

## B. DATA FILE STRUCTURES

### B.1. Structure of the SVAN 958 file

Each file containing data from the SVAN 95x instrument consists of several groups of words. In the case of the **SVAN 958** there are some different types of files that contain:

- the measurement results from the **Level Meter** mode (cf. App. B.2);
- the results from **1/1 OCTAVE** analysis (cf. App. B.3);
- the results from **1/3 OCTAVE** analysis (cf. App. B.4);
- the results from the **FFT** analysis (cf. App. B.5);
- the results from the **Level Meter** mode stored in the file in the instrument's logger (cf. App. B.6 and App. B.10);
- the results from **1/1 OCTAVE** or **1/3 OCTAVE** analysis stored in the file in the instrument's logger (cf. App. B.7 and App. B.10);
- the results from the **FFT** analysis stored in the file in the instrument's logger (cf. App. B.8 and App. B.10);
- the setup data of the instrument (cf. App. B.9);
- the results coming from **RT60** measurement (cf. App. B.10);
- the averaged results of **RT60** measurements (cf. App. B.11);
- time-domain signal saved in the logger file of the instrument (cf. App. B.12 and App. B.14).

Each file has the following elements:

- a file header (cf. Tab. B.1.1);
- the unit and internal software specification (cf. Tab. B.1.2);
- the marker for the end of the file (cf. Tab. B.1.25).

The other elements of the file structure are not obligatory for each file type stated above. They depend on the file type (**LM**, **1/1 OCTAVE**, **1/3 OCTAVE**, **RT60** or **FFT** analysis, file from the logger, setup file). These elements are as follows:

- the parameters and global settings, common for all channels (cf. Tab. B.1.3);
- the hardware settings for channels (cf. Tab. B.1.4);
- the software settings for channels (cf. Tab. B.1.5);
- the **VECTOR** measurement settings (cf. Tab. B.1.6);
- the **1/1 OCTAVE** or **1/3 OCTAVE** analysis header (cf. Tab. B.1.7);
- the hand-arm and whole-body vibration dose measurement settings (cf. Tab. B.1.9);
- the main results (cf. Tab. B.1.10);
- the selected statistical levels in channels (cf. Tab. B.1.11);
- the results coming from **1/1 OCTAVE** analysis (cf. Tab. B.1.12);
- the results coming from **1/3 OCTAVE** analysis (cf. Tab. B.1.13);
- the totals description in **1/1 OCTAVE** or **1/3 OCTAVE** analysis (cf. Tab. B.1.16);
- the user-defined filter description (cf. Tab. B.1.17);
- the header of the **FFT** analysis (cf. Tab. B.1.8);
- the results of the **FFT** analysis (cf. Tab. B.1.14);
- the header of the statistical analysis (cf. Tab. B.1.18);
- the results of the statistical analysis (cf. Tab. B.1.19);
- the statistical analysis results performed in **1/1 OCTAVE** or **1/3 OCTAVE** mode (cf. Tab. B.1.20);
- the logger header (cf. Tab. B.1.22);
- the **1/1 OCTAVE** or **1/3 OCTAVE** logger header (cf. Tab. B.1.23);
- the data stored during the measurements in the logger (cf. Tab. B.1.24);
- the setup data of the instrument (cf. Tab. B.1.26);
- the user-defined filters (cf. Tab. B.1.27);
- the **1/3 OCTAVE** analysis header in **RT60** mode (cf. Tab. B.1.28);

- the **RT60** measurement parameters (cf. Tab. B.1.29);
- the results coming from **RT60** measurement in a channel (cf. Tab. B.1.30);
- the averaged results from **RT60** measurement in a channel (cf. Tab. B.1.31);
- the results coming from **RT60** measurements averaged between the channels (cf. Tab. B.1.32);
- the averaged results coming from **RT60** measurements averaged between channels (cf. Tab. B.1.33);
- the results coming from rotation measurements (cf. Tab. B.1.34);
- the time-domain logger header (cf. Tab. B.1.35);
- the **SEAT** measurements settings (cf. Tab. B.1.36);
- the Max results coming from **1/1 OCTAVE** analysis (cf. Tab. B.1.37);
- the Min results coming from **1/1 OCTAVE** analysis (cf. Tab. B.1.38);
- the Max results coming from **1/3 OCTAVE** analysis (cf. Tab. B.1.39);
- the Min results coming from **1/3 OCTAVE** analysis (cf. Tab. B.1.40).

Below, all file structure groups are described separately in Tab. B.1.1 ÷ Tab. B.1.40. The format used in the columns, named **Comment** with the square parenthesis ( **[xx, yy]** ), means the contents of the word with **xx** is the most significant byte (MSB) and **yy** the least significant byte (LSB) of the word. The format **0xnxxx** means that the **xxxx** is four-digit number in hexadecimal form.

**Table B.1.1. File header**

Word number	Name / Value	Comment
0	0xnn01	[01, nn=header_length]
1..4	FileName	file or logger name (8 characters) if the name starts with two '@' characters, following 6 bytes contain measurement date and time coded as BCD (each saved digit is increased by one)
5	FileType	0x0000 - file containing results from logger's file 0x01nn - file containing measurements results 0x0200 - file containing instrument's setup data 0x4000 - file containing time-domain signal
6	CurrentDate	file creation date
7	CurrentTime	file creation time
8..11	AssBufFileName	name of the associated logger or file (8 bytes)
...	...	...

**Table B.1.2. Unit and software specification**

Word number	Name / Value	Comment
0	0xnn02	[02, nn=specification_length]
1	UnitNumber	unit number
2	UnitType	unit type: 958
3	SoftwareVersion	software version * 100
4	SoftwareIssueDate	software issue date
5	UnitSubtype	unit subtype: 1
6	FilesystemVersion	file system version * 100
7	LevelMeterVersion	meter software version * 100
...	...	...

Table B.1.3. Parameters and global settings

Word number	Name / Value	Comment
0	0xnn04	[04, nn=block_length]
1	CycleStartDate	measurement cycle start date
2	CycleStartTime	measurement cycle start time
3	DeviceFunction	1 - <b>LEVEL METER</b> , 2 - <b>1/1 OCTAVE</b> analyser, 3 - <b>1/3 OCTAVE</b> analyser, 4 - sound <b>DOSE METER</b> , 6 - <b>FFT</b> analyser, 8 - <b>RT60</b> meter
4	UnitFlags	flags word (16 bits): b15 ... b3 b2 b1 b0 b0 - if set to 1: calibration coefficient is used b1 - if set to 1: overload occurred b2 - if set to 1: "Human vibrations" excluded (0 - means "Human vibrations" included and then <b>VDV</b> result is present) b5,b4,b3: type of the result Result[p][7] (p = 1,2,3,4) 000 - <b>Lden</b> result is not available 001 - <b>Ld</b> result 010 - <b>Le</b> result 011 - <b>Lde</b> result 100 - <b>Ln</b> result 101 - <b>Lnd</b> result 110 - <b>Len</b> result 111 - <b>Lden</b> result b6 - if set to 1: overload occurred in the 4 <sup>th</sup> channel b7 - if set to 1: overload occurred in the 3 <sup>rd</sup> channel b8 - if set to 1: overload occurred in the 2 <sup>nd</sup> channel b9 - if set to 1: overload occurred in the 1 <sup>st</sup> channel b10, ..., b15 - reserved
5	RepCycle	0 - infinity nnnn - number of repetitions $\in (1 \div 1000)$
6	StartDelay	start delay time specified in milliseconds $\in (1 \div 60000)$
7..8	IntTimeSec	0 - infinity integration time specified in seconds
9	TriggerChannel	source channel of the triggering signal: 0 (the 1 <sup>st</sup> channel) .. 3 (the 4 <sup>th</sup> channel)
10	TriggerMode	trigger mode: 0 - <b>OFF</b> , 1 - <b>SLOPE+</b> , 2 - <b>SLOPE-</b> , 3 - <b>LEVEL+</b> , 4 - <b>LEVEL-</b> , 5 - <b>LOGGER</b> , 6 - <b>GRADIENT+</b> , 7 - <b>RTC</b>
11	TriggerSource	source of the triggering signal: 0 - the <b>VEC</b> result 1 - the <b>VEC</b> result and <b>RMS(1)</b> result from selected channel 2 - the <b>RMS(1)</b> result from the selected channel 3 - the External trigger in the case of <b>1/1 OCTAVE</b> analyser: nn - number of <b>1/1 OCTAVE</b> filter $\in (8 \div NOct)$ in the case of <b>1/3 OCTAVE</b> analyser nn - number of <b>1/3 OCTAVE</b> filter $\in (23 \div NTer)$ in the case of <b>RT60</b> analyser: nn - number of <b>TOTAL LIN</b> result (48)
12	TriggerLev	level of triggering: 24..136 dB in the case of source channel set in Sound Meter mode, 60..200 dB in the case of source channel in Vibration Meter mode negative value [dB] in <b>RT60</b> - <b>DECAY</b> mode
13	VecTriggerLev	level of triggering for <b>VEC</b> result: 60..200 dB

14	TriggerPre	number of the records taken into account before the fulfilment of the triggering condition $\in (1 \div 20)$
15	TriggerPost	number of the records taken into account after the fulfilment of the triggering condition $\in (1 \div 200)$
16	LeqInt	detector's type in the <b>LEQ</b> function: 0 - <b>LINEAR</b> , 1 - <b>EXPONENTIAL</b>
17	Reserved	reserved
18	RefLev_a	reference level for acceleration given in $\mu\text{ms}^{-2} \in (1 \div 100)$
19	RefLev_v	reference level for velocity given in $\text{nms}^{-1} \in (1 \div 100)$
20	RefLev_d	reference level for displacement given in $\text{pm} \in (1 \div 100)$
21	NofChannels	number of channels (4)
22	NofProfiles	number of profiles (12)
23	NotSpect	number of spectrum (4)
24	LowesTerFreq	the lowest possible 1/3 octave frequency (*100Hz)
25	CalibrType	calibration type: 0 - calibration not performed 1 - calibration by measurement 2 - calibration by sensitivity
26	CalibrDate	date of the last calibration
27	CalibrTime	time of the last calibration
28	TriggerGrad	the gradient level for gradient trigger mode
29	DoseExposureTime	exposure time for dosimeter function (min.)
30	DoseCriterionLev	criterion level (*100dB)
31	DoseTresholdLev	threshold level (*100dB)
32	DoseExchangeRate	exchange rate (dB)
33	RPM_On	RPM measurement: 0 - switched off; 1 - switched on
34	RPM_Pulse	pulses per rotation $\in (1 \div 360)$
35	RPM_Buffer	RPM results logging: 0 - switched off; 1 - switched on
36	CycleMeasurementStartDate	measure start date
37..38	CycleMeasurementStartTime	measure start time
...	...	...

Table B.1.4. Hardware settings for channels

Word number	Name / Value	Comment
0	0xnn05	[05, nn=block_length]
1	0x0706	[06, 07=sub-block_length]
2	ChannelMode[1]	mode of the 1 <sup>st</sup> channel 0 - Vibration Level Meter / Analyser 1 - Sound Level Meter / Analyser
3	CalibrFactor[1]	calibration factor (*10 dB) in the 1 <sup>st</sup> channel
4	Range[1]	range in the 1 <sup>st</sup> channel in the case of <b>SLM</b> : 1 - <b>105 dB</b> , 2 - <b>130 dB</b> in the case of <b>VLM</b> : 1 - <b>17.8 ms<sup>-2</sup></b> , 2 - <b>316 ms<sup>-2</sup></b>
5	Reserved	reserved
6	MicFieldCorr[1]	field correction: 0 - <b>FREE</b> , 1 - <b>DIFFUSE</b> in the case of <b>SLM</b>
7	MicOutdoor[1]	outdoor microphone kit correction: 1 - enabled in the case of <b>SLM</b>
8	0x0706	[06, 07=sub-block_length]

9	ChannelMode[2]	mode of the 2 <sup>nd</sup> channel: 0 - Vibration Level Meter / Analyser 1 - Sound Level Meter / Analyser
10	CalibrFactor[2]	calibration factor (*10 dB) in the 2 <sup>nd</sup> channel
11	Range[2]	range in the 2 <sup>nd</sup> channel: in the case of <b>SLM</b> : 1 - <b>105 dB</b> , 2 - <b>130 dB</b> in the case of <b>VLM</b> : 1 - <b>17.8 ms<sup>-2</sup></b> , 2 - <b>316 ms<sup>-2</sup></b>
12	Reserved	reserved
13	MicFieldCorr[2]	field correction: 0 - <b>FREE</b> , 1 - <b>DIFFUSE</b> in the case of <b>SLM</b>
14	MicOutdoor[2]	outdoor microphone kit correction: 1 - enabled in the case of <b>SLM</b>
15	0x0706	[06, 07=subblock_length]
16	ChannelMode[3]	mode of the 3 <sup>rd</sup> channel: 0 - Vibration Level Meter / Analyser 1 - Sound Level Meter / Analyser
17	CalibrFactor[3]	calibration factor (*10 dB) in the 3 <sup>rd</sup> channel
18	Range[3]	range in the 3 <sup>rd</sup> channel: in the case of <b>SLM</b> : 1 - <b>105 dB</b> , 2 - <b>130 dB</b> in the case of <b>VLM</b> : 1 - <b>17.8 ms<sup>-2</sup></b> , 2 - <b>316 ms<sup>-2</sup></b>
19	Reserved	reserved
20	MicFieldCorr[3]	field correction: 0 - <b>FREE</b> , 1 - <b>DIFFUSE</b> in the case of <b>SLM</b>
21	MicOutdoor[3]	outdoor microphone kit correction: 1 - enabled in the case of <b>SLM</b>
22	0x0706	[06, 07=subblock_length]
23	ChannelMode[4]	mode of the 4 <sup>th</sup> channel: 0 - Vibration Level Meter / Analyser 1 - Sound Level Meter / Analyser
24	CalibrFactor[4]	calibration factor (*10 dB) in the 4 <sup>th</sup> channel
25	Range[4]	range in the 4 <sup>th</sup> channel: in the case of <b>SLM</b> : 1 - <b>105 dB</b> , 2 - <b>130 dB</b> in the case of <b>VLM</b> : 1 - <b>17.8 ms<sup>-2</sup></b> , 2 - <b>316 ms<sup>-2</sup></b>
26	Reserved	reserved
27	MicFieldCorr[4]	field correction: 0 - <b>FREE</b> , 1 - <b>DIFFUSE</b> in the case of <b>SLM</b>
28	MicOutdoor[4]	outdoor microphone kit correction: 1 - enabled in the case of <b>SLM</b>
...	...	...

Table B.1.5. Software settings for channels

Word number	Name / Value	Comment
0	0xnn07	[07, nn=block_length]
1	0x040C	[used_channel, used profile]
2..7	ProfileSett[1]	the 1 <sup>st</sup> profile settings for the 1 <sup>st</sup> channel, defined in the case of <b>SLM</b> mode - in Table <b>B.1.5_SLM</b> and in the case of <b>VLM</b> mode - in Table <b>B.1.5_VLM</b>
8..13	ProfileSett[2]	the 1 <sup>st</sup> profile settings for the 2 <sup>nd</sup> channel, defined in the case of <b>SLM</b> mode - in Table <b>B.1.5_SLM</b> and in the case of <b>VLM</b> mode - in Table <b>B.1.5_VLM</b>
14..19	ProfileSett[3]	the 1 <sup>st</sup> profile settings for the 3 <sup>rd</sup> channel, defined in the case of <b>SLM</b> mode - in Table <b>B.1.5_SLM</b> and in the case of <b>VLM</b> mode - in Table <b>B.1.5_VLM</b>

20..25	ProfileSett[4]	the 1 <sup>st</sup> profile settings for the 4 <sup>th</sup> channel, defined in the case of <b>SLM</b> mode - in Table <b>B.1.5_SLM</b> and in the case of <b>VLM</b> mode - in Table <b>B.1.5_VLM</b>
26..31	ProfileSett[5]	the 2 <sup>nd</sup> profile settings for the 1 <sup>st</sup> channel, defined in the case of <b>SLM</b> mode - in Table <b>B.1.5_SLM</b> and in the case of <b>VLM</b> mode - in Table <b>B.1.5_VLM</b>
32..37	ProfileSett[6]	the 2 <sup>nd</sup> profile settings for the 2 <sup>nd</sup> channel, defined in the case of <b>SLM</b> mode - in Table <b>B.1.5_SLM</b> and in the case of <b>VLM</b> mode - in Table <b>B.1.5_VLM</b>
38..43	ProfileSett[7]	the 2 <sup>nd</sup> profile settings for the 3 <sup>rd</sup> channel, defined in the case of <b>SLM</b> mode - in Table <b>B.1.5_SLM</b> and in the case of <b>VLM</b> mode - in Table <b>B.1.5_VLM</b>
44..49	ProfileSett[8]	the 2 <sup>nd</sup> profile settings for the 4 <sup>th</sup> channel, defined in the case of <b>SLM</b> mode - in Table <b>B.1.5_SLM</b> and in the case of <b>VLM</b> mode - in Table <b>B.1.5_VLM</b>
50..55	ProfileSett[9]	the 3 <sup>rd</sup> profile settings for the 1 <sup>st</sup> channel, defined in the case of <b>SLM</b> mode - in Table <b>B.1.5_SLM</b> and in the case of <b>VLM</b> mode - in Table <b>B.1.5_VLM</b>
56..61	ProfileSett[10]	the 3 <sup>rd</sup> profile settings for the 2 <sup>nd</sup> channel, defined in the case of <b>SLM</b> mode - in Table <b>B.1.5_SLM</b> and in the case of <b>VLM</b> mode - in Table <b>B.1.5_VLM</b>
62..67	ProfileSett[11]	the 3 <sup>rd</sup> profile settings for the 3 <sup>rd</sup> channel, defined in the case of <b>SLM</b> mode - in Table <b>B.1.5_SLM</b> and in the case of <b>VLM</b> mode - in Table <b>B.1.5_VLM</b>
68..73	ProfileSett[12]	the 3 <sup>rd</sup> profile settings for the 4 <sup>th</sup> channel, defined in the case of <b>SLM</b> mode - in Table <b>B.1.5_SLM</b> and in the case of <b>VLM</b> mode - in Table <b>B.1.5_VLM</b>
...	...	...



**Note:** In **RT60** measurements mode whole block is reserved (values have no interpretation).

**Table B.1.5\_SLM. Software settings for a channel in the case of SLM mode**

Word number	Name / Value	Comment
0	0xnn08	[08, nn=block_length]
1	ChannelNo	number of channel: 0 - first channel
2	FilterP	filter type in the channel: 1 - <b>LIN</b> , 2 - <b>A</b> , 3 - <b>C</b> , 4 = <b>G</b>
3	DetectorP	detector type in the channel: 0 - <b>IMP.</b> , 1 - <b>FAST</b> , 2 - <b>SLOW</b>
4	BufferP	logger contents in the channel defined as a sum of : 1 - for <b>PEAK</b> results, 2 - for <b>MAX</b> results, 4 - for <b>MIN</b> results, 8 - for <b>RMS</b> results,

5	ProfileFlags	flags word (16 bits): b15 ... b3 b2 b1 b0 b0 - if set to 1: profile results have been calculated b1 ... b15 - reserved
...	...	...

Table B.1.5\_VLM. Software settings for a channel in the case of VLM mode

Word number	Name / Value	Comment
0	0xnn08	[08, nn=sub-block_length]
1	ChannelNo	channel number: 0 - the 1 <sup>st</sup> channel
2	FilterP	filter type in the channel: 1 - <b>HP1</b> , 2 - <b>HP3</b> , 3 - <b>HP10</b> , 4 - <b>Vel1</b> , 5 - <b>Vel3</b> , 6 - <b>Vel10</b> , 7 - <b>VelMF</b> , 8 - <b>Dil1</b> , 9 - <b>Dil3</b> , 10 - <b>Dil10</b> , 15 - <b>KB</b> , 16 - <b>Wk</b> , 17 - <b>Wd</b> , 18 - <b>Wc</b> , 19 - <b>Wj</b> , 20 - <b>Wm</b> , 21 - <b>Wh</b> , 22 - <b>Wg</b> , 23 - <b>Wb</b>
3	DetectorP	detector type in the channel: 0 - <b>100 ms</b> , 1 - <b>125 ms</b> , 2 - <b>200 ms</b> , 3 - <b>500 ms</b> , 4 - <b>1 s</b> , 5 - <b>2 s</b> , 6 - <b>5 s</b> , 7 - <b>10 s</b>
4	BufferP	logger contents in the channel defined as a sum of: 1 - for <b>PEAK</b> results, 2 - for <b>P-P</b> results, 4 - for <b>MAX</b> results, 8 - for <b>RMS</b> results, 16 - for <b>VDV</b> results
5	ProfileFlags	flags word (16 bits): b15 ... b3 b2 b1 b0 b0 - if set to 1: profile results have been calculated b1 ... b15 - reserved
...	...	...

Table B.1.6. Vector measurement settings

Word number	Name / Value	Comment
0	0xnn1E	[1E, nn=sub-block_length]
1	VectorBufferP	vector result logging: 0 - <b>OFF</b> , 1 - <b>ON</b>
2	VectorCoeff[1]	vector coefficient for the RMS value from the 1 <sup>st</sup> channel (*100)
3	VectorCoeff[2]	vector coefficient for the RMS value from the 2 <sup>nd</sup> channel (*100)
4	VectorCoeff[3]	vector coefficient for the RMS value from the 3 <sup>rd</sup> channel (*100)
5	VectorCoeff[4]	vector coefficient for the RMS value from the 4 <sup>th</sup> channel (*100)
6	VectorOn[1]	RMS value from the 1 <sup>st</sup> channel used for calculation: 0 - no, 1 - yes
7	VectorOn[2]	RMS value from the 2 <sup>nd</sup> channel used for calculation: 0 - no, 1 - yes
8	VectorOn[3]	RMS value from the 3 <sup>rd</sup> channel used for calculation: 0 - no, 1 - yes
9	VectorOn[4]	RMS value from the 4 <sup>th</sup> channel used for calculation: 0 - no, 1 - yes
10	VectorResult	<b>VECTOR</b> result value (*100 dB)
...	...	...

**Table B.1.7. Octave analysis header**

Word number	Name / Value	Comment
0	0xnn09	[09, nn=block_length]
1	0xkknn	[nn=spectrum_mask, kk=used_spectrum]
2..5	OctaveHead[1]	header of the first enabled octave analysis, defined in the case of <b>SLM</b> mode - in Table <b>B.1.7_SLM</b> and in the case of <b>VLM</b> mode - in Table <b>B.1.7_VLM</b>
...	...	...
2+4*used_spectrum.. 5+4*used_spectrum	OctaveHead[used_spectrum]	header of the last enabled octave analysis, defined in the case of <b>SLM</b> mode - in Table <b>B.1.7_SLM</b> and in the case of <b>VLM</b> mode - in Table <b>B.1.7_VLM</b>
...	...	...

**Table B.1.7\_SLM. Octave analysis header in the case of SLM mode**

Word number	Name / Value	Comment
0	0xnn0A	[0A, nn=sub-block length]
1	SpectrumChannel	spectrum channel
2	SpectrumFilter	<b>1/1</b> or <b>1/3 OCTAVE</b> analysis filter: 0 - <b>HP</b> , 1 - <b>LIN</b> , 2 - <b>A</b> , 3 - <b>C</b>
3	SpectrumBuff	<b>1/1</b> or <b>1/3 OCTAVE</b> logging: 1 - <b>ON</b> , 0 - <b>OFF</b>
...	...	...

**Table B.1.7\_VLM. Octave analysis header in the case of VLM mode**

Word number	Name / Value	Comment
0	0xnn0A	[0A, nn=sub-block length]
1	SpectrumChannel	spectrum channel
2	SpectrumFilter	<b>1/1</b> or <b>1/3 OCTAVE</b> analysis filter: 0 - <b>HP</b>
3	SpectrumBuff	<b>1/1</b> or <b>1/3 OCTAVE</b> logging: 1 - <b>ON</b> , 0 - <b>OFF</b>
...	...	...

**Table B.1.8. Header of the FFT analysis**

Word number	Name / Value	Comment
0	0xnn0B	[0B, nn=block_length] nn=2+NumberOfEnabledFFTs*12
1	0xkkmm	[mm=spectrum_mask, kk=spectrum_count]
2..13	FFTHeader[1]	header of the first enabled <b>FFT</b> analysis, defined in the case of <b>SLM</b> mode - in Table <b>B.1.8_SLM</b> and in the case of <b>VLM</b> mode - in Table <b>B.1.8_VLM</b>
...	...	...

2+spectrum_count*12	FFTHeader[spectrum_count]	header of the last enabled <b>FFT</b> analysis, defined in the case of <b>SLM</b> mode - in Table <b>B.1.8_SLM</b> and in the case of <b>VLM</b> mode - in Table <b>B.1.8_VLM</b>
...	...	...

Table B.1.8\_SLM. Header of the FFT analysis in one-channel SLM mode

Word number	Name / Value	Comment
0	0xnn0C	[0C, nn=block_length]
1	FFTChannel	channel of <b>FFT</b> analysis
2	FFTFilter	<b>FFT</b> analysis filter: 0 - <b>HP</b> , 1 - <b>LIN</b> , 2 - <b>A</b> , 3 - <b>C</b>
3	FFTBuff	<b>FFT</b> logging: 1 - <b>ON</b> , 0 - <b>OFF</b>
4	LowestFreqNo	number of the first line in the <b>FFT</b> spectrum = 0
5	Nfft	number of lines in the spectrum = 1921, 961 or 481
6	NfftTot	number of TOTAL lines in the spectrum = 1
7	FftBand	band of the <b>FFT</b> analysis: 1 - <b>22.4 kHz</b> , 2 - <b>11.2 kHz</b> , 3 - <b>5.6 kHz</b> , 4 - <b>2.8 kHz</b> , 5 - <b>1.4 kHz</b> , 6 - <b>700 Hz</b> , 7 - <b>350 Hz</b> , 8 - <b>175 Hz</b> , 9 - <b>87.5 Hz</b>
8	FftWindow	window in the <b>FFT</b> analysis: 0 - <b>HANNING</b> , 1 - <b>RECTANGLE</b> , 2 - <b>FLAT TOP</b> , 3 - <b>KAISER-BESSEL</b>
9	FftAverag	type of averaging in the <b>FFT</b> analysis: 0 - <b>LINEAR</b>
10..11	FftSampFreq	sampling frequency
12	FftWFactor	window coefficient
13	FftLines	number of lines: 0 - 1920 lines, 1 - 960 lines, 2 - 480 lines
...	...	...

Table B.1.8\_VLM. Header of the FFT analysis in one-channel VLM mode

Word number	Name / Value	Comment
0	0xnn0C	[0C, nn=block_length]
1	FFTChannel	channel of <b>FFT</b> analysis
2	FFTFilter	<b>FFT</b> analysis filter: 0 - <b>HP</b>
3	FFTBuff	<b>FFT</b> logging: 1 - <b>ON</b> , 0 - <b>OFF</b>
4	LowestFreqNo	number of the first line in the <b>FFT</b> spectrum = 0
5	Nfft	number of lines in the spectrum = 1921, 961 or 481
6	NfftTot	number of TOTAL lines in the spectrum = 1
7	FftBand	band of the <b>FFT</b> analysis: 1 - <b>22.4 kHz</b> , 2 - <b>11.2 kHz</b> , 3 - <b>5.6 kHz</b> , 4 - <b>2.8 kHz</b> , 5 - <b>1.4 kHz</b> , 6 - <b>700 Hz</b> , 7 - <b>350 Hz</b> , 8 - <b>175 Hz</b> , 9 - <b>87.5 Hz</b>
8	FftWindow	window in the <b>FFT</b> analysis: 0 - <b>HANNING</b> , 1 - <b>RECTANGLE</b> , 2 - <b>FLAT TOP</b> , 3 - <b>KAISER-BESSEL</b>
9	FftAverag	type of averaging in the <b>FFT</b> analysis: 0 - <b>LINEAR</b>
10..11	FftSampFreq	sampling frequency
12	FftWFactor	window coefficient
13	FftLines	number of lines: 0 - 1920 lines, 1 - 960 lines, 2 - 480 lines
...	...	...

Table B.1.9. Settings for vibration dose measurement

Word number	Name / Value	Comment
0	0xnn1F	[1F, nn=block_length]
1	xxyy	[yy=channel of Y axis-1 ,xx=channel of X axis-1]
2	nnzz	[zz=channel of Z axis-1, nn] nn=1 for Hand-Arm measurement, nn=2 for Whole-Body measurement
3	ExposureTime	exposure time in minutes
4	Standard	standard: 0 - <b>UK</b> , 1 - <b>Italy</b> , 2 - <b>Poland</b> , 3 - <b>French</b> , 4 - <b>User</b>
...	...	...

Table B.1.10. Main results

Word number	Name / Value	Comment
0	0xnn0D	[0D, nn=sub-block_length]
1	0x040C	[used_channel, used profiles]
2..15	MainResults[1]	main results from the 1 <sup>st</sup> profile of the 1 <sup>st</sup> channel, defined in the case of <b>SLM</b> mode - in Table <b>B.1.10_SLM</b> and in the case of <b>VLM</b> mode - in Table <b>B.1.10_VLM</b>
16..29	MainResults[2]	main results from the 1 <sup>st</sup> profile of the 2 <sup>nd</sup> channel, defined in the case of <b>SLM</b> mode - in Table <b>B.1.10_SLM</b> and in the case of <b>VLM</b> mode - in Table <b>B.1.10_VLM</b>
30..43	MainResults[3]	main results from the 1 <sup>st</sup> profile of the 3 <sup>rd</sup> channel, defined in the case of <b>SLM</b> mode - in Table <b>B.1.10_SLM</b> and in the case of <b>VLM</b> mode - in Table <b>B.1.10_VLM</b>
44..57	MainResults[4]	main results from the 1 <sup>st</sup> profile of the 4 <sup>th</sup> channel, defined in the case of <b>SLM</b> mode - in Table <b>B.1.10_SLM</b> and in the case of <b>VLM</b> mode - in Table <b>B.1.10_VLM</b>
58..71	MainResults[5]	main results from the 2 <sup>nd</sup> profile of the 1 <sup>st</sup> channel, defined in the case of <b>SLM</b> mode - in Table <b>B.1.10_SLM</b> and in the case of <b>VLM</b> mode - in Table <b>B.1.10_VLM</b>
72..85	MainResults[6]	main results from the 2 <sup>nd</sup> profile of the 2 <sup>nd</sup> channel, defined in the case of <b>SLM</b> mode - in Table <b>B.1.10_SLM</b> and in the case of <b>VLM</b> mode - in Table <b>B.1.10_VLM</b>
86..99	MainResults[7]	main results from the 2 <sup>nd</sup> profile of the 3 <sup>rd</sup> channel, defined in the case of <b>SLM</b> mode - in Table <b>B.1.10_SLM</b> and in the case of <b>VLM</b> mode - in Table <b>B.1.10_VLM</b>
100..113	MainResults[8]	main results from the 2 <sup>nd</sup> profile of the 4 <sup>th</sup> channel, defined in the case of <b>SLM</b> mode - in Table <b>B.1.10_SLM</b> and in the case of <b>VLM</b> mode - in Table <b>B.1.10_VLM</b>
114..127	MainResults[9]	main results from the 3 <sup>rd</sup> profile of the 1 <sup>st</sup> channel, defined in the case of <b>SLM</b> mode - in Table <b>B.1.10_SLM</b> and in the case of <b>VLM</b> mode - in Table <b>B.1.10_VLM</b>
128..141	MainResults[10]	main results from the 3 <sup>rd</sup> profile of the 2 <sup>nd</sup> channel, defined in the case of <b>SLM</b> mode - in Table <b>B.1.10_SLM</b> and in the case of <b>VLM</b> mode - in Table <b>B.1.10_VLM</b>
142..155	MainResults[11]	main results from the 3 <sup>rd</sup> profile of the 3 <sup>rd</sup> channel, defined in the case of <b>SLM</b> mode - in Table <b>B.1.10_SLM</b> and in the case of <b>VLM</b> mode - in Table <b>B.1.10_VLM</b>
156..169	MainResults[12]	main results from the 3 <sup>rd</sup> profile of the 4 <sup>th</sup> channel, defined in the case of <b>SLM</b> mode - in Table <b>B.1.10_SLM</b> and in the case of <b>VLM</b> mode - in Table <b>B.1.10_VLM</b>
...	...	...

Table B.1.10\_SLM. One-profile main results in the case of SLM mode

Word number	Name / Value	Comment
0	0xnn0E	[0E, nn=sub-block_length]
1..2	MeasureTime	time of the measurement in the channel (if the channel's 1 <sup>st</sup> profile) overload time in the channel (if the 2 <sup>nd</sup> profile in a channel)
3	Result[1]	<b>PEAK</b> value in the profile (*100 dB)
4	Result[2]	reserved
5	Result[3]	minimal value ( <b>MIN</b> ) in the profile (*100 dB)
6	Result[4]	<b>SPL</b> value in the profile (*100 dB)
7	Result[5]	maximal value ( <b>MAX</b> ) in the profile (*100 dB)
8	Result[6]	<b>Lden</b> value in the profile (*100 dB) (depends on UnitFlags bits: b3, b4, b5)
9	Result[7]	<b>LEQ</b> value in the profile (*100 dB)
10	Result[8]	<b>Ltm3</b> value in the profile (*100 dB)
11	Result[9]	<b>Ltm5</b> value in the profile (*100 dB)
12	Result[10]	<b>Lav</b> value in the profile (*100dB), (the result enable only in dosimeter function)
13	Result[11]	<b>TLav</b> value in the profile (*100dB), (the result enable only in dosimeter function)
...	...	...

Table B.1.10\_VLM. One-profile main results in the case of VLM mode

Word number	Name / Value	Comment
0	0xnn0E	[0E, nn=sub-block_length]
1..2	MeasureTime	time of the measurement in the channel (if the 1 <sup>st</sup> profile in channel) overload time in the channel (if second profile in channel)
3	Result[1]	<b>PEAK</b> value in the profile (*100 dB)
4	Result[2]	<b>P-P</b> value in the profile (*100 dB)
5	Result[3]	reserved
6	Result[4]	reserved
7	Result[5]	<b>MTVV</b> (or <b>MAX</b> ) value in the profile (*100 dB)
8	Result[6]	<b>VDV</b> value in the profile (if UnitFlags bit b2 is set to 0) (*100 dB)
9	Result[7]	<b>RMS</b> value in the profile (*100 dB)
10	Result[8]	reserved
11	Result[9]	reserved
12	Result[10]	reserved
13	Result[11]	reserved
...	...	...

Table B.1.11. Selected statistical levels in channels

Word number	Name / Value	Comment
0	0xnn19	[19, nn=block_length]
1	0xccmm	[mm=channel_mask,cc= used_channels]
2	NStatLevs	number of statistical levels per channel = 10

3	N1	N1 value for the LN1 statistics $\in (1 \div 99)$
4	N2	N2 value for the LN2 statistics $\in (1 \div 99)$
5	N3	N3 value for the LN3 statistics $\in (1 \div 99)$
6	N4	N4 value for the LN4 statistics $\in (1 \div 99)$
7	N5	N5 value for the LN5 statistics $\in (1 \div 99)$
8	N6	N6 value for the LN6 statistics $\in (1 \div 99)$
9	N7	N7 value for the LN7 statistics $\in (1 \div 99)$
10	N8	N8 value for the LN8 statistics $\in (1 \div 99)$
11	N9	N9 value for the LN9 statistics $\in (1 \div 99)$
12	N10	N10 value for the LN10 statistics $\in (1 \div 99)$
13	LN1[1]	value of the LN1 statistics (*10 dB) for the 1 <sup>st</sup> channel in <b>SLM</b> mode
14	LN2[1]	value of the LN2 statistics (*10 dB) for the 1 <sup>st</sup> channel in <b>SLM</b> mode
...	...	...
22	LN10[1]	value of the LN10 statistics (*10 dB) for the 1 <sup>st</sup> channel in <b>SLM</b> mode
23	LN1[2]	value of the LN1 statistics (*10 dB) for the 2 <sup>nd</sup> channel in <b>SLM</b> mode
...	...	...
block_ length-1	LN10[used_channels]	value of the LN10 statistics (*10 dB) for the last channel in <b>SLM</b> mode
...	...	...

**Table B.1.12. One-channel 1/1 OCTAVE analysis results**

Word number	Name / Value	Comment
0	0xnn0F	[0F, nn=block_length]
1	LowestFreq	the lowest <b>1/1 OCTAVE</b> frequency (*100 Hz)
2	Noct	number of <b>1/1 OCTAVE</b> values
3	NoctTot	number of <b>TOTAL</b> values = 3
4... block_ length	Octave[i]	1/1 octave[i] value (*100 dB); i=1..NOct+NOctTot
...	...	...



**Note:** The **TOTAL** values, calculated in the case of sound measurements, correspond to the **A**, **C** and **LIN** filters – respectively. The **TOTAL** values, calculated in the case of vibration measurements, correspond to the **HP**, **CH** and **CH** filters – respectively, where **CH** denotes the filter used in the channel for Level Meter measurement.

**Table B.1.13. One-channel 1/3 OCTAVE analysis results**

Word number	Name / Value	Comment
0	0xnn10	[10, nn=block_length]
1	LowestFreq	the lowest <b>1/3 OCTAVE</b> frequency (*100 Hz)
2	Nter	number of <b>1/3 OCTAVE</b> values
3	NterTot	number of <b>TOTAL</b> values = 3

4... block_ length	Tercje[i]	1/3 octave[i] value (*100 dB); i=1..Nter+NterTot
...	...	...



**Note:** The **TOTAL** values, calculated in the case of sound measurements, correspond to the **A**, **C** and **LIN** filters – respectively. The **TOTAL** values, calculated in the case of vibration measurements, correspond to the **HP**, **CH** and **CH** filters – respectively, where **CH** denotes the filter used in the channel for Level Meter measurement.

Table B.1.14. One-channel FFT analysis results

Word number	Name / Value	Comment
0	0x0011	[11, 0 (block is longer than 256 words, the length is given in the second word)]
1	FftBlockLength	2 + Nfft + NfftTot
2..2+Nfft + NfftTot	FFT[i]	value of the FFT line (*100 dB); i = 1..1..Nfft + NfftTot
...	...	...

Table B.1.15. One-channel TOTALS description

Word number	Name / Value	Comment
0	0xnn1B	[1B, nn=block_length = 1 + Ntotal*4 (words)]
1	SpectChannel	spectrum channel
2	FilterNo[1]	logical filter no. for the first total value 0, 1, 2 - standard filters 3,... - user-defined filters
3	FilterType[1]	for sound: 0 for vibration: 0 - <b>ACC.</b> , 1 - <b>VEL.</b> , 2 - <b>DIL.</b>
4	calFactor[1]	calibration factor used to modify the computed <b>TOTAL</b> value
5	TotValue[1]	<b>TOTAL</b> value computed for the filter with logical no. FilterNo or zero value for standard filter
...	...	...
nn-4	FilterNo[Ntotal]	logical filter no. for the last total value 0, 1, 2 - standard filters 3,... - user-defined filters
nn-3	FilterType[Ntotal]	for sound: 0 for vibration: 0 - <b>ACC.</b> , 1 - <b>VEL.</b> , 2 - <b>DIL.</b>
nn-2	calFactor[Ntotal]	calibration factor used to modify the computed <b>TOTAL</b> value
nn-1	TotValue[Ntotal]	<b>TOTAL</b> value computed for the filter with logical no. FilterNo or zero value for standard filter
...	...	...

**Table B.1.16. TOTALS description**

Word number	Name / Value	Comment
0	0xnn1A	[1A, nn=block_length = 1+(1 + Ntotal*4)*k (words)]
1... 1+4*Ntotal	OneChnlTotDesc[1]	one-channel totals description block for the first channel with <b>TOTALS</b> in user filters (Table B.1.15.)
...	...	...
	OneChnlTotDesc[k]	one-channel totals description block for the last channel with <b>TOTALS</b> in user filters (Table B.1.15.)
...	...	...



**Note:** This data block is created only in the case when the file was saved for **1/1 OCTAVE** or **1/3 OCTAVE** analysis and the **TOTAL** values were calculated for the filters selected by the user (**USER FILTERS**). The **TOTAL** values corresponding to those filters are given in the TotValue positions and the definitions of the proper filters are presented in the Table B.1.17.

**Table B.1.17. Description of user-defined filter**

Word number	Name / Value	Comment
0	0xnn1D	[1D, nn=block_length = 5 + NTer (words)]
1	FilterNo	FilterNo as saved in one-channel description (Table B.1.15)
2..4	FilterName	filter name (up to 5 letters, zero-ending string)
5..49	FilterVal[i]	filter value (*10 dB) corresponding to the 1/3 octave[i] position; i=1..NTer (1..45)
...	...	...



**Note:** Such data block is created for each filter with the logical number FilterNo greater or equal to 3, expressed in the TOTALS DESCRIPTION block (cf. Tab. B.1.15 and Tab B.1.16). The description of the filter with the logical number FilterNo is given only once, disregarding the number of FilterNo repetition in Tab. B.1.15.

**Table B.1.18. Statistics in channels header**

Word number	Name / Value	Comment
0	0xnn12	[12, nn=block_length=2+4*used_channels ]
1	0xccmm	[mm=channels_mask, cc=used_channels]
2	0x0413	[13, 04=sub-block_length]
3	NofClasses[1]	number of classes in the 1 <sup>st</sup> channel in <b>SLM</b> mode (100)
4	BottomClass[1]	bottom class boundary (*10 dB) in the 1 <sup>st</sup> channel in <b>SLM</b> mode
5	ClassWidth[1]	class width (*10 dB) in the 1 <sup>st</sup> channel in <b>SLM</b> mode

...	...	...
block_length-4	0x0413	[13, 04=sub-block_length]
block_length-3	NofClasses[used_channels]	number of classes in the last channel in <b>SLM</b> mode (100)
block_length-2	BottomClass[used_channels]	bottom class boundary (*10 dB) in the last channel in <b>SLM</b> mode
block_length-1	ClassWidth[used_channels]	class width (*10 dB) in the last channel in <b>SLM</b> mode
...	...	...

Table B.1.19. Results of the statistical analysis in one channel

Word number	Name / Value	Comment
0	0x0014	[14, 00=block length in next word]
1	SubblockLength	2 * number of classes in the channel + 3
2	ChannelNo	channel number minus 1
3..4	Histogram[1]	the 1 <sup>st</sup> counter in the channel
5..6	Histogram[2]	the 2 <sup>nd</sup> counter in the channel
...	...	...

Table B.1.20. Results of the statistical analysis performed in 1/1 OCTAVE or 1/3 OCTAVE mode

Word number	Name / Value	Comment
0	0x0015	[15, 00=block length in the next word]
1	BlockLength	block length
2	0xccmm	[mm=spectrum_mask, cc=used_spectrum]
3..	OctStatRes[1]	results of the statistical analysis performed in the 1 <sup>st</sup> channel in <b>SLM</b> mode (defined in Table B.1.21.)
...	...	....
...	OctStatRes[used_spectrum]	results of the statistical analysis performed in the last channel in <b>SLM</b> mode (defined in Table B.1.21.)
...	...	...

Table B.1.21. Results of statistical analysis performed in 1/1 or 1/3 OCTAVE mode in one-channel

Word number	Name / Value	Comment
0	0x0016	[16, 00=block length in next word]
1	BlockLength	BlockLength=2*NofHist*NofClass+6
2	NofHist	number of histogramms (number of 1/1 OCTAVE or 1/3 OCTAVE filters and <b>TOTAL</b> values (3))
3	NofClasses	number of classes in the histogramm (100)
4	BottomClass	bottom class boundary (*10 dB)
5	ClassWidth	class width (*10 dB)

6..7	Histogram[1][1]	the 1 <sup>st</sup> counter for the first <b>1/1 OCTAVE</b> or <b>1/3 OCTAVE</b> filter
8..9	Histogram[1][2]	the 2 <sup>nd</sup> counter for the 1 <sup>st</sup> <b>1/1 OCTAVE</b> or <b>1/3 OCTAVE</b> filter
...	...	...
6+2 * Nof Classes... 7+2 * Nof Classes	Histogram[2][1]	the 1 <sup>st</sup> counter for the 2 <sup>nd</sup> <b>1/1 OCTAVE</b> or <b>1/3 OCTAVE</b> filter
...	Histogram[2][2]	the 2 <sup>nd</sup> counter for the 2 <sup>nd</sup> <b>1/1 OCTAVE</b> or <b>1/3 OCTAVE</b> filter
...	...	...
...	...	...
...	Histogram[NofHist][1]	the 1 <sup>st</sup> counter for the last <b>1/1 OCTAVE</b> or <b>1/3 OCTAVE</b> filter
...	Histogram[NofHist][2]	the 2 <sup>nd</sup> counter for the last <b>1/1 OCTAVE</b> or <b>1/3 OCTAVE</b> filter
...	...	...

**Table B.1.22. Header of the file from the logger**

Word number	Name / Value	Comment
0	0xnn18	[18, nn=header_length]
1	BufResOffs	position of the first saved result
2	BuffTSec	logger time-step - full seconds part
3	BuffTMiliseC	logger time-step - milliseconds part
4.5	BuffLength	logger length (bytes)
6..7	RecsInBuff	number of records in the logger
8..9	RecsInObserv	number of records in the observation period equal to: number of records in the logger + number of records not saved
...	...	...



**Note:** The current logger time step in seconds can be obtained from the formulae:  
 $T = \text{BuffTSec} + \text{BuffTMiliseC} / 1000.$

**Table B.1.23. Spectrum header of the file from the logger**

Word number	Name / Value	Comment
0	0xnn21	[21, nn=block_length=1+4*NumberOfBufferedSpectrums ]
1	ChannelNo	channel number of the first logged spectrum minus 1
2	LowestFreq	the lowest <b>1/1 OCTAVE</b> or <b>1/3 OCTAVE</b> frequency (*100 Hz) of the first logged spectrum or 0 in the case of <b>FFT</b>
3	NSpectRes	number of <b>1/1 OCTAVE</b> or <b>1/3 OCTAVE</b> or <b>FFT</b> results of the first logged spectrum
4	NTotal	number of <b>TOTAL</b> values of the first logged spectrum

...	...	...
block_ length-4	ChannelNo	channel number of the last logged spectrum minus 1
block_ length-3	LowestFreq	the lowest <b>1/1 OCTAVE</b> or <b>1/3 OCTAVE</b> frequency (*100 Hz) of the last logged spectrum or 0 in the case of <b>FFT</b>
block_ length-2	NSpectRes	number of <b>1/1 OCTAVE</b> or <b>1/3 OCTAVE</b> or <b>FFT</b> results of the last logged spectrum
block_ length-1	NTotal	number of <b>TOTAL</b> values of the last logged spectrum
...	...	...

Table B.1.24. Contents of the file from the logger

Word number	Name / Value	Comment
0..(BuffLength/2-1)		result#1, result#2, ... result#(BuffLength/2-1)

Table B.1.25. File end marker

Word number	Name / Value	Comment
0	0xFFFF	file end marker

Table B.1.26. Data block of instrument's setup

Word number	Name / Value	Comment
0	0x0020	[20, 00=block length in the next word]
1	BlockLength	block length
2..BlockLength-1	SetupData	saved setup values
...	...	...

Table B.1.27. User filters block in data file of instrument's setup

Word number	Name / Value	Comment
0	0x0027	[27, 00=block length in the next word]
1	BlockLength	block length
2..BlockLength-1	FilterData	saved user-filters values
...	...	...

Table B.1.28. Header of 1/3 OCTAVE analysis in RT60 mode

Word number	Name / Value	Comment
0	0xnn22	[22, nn=block length]

1	0xkknn	kk = channels number, nn = channels mask
2	RT60Method	measurement method: 1 - decay, 2 - impulse
3	0x0423	[23, 04 = sub-block length]
4	Spectrum channel	channel of the first spectrum
5	Spectrum Filter	<b>1/1 or 1/3 OCTAVE</b> analysis filter: 0 - <b>HP</b> , 1 - <b>LIN</b> , 2 - <b>A</b> , 3 - <b>C</b>
6	Spectrum Buff	logging results of analysis: 0 - OFF
...	...	...
nn-4	0x0423	[23, 24 = sub-block length]
nn-3	SpectrumChannel	channel of the last spectrum
nn-2	SpectrumFilter	<b>1/1 or 1/3 OCTAVE</b> analysis filter: 0 - <b>HP</b> , 1 - <b>LIN</b> , 2 - <b>A</b> , 3 - <b>C</b>
nn-1	SpectrumBuff	logging results of analysis: 0 - OFF
...	...	...

**Table B.1.29. Settings for RT60 measurement**

Word number	Name / Value	Comment
0	0xnn24	[24, nn=block length]
1	RT60SaveMode	1 - saved measurement results 2 - saved averaged results
2	RT60Method	measurement method: 1 - decay, 2 - impulse
3	RT60Spectrum	2 - <b>1/3 OCTAVE</b> analysis
4	Buffer step	time resolution of the logger results [ms]
5	RT60ResponseTime	response time [s]
6	TriggerLevMin	minimal level of saturation for decay method (*10 dB)
7	RT60DispSmooth	smoothing level
8	RT60NoiseMargin	noise level margin (*10 dB)
9	RT60Averaging	averaging of consecutive measurements: 0 - OFF, 1 - ON
10	RT60MeasureNo	number of averaged measurements
...	...	...

**Table B.1.30. Results of the RT60 measurement in one channel**

Word number	Name / Value	Comment
0	0x0025	[25, 00=block length in the next word]
1	BlockLen	block length
2	Channel	channel number - 1
3	LowestFreq	the lowest 1/3 octave frequency (*100 Hz)
4	NTer	1/3 octave analysis results number
5	NTot	TOTAL results number

6	FirstRT60Freq	number of first calculated 1/3 octave band - 1
7	LastRT60Freq	number of last calculated 1/3 octave band - 1
8	Calc(FirstRT60Freq)	flag indicates results calculation for FirstRT60Freq octave band
9	Edt(FirstRT60Freq)	EDT result in ms
10	rt20(FirstRT60Freq)	RT 20 result in ms
11	rt30(FirstRT60Freq)	RT 30 result in ms
12	rt_user(FirstRT60Freq)	RT USER result in ms
13	cor_edit(FirstRT60Freq)	EDT correlation ratio
14	cor_rt20(FirstRT60Freq)	RT 20 correlation ratio
15	cor_rt30(FirstRT60Freq)	RT 30 correlation ratio
16	cor_rt_user(FirstRT60Freq)	RT USER correlation ratio
...	...	...
BlockLen-9	Calc[LastRT60Freq+NTot]	Flag indicates results calculation for LastRT60Freq+NTot octave band
BlockLen-8	edt[LastRT60Freq+NTot]	EDT result in ms
BlockLen-7	rt20[LastRT60Freq+NTot]	RT 20 result in ms
BlockLen-6	rt30[LastRT60Freq+NTot]	RT 30 result in ms
BlockLen-5	rt_user[LastRT60Freq+NTot]	RT USER result in ms
BlockLen-4	cor_edt[LastRT60Freq+NTot]	EDT correlation ratio
BlockLen-3	cor_rt20[LastRT60Freq+NTot]	RT 20 correlation ratio
BlockLen-2	cor_rt30[LastRT60Freq+NTot]	RT 30 correlation ratio
BlockLen-1	cor_rt_user[LastRT60Freq+NTot]	RT USER correlation ratio
...	...	...

Table B.1.31. Averaged RT60 measurement results in one channel

Word number	Name / Value	Comment
0	0x0026	[26, 00=block length in the next word]
1	BlockLen	block length
2	Channel	channel number - 1
3	LowestFreq	the lowest 1/3 octave frequency (*100 Hz)
4	NTer	1/3 octave analysis results number
5	NTot	TOTAL results number
6	FirstRT60Freq	number of first calculated 1/3 octave band - 1
7	LastRT60Freq	number of last calculated 1/3 octave band - 1
8	Calc[FirstRT60Freq]	flag indicates results calculation for FirstRT60Freq octave band
9	edt[FirstRT60Freq]	EDT result in ms
10	rt20[FirstRT60Freq]	RT 20 result in ms
11	rt30[FirstRT60Freq]	RT 30 result in ms
12	rt_user[FirstRT60Freq]	RT USER result in ms
13	n_edt[FirstRT60Freq]	number of averaged EDT results
14	n_rt20[FirstRT60Freq]	number of averaged RT 20 results
15	n_rt30[FirstRT60Freq]	number of averaged RT 30 results
16	n_rt_user[FirstRT60Freq]	number of averaged RT USER results
...	...	...
BlockLen-9	Calc[LastRT60Freq+NTot]	flag indicates results calculation for LastRT60Freq+NTot octave band
BlockLen-8	edt[LastRT60Freq+NTot]	EDT result in ms

BlockLen-7	rt20[LastRT60Freq+NTot]	RT 20 result in ms
BlockLen-6	rt30[LastRT60Freq+NTot]	RT 30 result in ms
BlockLen-5	rt_user[LastRT60Freq+NTot]	RT USER result in ms
BlockLen-4	n_edt[LastRT60Freq+NTot]	number of averaged EDT results
BlockLen-3	n_rt20[LastRT60Freq+NTot]	number of averaged RT 20 results
BlockLen-2	n_rt30[LastRT60Freq+NTot]	number of averaged RT 30 results
BlockLen-1	n_rt_user[LastRT60Freq+NTot]	number of averaged RT USER results
...	...	...

**Table B.1.32. Results of one RT60 measurement averaged between channels**

Word number	Name / Value	Comment
0	0x0028	[28, 00=block length in the next word]
1	BlockLen	block length
2	LowestFreq	the lowest 1/3 octave frequency (*100 Hz)
3	NTer	1/3 octave analysis results number
4	NTot	TOTAL results number
5	FirstRT60Freq	number of first calculated 1/3 octave band - 1
6	LastRT60Freq	number of last calculated 1/3 octave band - 1
7	Calc[FirstRT60Freq]	flag indicates results calculation for FirstRT60Freq octave band
8	edt[FirstRT60Freq]	EDT result in ms
9	rt20[FirstRT60Freq]	RT 20 result in ms
10	rt30[FirstRT60Freq]	RT 30 result in ms
11	rt_user[FirstRT60Freq]	RT USER result in ms
12	n_edt[FirstRT60Freq]	number of averaged EDT results
13	n_rt20[FirstRT60Freq]	number of averaged RT 20 results
14	n_rt30[FirstRT60Freq]	number of averaged RT 30 results
15	n_rt_user[FirstRT60Freq]	number of averaged RT USER results
...	...	...
BlockLen-9	Calc[LastRT60Freq+NTot]	flag indicates results calculation for LastRT60Freq+NTot octave band
BlockLen-8	edt[LastRT60Freq+NTot]	EDT result in ms
BlockLen-7	rt20[LastRT60Freq+NTot]	RT 20 result in ms
BlockLen-6	rt30[LastRT60Freq+NTot]	RT 30 result in ms
BlockLen-5	rt_user[LastRT60Freq+NTot]	RT USER result in ms
BlockLen-4	n_edt[LastRT60Freq+NTot]	number of averaged EDT results
BlockLen-3	n_rt20[LastRT60Freq+NTot]	number of averaged RT 20 results
BlockLen-2	n_rt30[LastRT60Freq+NTot]	number of averaged RT 30 results
BlockLen-1	n_rt_user[LastRT60Freq+NTot]	number of averaged RT USER results
...	...	...

**Table B.1.33. Averaged RT60 measurements results averaged between channels**

Word number	Name / Value	Comment
0	0x0029	[29, 00=block length in the next word]
1	BlockLen	block length

2	LowestFreq	the lowest 1/3 octave frequency (*100 Hz)
3	NTer	1/3 octave analysis results number
4	NTot	TOTAL results number
5	FirstRT60Freq	number of first calculated 1/3 octave band - 1
6	LastRT60Freq	number of last calculated 1/3 octave band - 1
7	Calc(FirstRT60Freq)	flag indicates results calculation for FirstRT60Freq octave band
8	Edt(FirstRT60Freq)	EDT result in ms
9	rt20(FirstRT60Freq)	RT 20 result in ms
10	rt30(FirstRT60Freq)	RT 30 result in ms
11	rt_user[FirstRT60Freq]	RT USER result in ms
12	n_edt[FirstRT60Freq]	number of averaged EDT results
13	n_rt20[FirstRT60Freq]	number of averaged RT 20 results
14	n_rt30[FirstRT60Freq]	number of averaged RT 30 results
15	n_rt_user[FirstRT60Freq]	number of averaged RT USER results
...	...	...
BlockLen-9	Calc[LastRT60Freq+NTot]	flag indicates results calculation for LastRT60Freq+NTot octave band
BlockLen-8	edt[LastRT60Freq+NTot]	EDT result in ms
BlockLen-7	rt20[LastRT60Freq+NTot]	RT 20 result in ms
BlockLen-6	rt30[LastRT60Freq+NTot]	RT 30 result in ms
BlockLen-5	rt_user[LastRT60Freq+NTot]	RT USER result in ms
BlockLen-4	cor_edt[LastRT60Freq+NTot]	number of averaged EDT results
BlockLen-3	cor_rt20[LastRT60Freq+NTot]	number of averaged RT 20 results
BlockLen-2	cor_rt30[LastRT60Freq+NTot]	number of averaged RT 30 results
BlockLen-1	cor_rt_user[LastRT60Freq+NTot]	number of averaged RT USER results
...	...	...

Table B.1.34. Results of rotation speed measurement

Word number	Name / Value	Comment
0	0xnn2A	[2A, nn=block length]
1	rpm[0]	RPM[0]
2	rpm[1]	RPM[1]
3	rpm_max[0]	RPM MAX[0]
4	rpm_max[1]	RPM MAX[1]
5	rpm_min[0]	RPM MIN[0]
6	rpm_min[1]	RPM MIN[1]
...	...	...

Table B.1.35. Time-domain header of the file from the logger

Word number	Name / Value	Comment
0	0xnn2B	[2B, nn=block length]

1	TimeSignalBuffer	flags (16 bit): b15...b3 b2 b1 b0 b0 - if set to 1: samples from channel 1 are saved b1 - if set to 1: samples from channel 2 are saved b2 - if set to 1: samples from channel 3 are saved b3 - if set to 1: samples from channel 4 are saved b4,..., b15 - reserved
2	SampleRate	sampling rate: 0 - 3000 Hz 1 - 2400 Hz 2 - 1500 Hz 3 - 1200 Hz 4 - 750 Hz 5 - 600 Hz 6 - 375 Hz 7 - 300 Hz 8 - 187 Hz 9 - 150 Hz
3..4	BuffLength	logger length in bytes
5..6	RecsInBuff	records number in logger
7..8	RecsInObserv	records number in observation time equal: records number in logger + records number not remember
...	...	...

Table B.1.36. Seat measurement

Word number	Name / Value	Comment
0	0xnn2C	[2C, nn=block length]
1	SEATBaseChannel	base channel
2	SEATSeatChannel	seating channel
...	...	...

Table B.1.37. Maximum results of 1/3 OCTAVE analysis in one channel

Word number	Name / Value	Comment
0	0xnn2D	[2D, nn=block length]
1	LowestFreq	the lowest <b>1/1 OCTAVE</b> frequency (*100 Hz)
2	Noct	number of <b>1/1 OCTAVE</b> values
3	NoctTot	number of <b>TOTAL</b> values = 3
...	...	...
4 - length block	MaxOctave[i]	maximum result of the 1/1 octave analysis (*100 dB); i = 1...NOct + NOctTot
...	...	...



**Note:** The **TOTAL** values, calculated in the case of sound measurements, correspond to the **A**, **C** and **LIN** filters – respectively. The **TOTAL** values, calculated in the case of vibration measurements, correspond to the **HP**, **CH** and **CH** filters – respectively, where **CH** denotes the filter used in the channel for Level Meter measurement.

Table B.1.38. Minimum results of 1/1 OCTAVE analysis in one channel

Word number	Name / Value	Comment
0	0xnn2E	[2E, nn=block length]
1	LowestFreq	the lowest <b>1/1 OCTAVE</b> frequency (*100 Hz)
2	Noct	number of <b>1/1 OCTAVE</b> values
3	NoctTot	number of <b>TOTAL</b> values = 3
...	...	...
4 - length block	MinOctave[i]	minimum result of the 1/1 octave analysis (*100 dB); i = 1...NOct + NOctTot
...	...	...

Table B.1.39. Maximum results of 1/3 OCTAVE analysis in one channel

Word number	Name / Value	Comment
0	0xnn2F	[2F, nn=block length]
1	LowestFreq	the lowest <b>1/3 OCTAVE</b> frequency (*100 Hz)
2	Nter	number of <b>1/3 OCTAVE</b> values
3	NterTot	number of <b>TOTAL</b> values = 3
...	...	...
4 - length block	MaxTercje[i]	maximum result of the 1/3 octave analysis (*100 dB); i = 1...Nter + NterTot
...	...	...

Table B.1.40. Minimum results of 1/3 OCTAVE analysis in one channel

Word number	Name / Value	Comment
0	0xnn30	[30, nn=block length]
1	LowestFreq	the lowest <b>1/3 OCTAVE</b> frequency (*100 Hz)
2	Nter	number of <b>1/3 OCTAVE</b> values
3	NterTot	number of <b>TOTAL</b> values = 3
...	...	...
4 - length block	MinTercje[i]	minimum result of the 1/3 octave analysis (*100 dB); i = 1...Nter + NterTot
...	...	...



**Note:** The **TOTAL** values, calculated in the case of sound measurements, correspond to the **A**, **C** and **LIN** filters – respectively. The **TOTAL** values, calculated in the case of vibration measurements, correspond to the **HP**, **CH** and **CH** filters – respectively, where **CH** denotes the filter used in the channel for Level Meter measurement.

## B.2. Structure of the file with the results from Level Meter Mode

File header - cf. Tab. B.1.1.

Unit and software specification - cf. Tab. B.1.2.

Parameters and global settings - cf. Tab. B.1.3.

Hardware settings for channels - cf. Tab. B.1.4.

Software settings for channels - cf. Tab. B.1.5.

Vector measurement settings - cf. Tab. B.1.6.

Settings for vibration dose measurement (the presence depends on the **MEASURE DOSE** and channel filter settings) - cf. Tab. B.1.9.

**Main results** - cf. Tab. B.1.10.

RPM results (present if RPM measurement was enabled) - cf. Tab. B.1.34.

**Selected statistical levels in channels** (the presence depends on the **MODE** settings in the channel) - cf. Tab. B.1.11.

Header of the statistical analysis in channels (the presence depends on the **SAVE STAT.** setting) - cf. Tab. B.1.18.

Results of the statistical analysis in one channel (the presence depends on the **SAVE STAT.** and **MODE** settings in the channel) - cf. Tab. B.1.19.

File end marker - cf. Tab. B.1.25.

## B.3. Structure of the file with 1/1 OCTAVE analysis results

File header - cf. Tab. B.1.1.

Unit and software specification - cf. Tab. B.1.2.

Parameters and global settings - cf. Tab. B.1.3.

Hardware settings for channels - cf. Tab. B.1.4.

Software settings for channels - cf. Tab. B.1.5.

Vector measurement settings - cf. Tab. B.1.6.

**Octave analysis header** - cf. Tab. B.1.7.

Settings for vibration dose measurement (the presence depends on the **MEASURE DOSE** and channel filter settings) - cf. Tab. B.1.9.

Main results - cf. Tab. B.1.10.

RPM results (present if RPM measurement was enabled) - cf. Tab. B.1.34.

Selected statistical levels in channels (SLM mode channels only) - cf. Tab. B.1.11.

**One-channel 1/1 Octave analysis results** (one for each channel with spectrum analysis enabled) - cf. Tab. B.1.12.

TOTALS description (if needed) - cf. Tab. B.1.16.

Description of user-defined filter (if needed) - cf. Tab. B.1.17.

**Maximum 1/1 Octave analysis results in one channel** (one for each channel with spectrum analysis enabled, presence depends on the **MAX. SPECT.** setting) - cf. Tab. B.1.37.

**Minimum 1/1 Octave analysis results in one channel** (one for each channel with spectrum analysis enabled, presence depends on the **MIN. SPECT.** setting) - cf. Tab. B.1.38.

Header of the statistical analysis in channels (the presence depends on the **SAVE STAT.** setting) - cf. Tab. B.1.18.

Results of the statistical analysis in one channel (the presence depends on the **SAVE STAT.** and **MODE** settings in the channel) - cf. Tab. B.1.19.

Results of the statistical analysis performed in 1/1 Octave mode (SLM channels only - the presence depends on the **SAVE STAT.** setting) - cf. Tab. B.1.20.

File end marker - cf. Tab. B.1.25.

## B.4. Structure of the file with 1/3 OCTAVE analysis results

File header - cf. Tab. B.1.1.

Unit and software specification - cf. Tab. B.1.2.

Parameters and global settings - cf. Tab. B.1.3.

Hardware settings for channels - cf. Tab. B.1.4.

Software settings for channels - cf. Tab. B.1.5.

Vector measurement settings - cf. Tab. B.1.6.

**Octave analysis header** - cf. Tab. B.1.7.

Settings for vibration dose measurement (the presence depends on the **MEASURE DOSE** and channel filter settings) - cf. Tab. B.1.9.

Main results - cf. Tab. B.1.10.

RPM results (present if RPM measurement was enabled) - cf. Tab. B.1.34.

Selected statistical levels in channels (SLM mode channels only) - cf. Tab. B.1.11.

**One-channel 1/3 Octave analysis results** (one for each channel with spectrum analysis enabled) - cf. Tab. B.1.13.

**Maximum 1/3 Octave analysis results in one channel** (one for each channel with spectrum analysis enabled, presence depends on the **MAX. SPECT.** setting) - cf. Tab. B.1.39.

**Minimum 1/3 Octave analysis results in one channel** (one for each channel with spectrum analysis enabled, presence depends on the **MIN. SPECT.** setting) - cf. Tab. B.1.40.

TOTALS description (if needed) - cf. Tab. B.1.16.

Description of user-defined filter (if needed) - cf. Tab. B.1.17.

Header of the statistical analysis in channels (the presence depends on the **SAVE STAT.** setting) - cf. Tab. B.1.18.

Results of the statistical analysis in one channel (the presence depends on the **SAVE STAT.** and **MODE** settings in the channel) - cf. Tab. B.1.19.

Results of the statistical analysis performed in 1/3 OCTAVE mode (SLM channels only - the presence depends on the **SAVE STAT.** setting) - cf. Tab. B.1.20.

File end marker - cf. Tab. B.1.25.

## B.5. Structure of the file with FFT analysis results

File header - cf. Tab. B.1.1.

Unit and software specification - cf. Tab. B.1.2.

Parameters and global settings - cf. Tab. B.1.3.

Hardware settings for channels - cf. Tab. B.1.4.

Software settings for channels - cf. Tab. B.1.5.

Vector measurement settings - cf. Tab. B.1.6.

**FFT analysis header** - cf. Tab. B.1.8.

Settings for vibration dose measurement (the presence depends on the **MEASURE DOSE** and channel filter settings) - cf. Tab. B.1.9.

Main results - cf. Tab. B.1.10.

RPM results (present if RPM measurement was enabled) - cf. Tab. B.1.34.

Selected statistical levels in channels (SLM mode channels only) - cf. Tab. B.1.11.

**One-channel FFT analysis results** (one for each channel with spectrum analysis enabled) - cf. Tab. B.1.13.

Header of the statistical analysis in channels (the presence depends on the **SAVE STAT.** setting) - cf. Tab. B.1.18.

Results of the statistical analysis in one channel (the presence depends on the **SAVE STAT.** and **MODE** settings in the channel) - cf. Tab. B.1.19.

File end marker - cf. Tab. B.1.25.

## **B.6. Structure of the file containing LM results from logger's file**

File header - cf. Tab. B.1.1.

Unit and software specification - cf. Tab. B.1.2.

Parameters and global settings - cf. Tab. B.1.3.

Hardware settings for channels - cf. Tab. B.1.4.

Software settings for channels - cf. Tab. B.1.5.

Vector measurement settings - cf. Tab. B.1.6.

**Header of the file from the logger** - cf. Tab.B.1.22.

**Contents of the file from the logger** - cf. Tab.B.1.24.

File end marker - cf. Tab. B.1.25.

## **B.7. Structure of the file containing 1/1 or 1/3 OCTAVE analysis results from logger's file**

File header - cf. Tab. B.1.1.

Unit and software specification - cf. Tab. B.1.2.

Parameters and global settings - cf. Tab. B.1.3.

Hardware settings for channels - cf. Tab. B.1.4.

Software settings for channels - cf. Tab. B.1.5.

Vector measurement settings - cf. Tab. B.1.6.

**Header of the file from the logger** - cf. Tab.B.1.22.

**Octave analysis header** - cf. Tab.B.1.7.

**Spectrum analysis header of the file from the logger** - cf. Tab.B.1.23.

**Contents of the file from the logger** - cf. Tab.B.1.24.

File end marker - cf. Tab. B.1.25.

## **B.8. Structure of the file containing FFT analysis results from logger's file**

File header - cf. Tab. B.1.1.

Unit and software specification - cf. Tab. B.1.2.

Parameters and global settings - cf. Tab. B.1.3.

Hardware settings for channels - cf. Tab. B.1.4.

Software settings for channels - cf. Tab. B.1.5.

Vector measurement settings - cf. Tab. B.1.6.

**Header of the file from the logger** - cf. Tab.B.1.22.

**FFT analysis header** - cf. Tab.B.1.8.

**Spectrum analysis header of the file from the logger** - cf. Tab.B.1.23.

**Contents of the file from the logger** - cf. Tab.B.1.24.

File end marker - cf. Tab. B.1.25.

## **B.9. Structure of the file containing saved instrument's setup**

File header - cf. Tab. B.1.1.

Unit and software specification - cf. Tab. B.1.2.

**Data block of instrument's setup** - cf. Tab.B.1.26.

**User filters** (the presence depends on the **SAVE FILT.** setting) - cf. Tab.B.1.28.  
File end marker - cf. Tab. B.1.25.

## **B.10. Structure of the file containing results from RT60 function**

File header - cf. Tab. B.1.1.  
Unit and software specification - cf. Tab. B.1.2.  
Parameters and global settings - cf. Tab. B.1.3.  
Hardware settings for channels - cf. Tab. B.1.4.  
Software settings for channels - cf. Tab. B.1.5.  
Vector measurement settings - cf. Tab. B.1.6.  
**RT60 mode 1/3 OCTAVE analysis header** - cf. Tab. B.1.28.  
**RT60 measurements parameters** - cf. Tab. B.1.29.  
**One-channel RT60 measurement results** - cf. Tab. B.1.30  
**RT60 measurement results averaged between channels** - cf. Tab. B.1.32  
File end marker - cf. Tab. B.1.25.

## **B.11. Structure of the file containing averaged RT60 measurement results**

File header - cf. Tab. B.1.1.  
Unit and software specification - cf. Tab. B.1.2.  
Parameters and global settings - cf. Tab. B.1.3.  
Hardware settings for channels - cf. Tab. B.1.4.  
Software settings for channels - cf. Tab. B.1.5.  
Vector measurement settings - cf. Tab. B.1.6.  
**RT60 mode 1/3 OCTAVE analysis header** - cf. Tab. B.1.28.  
**RT60 measurements parameters** - cf. Tab. B.1.29.  
**Averaged RT60 measurement results in one channel** - cf. Tab. B.1.31  
**Averaged RT60 measurement results averaged between channels** - cf. Tab. B.1.33  
File end marker - cf. Tab. B.1.25.

## **B.12. Structure of the logger file containing time-domain signal**

File header - cf. Tab. B.1.1.  
Unit and software specification - cf. Tab. B.1.2.  
Parameters and global settings - cf. Tab. B.1.3.  
Hardware settings for channels - cf. Tab. B.1.4.  
**Time-domain header of the file from the logger** - cf. Tab. B.1.35.  
**Contents of the file from the logger** - cf. Tab.B.1.24.  
File end marker - cf. Tab. B.1.25.

## B.13. Contents of the file in the logger

The records with the results and the records with the state of the markers as well as the records with the breaks in the results registration are saved in the files in the logger.

### B.13.1. Record with the results

The contents of the record with the results depends on the measurement function, selected channels modes, values set in the **LOGGER SETUP** menu and its sub-lists, channels selected for spectrum analysis and values set in the **LOGGER MODE** (*path: MENU / INPUT / 1/1 OCTAVE or 1/3 OCTAVE or FFT SETUP / CHANNEL x / LOGGER:RMS*). All results are written in dB\*10. Profile results are written on 15 most significant bits, while least significant bit is used for overload indication flag. The following elements can be present (in the given sequence):

- results of the measurement from the 1<sup>st</sup> profile of the 1<sup>st</sup> channel if the **LOGGER** list was marked and **LOGGER MODE** was set to **ON** (*path: MENU / INPUT / LOGGER SETUP / LOGGER MODE:ON*) and if any position in **CHAN. 1 PROF. 1** (*path: MENU / INPUT / LOGGER SETUP / CHANNEL 1 / CHAN. 1 PROF. 1*) sub-list was selected, up to five words are written in the given sequence:

<result1> - **PEAK** result in the case of **VLM** or in the case of **SLM** if the first position was marked, else no value is written;

<result2> - **P-P** result in the case of **VLM** or **MAX** result in the case of **SLM** if the second position was marked, else no value is written;

<result3> - **MAX** result in the case of **VLM** or **MIN** result in the case of **SLM** if the third position was marked, else no value is written;

<result4> - **RMS** result in the case of **VLM** or in the case of **SLM** if the fourth position was marked, else no value is written;

<result5> - **VDV** result in the case of **VLM** if the fifth position was marked, else no value is written;

- results of the measurement from the 1<sup>st</sup> profile of the 2<sup>nd</sup> channel if the **LOGGER MODE** was set to **ON** (*path: MENU / INPUT / LOGGER SETUP / LOGGER MODE:ON*); and if any position in **CHAN. 2 PROF. 1** (*path: MENU / INPUT / LOGGER SETUP / CHANNEL 2 / CHAN. 2 PROF. 1*) sub-list was selected, up to five words are written in the given sequence:

<result1> - **PEAK** result in the case of **VLM** or in the case of **SLM** if the first position was marked, else no value is written;

<result2> - **P-P** result in the case of **VLM** or **MAX** result in the case of **SLM** if the second position was marked, else no value is written;

<result3> - **MAX** result in the case of **VLM** or **MIN** result in the case of **SLM** if the third position was marked, else no value is written;

<result4> - **RMS** result in the case of **VLM** or in the case of **SLM** if the fourth position was marked, else no value is written;

<result5> - **VDV** result in the case of **VLM** if the fifth position was marked, else no value is written;

- results of the measurement from the 1<sup>st</sup> profile of the 3<sup>rd</sup> channel if the **LOGGER MODE** was set to **ON** (*path: MENU / INPUT / LOGGER SETUP / LOGGER MODE:ON*) and if any position in **CHAN. 3 PROF. 1** (*path: MENU / INPUT / LOGGER SETUP / CHANNEL 3 / CHAN. 3 PROF. 1*) sub-list was selected, up to five words are written in the given sequence:

<result1> - **PEAK** result in the case of **VLM** or in the case of **SLM** if the first position was marked, else no value is written;

<result2> - **P-P** result in the case of **VLM** or **MAX** result in the case of **SLM** if the second position was marked, else no value is written;

<result3> - **MAX** result in the case of **VLM** or **MIN** result in the case of **SLM** if the third position was marked, else no value is written;

<result4> - **RMS** result in the case of **VLM** or in the case of **SLM** if the fourth position was marked, else no value is written;

<result5> - **VDV** result in the case of **VLM** if the fifth position was marked, else no value is written;

- results of the measurement from the 1<sup>st</sup> profile of the 4<sup>th</sup> channel if the **LOGGER MODE** was set to **ON** (*path: MENU / INPUT / LOGGER SETUP / LOGGER MODE:ON*) and if any position in **CHAN. 4 PROF. 1** (*path: MENU / INPUT / LOGGER SETUP / CHANNEL 4 / CHAN. 4 PROF. 1*) sub-list was selected, up to five words are written in the given sequence:

<result1> - **PEAK** result in the case of **VLM** or in the case of **SLM** if the first position was marked, else no value is written;  
 <result2> - **P-P** result in the case of **VLM** or **MAX** result in the case of **SLM** if the second position was marked, else no value is written;  
 <result3> - **MAX** result in the case of **VLM** or **MIN** result in the case of **SLM** if the third position was marked, else no value is written;  
 <result4> - **RMS** result in the case of **VLM** or in the case of **SLM** if the fourth position was marked, else no value is written;  
 <result5> - **VDV** result in the case of **VLM** if the fifth position was marked, else no value is written;

- results of the measurement from the 2<sup>nd</sup> profile of the 1<sup>st</sup> channel if the **LOGGER** list was marked and **LOGGER MODE** was set to **ON** (*path: MENU / INPUT / LOGGER SETUP / LOGGER MODE:ON*) and if any position in **CHAN. 1 PROF. 2** (*path: MENU / INPUT / LOGGER SETUP / CHANNEL 1 / CHAN. 1 PROF. 2*) sub-list was selected, up to four words are written in the given sequence:

<result1> - **PEAK** result in the case of **SLM** if the first position was marked, else no value is written;  
 <result2> - **MAX** result in the case of **SLM** if the second position was marked, else no value is written;  
 <result3> - **MIN** result in the case of **SLM** if the third position was marked, else no value is written;  
 <result4> - **RMS** result in the case of **SLM** if the fourth position was marked, else no value is written;

- results of the measurement from the 2<sup>nd</sup> profile of the 2<sup>nd</sup> channel if the **LOGGER MODE** was set to **ON** (*path: MENU / INPUT / LOGGER SETUP / LOGGER MODE:ON*); and if any position in **CHAN. 2 PROF. 2** (*path: MENU / INPUT / LOGGER SETUP / CHANNEL 2 / CHAN. 2 PROF. 2*) sub-list was selected, up to four words are written in the given sequence:

<result1> - **PEAK** result in the case of **SLM** if the first position was marked, else no value is written;  
 <result2> - **MAX** result in the case of **SLM** if the second position was marked, else no value is written;  
 <result3> - **MIN** result in the case of **SLM** if the third position was marked, else no value is written;  
 <result4> - **RMS** result in the case of **SLM** if the fourth position was marked, else no value is written;

- results of the measurement from the 2<sup>nd</sup> profile of the 3<sup>rd</sup> channel if the **LOGGER MODE** was set to **ON** (*path: MENU / INPUT / LOGGER SETUP / LOGGER MODE:ON*) and if any position in **CHAN. 3 PROF. 2** (*path: MENU / INPUT / LOGGER SETUP / CHANNEL 3 / CHAN. 3 PROF. 2*) sub-list was selected, up to four words are written in the given sequence:

<result1> - **PEAK** result in the case of **SLM** if the first position was marked, else no value is written;  
 <result2> - **MAX** result in the case of **SLM** if the second position was marked, else no value is written;  
 <result3> - **MIN** result in the case of **SLM** if the third position was marked, else no value is written;  
 <result4> - **RMS** result in the case of **SLM** if the fourth position was marked, else no value is written;

- results of the measurement from the 2<sup>nd</sup> profile of the 4<sup>th</sup> channel if the **LOGGER MODE** position was set to **ON** (*path: MENU / INPUT / LOGGER SETUP / LOGGER MODE:ON*) and if any position in **CHAN. 4 PROF. 2** (*path: MENU / INPUT / LOGGER SETUP / CHANNEL 4 / CHAN. 4 PROF. 2*) sub-list was selected, up to four words are written in the given sequence:

<result1> - **PEAK** result in the case of **SLM** if the first position was marked, else no value is written;  
 <result2> - **MAX** result in the case of **SLM** if the second position was marked, else no value is written;  
 <result3> - **MIN** result in the case of **SLM** if the third position was marked, else no value is written;  
 <result4> - **RMS** result in the case of **SLM** if the fourth position was marked, else no value is written;

- results of the measurement from the 3<sup>rd</sup> profile of the 1<sup>st</sup> channel if the **LOGGER** list was marked and **LOGGER MODE** was set to **ON** (*path: MENU / INPUT / LOGGER SETUP / LOGGER MODE:ON*) and if any position in **CHAN. 1 PROF. 3** (*path: MENU / INPUT / LOGGER SETUP / CHANNEL 1 / CHAN. 1 PROF. 3*) sub-list was selected, up to four words are written in the given sequence:

<result1> - **PEAK** result in the case of **SLM** if the first position was marked, else no value is written;  
 <result2> - **MAX** result in the case of **SLM** if the second position was marked, else no value is written;  
 <result3> - **MIN** result in the case of **SLM** if the third position was marked, else no value is written;  
 <result4> - **RMS** result in the case of **SLM** if the fourth position was marked, else no value is written;

- results of the measurement from the 3<sup>rd</sup> profile of the 2<sup>nd</sup> channel if the **LOGGER MODE** was set to **ON** (*path: MENU / INPUT / LOGGER SETUP / LOGGER MODE:ON*); and if any position in **CHAN. 2 PROF. 3** (*path: MENU / INPUT / LOGGER SETUP / CHANNEL 2 / CHAN. 2 PROF. 3*) sub-list was selected, up to four words are written in the given sequence:

<result1> - **PEAK** result in the case of **SLM** if the first position was marked, else no value is written;  
 <result2> - **MAX** result in the case of **SLM** if the second position was marked, else no value is written;  
 <result3> - **MIN** result in the case of **SLM** if the third position was marked, else no value is written;  
 <result4> - **RMS** result in the case of **SLM** if the fourth position was marked, else no value is written;

- results of the measurement from the 3<sup>rd</sup> profile of the 3<sup>rd</sup> channel if the **LOGGER MODE** was set to **ON** (*path: MENU / INPUT / LOGGER SETUP / LOGGER MODE:ON*) and if any position in **CHAN. 3 PROF. 3** (*path: MENU / INPUT / LOGGER SETUP / CHANNEL 3 / CHAN. 3 PROF. 3*) sub-list was selected, up to four words are written in the given sequence:

<result1> - **PEAK** result in the case of **SLM** if the first position was marked, else no value is written;  
 <result2> - **MAX** result in the case of **SLM** if the second position was marked, else no value is written;  
 <result3> - **MIN** result in the case of **SLM** if the third position was marked, else no value is written;  
 <result4> - **RMS** result in the case of **SLM** if the fourth position was marked, else no value is written;

- results of the measurement from the 3<sup>rd</sup> profile of the 4<sup>th</sup> channel if the **LOGGER MODE** was set to **ON** (*path: MENU / INPUT / LOGGER SETUP / LOGGER MODE:ON*) and if any position in **CHAN. 4 PROF. 3** (*path: MENU / INPUT / LOGGER SETUP / CHANNEL 4 / CHAN. 4 PROF. 3*) sub-list was selected, up to four words are written in the given sequence:

<result1> - **PEAK** result in the case of **SLM** if the first position was marked, else no value is written;  
 <result2> - **MAX** result in the case of **SLM** if the second position was marked, else no value is written;  
 <result3> - **MIN** result in the case of **SLM** if the third position was marked, else no value is written;  
 <result4> - **RMS** result in the case of **SLM** if the fourth position was marked, else no value is written;

- **VECTOR** measurement result if in the **LOGGER MODE** (*path: MENU / INPUT / LOGGER SETUP / LOGGER MODE:ON*) and **VECTOR** (*path: MENU / INPUT / LOGGER SETUP / VECTOR:ON*) are set to **ON** and **VECTOR** measurement was enabled; one word is written.

- **RPM** measurement result if the **LOGGER MODE** (*path: MENU / INPUT / LOGGER SETUP / LOGGER MODE:ON*) and **RPM** (*path: MENU / INPUT / LOGGER SETUP / AUXILIARY/RPM:[√]*) are set to **ON** and **RPM** measurement was enabled; two word are written.

- results of **1/1 OCTAVE** analysis from the 1<sup>st</sup> channel if **1/1 OCTAVE** analysis was selected as the measurement function and in the **LOGGER** (*path: MENU / INPUT / 1/1 OCTAVE SETUP / CHANNEL 1: ENABLED[√]; LOGGER:RMS*) other then **None** value was selected; the sequence of words is written:

<flags> <Octave[1]> <Octave[2]> ... <Octave[NOct+NOctTot]>

where:

flags = 1 - the overload detected, 0 - the overload not detected

Octave[i] - the result of **1/1 OCTAVE** analysis (\*10 dB); i = 1..NOct+NOctTot (1..18)

- results of **1/1 OCTAVE** analysis from the 2<sup>nd</sup> second channel if **1/1 OCTAVE** analysis was selected as the measurement function and in the **LOGGER** (*path: MENU / INPUT / 1/1 OCTAVE SETUP / CHANNEL 2 / ENABLED[√]; LOGGER:RMS*) other then **None** value was selected; the sequence of words is written:

<flags> <Octave[1]> <Octave[2]> ... <Octave[NOct+NOctTot]>

where:

flags = 1 - the overload detected, 0 - the overload not detected

Octave[i] - the result of **1/1 OCTAVE** analysis (\*10 dB); i = 1..NOct+NOctTot (1..18)

- results of **1/1 OCTAVE** analysis from the 3<sup>rd</sup> channel if **1/1 OCTAVE** analysis was selected as the measurement function and in the **LOGGER** (*path: MENU / INPUT / 1/1 OCTAVE SETUP / CHANNEL 3 / ENABLED[√]; LOGGER:RMS*) other than **None** value was selected; the sequence of words is written:

<flags> <Octave[1]> <Octave[2]> ... <Octave[NOct+NOctTot]>

where:

flags = 1 - the overload detected, 0 - the overload not detected

Octave[i] - the result of **1/1 OCTAVE** analysis (\*10 dB); i = 1..NOct+NOctTot (1..18)

- results of **1/1 OCTAVE** analysis from the 4<sup>th</sup> channel if **1/1 OCTAVE** analysis was selected as the measurement function and in the **LOGGER** (*path: MENU / INPUT / 1/1 OCTAVE SETUP / CHANNEL 4 / ENABLED[√]; LOGGER:RMS*) other than **None** value was selected; the sequence of words is written:

<flags> <Octave[1]> <Octave[2]> ... <Octave[NOct+NOctTot]>

where:

flags = 1 - the overload detected, 0 - the overload not detected

Octave[i] - the result of **1/1 OCTAVE** analysis (\*10 dB); i = 1..NOct+NOctTot (1..18)

- results of **1/3 OCTAVE** analysis from the 1<sup>st</sup> channel if **1/3 OCTAVE** analysis was selected as the measurement function and in the **LOGGER** (*path: MENU / INPUT / 1/3 OCTAVE SETUP / CHANNEL 1 / ENABLED[√]; LOGGER:RMS*) other than **None** value was selected; the sequence of words is written:

<flags> <Terave[1]> <Terave [2]> ... <Terave[NT]>

where:

flags = 1 - the overload detected, 0 - the overload not detected

Terave[i] - the result of **1/3 OCTAVE** analysis (\*10 dB); i = 1..NT (1..48 or 1..33)

- results of **1/3 OCTAVE** analysis from the 2<sup>nd</sup> channel if **1/3 OCTAVE** analysis was selected as the measurement function and in the **LOGGER** (*path: MENU / INPUT / 1/3 OCTAVE SETUP / CHANNEL 2 / ENABLED[√]; LOGGER:RMS*) other than **None** value was selected; the sequence of words is written:

<flags> <Terave[1]> <Terave [2]> ... <Terave[NT]>

where:

flags = 1 - the overload detected, 0 - the overload not detected

Terave[i] - the result of **1/3 OCTAVE** analysis (\*10 dB); i = 1..NT (1..48 or 1..33)

- results of **1/3 OCTAVE** analysis from the 3<sup>rd</sup> channel if **1/3 OCTAVE** analysis was selected as the measurement function and in the **LOGGER** (*path: MENU / INPUT / 1/3 OCTAVE SETUP / CHANNEL 3 / ENABLED[√]; LOGGER:RMS*) other than **None** value was selected; the sequence of words is written:

<flags> <Terave[1]> <Terave [2]> ... <Terave[NT]>

where:

flags = 1 - the overload detected, 0 - the overload not detected

Terave[i] - the result of **1/3 OCTAVE** analysis (\*10 dB); i = 1..NT (1..48 or 1..33)

- results of **1/3 OCTAVE** analysis from the 4<sup>th</sup> channel if **1/3 OCTAVE** analysis was selected as the measurement function and in the **LOGGER** (*path: MENU / INPUT / 1/3 OCTAVE SETUP / CHANNEL 4 / ENABLED[√]; LOGGER:RMS*) other than **None** value was selected; the sequence of words is written:

<flags> <Terave[1]> <Terave [2]> ... <Terave[NT]>

where:

flags = 1 - the overload detected, 0 - the overload not detected

Terave[i] - the result of **1/3 OCTAVE** analysis (\*10 dB); i = 1..NT (1..48 or 1..33)

- results of **FFT** analysis from the 1<sup>st</sup> channel if **FFT** analysis was selected as the measurement function and in the **LOGGER** (*path MENU / INPUT / FFT SETUP / CHANNEL 1: ENABLED[√]; LOGGER:RMS*) other than **None** value was selected; the sequence of words is written:

<flags> <FFTAve[1]> <FFTAve [2]> ... <FFTAve[NL]>

where:

flags = 1 - the overload detected, 0 - the overload not detected  
 FFTAve[i] - the result of **FFT** analysis (\*10 dB); i = 1..NL (1..481 or 1..961)

- results of **FFT** analysis from the 2<sup>nd</sup> channel if **FFT** analysis was selected as the measurement function and in the **LOGGER** (*path: MENU / INPUT / FFT SETUP / CHANNEL 2: ENABLED[√]; LOGGER:RMS*) other than **None** value was selected; the sequence of words is written:

<flags> <FFTAve[1]> <FFTAve [2]> ... <FFTAve[NL]>

where:

flags = 1 - the overload detected, 0 - the overload not detected  
 FFTAve[i] - the result of **FFT** analysis (\*10 dB); i = 1..NL (1..481 or 1..961)

- results of **FFT** analysis from the 3<sup>rd</sup> channel if **FFT** analysis was selected as the measurement function and in the **LOGGER** (*path: MENU / INPUT / FFT SETUP / CHANNEL 3: ENABLED[√]; LOGGER:RMS*) other than **None** value was selected; the sequence of words is written:

<flags> <FFTAve[1]> <FFTAve [2]> ... <FFTAve[NL]>

where:

flags = 1 - the overload detected, 0 - the overload not detected  
 FFTAve[i] - the result of **FFT** analysis (\*10 dB); i = 1..NL (1..481 or 1..961)

- results of **FFT** analysis from the 4<sup>th</sup> channel if **FFT** analysis was selected as the measurement function and in the **LOGGER** (*path: MENU / INPUT / FFT SETUP / CHANNEL 4: ENABLED[√]; LOGGER:RMS*) other than **None** value was selected; the sequence of words is written:

<flags> <FFTAve[1]> <FFTAve [2]> ... <FFTAve[NL]>

where:

flags = 1 - the overload detected, 0 - the overload not detected  
 FFTAve[i] - the result of **FFT** analysis (\*10 dB); i = 1..NL (1..481 or 1..961)

The value of NT parameter depends on the **LOGGER STEP** selection (*path: MENU / INPUT / MEASUREMENT SETUP / LOGGER STEP*). For the logger steps greater than 10 ms the value of NT is equal to NTer+NTerTot: the outputs from all **1/3 OCTAVE** filters from 0.8 Hz up to 20 kHz and the TOTAL values are written (45 + 3 = 48). For the logger step equal to 10 ms the value of NT is equal to 33: the outputs from **1/3 OCTAVE** filters from 25 Hz up to 20 kHz and the TOTAL value are written (30 + 3 = 33).

The value of NL parameter depends on the **LINES** selection (*path: MENU / INPUT / FFT / CHANNEL x / LINES*).

### B.13.2. Record with the state of the markers

The record with the state of the markers consists of one word:

<0x8nnn>

in which 12 bits nnn denote the state of the markers:

b11 = state of #12 marker  
 b10 = state of #11 marker  
 ...  
 b1 = state of #2 marker  
 b0 = state of #1 marker

### B.13.3. Record with the breaks in the results registration

The record with the breaks in the results registration consists of four words:

<0xB0ii> <0xB1jj> <0xB2kk> <0xB3nn>

in which ii, jj, kk, nn bytes denote 4-bytes counter of left or skipped records: nnkkjjii (ii is the least significant byte, nn - the most significant byte).

### B.13.4. Record with the breaks account PAUSE in the results registration

The record with the breaks in the results registration consists of four words:

<0xA0ii> <0xA1jj> <0xA2kk> <0xA3nn>

in which ii, jj, kk, nn bytes denote 4-bytes counter duration of PAUSE in milliseconds: nnkkjjii (ii is the least significant byte, nn - the most significant byte).

Pause duration means time passed between pressing <PAUSE> key and measurement continuation key. Start delay after pressing continuation key isn't added to the counter.

## B.14. Contents of the files in the logger containing time-domain signal

Records with samples and RPM value are kept in the logger file. The records with the state of the markers, breaks in the results and pause are not saved in the file. Time-domain is saved when the option **LOGGER MODE** in menu *path: MENU / INPUT / LOGGER SETUP* was set to the TIME value.

### B.14.1. Samples record

Record form depends on the selection of channels, from which samples are saved, (*path: MENU / INPUT / LOGGER SETUP / CHANNEL x*), state of the RPM measurement (*path: MENU / INPUT / AUXILIARY SETUP / RPM SETUP / ENABLED:[√]*) and RPM logging option (*path: MENU / INPUT / AUXILIARY SETUP / RPM SETUP / LOGGER:[√]*) or *MENU / INPUT / LOGGER SETUP / AUXILIARY / RPM:[√]*). The following elements can be present (in the given sequence):

- Sample from channel 1 if **CHANNEL 1** was set to **ON** (*path: MENU / INPUT / LOGGER SETUP / CHANNEL 1*). The sample is written on three consecutive bytes from least to most significant byte.
- Sample from channel 2 if **CHANNEL 2** was set to **ON** (*path: MENU / INPUT / LOGGER SETUP / CHANNEL 2*). The sample is written on three consecutive bytes from least to most significant byte.
- Sample from channel 3 if **CHANNEL 3** was set to **ON** (*path: MENU / INPUT / LOGGER SETUP / CHANNEL 3*). The sample is written on three consecutive bytes from least to most significant byte.
- Sample from channel 4 if **CHANNEL 4** was set to **ON** (*path: MENU / INPUT / LOGGER SETUP / CHANNEL 4*). The sample is written on three consecutive bytes from least to most significant byte.
- Zero byte if the samples are saved from one or three channels.
- **RPM** measurement result if RPM measurement (*path: MENU / INPUT / AUXILIARY SETUP / RPM / RPM*) and **RPM** logging (*path: MENU / INPUT / AUXILIARY SETUP / RPM SETUP / LOGGER:[√]*) or (*path: MENU / INPUT / LOGGER SETUP / AUXILIARY / RPM:[√]*) are set to **ON**; two word are written.

## B.15. Date and time

Following function written in C explains how the date and time are coded:

```
void ExtractDateTime(int date, int time, int dt[])
{
    int sec,year;

    sec = ((0xffff&time)<<1); /* time<<1; */
    dt[0] = sec%60; /* sec */
    dt[1] = (sec/60)%60; /* min */
    dt[2] = sec/3600; /* hour */

    dt[3] = date&0x1F; /* day */
    dt[4] = (date>>5)&0x0F; /* month */
    year = (date>>9) & 0x07F;
    dt[5] = year+2000; /* year */
}
```