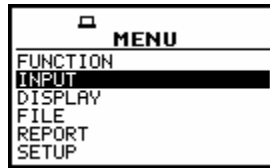


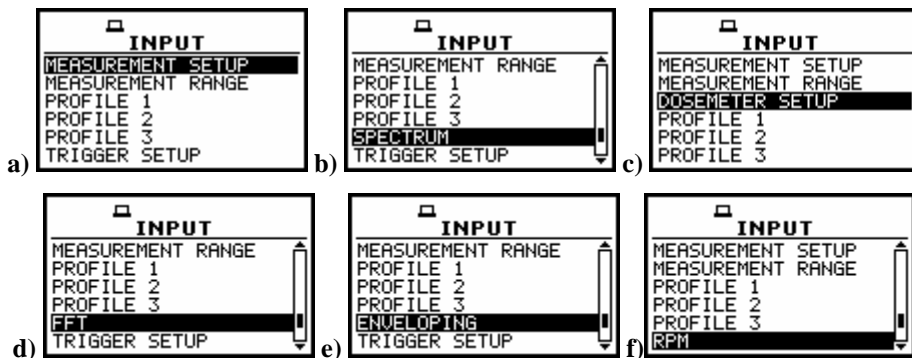
## 5 MEASUREMENT PARAMETERS SETTING - INPUT

The profile parameters can be set in the **INPUT** list, which can be entered after pressing the **<MENU>** push-button, then selecting by means of the **<▲>**, **<▼>** (or **<◀>**, **<▶>**) push-buttons the **INPUT** text and finely pressing the **<ENTER>** one.



Main list with the **INPUT** text selected

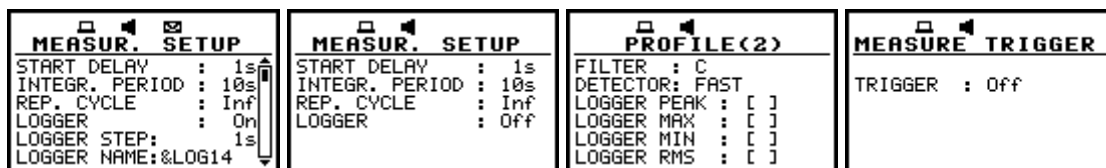
The **INPUT** list in the **LEVEL METER** contains the elements which enable one the independent programming of the measurement parameters (**MEASUREMENT SETUP**), the input range (**MEASUREMENT RANGE**), parameters of three profiles (**PROFILE 1**, **PROFILE 2** and **PROFILE 3**) and the trigger function (**TRIGGER SETUP**). In the case of **1/1 OCTAVE** and **1/3 OCTAVE** on the display appears **SPECTRUM** position. In the case of the **DOSE METER** instead of the trigger function there is a **DOSEMETER SETUP**. In the case of **FFT analyser** on the display appears **FFT** position and in the case of **ENVELOPING** – the **ENVELOPING** position. After activation of **RPM** option in the **SETUP** list on the display appears additionally **RPM** position. In the cases of **LOUDNESS**, **TONALITY**, **RT60** and **AEM** there are not any new positions in the **INPUT** list – for last three functions (**TONALITY**, **RT60** and **AEM**) special positions appear in the **SETUP** list. There is no special position for setting parameters of **LOUDNESS** measurements.



**INPUT** list in the **LEVEL METER** (a), in **1/1 OCTAVE** and **1/3 OCTAVE** analyser (b), in **DOSE METER** (c), in **FFT analyser** (d) in **ENVELOPING** (e) and after activation of **RPM** option in vibration modes (f)



**Notice:** Any parameter in the **INPUT** list can be changed only when the instrument does not execute a measurement. The possibility of a change is signalled by displaying inversely a parameter's field. Moreover, normally displayed field means that the parameter cannot be changed. The "Loudspeaker" icon indicates that the instrument is performing the measurements.



Displays with not active sub-lists of **INPUT** list during measurement



**Notice:** In the case of settings for vibration measurements the parameters can be presented in LOGARITHMIC (decibels) or LINEAR (m/s<sup>2</sup>) units. It depends on the DISPLAY SCALE position (path: MENU / DISPLAY / DISPLAY SETUP / DISPLAY SCALE/ LOG or LIN), e.g. 10 m/s<sup>2</sup> can be presented as 140 dB.

## 5.1 Selection of measurement parameters - MEASUREMENT SETUP

The **MEASUREMENT SETUP** is opened after the selection of the **MEASUREMENT SETUP** text from the **INPUT** list by means of the <^>, <^> (or <^>, <^> with <SHIFT>) push-buttons and pressing the <ENTER> one. The **MEASUREMENT SETUP** consists of the parameters, which can be set or switched on / off, namely: the delay of the start of measurements (**START DELAY**), the integration period (**INTEGR. PERIOD**), the repetition of the measurement cycles (**REP. CYCLE**) and the logger activation or deactivation (**LOGGER**). If the logger is active, the user can set the logging period (**LOGGER STEP**) and give a name to the logger's file (**LOGGER NAME**). In order to change the displayed inversely parameter the user has to press the <^>, <v> push-buttons. The confirmation of any change made in the sub-list requires pressing the <ENTER> push-button, which simultaneously closes the sub-list. The **MEASUREMENT SETUP** is closed ignoring any changes made in there, after pressing any time the <ESC> push-button.

MEASUR. SETUP	MEASUR. SETUP	MEASUR. SETUP
START DELAY : 1s	START DELAY : 1s	START DELAY : 1s
INTEGR. PERIOD : 1s	INTEGR. PERIOD : Inf	INTEGR. PERIOD : 1s
REP. CYCLE : Inf	REP. CYCLE : Inf	REP. CYCLE : 2
LOGGER : Off	LOGGER : Off	LOGGER : Off

Displays with the MEASUREMENT SETUP window

### 5.1.1 Setting time delay before the start of measurements - START DELAY

The **START DELAY** defines the delay period from the <START / STOP> push-button pressing to the start of the measurements (the digital filters of the instrument analyse constantly the input signal even when the measurements are stopped). This delay period can be set from **0 second** to **60 seconds** (with 1 second step by means of the <^>, <^> push-buttons and with 10 seconds step with the <^>, <^> push-buttons pressed together with the <SHIFT> one). The <ENTER> push-button must be pressed for the confirmation of the selection, which closes simultaneously the **MEASUREMENT SETUP** window.

MEASUR. SETUP	MEASUR. SETUP	MEASUR. SETUP
START DELAY : 0s	START DELAY : 1s	START DELAY : 2s
INTEGR. PERIOD : 1s	INTEGR. PERIOD : 1s	INTEGR. PERIOD : 1s
REP. CYCLE : Inf	REP. CYCLE : Inf	REP. CYCLE : Inf
LOGGER : Off	LOGGER : Off	LOGGER : Off

MEASUREMENT SETUP windows; the setting of the START DELAY with 1-second step

MEASUR. SETUP	MEASUR. SETUP	MEASUR. SETUP
START DELAY : 10s	START DELAY : 20s	START DELAY : 60s
INTEGR. PERIOD : 1s	INTEGR. PERIOD : 1s	INTEGR. PERIOD : 1s
REP. CYCLE : Inf	REP. CYCLE : Inf	REP. CYCLE : Inf
LOGGER : Off	LOGGER : Off	LOGGER : Off

MEASUREMENT SETUP windows; the setting of the START DELAY with 10-second step



**Notice:** The minimum delay period is equal to 0 second. In the **CALIBRATION** mode, the delay period is equal to 5 seconds.

### 5.1.2 Setting the integration period - INTEGR. PERIOD

The **INTEGR. PERIOD** defines the period in which the signal is being averaged during the sound level measurements. The definitions of the measurement results in which the integration period is used is given in App. D. The required value of this parameter can be set by means of the <◀>, <▶> and confirmed by the <ENTER> push-button.

The integration period (**INTEGR. PERIOD**) can be set (by pressing the <▶> or <▶> with <SHIFT> push- buttons):

- From 1 s to 59 s (with 1 second or 10 seconds step).

MEASUR. SETUP	MEASUR. SETUP	MEASUR. SETUP
START DELAY : 1s INTEGR. PERIOD : 1s REP. CYCLE : Inf LOGGER : Off	START DELAY : 1s INTEGR. PERIOD : 2s REP. CYCLE : Inf LOGGER : Off	START DELAY : 1s INTEGR. PERIOD : 3s REP. CYCLE : Inf LOGGER : Off

MEASUREMENT SETUP windows; the setting of the INTEGR. PERIOD with 1-second step

MEASUR. SETUP	MEASUR. SETUP	MEASUR. SETUP
START DELAY : 1s INTEGR. PERIOD : 10s REP. CYCLE : Inf LOGGER : Off	START DELAY : 1s INTEGR. PERIOD : 20s REP. CYCLE : Inf LOGGER : Off	START DELAY : 1s INTEGR. PERIOD : 30s REP. CYCLE : Inf LOGGER : Off

MEASUREMENT SETUP windows; the setting of the INTEGR. PERIOD with 10-second step

- From 1 m (min) to 59 m (with 1 minute or 10 minutes step).

MEASUR. SETUP	MEASUR. SETUP	MEASUR. SETUP	MEASUR. SETUP
START DELAY : 1s INTEGR. PERIOD : 2m REP. CYCLE : Inf LOGGER : Off	START DELAY : 1s INTEGR. PERIOD : 3m REP. CYCLE : Inf LOGGER : Off	START DELAY : 1s INTEGR. PERIOD : 10m REP. CYCLE : Inf LOGGER : Off	START DELAY : 1s INTEGR. PERIOD : 20m REP. CYCLE : Inf LOGGER : Off

MEASUREMENT SETUP windows; the setting of the INTEGR. PERIOD with 1 and 10 minutes step

- From 1 h to 24 h (with 1 hour or 10 hours step). It is also possible to set Inf value.

MEASUR. SETUP	MEASUR. SETUP	MEASUR. SETUP	MEASUR. SETUP
START DELAY : 1s INTEGR. PERIOD : 2h REP. CYCLE : Inf LOGGER : Off	START DELAY : 1s INTEGR. PERIOD : 12h REP. CYCLE : Inf LOGGER : Off	START DELAY : 1s INTEGR. PERIOD : 22h REP. CYCLE : Inf LOGGER : Off	START DELAY : 1s INTEGR. PERIOD : Inf REP. CYCLE : Inf LOGGER : Off

MEASUREMENT SETUP windows; the setting of the INTEGR. PERIOD with 10 hours step

Additionally, the predefined periods: 1 m, 5 m, 15 m, 1 h, 8 h and 24 h, which are enumerated in the standards, are also available (by pressing the <◀> push-button or <◀> with <SHIFT>; these values are placed in the mentioned above sequence on the left in relation to 1 s).

<pre> MEASUR. SETUP START DELAY : 1s INTEGR. PERIOD : 1m REP. CYCLE : Inf LOGGER : Off                 </pre>	<pre> MEASUR. SETUP START DELAY : 1s INTEGR. PERIOD : 5m REP. CYCLE : Inf LOGGER : Off                 </pre>	<pre> MEASUR. SETUP START DELAY : 1s INTEGR. PERIOD : 15m REP. CYCLE : Inf LOGGER : Off                 </pre>
<pre> MEASUR. SETUP START DELAY : 1s INTEGR. PERIOD : 1h REP. CYCLE : Inf LOGGER : Off                 </pre>	<pre> MEASUR. SETUP START DELAY : 1s INTEGR. PERIOD : 8h REP. CYCLE : Inf LOGGER : Off                 </pre>	<pre> MEASUR. SETUP START DELAY : 1s INTEGR. PERIOD : 24h REP. CYCLE : Inf LOGGER : Off                 </pre>

Displays during setting the predefined INTEGR. PERIOD sequence

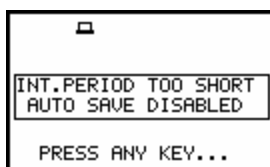


**Notice:** In the case of switching on the **AUTO SAVE** function, the minimum value of the integration period should be equal to 10 seconds.



**Notice:** In the **DOSE METER** the integration period cannot be set for the value greater than 8 hours.

If the user wants to switch on **AUTO SAVE** option (path: MENU / FILE / SAVE OPTIONS / AUTO SAVE) the integration period value has to be greater or equal than 10 seconds. When **AUTO SAVE** option was switched on and new entered integration period value is less than 10 seconds **AUTO SAVE** option switches off and **INT.PERIOD TOO SHORT / AUTO SAVE DISABLED** message appears on the display.



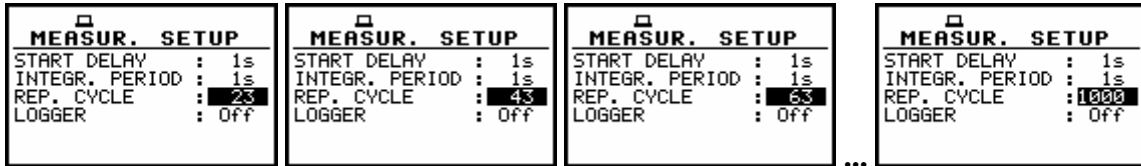
Display, when the INT.PERIOD is too short for AUTO SAVE option

### 5.1.3 Setting the number of repetition of measurement cycles - REP. CYCLE

The **REP. CYCLE** defines the number of cycles (with the measurement period defined in the **INTEGR. PERIOD**) which should be performed by the instrument. The required parameter can be set by means of the <◀>, <▶> push-buttons (with the step equal to 1) or by means of the <◀>, <▶> push-buttons pressed together with the <SHIFT> one (with the step equal to 20). The selected value is accepted by pressing the <ENTER> push-button, which closes the **MEASUREMENT SETUP** window. The **Inf** value denotes the infinite repetition of the measurements (until the pressing the <START / STOP> push-button or after receiving the remote control code). The **REP. CYCLE** number values are within the limits [1, 1000].

<pre> MEASUR. SETUP START DELAY : 1s INTEGR. PERIOD : 1s REP. CYCLE : Inf LOGGER : Off                 </pre>	<pre> MEASUR. SETUP START DELAY : 1s INTEGR. PERIOD : 1s REP. CYCLE : 1 LOGGER : Off                 </pre>	<pre> MEASUR. SETUP START DELAY : 1s INTEGR. PERIOD : 1s REP. CYCLE : 2 LOGGER : Off                 </pre>	<pre> MEASUR. SETUP START DELAY : 1s INTEGR. PERIOD : 1s REP. CYCLE : 3 LOGGER : Off                 </pre>
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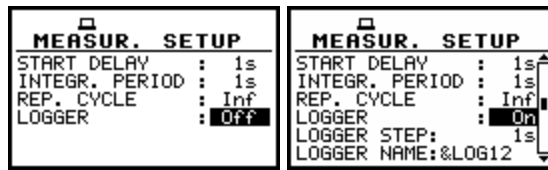
REP. CYCLE setting with the step equal to one



REP. CYCLE setting with the step equal to 20

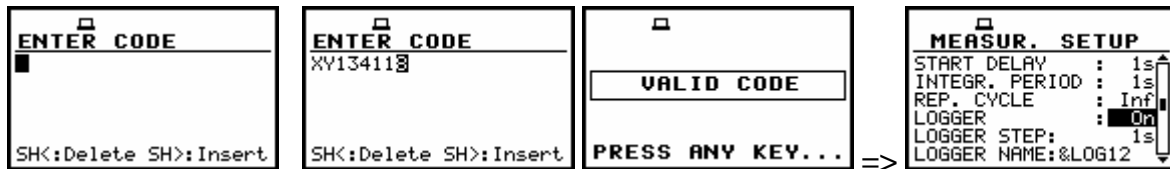
### 5.1.4 Logger functionality switching On / Off - LOGGER

The **LOGGER** switches on and off the functionality, which enables the user to save in a file the selected results from three profiles with the defined period. The **LOGGER** can be activated and deactivated by means of the <◀>, <▶> push-buttons and accepted by the <ENTER> one. The acceptance closes simultaneously the **MEASUREMENT SETUP** window. Any changes are ignored after pressing the <ESC> push-button.



Displays with the **LOGGER** deactivated and activated

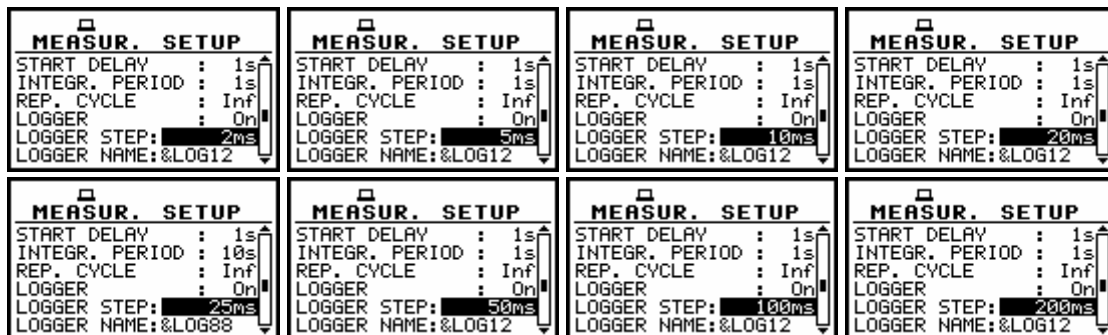
The **LOGGER** functionality is not included in the standard set of the instrument. It can be bought together with the instrument ordering the proper option or can be purchased by the user in the future. In the latter case, after selecting **On** value, the user has to introduce special code activating the functionality. After successful activation, the logger remains available and the instrument never more asks for the code.



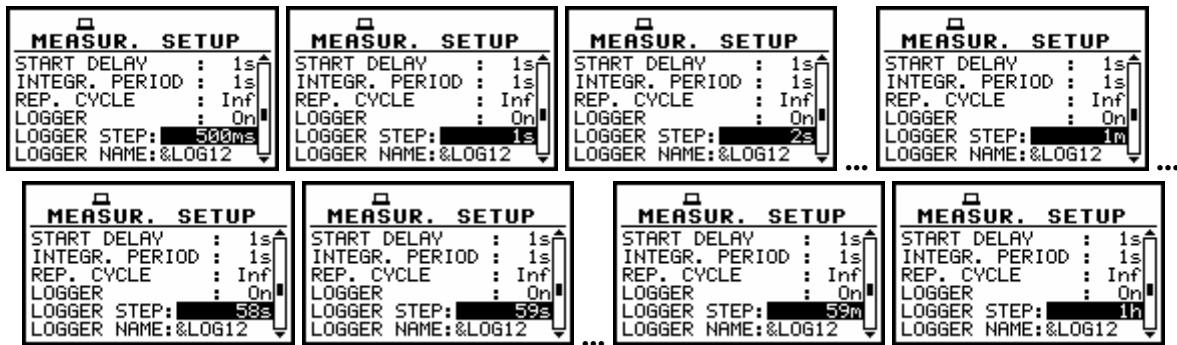
Displays during setting the **LOGGER STEP**; available values in a sequence 1, 2, 5

### 5.1.5 Setting time period between two writings to the logger's file - **LOGGER STEP**

The **LOGGER STEP** defines the period of the data logging in a file. It can be set from 2 ms to 1 s in 1, 2, 5 sequence, the values from 1 second to 59 seconds, the values from 1 minute to 59 minute and 1 hour. The required parameter can be set by means of the <◀>, <▶> push-buttons with the single step and by means of the <◀>, <▶> with <SHIFT> with the incremented one. The selection is accepted by the <ENTER> one, which closes simultaneously the **MEASUREMENT SETUP** window. Any changes are ignored after pressing the <ESC> push-button.



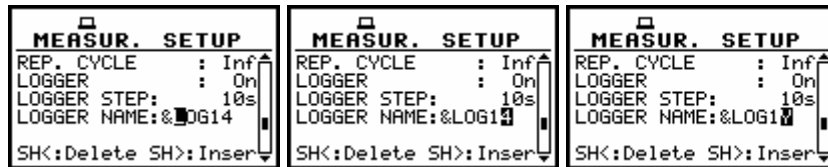
**LOGGER STEP** setting; available values in milliseconds



LOGGER STEP setting; available values from 500 milliseconds to 1 hour

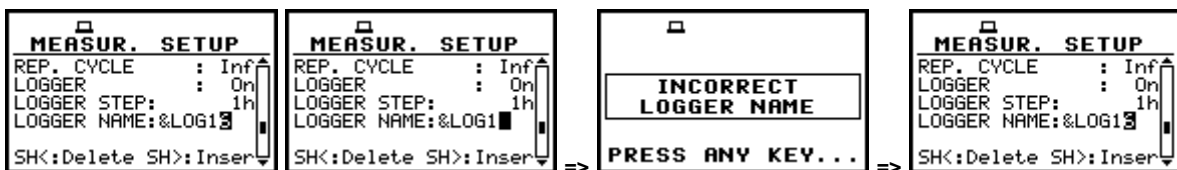
### 5.1.6 Logger file name edition - LOGGER NAME

The **LOGGER NAME** enables the user to name the logger file. The default one is &LOG. The name cannot be longer than eight characters including not edited first one character &. After entering this line, the special help is displayed in the display's last line. The name edition is performed similarly to the name edition in the **FILE NAME** line of the **SAVE** or **SAVE SETUP** window. The edition process is presented below. The displayed inversely character is currently edited. The <◀>, <▶>, <◀◀>, <▶▶> and <SHIFT> push-buttons are used for editing the name. One can select the proper position of the character in the edited text using the <◀>, <▶> push-buttons. The available ASCII characters can be changed using the <▲> (or <▼>) push-button pressed together with the <SHIFT> one. The subsequent digits, underline, big letters and space appear on the display in the inversely displayed position after each pressing of the mentioned above push-buttons.



LOGGER NAME edition in MEASUREMENT SETUP

The edited name is accepted and the file is saved after pressing the <ENTER> push-button. The special warning is displayed in the case the file with the edited name already exists in the memory. The instrument waits then for a reaction of the user (any push-button should be pressed except the <SHIFT> or the <ALT> one).



Displays during the attempt of overwriting the existing file

The main measurement results (cf. App. B):

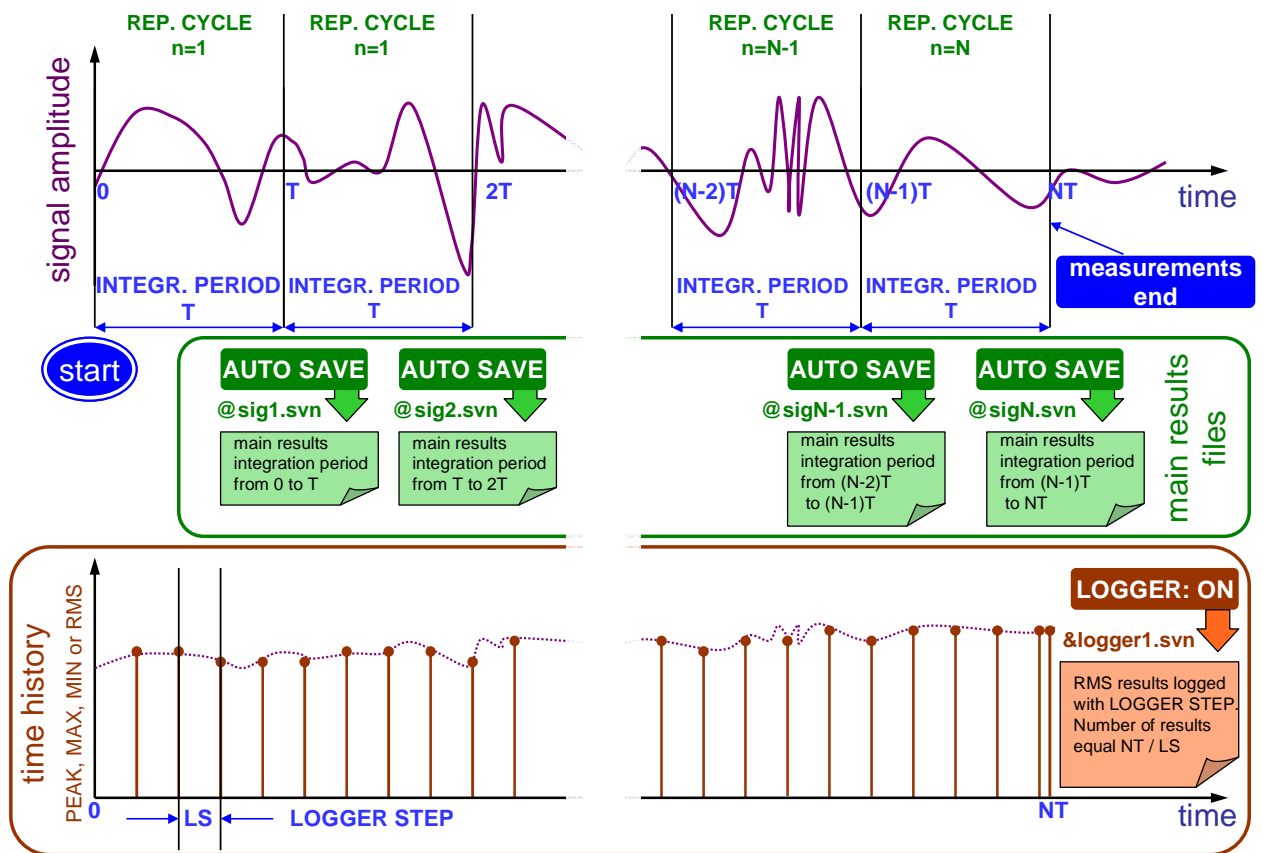
- **L<sub>Peak</sub>, L<sub>Max</sub>, L<sub>Min</sub>, SPL, LEQ, L<sub>den</sub>, L<sub>tm3</sub>, L<sub>tm5</sub>**, for **SOUND LEVEL METER**, 1/1 OCTAVE, 1/3 OCTAVE, FFT, LOUDNESS, TONALITY, ENVELOPING, RT60 and AEM
- **L<sub>Peak</sub>, L<sub>Max</sub>, L<sub>Min</sub>, SPL, LEQ, L<sub>den</sub>, L<sub>tm3</sub>, L<sub>tm5</sub>, LAV and TLAV** for **DOSE METER**
- **PEAK, P-P, MAX, MIN, RMS, VDV** for **VIBRATION LEVEL METER**, 1/1 OCTAVE, 1/3 OCTAVE, FFT and ENVELOPING

are calculated in the period set in the **INTEGR. PERIOD**. These results can be saved in the result files of the instrument's memory by means of the **SAVE** or **SAVE NEXT** function (*path: MENU / FILE / SAVE*). In the case the **INTEGR. PERIOD** is greater than 9 seconds, it can be done also by means of the

**AUTO SAVE** operation. The name of the file for that operation is set in the **FILE NAME** window (*path: MENU / FILE / AUTO SAVE / FILE NAME*). In the case the **REP. CYCLE** is greater than one, the **AUTO SAVE** operation will be performed after the period set in the **INTEGR. PERIOD**. The name of the file with the main results is changed after each saving.

In the same, when the **LOGGER** is **On**, the partial measurement results are calculated in the period set in the **LOGGER STEP**. Up to 12 results can be logged simultaneously from three independent profiles of the instrument (**PEAK / MAX / MIN / RMS** for sound measurements or **PEAK/ P-P/ MAX/ RMS** for vibration measurements from each profile (*path: MENU / INPUT / PROFILE x, where x = 1, 2 and 3*)) with time step down to 2 ms. These results are saved in one logger's file memory of the instrument in the **SOUND** or **VIBRATION LEVEL METER** as well as for other functions. The name of the file is set in the **LOGGER NAME** position. The registration in the logger's memory is stopped after the period, which is equal to **INTEGR. PERIOD** multiplied by **REP. CYCLE**, after pressing the **<START/STOP>** push-button or after stopping the measurements remotely.

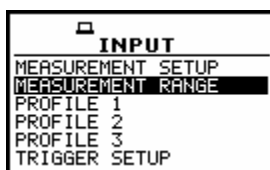
**Measurements started by <START/STOP> push-button, ended by last repetition cycle**



**Relations between INTEGR. PERIOD and LOGGER STEP**

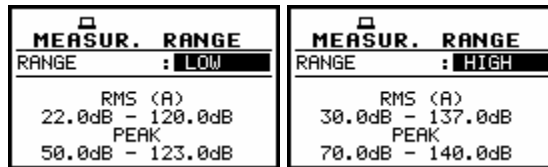
**5.2 Measurement range setting - MEASUREMENT RANGE**

The **MEASUREMENT RANGE** is used to set one of the available measurement ranges in the instrument. In order to open this window the user has to select the **MEASUREMENT RANGE** text in the **INPUT** list by means of the **<◀>**, **<▶>** push-buttons and press the **<ENTER>** one.

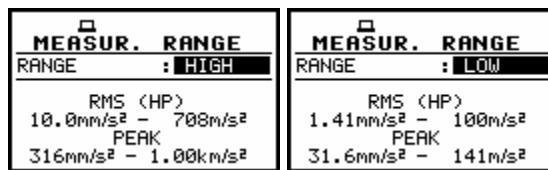


**INPUT list with the MEASUREMENT RANGE selected**

There are two ranges available **HIGH** and **LOW**. The detailed description of the measurement ranges parameters is given in App. C. The change of the input range is made by means of the <◀>, <▶> push-buttons. After pressing the <ENTER> push-button the change is confirmed and the window closes. The return to the **INPUT** list ignoring any changes made in the sub-list is made after pressing the <ESC> push-button.

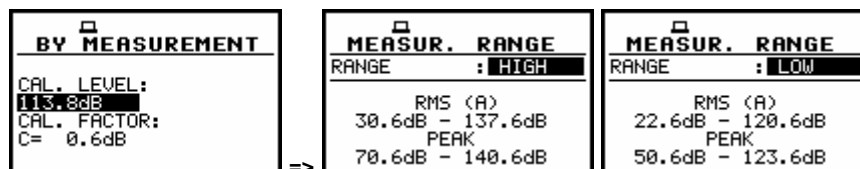


MEASUREMENT RANGE windows in sound modes; the RANGE selection

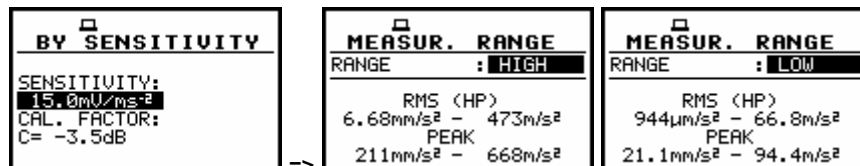


MEASUREMENT RANGE windows in vibration modes; the RANGE selection

The range values changes due to the calibration factor.



Displays with change of the default range values in sound modes caused by the calibration factor



Displays with change of the default range values in vibration modes caused by the calibration factor

### 5.3 Setting parameters in a profile - PROFILE x

The user enters the **PROFILE x** sub-list after pressing the <ENTER> push-button on the displayed inversely **PROFILE x** text, which has to be selected by means of the <◀>, <▶> push-buttons. In the **PROFILE x** sub-list the following parameters can be programmed independently for each profile: weighting filter (**FILTER**), RMS detector type (**DETECTOR**) and profile's results logged in a file (**LOGGER PEAK**, **LOGGER MAX**, **LOGGER MIN** and **LOGGER RMS** in the case of sound measurements and **LOGGER PEAK**, **LOGGER P-P**, **LOGGER MAX** and **LOGGER RMS** in the case of vibration measurements).



INPUT list with the PROFILE 1, PROFILE 2 and PROFILE 3 selected



**Notice:** The change of the profile parameters is not possible when the measurement is performed. The user has to finish the current measurement.

### 5.3.1 Weighting filter selection in a profile - FILTER

The following weighting filters are available in a profile of the instrument:

- in the case of sound measurements

- **Z** type 1 according to the IEC 61672-1 standard,
- **A** type 1 according to the IEC 651 and IEC 61672-1 standards,
- **C** type 1 according to the IEC 651 and IEC 61672-1 standards,
- **R1, R2, R3** if the **REAL TIME FILTERS** are activated in the **SETUP** list (path: **SETUP / USER FILTERS / REAL TIME FILTERS**)

<b>PROFILE(3)</b>	<b>PROFILE(1)</b>	<b>PROFILE(2)</b>
FILTER : <b>Z</b>	FILTER : <b>A</b>	FILTER : <b>C</b>
DETECTOR: FAST	DETECTOR: FAST	DETECTOR: FAST
LOGGER PEAK : [ ]	LOGGER PEAK : [ ]	LOGGER PEAK : [ ]
LOGGER MAX : [ ]	LOGGER MAX : [ ]	LOGGER MAX : [ ]
LOGGER MIN : [ ]	LOGGER MIN : [ ]	LOGGER MIN : [ ]
LOGGER RMS : [ ]	LOGGER RMS : [ ]	LOGGER RMS : [ ]

**PROFILE(x) windows; the selection of the weighting filter in SM**

- in the case of acceleration measurements (vibration): **HP1, HP3, HP10, KB, Wk, Wd, Wc, Wj, Wm, Wh, Wg** and **Wb**

<b>PROFILE(1)</b>	<b>PROFILE(1)</b>	<b>PROFILE(1)</b>	<b>PROFILE(1)</b>
FILTER : <b>HP1</b>	FILTER : <b>HP3</b>	FILTER : <b>HP10</b>	FILTER : <b>KB</b>
DETECTOR: 1.0s	DETECTOR: 1.0s	DETECTOR: 1.0s	DETECTOR: 1.0s
LOGGER PEAK : [ ]	LOGGER PEAK : [ ]	LOGGER PEAK : [ ]	LOGGER PEAK : [ ]
LOGGER P-P : [ ]	LOGGER P-P : [ ]	LOGGER P-P : [ ]	LOGGER P-P : [ ]
LOGGER MAX : [ ]	LOGGER MAX : [ ]	LOGGER MAX : [ ]	LOGGER MAX : [ ]
LOGGER RMS : [ ]	LOGGER RMS : [ ]	LOGGER RMS : [ ]	LOGGER RMS : [ ]

<b>PROFILE(1)</b>	<b>PROFILE(1)</b>	<b>PROFILE(1)</b>	<b>PROFILE(1)</b>
FILTER : <b>Wk</b>	FILTER : <b>Wd</b>	FILTER : <b>Wc</b>	FILTER : <b>Wj</b>
DETECTOR: 1.0s	DETECTOR: 1.0s	DETECTOR: 1.0s	DETECTOR: 1.0s
LOGGER PEAK : [ ]	LOGGER PEAK : [ ]	LOGGER PEAK : [ ]	LOGGER PEAK : [ ]
LOGGER P-P : [ ]	LOGGER P-P : [ ]	LOGGER P-P : [ ]	LOGGER P-P : [ ]
LOGGER MAX : [ ]	LOGGER MAX : [ ]	LOGGER MAX : [ ]	LOGGER MAX : [ ]
LOGGER RMS : [ ]	LOGGER RMS : [ ]	LOGGER RMS : [ ]	LOGGER RMS : [ ]

<b>PROFILE(1)</b>	<b>PROFILE(1)</b>	<b>PROFILE(1)</b>	<b>PROFILE(1)</b>
FILTER : <b>Wm</b>	FILTER : <b>Wh</b>	FILTER : <b>Wg</b>	FILTER : <b>Wb</b>
DETECTOR: 1.0s	DETECTOR: 1.0s	DETECTOR: 1.0s	DETECTOR: 1.0s
LOGGER PEAK : [ ]	LOGGER PEAK : [ ]	LOGGER PEAK : [ ]	LOGGER PEAK : [ ]
LOGGER P-P : [ ]	LOGGER P-P : [ ]	LOGGER P-P : [ ]	LOGGER P-P : [ ]
LOGGER MAX : [ ]	LOGGER MAX : [ ]	LOGGER MAX : [ ]	LOGGER MAX : [ ]
LOGGER RMS : [ ]	LOGGER RMS : [ ]	LOGGER RMS : [ ]	LOGGER RMS : [ ]

**PROFILE(1) windows; the selection of the weighting filter in acceleration measurements**

- in the case of velocity measurements (vibration): **Vel1, Vel3, Vel10** and **VelMF**

<b>PROFILE(1)</b>	<b>PROFILE(1)</b>	<b>PROFILE(1)</b>	<b>PROFILE(1)</b>
FILTER : <b>Vel1</b>	FILTER : <b>Vel3</b>	FILTER : <b>Vel10</b>	FILTER : <b>VelMF</b>
DETECTOR: 1.0s	DETECTOR: 1.0s	DETECTOR: 1.0s	DETECTOR: 1.0s
LOGGER PEAK : [ ]	LOGGER PEAK : [ ]	LOGGER PEAK : [ ]	LOGGER PEAK : [ ]
LOGGER P-P : [ ]	LOGGER P-P : [ ]	LOGGER P-P : [ ]	LOGGER P-P : [ ]
LOGGER MAX : [ ]	LOGGER MAX : [ ]	LOGGER MAX : [ ]	LOGGER MAX : [ ]
LOGGER RMS : [ ]	LOGGER RMS : [ ]	LOGGER RMS : [ ]	LOGGER RMS : [ ]

**PROFILE(1) windows; the selection of the weighting filter in velocity measurements**

- in the case of displacement measurements (vibration): **Dil1, Dil3** and **Dil10**

<b>PROFILE(1)</b> FILTER : Di11 DETECTOR: 1.0s LOGGER PEAK : [ ] LOGGER P-P : [ ] LOGGER MAX : [ ] LOGGER RMS : [ ]	<b>PROFILE(1)</b> FILTER : Di13 DETECTOR: 1.0s LOGGER PEAK : [ ] LOGGER P-P : [ ] LOGGER MAX : [ ] LOGGER RMS : [ ]	<b>PROFILE(1)</b> FILTER : Di110 DETECTOR: 1.0s LOGGER PEAK : [ ] LOGGER P-P : [ ] LOGGER MAX : [ ] LOGGER RMS : [ ]
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PROFILE(1) windows; the selection of the weighting filter in displacement measurements

- for all types of signal it is possible to use real time filters **R1**, **R2**, **R3** if they are activated in the **SETUP** list (path: *SETUP/USER FILTERS/ REAL TIME FILTERS*)

<b>PROFILE(1)</b> FILTER : R1 DETECTOR: 1.0s LOGGER PEAK : [ ] LOGGER P-P : [ ] LOGGER MAX : [ ] LOGGER RMS : [ ]	<b>PROFILE(1)</b> FILTER : R2 DETECTOR: 1.0s LOGGER PEAK : [ ] LOGGER P-P : [ ] LOGGER MAX : [ ] LOGGER RMS : [ ]	<b>PROFILE(1)</b> FILTER : R3 DETECTOR: 1.0s LOGGER PEAK : [ ] LOGGER P-P : [ ] LOGGER MAX : [ ] LOGGER RMS : [ ]
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PROFILE(1) windows; the selection of the R1, R2, R3 weighting filter in VM

<b>PROFILE(1)</b> FILTER : R1 DETECTOR: FAST LOGGER PEAK : [ ] LOGGER MAX : [ ] LOGGER MIN : [ ] LOGGER RMS : [ ]	<b>PROFILE(1)</b> FILTER : R2 DETECTOR: FAST LOGGER PEAK : [ ] LOGGER MAX : [ ] LOGGER MIN : [ ] LOGGER RMS : [ ]	<b>PROFILE(1)</b> FILTER : R3 DETECTOR: FAST LOGGER PEAK : [ ] LOGGER MAX : [ ] LOGGER MIN : [ ] LOGGER RMS : [ ]
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PROFILE(1) windows; the selection of the R1, R2, R3 weighting filter in SM

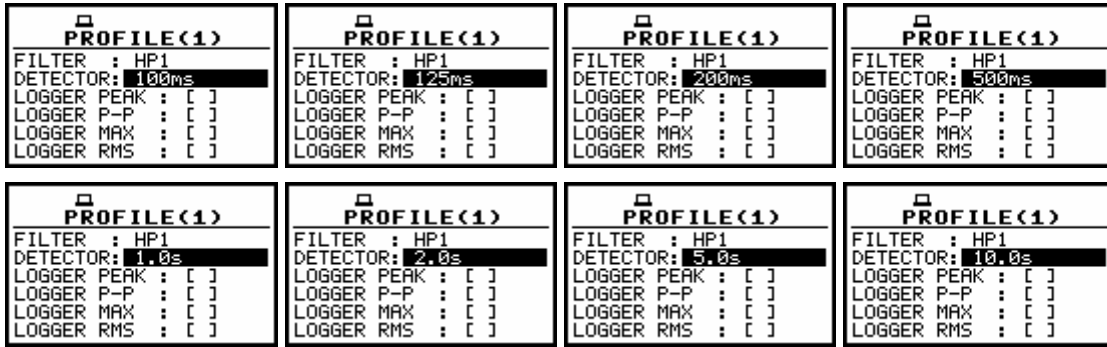
The characteristics of the filters are given in App. D. The selection of the required filter is made with the <◀>, <▶> push-buttons. The user can enter the **FILTER** line in the **PROFILE x** sub-list pressing the <▲>, <▼> push-buttons. After pressing the <ENTER> push-button any changes made in the sub-list are confirmed and it is closed. The return to the **INPUT** list ignoring any changes made in the sub-list is made after pressing the <ESC> push-button.

### 5.3.2 RMS detector selection - DETECTOR

In the instrument the following RMS detectors are available: **IMPULSE**, **FAST** and **SLOW** (in the case of sound measurements) and **100ms**, **125ms**, **200ms**, **500ms**, **1.0s**, **2.0s**, **5.0s**, **10.0s** (in the case of vibration measurements). The selection of the required detector is made with the <◀>, <▶> push-buttons. The user can enter the **DETECTOR** line in the **PROFILE x** sub-list pressing the <▲>, <▼> push-buttons. After pressing the <ENTER> push-button any changes made in the sub-list are confirmed and it is closed. The return to the **INPUT** list ignoring any changes made in the sub-list is made after pressing the <ESC> push-button.

<b>PROFILE(3)</b> FILTER : Z DETECTOR: IMP. LOGGER PEAK : [ ] LOGGER MAX : [ ] LOGGER MIN : [ ] LOGGER RMS : [ ]	<b>PROFILE(2)</b> FILTER : C DETECTOR: FAST LOGGER PEAK : [ ] LOGGER MAX : [ ] LOGGER MIN : [ ] LOGGER RMS : [ ]	<b>PROFILE(1)</b> FILTER : A DETECTOR: SLOW LOGGER PEAK : [ ] LOGGER MAX : [ ] LOGGER MIN : [ ] LOGGER RMS : [ ]
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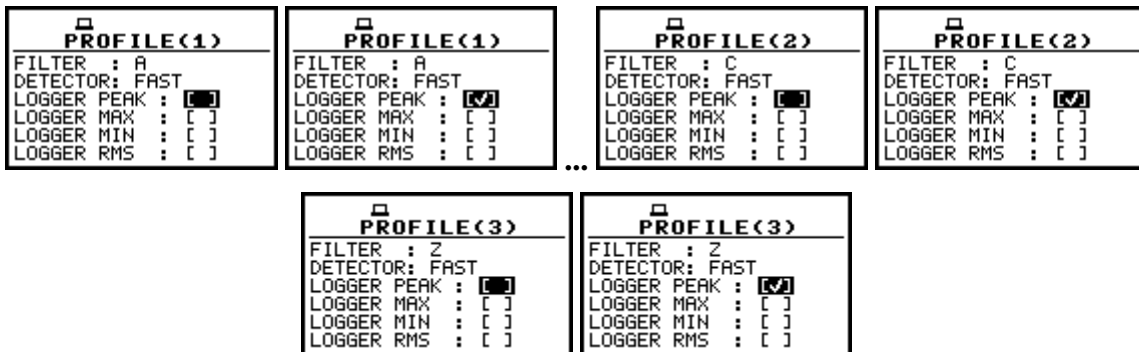
PROFILE(x) windows (SM); the selection of the RMS detector



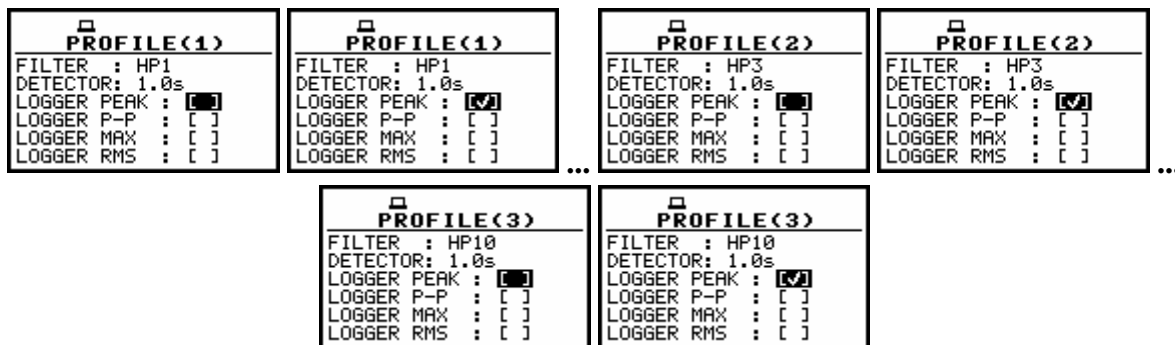
PROFILE(1) windows (vibration mode); the selection of the RMS detector

### 5.3.3 PEAK result selection for saving in a logger's file - LOGGER PEAK

Up to four measurement results from each profile can be saved in the logger's file of the instrument. In order to save the **PEAK** result (cf. the definition in App. D) the user has to activate this line (by means of the <▲>, <▼> push-buttons) and place a special character in the brackets using the <◀>, <▶> push-buttons. After pressing the <ENTER> push-button any changes made in the window are confirmed and it is closed. The return to the **INPUT** list ignoring any changes made in the window is made after pressing the <ESC> push-button.



PROFILE(x) windows (sound mode); the PEAK result to be not saved or saved in a logger's file



PROFILE(x) windows (vibration); the PEAK result to be not saved or saved in a logger's file

### 5.3.4 MAX result selection for saving in a logger's file - LOGGER MAX

In order to save the **MAX** result (cf. the definition in App. D) the user has to activate this line (by means of the <▲>, <▼> push-buttons) and place a special character in the brackets using the <◀>, <▶> push-buttons. After pressing the <ENTER> push-button any changes made in the window are confirmed and it is closed. The return to the **INPUT** list ignoring any changes made in the window is made after pressing the <ESC> push-button.

<p style="text-align: center;"><b>PROFILE(1)</b></p> <p>FILTER : A  DETECTOR: FAST  LOGGER PEAK : [✓]  LOGGER MAX : [ ]  LOGGER MIN : [ ]  LOGGER RMS : [ ]</p>	<p style="text-align: center;"><b>PROFILE(1)</b></p> <p>FILTER : A  DETECTOR: FAST  LOGGER PEAK : [✓]  LOGGER MAX : [✓]  LOGGER MIN : [ ]  LOGGER RMS : [ ]</p>	...	<p style="text-align: center;"><b>PROFILE(3)</b></p> <p>FILTER : Z  DETECTOR: FAST  LOGGER PEAK : [ ]  LOGGER MAX : [ ]  LOGGER MIN : [ ]  LOGGER RMS : [ ]</p>	<p style="text-align: center;"><b>PROFILE(3)</b></p> <p>FILTER : Z  DETECTOR: FAST  LOGGER PEAK : [ ]  LOGGER MAX : [✓]  LOGGER MIN : [ ]  LOGGER RMS : [ ]</p>
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PROFILE(x) windows (SM); the MAX result to be not saved or saved in a logger's file

<p style="text-align: center;"><b>PROFILE(1)</b></p> <p>FILTER : HP1  DETECTOR: 1.0s  LOGGER PEAK : [ ]  LOGGER P-P : [ ]  LOGGER MAX : [ ]  LOGGER RMS : [ ]</p>	<p style="text-align: center;"><b>PROFILE(1)</b></p> <p>FILTER : HP1  DETECTOR: 1.0s  LOGGER PEAK : [ ]  LOGGER P-P : [ ]  LOGGER MAX : [✓]  LOGGER RMS : [ ]</p>	...	<p style="text-align: center;"><b>PROFILE(2)</b></p> <p>FILTER : HP3  DETECTOR: 1.0s  LOGGER PEAK : [ ]  LOGGER P-P : [ ]  LOGGER MAX : [ ]  LOGGER RMS : [ ]</p>	<p style="text-align: center;"><b>PROFILE(2)</b></p> <p>FILTER : HP3  DETECTOR: 1.0s  LOGGER PEAK : [ ]  LOGGER P-P : [ ]  LOGGER MAX : [✓]  LOGGER RMS : [ ]</p>
		...	<p style="text-align: center;"><b>PROFILE(3)</b></p> <p>FILTER : HP10  DETECTOR: 1.0s  LOGGER PEAK : [ ]  LOGGER P-P : [ ]  LOGGER MAX : [ ]  LOGGER RMS : [ ]</p>	<p style="text-align: center;"><b>PROFILE(3)</b></p> <p>FILTER : HP10  DETECTOR: 1.0s  LOGGER PEAK : [ ]  LOGGER P-P : [ ]  LOGGER MAX : [✓]  LOGGER RMS : [ ]</p>

PROFILE(x) windows (VM); the MAX result to be not saved or saved in a logger's file

### 5.3.5 P-P result selection for saving in a logger's file - LOGGER P-P

In order to save the P-P result (cf. the definition in App. D) the user has to activate this line (by means of the <^>, <v> push-buttons) and place a special character in the brackets using the <^>, <v> push-buttons. After pressing the <ENTER> push-button any changes made in the window are confirmed and it is closed. The return to the INPUT list ignoring any changes made in the window is made after pressing the <ESC> push-button. The LOGGER P-P position is available only in VM.

<p style="text-align: center;"><b>PROFILE(1)</b></p> <p>FILTER : HP1  DETECTOR: 1.0s  LOGGER PEAK : [✓]  LOGGER P-P : [ ]  LOGGER MAX : [ ]  LOGGER RMS : [ ]</p>	<p style="text-align: center;"><b>PROFILE(1)</b></p> <p>FILTER : HP1  DETECTOR: 1.0s  LOGGER PEAK : [✓]  LOGGER P-P : [✓]  LOGGER MAX : [ ]  LOGGER RMS : [ ]</p>	...	<p style="text-align: center;"><b>PROFILE(3)</b></p> <p>FILTER : HP10  DETECTOR: 1.0s  LOGGER PEAK : [ ]  LOGGER P-P : [ ]  LOGGER MAX : [ ]  LOGGER RMS : [ ]</p>	<p style="text-align: center;"><b>PROFILE(3)</b></p> <p>FILTER : HP10  DETECTOR: 1.0s  LOGGER PEAK : [ ]  LOGGER P-P : [✓]  LOGGER MAX : [ ]  LOGGER RMS : [ ]</p>
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PROFILE(x) windows; the P-P result to be not saved or saved in a logger's file

### 5.3.6 MIN result selection for saving in a logger's file - LOGGER MIN

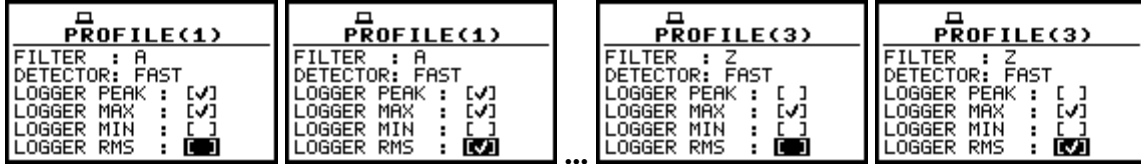
In order to save the MIN result (cf. the definition in App. D) the user has to activate this line (by means of the <^>, <v> push-buttons) and place a special character in the brackets using the <^>, <v> push-buttons. After pressing the <ENTER> push-button any changes made in the window are confirmed and it is closed. The return to the INPUT list ignoring any changes made in the window is made after pressing the <ESC> push-button. The LOGGER MIN position is available only in SM.

<p style="text-align: center;"><b>PROFILE(1)</b></p> <p>FILTER : A  DETECTOR: FAST  LOGGER PEAK : [✓]  LOGGER MAX : [✓]  LOGGER MIN : [ ]  LOGGER RMS : [ ]</p>	<p style="text-align: center;"><b>PROFILE(1)</b></p> <p>FILTER : A  DETECTOR: FAST  LOGGER PEAK : [✓]  LOGGER MAX : [✓]  LOGGER MIN : [✓]  LOGGER RMS : [ ]</p>	...	<p style="text-align: center;"><b>PROFILE(3)</b></p> <p>FILTER : Z  DETECTOR: FAST  LOGGER PEAK : [ ]  LOGGER MAX : [ ]  LOGGER MIN : [ ]  LOGGER RMS : [ ]</p>	<p style="text-align: center;"><b>PROFILE(3)</b></p> <p>FILTER : Z  DETECTOR: FAST  LOGGER PEAK : [ ]  LOGGER MAX : [ ]  LOGGER MIN : [✓]  LOGGER RMS : [ ]</p>
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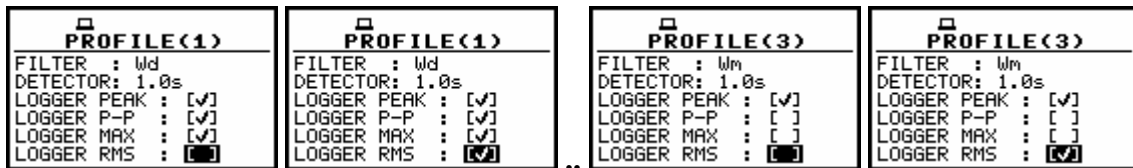
PROFILE(x) windows; the MIN result to be not saved or saved in a logger's file

### 5.3.7 RMS result selection for saving in a logger's file - **LOGGER RMS**

In order to save the **RMS** result (cf. the definition in App. D) the user has to activate this line (by means of the <^>, <v> push-buttons) and place a special character in the brackets using the <^>, <v> push-buttons. After pressing the <ENTER> push-button any changes made in the window are confirmed and it is closed. The return to the **INPUT** list ignoring any changes made in the window is made after pressing the <ESC> push-button.



PROFILE(x) windows (SM); the RMS result to be not saved or saved in a logger's file



PROFILE(x) windows (VM); the RMS result to be not saved or saved in a logger's file

## 5.4 Triggering mode and parameters selection - **TRIGGER SETUP**

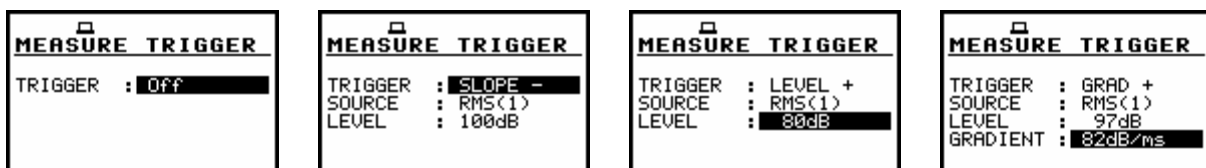
The **TRIGGER SETUP** sub-list enables the user to set the triggering parameters. It is not present for the **DOSE METER** function. This sub-list is opened after the selection of the **TRIGGER SETUP** text from the **INPUT** list by means of the <v>, <v> (or <v>, <v> with <SHIFT>) push-buttons and pressing the <ENTER> one. The **TRIGGER SETUP** consists of the **MEASURE TRIGGER**, **LOGGER TRIGGER** and **RECORDER TRIGGER** sub-lists. The return to the **INPUT** list is made after pressing the <ESC> push-button.



TRIGGER SETUP selected in the INPUT list and the TRIGGER SETUP window

### 5.4.1 Trigger parameters setting - **MEASURE TRIGGER**

The **MEASURE TRIGGER** is a contexts sub-list in which the triggering can be switched off or on (**TRIGGER**), in the case when on - the source of the triggering signal can be determined (**SOURCE**), its level (**LEVEL**) and sometimes also the speed of changes (**GRADIENT**). In order to enter this sub-list the user has to select by means of the <^>, <^> push-buttons the **MEASURE TRIGGER** text in the **TRIGGER SETUP** sub-list and press the <ENTER> one.

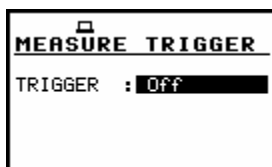


MEASURE TRIGGER windows

In order to change the displayed inversely parameter the user has to press the <▲>, <▼> push-buttons. The confirmation of any change made in the window requires pressing the <ENTER> push-button, which simultaneously closes the current display. The **MEASURE TRIGGER** window is closed ignoring any changes made, after pressing any time the <ESC> push-button.

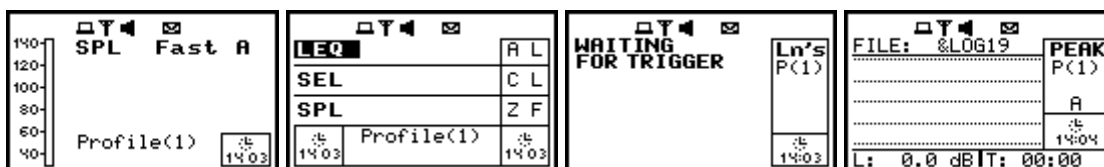
### 5.4.1.1 Switching the triggering on and off - TRIGGER

The triggering of the measurements (**TRIGGER**) can be switched off using the <◀> push-button.



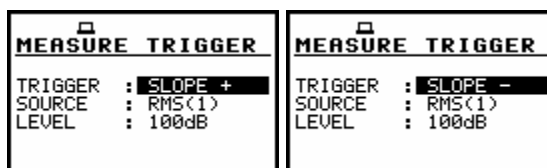
MEASURE TRIGGER window; TRIGGER switched off

The triggering is switched on if one of its five modes is selected: **SLOPE +**, **SLOPE -**, **LEVEL +**, **LEVEL -** or **GRAD +**. The selection of the triggering mode is performed using the <◀>, <▶> push-buttons. If the instrument works with the triggering switched on, the “Antenna” icon is flashing on the display in the case when the triggering condition was not fulfilled.



Displays during the measurements while the triggering condition is not fulfilled

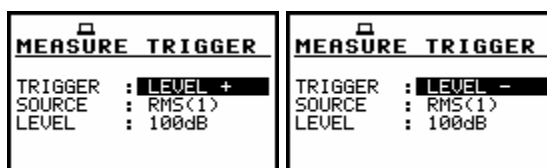
In the case when the **SLOPE +** is selected, the measurement starts when the arising signal will pass the level determined in the **LEVEL**. In the case when the **SLOPE -** is selected, the measurement starts when the falling down signal will pass the level determined in the **LEVEL**. The measurement is stopped when the conditions set in the **MEASUREMENT SETUP** sub-list are fulfilled, after pressing the <START / STOP> push-button or after receiving the proper control code remotely.



MEASURE TRIGGER windows with the SLOPE modes selected

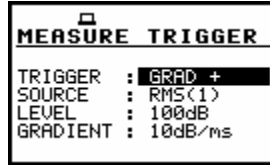
In the case when the **LEVEL +** is selected, in each second of the measurement the triggering condition is checked; the measurement is registered only when the signal has the greater level than this determined in the **LEVEL** and in the other case the measurement result is skipped.

In the case when the **LEVEL -** is selected, in each second of the measurement the triggering condition is checked; the measurement is registered only when the signal has the lower level than this determined in the **LEVEL** and in the other case the measurement result is skipped.



MEASURE TRIGGER windows with the LEVEL modes selected

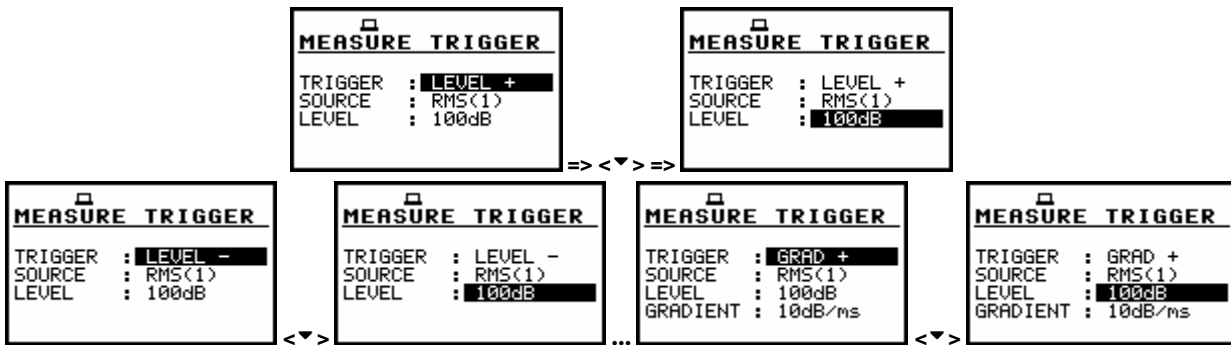
In the case when the **GRAD +** is selected, in each second of the measurement the triggering condition is checked; the measurement is registered only when the signal has the greater level than this determined in the **LEVEL** and the speed of the signal changes is not less than that selected in the **GRADIENT**. In the other case the measurement result is skipped.



MEASURE TRIGGER window with the GRAD + mode selected

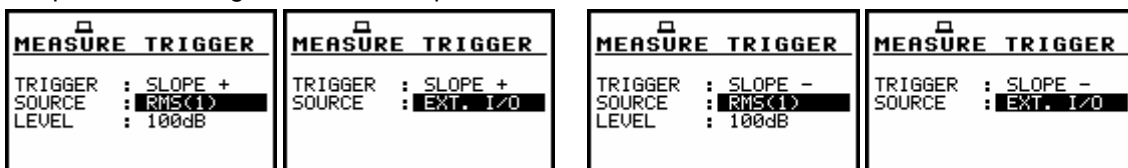
5.4.1.2 Selection of the triggering signal - SOURCE

It is assumed that only one measured result can be used as a source of the triggering signal in the **LEVEL METER** mode, namely the output signal from the RMS detector coming from the first profile which is denoted here as **RMS(1)**. This position does not become active (it is not displayed inversely) and the text stated here remains unchanged in the case of **LEVEL +**, **LEVEL -** or **GRAD +** triggering mode. After pressing there the **<▼>** push-button, the **SOURCE** line is skipped.




MEASURE TRIGGER windows with not active SOURCE signal line

In the case of **SLOPE +** and **SLOPE -** as a source of the triggering signal can be used the signal connected to the external input/output socked named **I/O**. The selection of the source of the triggering signal is performed using the **<◀>**, **<▶>** push-buttons.



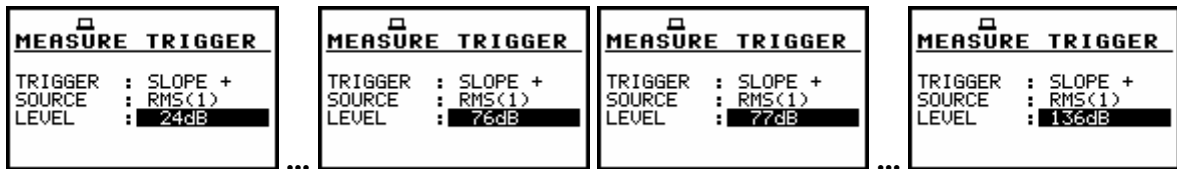
MEASURE TRIGGER windows with the SOURCE signal selection




**Notice:** Only one signal measured in the instrument - the RMS detector in the first profile - can be used as the triggering signal. Additionally, the signal from **Ext.I/O** can be also used as the trigger source in the **SLOPE +** and **SLOPE -** modes.

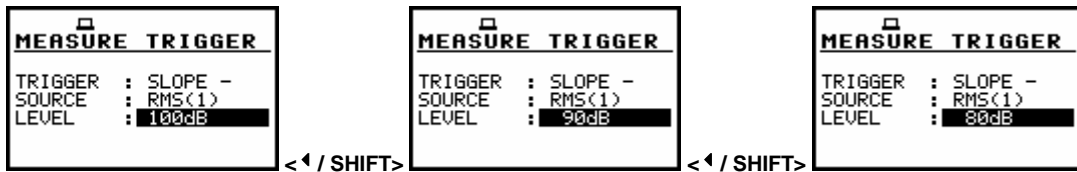
5.4.1.3 Setting the level of the triggering signal - LEVEL

The level of the triggering signal (**LEVEL**) can be set in 1 dB step (or 10 dB steps) from 24 dB to 136 dB range using the **<◀>**, **<▶>** push-buttons (or **<◀>**, **<▶>** with **<SHIFT>**).

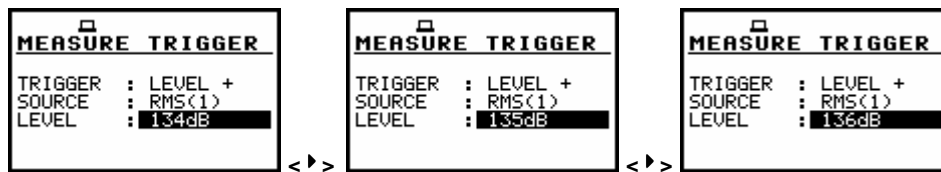


MEASURE TRIGGER windows with the LEVEL selection in the SLOPE + mode

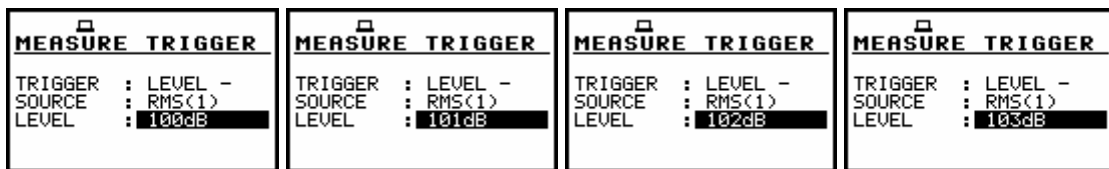
 **Notice:** The **LEVEL** value of the triggering signal refers to the instantaneous value of the RMS result from the first profile calculated during the period depending on selected **DETECTOR** (path: MENU / INPUT / PROFILE 1 / DETECTOR).



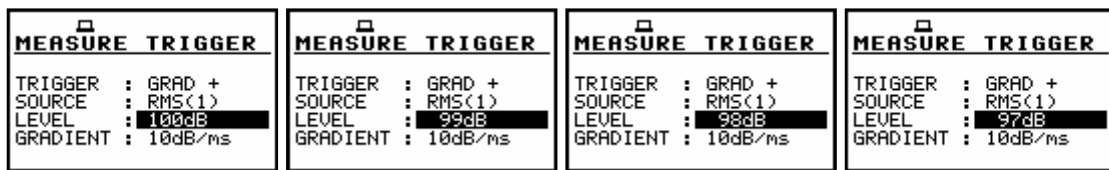
MEASURE TRIGGER windows with the LEVEL selection in the SLOPE – mode (10 dB step down)



MEASURE TRIGGER windows with the LEVEL selection in the LEVEL + mode (1 dB step up)



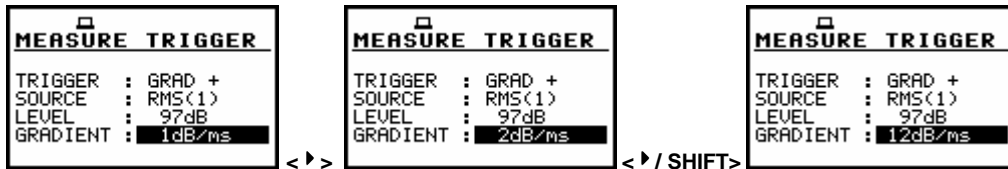
MEASURE TRIGGER windows with the LEVEL selection in the LEVEL – mode (1 dB step up)



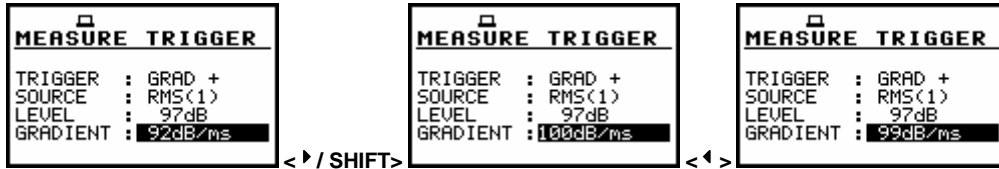
MEASURE TRIGGER windows with the LEVEL selection in the GRAD + mode (1 dB step down)

#### 5.4.1.4 Setting the speed of the triggering signal changes - GRADIENT

The speed of the triggering signal changes (**GRADIENT**) can be set in 1 dB/millisecond step (or 10 dB/millisecond steps) from 1 dB/ms to 100 dB/ms range using the < / >, < / > push-buttons (or < / >, < / > with <SHIFT>).



MEASURE TRIGGER windows with the GRADIENT selection (1 dB/ms and 10 dB/ms step up)



MEASURE TRIGGER windows with the GRADIENT selection (10 dB/ms up and 1 dB/ms down)

### 5.4.2 Trigger parameters in logger setting - **LOGGER TRIGGER**

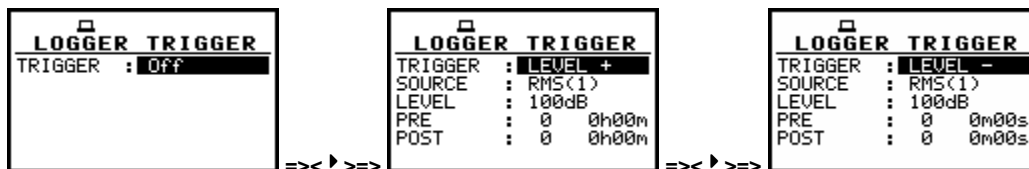
The **LOGGER TRIGGER** parameters influence the way the measurement results are saved in the logger. It is a contexts sub-list in which the triggering in logger can be switched off or on (**TRIGGER**), in the case when on (**LEVEL +**) - the source of the triggering signal is determined (**SOURCE**), its level can be selected (**LEVEL**), the number of the results saved in the logger before the fulfilment of the triggering condition (**PRE**) and the number of the results saved in the logger after the fulfilment of the triggering condition (**POST**). If the triggering signal is greater than the selected in the **LEVEL**, the logger contains:

- the measurement results registered directly before the fulfilment of the triggering condition; time of the registration can be calculated by multiplying the value set in the **PRE** by the time period taken from the **LOGGER STEP** (*path: MENU / INPUT / MEASUREMENT SETUP / LOGGER STEP*);
- all measurement results up to the moment the triggering signal falls down the **LEVEL**;
- the results registered directly after the fulfilment of the triggering condition; time of the registration can be calculated by multiplying the value set in the **POST** by the time period taken from the **LOGGER STEP** (*path: MENU / INPUT / MEASUREMENT SETUP / LOGGER STEP*).

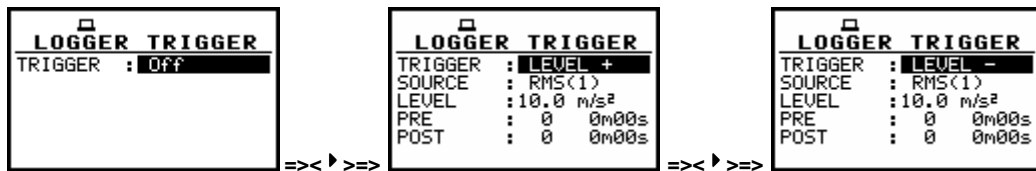
In order to change the displayed inversely parameter the user has to press the **<^>**, **<v>** push-buttons. The confirmation of any change made in the window requires pressing the **<ENTER>** push-button, which simultaneously closes the current display. The **LOGGER TRIGGER** window is closed ignoring any changes made, after pressing any time the **<ESC>** push-button.

#### 5.4.2.1 Switching the logger triggering on and off - **TRIGGER**

The logger triggering of the measurements (**TRIGGER**) can be switched off using the **<^>** push-button (or **<^>** with **<SHIFT>**). The triggering is switched on if the **LEVEL +** or **LEVEL -** mode is selected using the **<v>** push-button (or **<v>** with **<SHIFT>**).



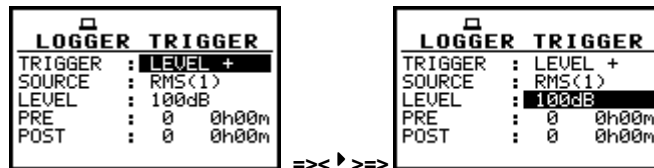
LOGGER SETUP windows in sound modes



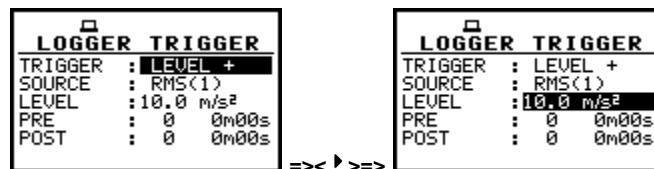
LOGGER SETUP windows in vibration modes

### 5.4.2.2 Selection of the triggering signal in logger - SOURCE

It is assumed that only one measured result can be used as a source of the triggering signal in the logger, namely the output signal from the RMS detector coming from the first profile which is denoted here as **RMS(1)**. This position does not become active (it is not displayed inversely) and the text stated here remains unchanged. After pressing the **<▼>** push-button, the **SOURCE** line is skipped.



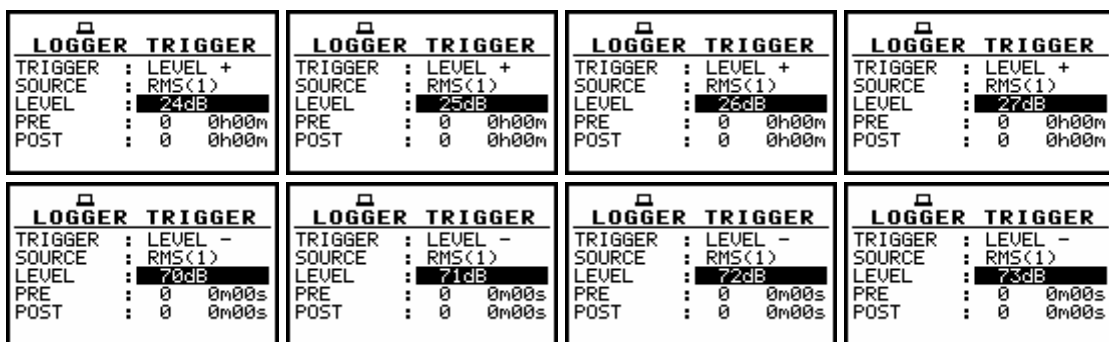
LOGGER TRIGGER windows with the not active SOURCE signal line in sound modes



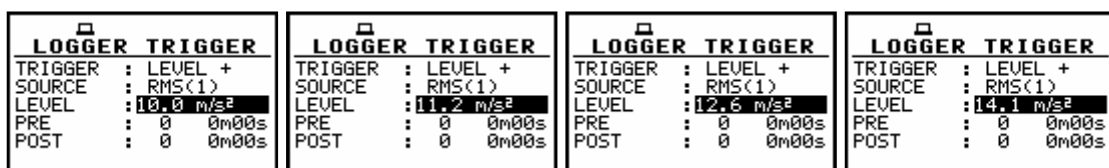
LOGGER TRIGGER windows with the not active SOURCE signal line in vibration modes

### 5.4.2.3 Setting the level of the triggering signal in the logger - LEVEL

The level of the triggering signal in logger (**LEVEL**) can be set in sound modes in 1 dB step (or 10 dB steps) from 24 dB to 136 dB range using the **<▲>**, **<▶>** push-buttons (or **<▲>**, **<▶>** with **<SHIFT>**). In vibration modes the step is equal to 1 dB (or 10 dB) from 1.00 mm/s<sup>2</sup> to 10.0 km/s<sup>2</sup>.



LOGGER TRIGGER windows with the LEVEL selection (1 dB step up) in sound modes



LOGGER TRIGGER windows with the LEVEL selection (1 dB step up) in vibration modes

<b>LOGGER TRIGGER</b> TRIGGER : LEVEL + SOURCE : RMS<1> LEVEL : 20.0 m/s <sup>2</sup> PRE : 0 0m00s POST : 0 0m00s	<b>LOGGER TRIGGER</b> TRIGGER : LEVEL + SOURCE : RMS<1> LEVEL : 22.4 m/s <sup>2</sup> PRE : 0 0m00s POST : 0 0m00s	<b>LOGGER TRIGGER</b> TRIGGER : LEVEL + SOURCE : RMS<1> LEVEL : 25.1 m/s <sup>2</sup> PRE : 0 0m00s POST : 0 0m00s	<b>LOGGER TRIGGER</b> TRIGGER : LEVEL + SOURCE : RMS<1> LEVEL : 28.2 m/s <sup>2</sup> PRE : 0 0m00s POST : 0 0m00s
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LOGGER TRIGGER windows with the LEVEL selection in vibration modes (1 dB step up, cont.)



**Notice:** The **LEVEL** value of the triggering signal in logger refers to the instantaneous value of the RMS result from the first profile calculated during the period depending on selected **DETECTOR** (path: MENU / INPUT / PROFILE 1 / DETECTOR).

<b>LOGGER TRIGGER</b> TRIGGER : LEVEL + SOURCE : RMS<1> LEVEL : 27dB PRE : 0 0h00m POST : 0 0h00m	< / SHIFT >	<b>LOGGER TRIGGER</b> TRIGGER : LEVEL + SOURCE : RMS<1> LEVEL : 37dB PRE : 0 0h00m POST : 0 0h00m	< / SHIFT >	<b>LOGGER TRIGGER</b> TRIGGER : LEVEL + SOURCE : RMS<1> LEVEL : 47dB PRE : 0 0h00m POST : 0 0h00m	...
<b>LOGGER TRIGGER</b> TRIGGER : LEVEL + SOURCE : RMS<1> LEVEL : 117dB PRE : 0 0h00m POST : 0 0h00m	< / SHIFT >	<b>LOGGER TRIGGER</b> TRIGGER : LEVEL + SOURCE : RMS<1> LEVEL : 127dB PRE : 0 0h00m POST : 0 0h00m	< / SHIFT >	<b>LOGGER TRIGGER</b> TRIGGER : LEVEL + SOURCE : RMS<1> LEVEL : 136dB PRE : 0 0h00m POST : 0 0h00m	
<b>LOGGER TRIGGER</b> TRIGGER : LEVEL - SOURCE : RMS<1> LEVEL : 54dB PRE : 0 0m00s POST : 0 0m00s	< / SHIFT >	<b>LOGGER TRIGGER</b> TRIGGER : LEVEL - SOURCE : RMS<1> LEVEL : 64dB PRE : 0 0m00s POST : 0 0m00s	< / SHIFT >	<b>LOGGER TRIGGER</b> TRIGGER : LEVEL - SOURCE : RMS<1> LEVEL : 74dB PRE : 0 0m00s POST : 0 0m00s	

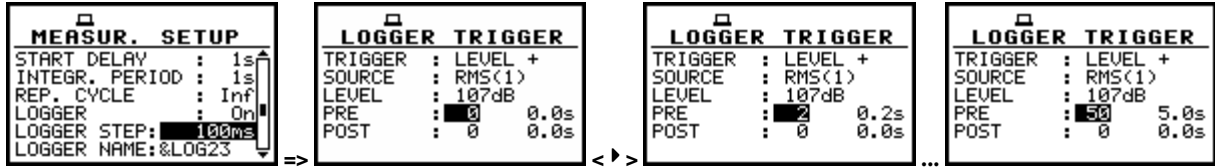
LOGGER TRIGGER windows with the LEVEL selection (10 dB step up) in sound modes

<b>LOGGER TRIGGER</b> TRIGGER : LEVEL + SOURCE : RMS<1> LEVEL : 1.00 m/s <sup>2</sup> PRE : 0 0m00s POST : 0 0m00s	< / SHIFT >	<b>LOGGER TRIGGER</b> TRIGGER : LEVEL + SOURCE : RMS<1> LEVEL : 5.16 m/s <sup>2</sup> PRE : 0 0m00s POST : 0 0m00s	< / SHIFT >	<b>LOGGER TRIGGER</b> TRIGGER : LEVEL + SOURCE : RMS<1> LEVEL : 10.0 m/s <sup>2</sup> PRE : 0 0m00s POST : 0 0m00s	...
<b>LOGGER TRIGGER</b> TRIGGER : LEVEL + SOURCE : RMS<1> LEVEL : 51.6 m/s <sup>2</sup> PRE : 0 0m00s POST : 0 0m00s	< / SHIFT >	<b>LOGGER TRIGGER</b> TRIGGER : LEVEL + SOURCE : RMS<1> LEVEL : 100 m/s <sup>2</sup> PRE : 0 0m00s POST : 0 0m00s	< / SHIFT >	<b>LOGGER TRIGGER</b> TRIGGER : LEVEL + SOURCE : RMS<1> LEVEL : 316mm/s <sup>2</sup> PRE : 0 0m00s POST : 0 0m00s	...
<b>LOGGER TRIGGER</b> TRIGGER : LEVEL + SOURCE : RMS<1> LEVEL : 1.00km/s <sup>2</sup> PRE : 0 0m00s POST : 0 0m00s	< / SHIFT >	<b>LOGGER TRIGGER</b> TRIGGER : LEVEL + SOURCE : RMS<1> LEVEL : 5.16km/s <sup>2</sup> PRE : 0 0m00s POST : 0 0m00s	< / SHIFT >	<b>LOGGER TRIGGER</b> TRIGGER : LEVEL + SOURCE : RMS<1> LEVEL : 10.0km/s <sup>2</sup> PRE : 0 0m00s POST : 0 0m00s	

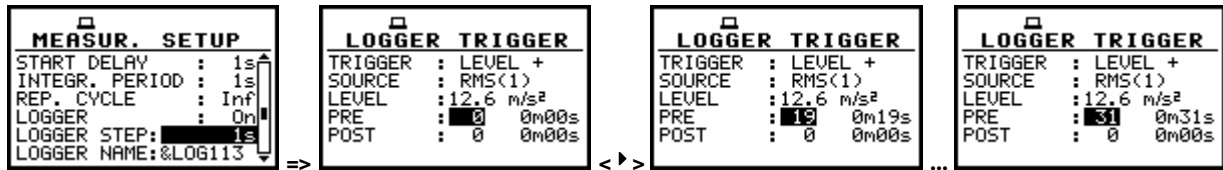
LOGGER TRIGGER windows with the LEVEL selection (10 dB step up) in vibration modes

**5.4.2.4 Selection of the number of the results to be saved in the logger before the fulfilment of the triggering condition - PRE**

In the **PRE** line the number of the results registered in the logger's file before the fulfilment of the triggering condition can be set. This number is within the limits 0..50 and can be set with the step equal to one using the <◀>, <▶> push-buttons or with the step equal to 10 using the <◀>, <▶> with <SHIFT>.

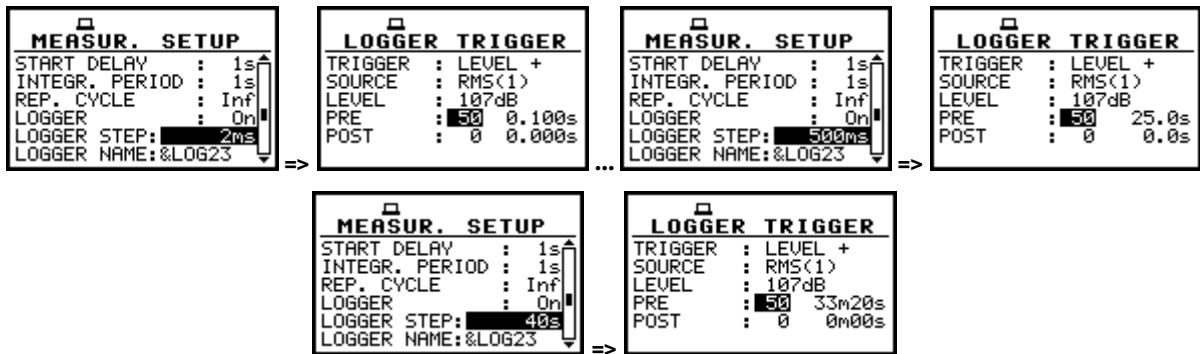


LOGGER TRIGGER windows with the PRE selection in sound modes



LOGGER TRIGGER windows with the PRE selection in vibration modes

Time period of the measurements which are saved in the logger before the fulfilment of the triggering condition can be calculated multiplying the value set in the **PRE** by the value set in the **LOGGER STEP** (*path: MENU / INPUT / MEASUREMENT SETUP*). The result of the calculation is presented in the same line, at the right side of the display.

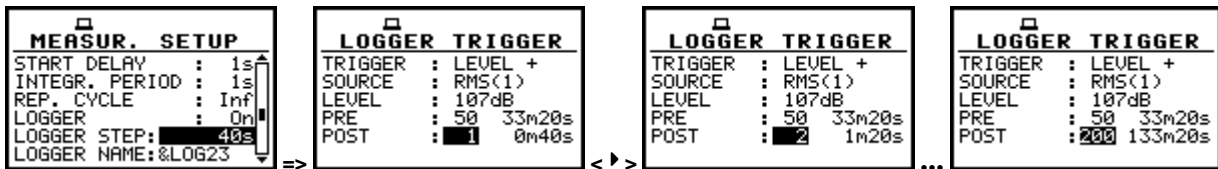


LOGGER TRIGGER windows with the PRE selection for different LOGGER STEPS

The value set in the **PRE** is confirmed and the window is closed after pressing the <ENTER> push-button. After pressing the <ESC> push-button the window is closed ignoring the settings made in the **PRE**.

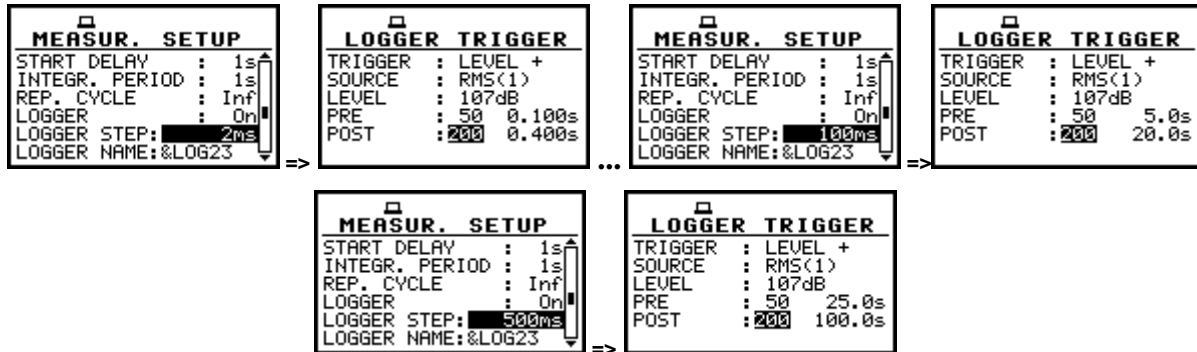
**5.4.2.5 Selection of the number of the results to be saved in the logger after the fulfilment of the triggering condition - POST**

In the **POST** line the number of the results registered in the logger's file after the fulfilment of the triggering condition can be set. This number is within the limits 0..200 and can be set with the step equal to one using the <◀>, <▶> push-buttons or the step equal to 10 using the <◀>, <▶> with <SHIFT>.

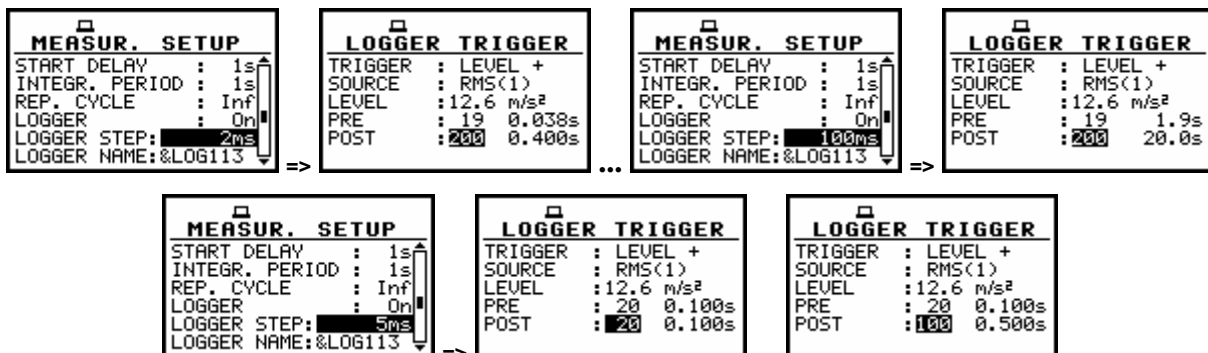


LOGGER TRIGGER windows with the POST selection

Time period of the measurements which are saved in the logger after the fulfilment of the triggering condition can be calculated multiplying the value set in the **POST** by the value set in the **LOGGER STEP** (*path: MENU / INPUT / MEASUREMENT SETUP*). The result of the calculation is presented in the same line, at the right side of the display.



LOGGER TRIGGER windows with the POST selection for different LOGGER STEPS

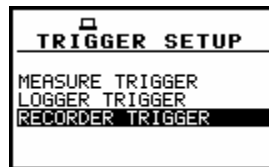


LOGGER TRIGGER windows with the POST selection for different LOGGER STEPS in vibration modes

The value set in the **POST** is confirmed and the window is closed after pressing the **<ENTER>** push-button. After pressing the **<ESC>** push-button the window is closed ignoring the settings made in the **POST**.

### 5.4.3 Trigger parameters for recorder setting - RECORDER TRIGGER

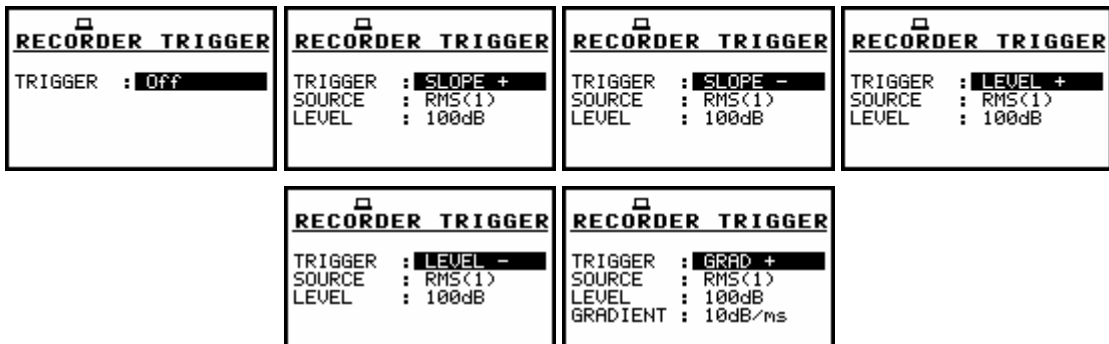
The **RECORDER TRIGGER** enables the user to set the parameters of time domain signal recording on the external USB memory stick (*path: MENU / SETUP / USB-HOST PORT / SRT RECORDING or WAVE RECORDING or EVENT RECORDING*). In order to enter **RECORDER TRIGGER** window the user has to select the **RECORDER TRIGGER** text in the **TRIGGER SETUP** window using the **<↑>**, **<↓>** push-buttons and press **<ENTER>**.



TRIGGER SETUP window; the RECORDER TRIGGER text highlighted

### 5.4.3.1 Selecting trigger mode - TRIGGER

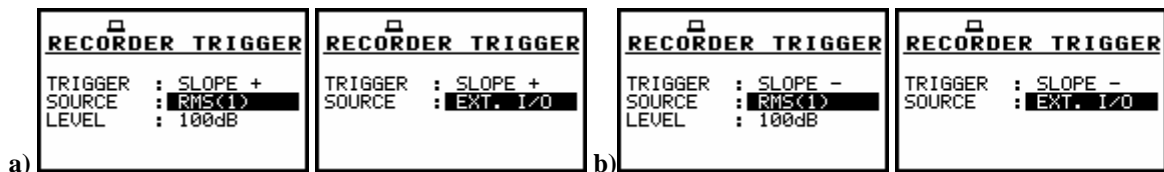
In the TRIGGER position following options are available: Off, SLOPE +, SLOPE -, LEVEL +, LEVEL -, GRAD +. The selection is made by pressing <◀>, <▶> push-buttons and <ENTER> one. The RECORDER TRIGGER window is closed ignoring any changes made in there, after pressing any time the <ESC> push-button.



RECORDER TRIGGER windows; the TRIGGER selection

### 5.4.3.2 Selecting the triggering signal - SOURCE

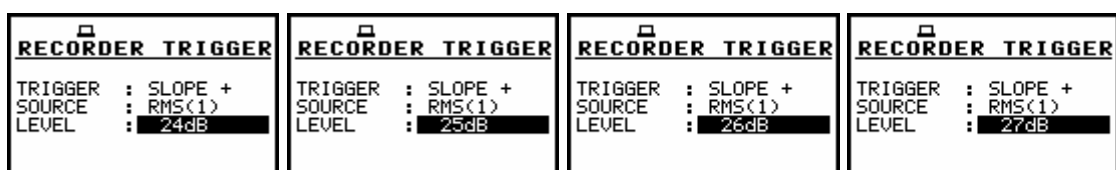
In the case when in the TRIGGER position SLOPE + or SLOPE - is selected it is possible to choose the SOURCE. Available sources are RMS(1) and EXT.I/O. The selection is made using <◀>, <▶> push-buttons and pressing <ENTER> one. The RECORDER TRIGGER window is closed ignoring any changes made in there, after pressing any time the <ESC> push-button.



RECORDER TRIGGER windows; the source selection for SLOPE + (a) and SLOPE - (b)

### 5.4.3.3 Selecting level for recording trigger- LEVEL

The level of the triggering signal for recording (LEVEL) can be set in 1 dB step (or 10 dB steps) from 24 dB to 136 dB range using the <◀>, <▶> push-buttons (or <◀>, <▶> with <SHIFT>). In the case of vibration measurements the level can be expressed not only in decibels (*path: MENU / DISPLAY / DISPLAY SETUP / SCALE / LOG*) but also in linear units (placing in the path LIN instead of LOG).



RECORDER TRIGGER windows with the LEVEL selection (1 dB step up)

a)	<b>RECORDER TRIGGER</b> TRIGGER : LEVEL + SOURCE : RMS<1> LEVEL : 1.00mm/s <sup>2</sup>	<b>RECORDER TRIGGER</b> TRIGGER : LEVEL + SOURCE : RMS<1> LEVEL : 1.12mm/s <sup>2</sup>	<b>RECORDER TRIGGER</b> TRIGGER : LEVEL + SOURCE : RMS<1> LEVEL : 1.26mm/s <sup>2</sup>	<b>RECORDER TRIGGER</b> TRIGGER : LEVEL + SOURCE : RMS<1> LEVEL : 1.41mm/s <sup>2</sup>
b)	<b>RECORDER TRIGGER</b> TRIGGER : LEVEL + SOURCE : RMS<1> LEVEL : 316 m/s <sup>2</sup>	<b>RECORDER TRIGGER</b> TRIGGER : LEVEL + SOURCE : RMS<1> LEVEL : 1.00km/s <sup>2</sup>	<b>RECORDER TRIGGER</b> TRIGGER : LEVEL + SOURCE : RMS<1> LEVEL : 8.16km/s <sup>2</sup>	<b>RECORDER TRIGGER</b> TRIGGER : LEVEL + SOURCE : RMS<1> LEVEL : 10.0km/s <sup>2</sup>

**RECORDER TRIGGER** windows with the **LEVEL** selection in vibration modes, level expressed in linear units, 1 dB step up (a) and 10 dB step up (b)

<b>RECORDER TRIGGER</b> TRIGGER : SLOPE + SOURCE : RMS<1> LEVEL : 27dB	<b>RECORDER TRIGGER</b> TRIGGER : SLOPE + SOURCE : RMS<1> LEVEL : 37dB	<b>RECORDER TRIGGER</b> TRIGGER : SLOPE + SOURCE : RMS<1> LEVEL : 47dB	<b>RECORDER TRIGGER</b> TRIGGER : SLOPE - SOURCE : RMS<1> LEVEL : 57dB
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**RECORDER TRIGGER** windows with the **LEVEL** selection in sound and vibration modes (10 dB step up)

#### 5.4.3.4 Setting the speed of the triggering signal changes - GRADIENT

**GRADIENT** appears on the display when in the **TRIGGER** position the **GRAD +** option is selected. In the **GRADIENT** position it is possible to select the **GRADIENT** value. The available values are from **1 dB/ms** to **100 dB/ms**. The selection is made by pressing <◀>, <▶> push-buttons and <ENTER> one. The **RECORDER TRIGGER** window is closed ignoring any changes made in there, after pressing any time the <ESC> push-button.

<b>RECORDER TRIGGER</b> TRIGGER : GRAD + SOURCE : RMS<1> LEVEL : 127dB GRADIENT : 1dB/ms	<b>RECORDER TRIGGER</b> TRIGGER : GRAD + SOURCE : RMS<1> LEVEL : 127dB GRADIENT : 2dB/ms	<b>RECORDER TRIGGER</b> TRIGGER : GRAD + SOURCE : RMS<1> LEVEL : 127dB GRADIENT : 3dB/ms	<b>RECORDER TRIGGER</b> TRIGGER : GRAD + SOURCE : RMS<1> LEVEL : 127dB GRADIENT : 4dB/ms
<b>RECORDER TRIGGER</b> TRIGGER : GRAD + SOURCE : RMS<1> LEVEL : 127dB GRADIENT : 65dB/ms	<b>RECORDER TRIGGER</b> TRIGGER : GRAD + SOURCE : RMS<1> LEVEL : 127dB GRADIENT : 66dB/ms	<b>RECORDER TRIGGER</b> TRIGGER : GRAD + SOURCE : RMS<1> LEVEL : 127dB GRADIENT : 67dB/ms	<b>RECORDER TRIGGER</b> TRIGGER : GRAD + SOURCE : RMS<1> LEVEL : 127dB GRADIENT : 68dB/ms

**RECORDER TRIGGER** windows with the **GRADIENT** selection (1 dB step up)

<b>RECORDER TRIGGER</b> TRIGGER : GRAD + SOURCE : RMS<1> LEVEL : 127dB GRADIENT : 11dB/ms	<b>RECORDER TRIGGER</b> TRIGGER : GRAD + SOURCE : RMS<1> LEVEL : 127dB GRADIENT : 21dB/ms	<b>RECORDER TRIGGER</b> TRIGGER : GRAD + SOURCE : RMS<1> LEVEL : 127dB GRADIENT : 31dB/ms	<b>RECORDER TRIGGER</b> TRIGGER : GRAD + SOURCE : RMS<1> LEVEL : 127dB GRADIENT : 41dB/ms
<b>RECORDER TRIGGER</b> TRIGGER : GRAD + SOURCE : RMS<1> LEVEL : 127dB GRADIENT : 51dB/ms	<b>RECORDER TRIGGER</b> TRIGGER : GRAD + SOURCE : RMS<1> LEVEL : 127dB GRADIENT : 61dB/ms	<b>RECORDER TRIGGER</b> TRIGGER : GRAD + SOURCE : RMS<1> LEVEL : 127dB GRADIENT : 71dB/ms	<b>RECORDER TRIGGER</b> TRIGGER : GRAD + SOURCE : RMS<1> LEVEL : 127dB GRADIENT : 81dB/ms

**RECORDER TRIGGER** windows with the **GRADIENT** selection (10 dB step up)

## 5.5 Selection of dose meter parameters - DOSEMETER SETUP

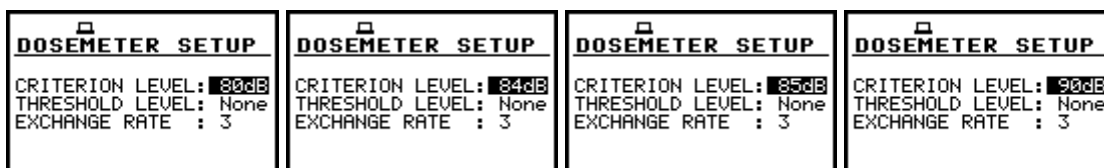
The **DOSEMETER SETUP** is accessible in the **INPUT** list in the **SOUND METER** mode when the **DOSE METER** function is selected (*path: MENU / FUNCTION / MEASUREMENT FUNCTION*). It is not available in the **VIBRATION METER**. This sub-list is opened after the selection of the **DOSEMETER SETUP** text from the **INPUT** list by means of the <^>, <v> (or <^>, <v>) push-buttons and pressing the <ENTER> one. The **DOSEMETER SETUP** consists of the parameters, which influence the calculation of the dose meter results: the **CRITERION LEVEL**, **THRESHOLD LEVEL** and **EXCHANGE RATE** (the definitions of the dose meter results are given in App. D).



DOSEMETER SETUP selected in the INPUT list and the DOSEMETER window

### 5.5.1 Setting criterion sound level - CRITERION LEVEL

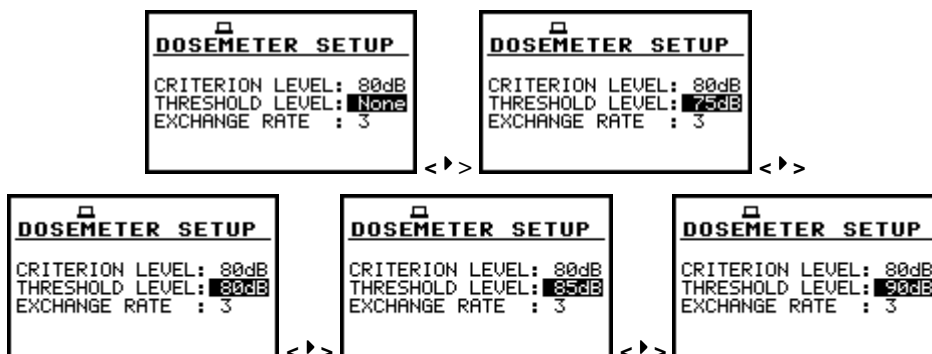
The criterion sound level influences the calculations of the **DOSE** and **D\_8h** results. The **CRITERION LEVEL** line is accessible after pressing the <^> push-button in the **DOSEMETER SETUP** window. The available values are as follows: **80 dB**, **84 dB**, **85 dB** or **90 dB**. They can be selected by means of the <^>, <v> push-buttons. The confirmation of any change made in the line requires pressing the <ENTER> push-button, which simultaneously closes the window. The **DOSEMETER SETUP** is closed ignoring any changes made in there, after pressing any time the <ESC> push-button.



DOSEMETER SETUP windows; the CRITERION LEVEL selection

### 5.5.2 Setting criterion sound level - THRESHOLD LEVEL

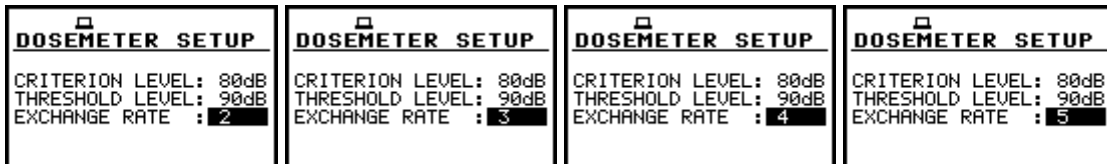
The threshold level influences the calculations of the dose meter results, namely **DOSE**, **D\_8h** and **LAV**. The **THRESHOLD LEVEL** line is accessible after pressing the <^>, <v> push-buttons in the **DOSEMETER SETUP** window. The available values are as follows: **None**, **75 dB**, **80 dB**, **85 dB** or **90 dB**. They can be selected by means of the <^>, <v> push-buttons. The confirmation of any change made in the line requires pressing the <ENTER> push-button, which simultaneously closes the window. The **DOSEMETER SETUP** is closed ignoring any changes made in there, after pressing any time the <ESC> push-button.



DOSEMETER SETUP windows; the THRESHOLD LEVEL selection

### 5.5.3 Setting criterion sound level - EXCHANGE RATE

The exchange rate influences the calculations of the dose meter results, namely **DOSE**, **D\_8h** and **LAV**. The exposure rate equal to three complies with ISO R 1999 "Assessment of Occupational Noise Exposure for Hearing Conservation Purposes", while equal to five complies with the American "Occupational Safety and Health Act" – OSHA. The **EXCHANGE RATE** line is accessible after pressing the **<▼>** push-button in the **DOSEMETER SETUP** window. The available values are as follows: **2**, **3**, **4** or **5**. They can be selected by means of the **<◀>**, **<▶>** push-buttons. The confirmation of any change made in the line requires pressing the **<ENTER>** push-button, which simultaneously closes the window. The **DOSEMETER SETUP** is closed ignoring any changes made in there, after pressing any time the **<ESC>** push-button.

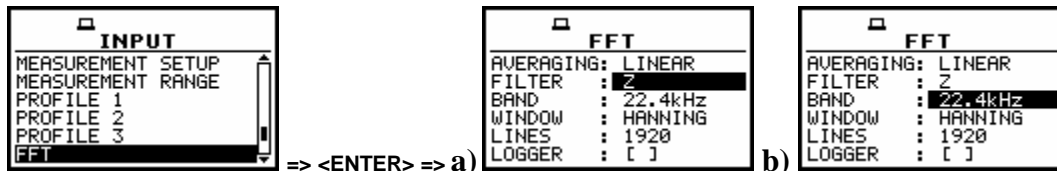


DOSEMETER SETUP windows; the EXCHANGE RATE selection

### 5.6 Selection of FFT analysis parameters - FFT

The **FFT** is accessible in the **INPUT** list when the **FFT** function is selected in **MEASUREMENT FUNCTION** window (*path: MENU / FUNCTION / MEASUREMENT FUNCTION / FFT*). This sub-list is opened after the selection of the **FFT** text from the **INPUT** list by means of the **<▲>**, **<▼>** (or **<◀>**, **<▶>**) push-buttons and pressing the **<ENTER>** one.

The **FFT** consists of the parameters, which influence the calculation and logging the results of the **FFT** analysis: **AVERAGING**, **FILTER**, **BAND**, **WINDOW**, **LINES** and **LOGGER**. The **FFT** window is closed ignoring any changes made in there, after pressing any time the **<ESC>** push-button.



FFT selected in the INPUT list and the FFT window opened in sound modes (a) and in vibration modes (b)

#### 5.6.1 The averaging of spectra in the FFT analysis - AVERAGING

The **AVERAGING** influences the way in which the spectra in the **FFT** analysis are averaged. Up to the internal software version named as 6.04 only **LINEAR** is available (this position can not be accessed and changed).

#### 5.6.2 Selecting the weighting filter during the FFT analysis - FILTER

The **FILTER** influences the calculations of the **FFT**. In the case of sound measurements there are **Z**, **A** and **C** filters available. In the case of vibration measurements, only **Z** filter is available and the position is not accessible after entering the **FFT** window. The frequency characteristics of those filters are given in Appendix D. The selection of this parameter is made by means of the **<◀>**, **<▶>** push-buttons. The confirmation of the change made in the line requires pressing the **<ENTER>** push-button, which simultaneously closes the window.

The following weighting filters are available in the case of the **FFT** analysis in sound modes:

- **Z** type 1 according to the IEC 61672-1 standard,
- **A** type 1 according to the IEC 651 and IEC 61672-1 standards,
- **C** type 1 according to the IEC 651 and IEC 61672-1 standards.

In the case of vibration modes, during the **FFT** analysis the following filter is available:

- **Z** type 1 according to the IEC 61672-1 standard.

<p><b>FFT</b></p> <p>AVERAGING: LINEAR          FILTER : <b>Z</b>          BAND : 22.4kHz          WINDOW : HANNING          LINES : 1920          LOGGER : [ ]</p>	<p><b>FFT</b></p> <p>AVERAGING: LINEAR          FILTER : <b>A</b>          BAND : 22.4kHz          WINDOW : HANNING          LINES : 1920          LOGGER : [ ]</p>	<p><b>FFT</b></p> <p>AVERAGING: LINEAR          FILTER : <b>C</b>          BAND : 22.4kHz          WINDOW : HANNING          LINES : 1920          LOGGER : [ ]</p>
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FFT window; the **FILTER** selection in sound modes

### 5.6.3 Selecting the analysis band of the signal - BAND

The **BAND** position enables the user to select the band in which the narrow-band analysis of the signal has to be performed. The user has the following possibilities: **22.4 kHz, 11.2 kHz, 5.6 kHz, 2.8 kHz, 1.4 kHz, 700 Hz, 350 Hz, 175 Hz** and **87.5 Hz**.

The selection of the required value is made by means of the **<◀>**, **<▶>** push-buttons. The confirmation of the change made in the line requires pressing the **<ENTER>** push-button, which simultaneously closes the window. The **FFT** window is closed ignoring any changes made in there, after pressing any time the **<ESC>** push-button.

<p><b>FFT</b></p> <p>AVERAGING: LINEAR          FILTER : Z          BAND : <b>22.4kHz</b>          WINDOW : HANNING          LINES : 1920          LOGGER : [ ]</p>	<p><b>FFT</b></p> <p>AVERAGING: LINEAR          FILTER : Z          BAND : <b>11.2kHz</b>          WINDOW : HANNING          LINES : 1920          LOGGER : [ ]</p>	<p><b>FFT</b></p> <p>AVERAGING: LINEAR          FILTER : Z          BAND : <b>5.6kHz</b>          WINDOW : HANNING          LINES : 1920          LOGGER : [ ]</p>
<p><b>FFT</b></p> <p>AVERAGING: LINEAR          FILTER : Z          BAND : <b>2.8kHz</b>          WINDOW : HANNING          LINES : 1920          LOGGER : [ ]</p>	<p><b>FFT</b></p> <p>AVERAGING: LINEAR          FILTER : Z          BAND : <b>1.4kHz</b>          WINDOW : HANNING          LINES : 1920          LOGGER : [ ]</p>	<p><b>FFT</b></p> <p>AVERAGING: LINEAR          FILTER : Z          BAND : <b>700Hz</b>          WINDOW : HANNING          LINES : 1920          LOGGER : [ ]</p>
<p><b>FFT</b></p> <p>AVERAGING: LINEAR          FILTER : Z          BAND : <b>350Hz</b>          WINDOW : HANNING          LINES : 1920          LOGGER : [ ]</p>	<p><b>FFT</b></p> <p>AVERAGING: LINEAR          FILTER : Z          BAND : <b>175Hz</b>          WINDOW : HANNING          LINES : 1920          LOGGER : [ ]</p>	<p><b>FFT</b></p> <p>AVERAGING: LINEAR          FILTER : Z          BAND : <b>87.5Hz</b>          WINDOW : HANNING          LINES : 1920          LOGGER : [ ]</p>

FFT window; the **BAND** selection

### 5.6.4 Selecting the time window for the FFT analysis - WINDOW

The **WINDOW** position enables the user to select the coefficients of time window which are used in the **FFT** analysis. Available time windows of the **FFT** analysis are as follows: **HANNING, RECTANGLE, FLAT TOP, KAISER-BESSEL**.

The selection of the window is made by means of the **<◀>**, **<▶>** push-buttons. The confirmation of the change made in the line requires pressing the **<ENTER>** push-button, which simultaneously closes the window. The **FFT** window is closed ignoring any changes made in there, after pressing any time the **<ESC>** push-button.

<pre> FFT ----- AVERAGING: LINEAR FILTER      : Z BAND       : 22.4kHz WINDOW    : HANNING LINES     : 1920 LOGGER    : [ ] </pre>	<pre> FFT ----- AVERAGING: LINEAR FILTER      : Z BAND       : 22.4kHz WINDOW    : RECTANGLE LINES     : 1920 LOGGER    : [ ] </pre>	<pre> FFT ----- AVERAGING: LINEAR FILTER      : Z BAND       : 22.4kHz WINDOW    : FLAT TOP LINES     : 1920 LOGGER    : [ ] </pre>	<pre> FFT ----- AVERAGING: LINEAR FILTER      : Z BAND       : 22.4kHz WINDOW    : KAISER-BES LINES     : 1920 LOGGER    : [ ] </pre>
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FFT sublist; the WINDOW selection

### 5.6.5 Selecting the number of the lines of FFT analysis - LINES

The **LINES** position enables the user to select the number of lines of the **FFT** analysis. There are three values available: **1920**, **960** and **480**. The selection of the value is made by means of the <◀>, <▶> push-buttons. The confirmation of the change made in the position requires pressing the <ENTER> push-button, which simultaneously closes the window. The **FFT** window is closed ignoring any changes made in there, after pressing any time the <ESC> push-button.

<pre> FFT ----- AVERAGING: LINEAR FILTER      : Z BAND       : 22.4kHz WINDOW    : HANNING LINES     : 1920 LOGGER    : [ ] </pre>	<pre> FFT ----- AVERAGING: LINEAR FILTER      : Z BAND       : 22.4kHz WINDOW    : HANNING LINES     : 960 LOGGER    : [ ] </pre>	<pre> FFT ----- AVERAGING: LINEAR FILTER      : Z BAND       : 22.4kHz WINDOW    : HANNING LINES     : 480 LOGGER    : [ ] </pre>
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FFT window; the LINES selection

### 5.6.6 Enabling the FFT spectra time history logging - LOGGER

The **LOGGER** enables to record spectra of the **FFT** analysis in the logger file. The activation of the logger is possible only if **LOGGER** functionality has been activated in the **MEASUREMENT SETUP** sublist (*path: MENU / INPUT / MEASUREMENT SETUP / LOGGER ON*). In order to switch on the logger of the **FFT** analysis the user has to press the <▶> push-button and the <ENTER> one. If, instead of the <ENTER> push-button the <ESC> one is pushed, the selection is ignored and the **FFT** sub-list is closed.

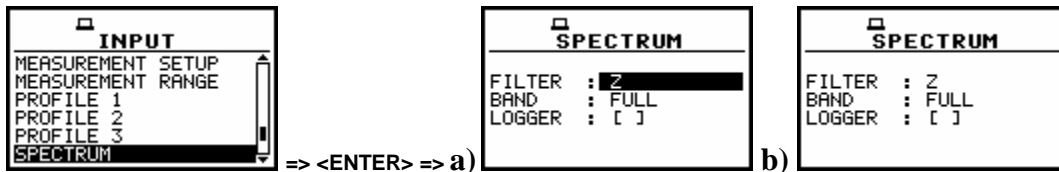
<pre> FFT ----- AVERAGING: LINEAR FILTER      : Z BAND       : 22.4kHz WINDOW    : HANNING LINES     : 1920 LOGGER    : [ ] </pre>	<pre> FFT ----- AVERAGING: LINEAR FILTER      : Z BAND       : 22.4kHz WINDOW    : HANNING LINES     : 1920 LOGGER    : [X] </pre>
--	--

FFT window; the LOGGER activation

## 5.7 Selection of 1/1 octave and 1/3 octave spectrum parameters - SPECTRUM

The **SPECTRUM** appears in the **INPUT** list when the **1/1 OCTAVE** or **1/3 OCTAVE** function is selected in the **MEASUREMENT FUNCTION** (*path: MENU / FUNCTION / MEASUREMENT FUNCTION / 1/1 OCTAVE or 1/3 OCTAVE*). This sub-list is opened after the selection of the **SPECTRUM** text from the **INPUT** list by means of the <▲>, <▼> (or <◀>, <▶>) push-buttons and pressing the <ENTER> one.

The **SPECTRUM** consists of the parameters, which influence the calculation and logging the results of **1/1 OCTAVE** or **1/3 OCTAVE** analysis: **FILTER**, **BAND** and **LOGGER**. The **SPECTRUM** window is closed ignoring any changes made in there, after pressing any time the <ESC> push-button.



SPECTRUM selected in the INPUT list and the SPECTRUM window opened in sound modes (a) and in vibration modes (b)

### 5.7.1 Weighting filter selection in 1/1 OCTAVE or 1/3 OCTAVE analysis - FILTER

The **FILTER** influences the calculations of **1/1 OCTAVE** or **1/3 OCTAVE** analysis. In the case of sound measurements there are **Z**, **A** and **C** filters available. In the case of vibration measurements only **Z** filter is available and the position is not accessible after entering the **SPECTRUM** window. The frequency characteristics of those filters are given in Appendix D.

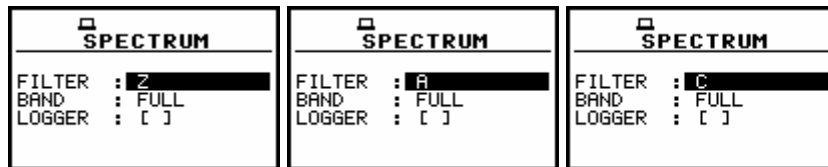
The selection of this parameter is made by means of the <◀>, <▶> push-buttons. The confirmation of the change made in the line requires pressing the <ENTER> push-button, which simultaneously closes the window.

The following weighting filters are available in the case of **1/1 OCTAVE** or **1/3 OCTAVE** analysis in sound modes:

- **Z** type 1 according to the IEC 61672-1 standard,
- **A** type 1 according to the IEC 651 and IEC 61672-1 standards,
- **C** type 1 according to the IEC 651 and IEC 61672-1 standards.

In the case of vibration modes, during **1/1 OCTAVE** or **1/3 OCTAVE** analysis the following filter is available:

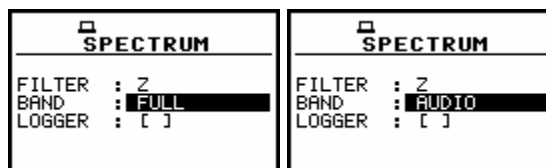
- **Z** type 1 according to the IEC 61672-1 standard.



SPECTRUM window; the FILTER selection in sound modes

### 5.7.2 Selecting the band during the 1/1 OCTAVE or 1/3 OCTAVE analysis - BAND

The **BAND** position enables the user to select the band in which the **1/1 OCTAVE** or **1/3 OCTAVE** analysis of the signal has to be performed. Available values of the bands of the analysis are as follows: **AUDIO**, **FULL** - in the case of sound modes - and **FULL** - in the case of vibration modes. The selection of this parameter is made by means of the <◀>, <▶> push-buttons. The confirmation of the change made in the line requires pressing the <ENTER> push-button, which simultaneously closes the window. The **SPECTRUM** window is closed ignoring any changes made in there, after pressing any time the <ESC> push-button.



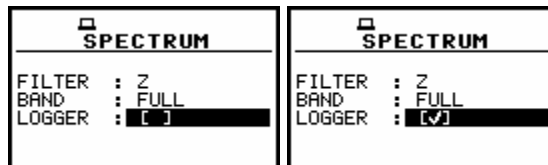
SPECTRUM window; the BAND selection in sound modes

### 5.7.3 Activation of logger for 1/1 OCTAVE or 1/3 OCTAVE analysis results - **LOGGER**

The **RMS** result from **1/1 OCTAVE** or **1/3 OCTAVE** analysis can be saved in the logger's file of the instrument (or on the USB memory stick).

The activation is made by placing a special character in the **LOGGER** position. The activation is possible when the **LOGGER** functionality is switched on in the **MEASUREMENT SETUP** window (*path: MENU / INPUT / MEASUREMENT SETUP / LOGGER*).

If the **LOGGER** functionality is switched off, the position is not accessible. The confirmation of the change made in the position requires pressing the **<ENTER>** push-button, which simultaneously closes the window. The **SPECTRUM** window is closed ignoring any changes made in there, after pressing any time the **<ESC>** push-button.

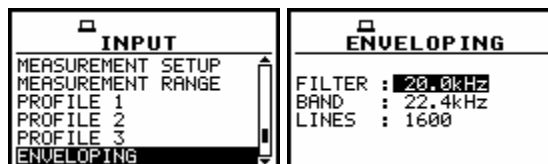


SPECTRUM window; the **LOGGER** selection

## 5.8 Selection of enveloping parameters - **ENVELOPING**

The **ENVELOPING** appears in the **INPUT** list when the **ENVELOPING** function is selected (*path: MENU / FUNCTION / MEASUREMENT FUNCTION / ENVELOPING*) both, in the sound and vibration modes. This sub-list is opened after the selection of the **ENVELOPING** text from the **INPUT** list by means of the **<▲>**, **<▼>** (or **<◀>**, **<▶>**) push-buttons and pressing the **<ENTER>** one.

The **ENVELOPING** consists of the parameters, which influence the calculation and saving the results of the **ENVELOPING: FILTER, BAND** and **LINES**. The **ENVELOPING** window is closed ignoring any changes made in there, after pressing any time the **<ESC>** push-button.



**ENVELOPING** selected in the **INPUT** list and the **ENVELOPING** window opened

### 5.8.1 Selecting the weighting filter during the enveloping calculation - **FILTER**

The **FILTER** influences the calculations of **ENVELOPING** function. The selection of this parameter is made by means of the **<◀>**, **<▶>** push-buttons.

The proper **BAND** value changes (decreases) automatically when selected band width is too wide for the selected centre frequency value.

The confirmation of the change made in the line requires pressing the **<ENTER>** push-button, which simultaneously closes the window.

The following weighting filters are available in case of enveloping function: **20.0kHz, 16.0kHz, 12.5Hz, 10.0kHz, 8.00kHz, 6.30kHz, 5.00kHz, 4.00Hz, 3.15Hz, 2.50kHz, 2.00kHz, 1.60kHz, 1.25kHz, 1600Hz, 800Hz.**

<p><b>ENVELOPING</b></p> <p>FILTER : 20.0kHz BAND : 22.4kHz LINES : 1600</p>	<p><b>ENVELOPING</b></p> <p>FILTER : 16.0kHz BAND : 22.4kHz LINES : 1600</p>	<p><b>ENVELOPING</b></p> <p>FILTER : 12.5kHz BAND : 22.4kHz LINES : 1600</p>	<p><b>ENVELOPING</b></p> <p>FILTER : 10.0kHz BAND : 11.2kHz LINES : 1600</p>
<p><b>ENVELOPING</b></p> <p>FILTER : 8.00kHz BAND : 11.2kHz LINES : 1600</p>	<p><b>ENVELOPING</b></p> <p>FILTER : 6.30kHz BAND : 11.2kHz LINES : 1600</p>	<p><b>ENVELOPING</b></p> <p>FILTER : 5.00kHz BAND : 5.6kHz LINES : 1600</p>	<p><b>ENVELOPING</b></p> <p>FILTER : 4.00kHz BAND : 5.6kHz LINES : 1600</p>
<p><b>ENVELOPING</b></p> <p>FILTER : 3.15kHz BAND : 5.6kHz LINES : 1600</p>	<p><b>ENVELOPING</b></p> <p>FILTER : 2.50kHz BAND : 2.8kHz LINES : 1600</p>	<p><b>ENVELOPING</b></p> <p>FILTER : 2.00kHz BAND : 2.8kHz LINES : 1600</p>	<p><b>ENVELOPING</b></p> <p>FILTER : 1.60kHz BAND : 2.8kHz LINES : 1600</p>
<p><b>ENVELOPING</b></p> <p>FILTER : 1.25kHz BAND : 1.4kHz LINES : 1600</p>	<p><b>ENVELOPING</b></p> <p>FILTER : 1.00kHz BAND : 1.4kHz LINES : 1600</p>	<p><b>ENVELOPING</b></p> <p>FILTER : 800Hz BAND : 1.4kHz LINES : 1600</p>	

ENVELOPING window; the FILTER selection in sound modes

### 5.8.2 Selecting the band during the enveloping analysis - BAND

The **BAND position enables** the user to select the band in which the **ENVELOPING** of the signal has to be calculated.

Available values of the bands of the **ENVELOPING** are as follows: **22.4kHz, 11.2kHz, 5.6kHz, 2.8kHz, 1.4kHz, 700Hz, 350Hz, 175Hz, 87.5Hz, 44Hz, 22Hz**. This parameter changes (decreases) automatically due to the centre frequency selected in the **FILTER** position.

The selection of this parameter is made by means of the <◀>, <▶> push-buttons. The confirmation of the change made in the line requires pressing the <ENTER> push-button, which simultaneously closes the window. The **FFT** window is closed ignoring any changes made in there, after pressing any time the <ESC> push-button.

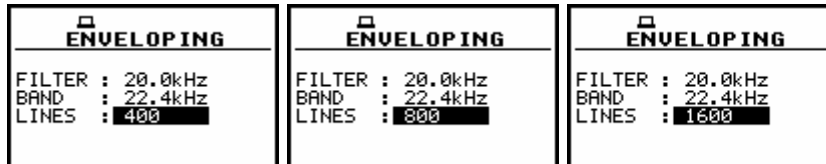
<p><b>ENVELOPING</b></p> <p>FILTER : 20.0kHz BAND : 22.4kHz LINES : 1600</p>	<p><b>ENVELOPING</b></p> <p>FILTER : 20.0kHz BAND : 11.2kHz LINES : 1600</p>	<p><b>ENVELOPING</b></p> <p>FILTER : 20.0kHz BAND : 5.6kHz LINES : 1600</p>	<p><b>ENVELOPING</b></p> <p>FILTER : 20.0kHz BAND : 2.8kHz LINES : 1600</p>
<p><b>ENVELOPING</b></p> <p>FILTER : 20.0kHz BAND : 1.4kHz LINES : 1600</p>	<p><b>ENVELOPING</b></p> <p>FILTER : 20.0kHz BAND : 700Hz LINES : 1600</p>	<p><b>ENVELOPING</b></p> <p>FILTER : 20.0kHz BAND : 350Hz LINES : 1600</p>	<p><b>ENVELOPING</b></p> <p>FILTER : 20.0kHz BAND : 175Hz LINES : 1600</p>
<p><b>ENVELOPING</b></p> <p>FILTER : 20.0kHz BAND : 87.5Hz LINES : 1600</p>	<p><b>ENVELOPING</b></p> <p>FILTER : 20.0kHz BAND : 44Hz LINES : 1600</p>	<p><b>ENVELOPING</b></p> <p>FILTER : 20.0kHz BAND : 22Hz LINES : 1600</p>	

ENVELOPING window; the BAND selection

### 5.8.3 Selecting the number of the lines in enveloping spectrum - LINES

The **LINES** position enables the user to select the number of lines in the spectrum of enveloping. There are three values available: **400**, **800** and **1600**.

The selection of the value is made by means of the **<◀>**, **<▶>** push-buttons. The confirmation of the change made in the position requires pressing the **<ENTER>** push-button, which simultaneously closes the window. The **ENVELOPING** window is closed ignoring any changes made in there, after pressing any time the **<ESC>** push-button.

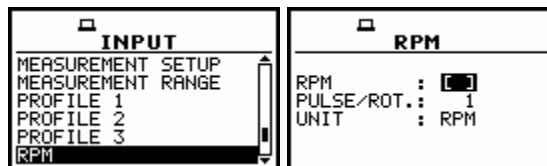


ENVELOPING window; the LINES selection

### 5.9 Selection of RPM measurements parameters - RPM

The **RPM** (Revolutions Per Minute) position appears in the **INPUT** list in the **VIBRATION** modes when the **RPM** function was activated with a special code in the **SETUP** list (*path: MENU / SETUP / RPM*).

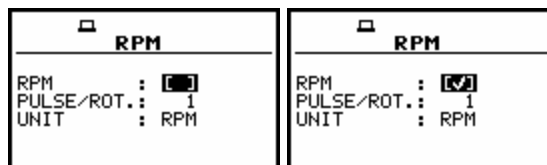
This sub-list is opened after the selection of the **RPM** text from the **INPUT** list by means of the **<▲>**, **<▼>** (or **<◀>**, **<▶>**) push-buttons and pressing the **<ENTER>** one. The **RPM** consists of three positions: **RPM**, **PULSE/ROTATION** and **UNIT**. The **RPM** window is closed ignoring any changes made in there, after pressing any time the **<ESC>** push-button.



RPM selected in the INPUT list and the RPM window opened

#### 5.9.1 Switching on the RPM measurement - RPM

The placing a special character **[√]** in the line with **RPM** text enables the **RPM** function. The selection is made by means of the **<◀>**, **<▶>** push-buttons. The confirmation of the activation requires pressing the **<ENTER>** push-button, which simultaneously closes the window. The **ENVELOPING** window is closed ignoring any changes made in there, after pressing any time the **<ESC>** push-button.

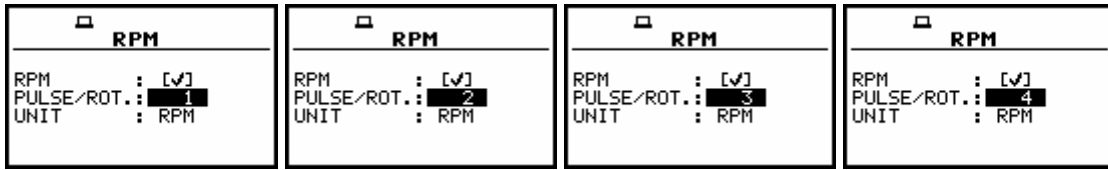


RPM window; the RPM selection

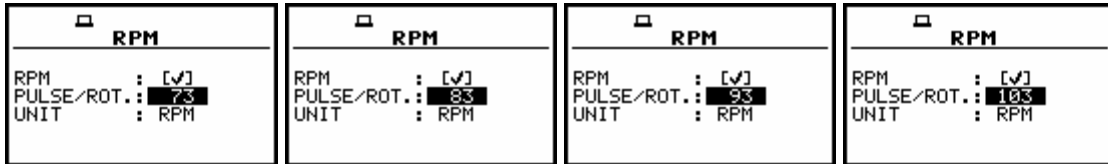
#### 5.9.2 Selecting the number of pulses / rotations - PULSE / ROTATION

The **PULSE / ROTATION** enables the user to select the number of pulses / rotations. Available values are as follows: **1**, **2**, .. **360**. The required parameter can be set by means of the **<◀>**, **<▶>** push-

buttons (with the step equal to 1) or by means of the <◀>, <▶> push-buttons pressed together with the <SHIFT> one (with the step equal to 10). The confirmation of the change made in the position requires pressing the <ENTER> push-button, which simultaneously closes the window. The **RPM** window is closed ignoring any changes made in there, after pressing any time the <ESC> push-button.



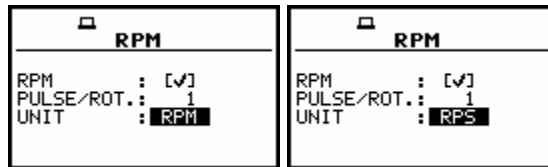
RPM window; the PULSES/ROTATIONS selection with 1 unit step



RPM window; the PULSES/ROTATIONS selection with 10 unit step

### 5.9.3 Selecting the unit of RPM measurement - UNIT

The **UNIT** enables the user to select the unit of the measurement. In this position two options are available **RPM** – revolutions per minute and **RPS** – revolutions per second. The selection of the unit is made by means of the <◀>, <▶> push-buttons. The confirmation of the change made in the position requires pressing the <ENTER> push-button, which simultaneously closes the window. The **RPM** window is closed ignoring any changes made in there, after pressing any time the <ESC> push-button.



RPM window; the UNIT selection