.

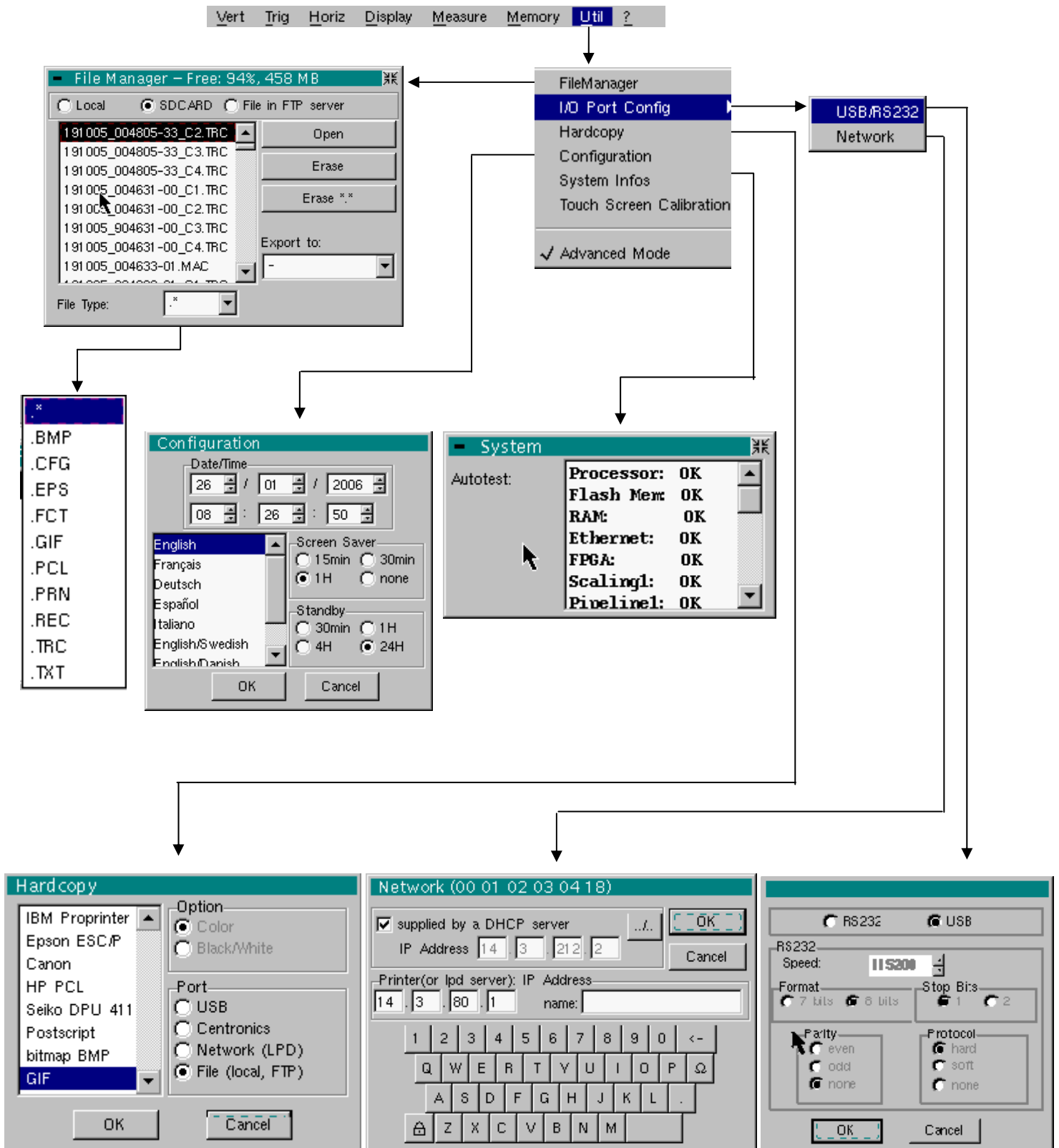
\* The menu can be exited without saving by tapping the icon in the top right-hand corner of the window.



- *The virtual keyboard cannot be used in this menu.*
- *Use the "default config" file to restore the factory configuration.*

## Recorder Mode (cont'd)

### The "Util" Menu



## Recorder Mode (cont'd)

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### File manager

This function is identical to that described in "Oscilloscope" mode.

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### I/O port config

Identical to "Oscilloscope" mode.

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### Hardcopy

Identical to "Oscilloscope" mode.

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### Configuration

Identical to "Oscilloscope" mode.

#### Screen saver

- If the recording time is over 2 seconds, the screen saver will never be activated.
- If the recording time is equal to 2 seconds, the screen saver and settings operate as in "Oscilloscope" mode.

#### Standby

- If the recording time is over 2 seconds, standby will never be activated.
- If the recording time is equal to 2 seconds, standby and settings operate as in "Oscilloscope" mode.

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### System infos

Identical to "Oscilloscope" mode.

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### "Advanced" mode

When "Advanced" mode is not enabled, certain instrument functions no longer appear in the menus.

#### Functions available in "Advanced" mode only

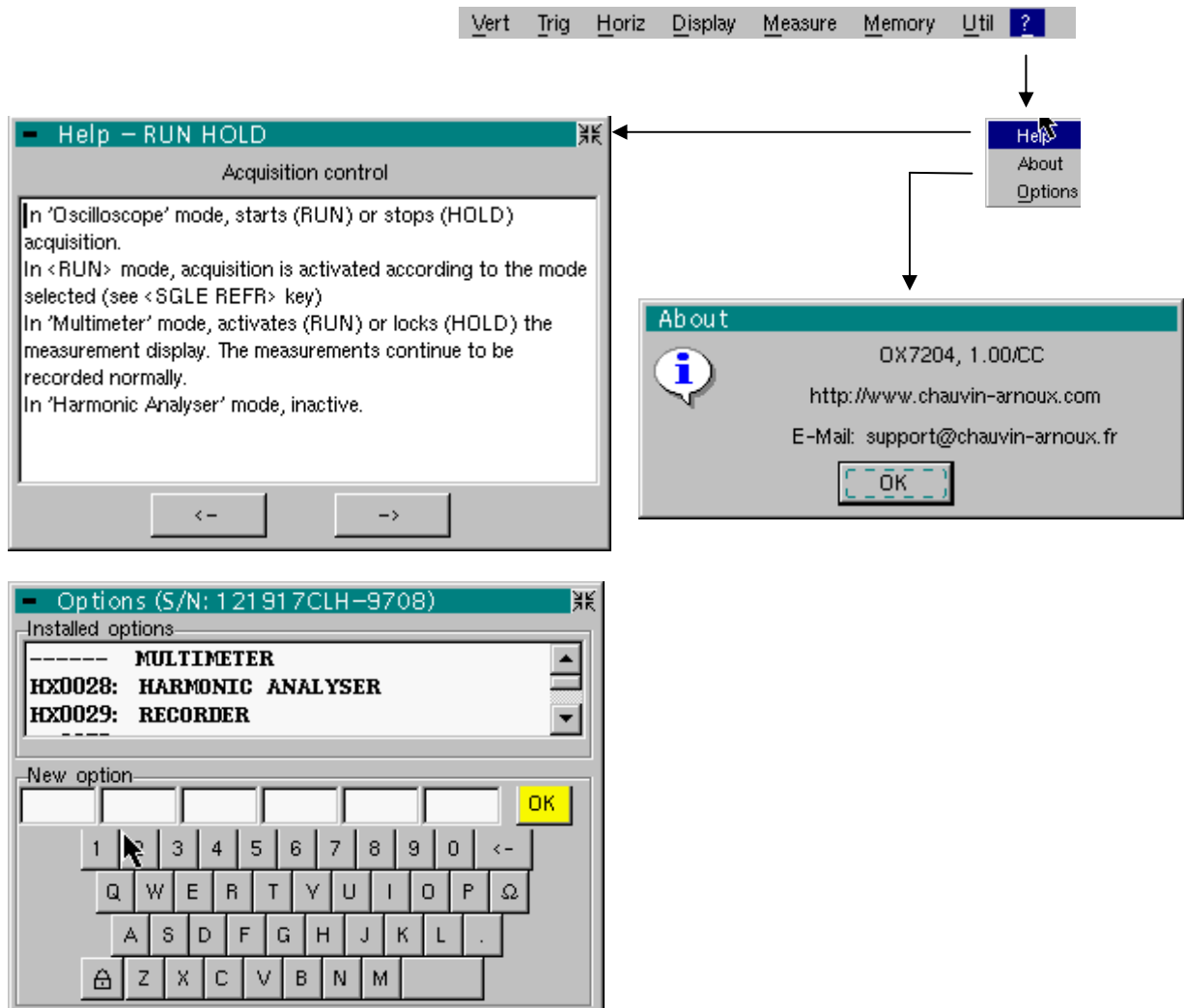
**math1, math4** → accessible via the "Vert" menu.



- The "✓" symbol indicates that "Advanced" mode is enabled.
- *The stylus can be used to modify this.*
- *By default, "Advanced" mode is not enabled.*
- *In "non-advanced" mode, the instrument's configuration is not saved when it is shut down using the key opposite and the default factory configuration is loaded at start-up.*

## Recorder Mode (cont'd)

### The "?" Menu



**Help** Menu identical to "Oscilloscope" mode.

**About** Menu identical to "Oscilloscope" mode.

**Options** Menu identical to "Oscilloscope" mode.