# B. DATA FILE STRUCTURES

## B.1. Structure of the SVAN 957 file

Each file containing data from the SVAN 95x instrument consists of several groups of words. In the case of the **SVAN 957** (the internal file system version **6.07**) there are different types of files that contain:

- the results stored in the file in the instrument's logger (cf. App. B.2)
- the measurement results from the **S**ound **L**evel **M**eter mode (cf. App. B.3)
- the measurement results from the **V**ibration **L**evel **M**eter mode (cf. App. B.4)
- the results of the **DOSE METER** function (cf. App. B.5)
- the results from **1/1 OCTAVE** analysis (cf. App. B.6)
- the results from **1/3 OCTAVE** analysis (cf. App. B.7)
- the results from the **FFT** analysis (cf. App. B.8)
- the results of the **RT60** function (cf. App. B.9)
- setup data (cf. App. B.10)

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 user's text (a header) stored together with the measurement data (cf. Tab. B.1.3)
- the parameters and global settings, common for all profiles (cf. Tab. B.1.4_SLM and Tab. B.1.4_VLM)
- parameters for measurement trigger (cf. Tab. B.1.5)
- parameters for logger trigger (cf. Tab. B.1.6)
- parameters for recorder trigger (cf. Tab. B.1.7)
- Extended I/O settings (cf. Tab. B.1.8)
- special settings for profiles (cf. Tab. B.1.9_SLM and Tab. B.1.9_VLM)
- RTF parameters (cf. Tab. B.1.24)
- the marker for the end of the file (cf. Tab. B.1.28)

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

- the main results (cf. Tab. B.1.10_SLM, Tab. B.1.10_DM and Tab. B.1.10_VLM)
- the results coming from **1/1 OCTAVE** analysis (cf. Tab. B.1.11)
- the results coming from **1/3 OCTAVE** analysis (cf. Tab. B.1.12)
- the header of the **FFT** analysis (cf. Tab. B.1.13)
- the results of the **FFT** analysis (cf. Tab. B.1.14)
- statistical levels (cf. Tab.B.1.15)
- the header of the statistical analysis (cf. Tab. B.1.16)
- the results of the statistical analysis (cf. Tab. B.1.17)
- the header of the statistical analysis performed in **1/1 OCTAVE** or **1/3 OCTAVE** analysis (cf. Tab. B.1.18)
- the results of the statistical analysis made in **1/1 OCTAVE** or **1/3 OCTAVE** analysis (cf. Tab. B.1.19)
- the parameters of the **RT60** function (cf. Tab.B.1.20)
- the results from the **RT60** function (cf. Tab.B.1.21)
- the averaged results from the **RT60** function (cf. Tab.B.1.22)
- the settings of the instrument saved in the setup file (cf. Tab. B.1.23)
- the logger header (cf. Tab. B.1.25)
- the data stored during the measurements in the logger (cf. Tab. B.1.26)
- the **EVENT TRIGGER** parameters (cf. Tab. 1.36)

Below, all file-structure groups are described separately in Tab. B.1.1 ÷ Tab. B.1.28. 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 lowest significant byte (LSB) of the word. The format 0xnnnn means that the nnnn is four-digit number in hexadecimal form.

**Table B.1.1. File header**

| Word number | Name | Comment |
|---|---|---|
| 1÷4 | FileName | file or loger name (8 characters) |
| 5 | Reserved | reserved |
| 6 | CurrentDate | file creation date |
| 7 | CurrentTime | file creation time |
| 8÷11 | AssBufFileName | name of the associated logger or file (8 bytes) |
| 12 | LoggerDate | associated logger creation date |
| 13 | LoggerTime | associated logger creation time |
| … | … | … |

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

| Word number | Name | Comment |
|---|---|---|
| 0 | 0xnn02 | [**02** = id, nn = block's length] |
| 1 | UnitNumber | unit number |
| 2 | UnitType | unit type: 957 |
| 3 | SoftwareVersion | software version * 100 |
| 4 | SoftwareIssueDate | software issue date |
| 5 | DeviceMode | device mode:<br>0 - **Vibration Level Meter** / Analyser (VLM)<br>1 - **Sound Level Meter** / Analyser (SLM) |
| 6 | UnitSubtype | unit subtype: 1 |
| 7 | FileSysVersion | file system version |
| 8 | LevelMetVersion | level meter version |
| 9 | SoftwareSubversion | software subversion |
| … | … | … |

**Table B.1.3. USER's text**

| Word number | Name | Comment |
|---|---|---|
| 0 | 0xnn03 | [**03** = id, nn = block's length] |
| 1… | title text | the user's text (two characters in a word) finished with one or two null bytes |

**Table B.1.4_SLM. Parameters and global settings in the case of SLM mode**

| Word number | Name | Comment |
|---|---|---|
| 0 | 0xnn04 | [**04** = id, nn = block's length] |
| 1 | MeasureStartDate | measure start date |
| 2 | MeasureStartTime | measure start time |
| 3 | DeviceFunction | device function:<br>1 - **LEVEL METER**,<br>2 - **1/1 OCTAVE** analyser,<br>3 - **1/3 OCTAVE** analyser,<br>4 - **DOSE METER**,<br>6 - **FFT** analyser,<br>8 - **RT60** function |
| 4 | MeasureInput | measurement input type:<br>2 - **Microphone** |
| 5 | Range | measurement range:<br>1 - **LOW**, 2 - **HIGH** |
| 6 | UnitFlags | calibration flags |
| 7 | RepCycle | repetition cycle:<br>0 - infinity<br>nnnn - number of repetitions ∈ (1÷1000) |
| 8 | NofProf | number of profiles (3) |
| 9 | StartDelay | start delay time specified in seconds:<br>0÷60 |
| 10÷11 | IntTimeSec | integration time specified in seconds |
| 12 | MicFieldCorr | field correction:<br>0 - **FREE**, 1 - **DIFFUSE** |
| 13 | LeqInt | detector's type in the **LEQ** function:<br>0 - **LINEAR**, 1 - **EXPONENTIAL** |
| 14 | SpectrumFilter | **1/1**, **1/3 OCTAVE** or **FFT** analysis filter:<br>0 - **Z**, 2 - **A**, 3 - **C** |
| 15 | SpectrumBuff | **1/1**, **1/3 OCTAVE** or **FFT** logger:<br>0 - off, 1 - on<br>in other cases reserved |
| 16 | ExposureTime | exposure time:<br>1÷480 (min) |
| 17 | CriterionLevel or RT60Method | criterion level in case of **DOSE METER**:<br>80, 84, 85, 90 (*10 dB)<br>RT60 method in case of **RT60** function:<br>1 - **DECAY**, 2 - **IMPULSE**<br>in other cases reserved |
| 18 | TresholdLevel | threshold level (only **DOSE METER**):<br>0, 75, 80, 85, 90 (*10 dB) |
| 19 | ExchangeRate | exchange rate (only **DOSE METER**):<br>2, 3, 4, 5 |
| 20 | CalibrType | last calibration type:<br>0 - none, 1 - by measurement, 2 - by sensitivity |
| 21 | CalibrDate | last calibration date |
| 22 | CalibrTime | last calibration time |
| 23 | | reserved |
| 24 | | reserved |
| 25 | OutdoorFilter | outdoor filter: 0 - off, 1 - on |

| | | |
|---|---|---|
| 26 | OutdoorType | outdoor filter type:<br>0 - **ENVIRONMENT**, 1 - **AIRPORT** |
| 27 | MicComp | compensating filter for microphones:<br>0 - off, 1 - on |
| 28 | VoltageInput | voltage input:<br>0 - off, 1 - on |
| 29 | HighCurrentIEPE | 0 - 1.5 mA, 1 - 4.5 mA |
| 30÷47 | | reserved |
| … | … | … |

**Table B.1.4_VLM. Parameters and global settings in the case of VLM mode**

| Word number | Name | Comment |
|---|---|---|
| 0 | 0xnn04 | [**04** = id, nn = block's length] |
| 1 | MeasureStartDate | measure start date |
| 2 | MeasureStartTime | measure start time |
| 3 | DeviceFunction | device function:<br>1 - **LEVEL METER**,<br>2 - **1/1 OCTAVE** analyser,<br>3 - **1/3 OCTAVE** analyser,<br>6 - **FFT** analyser |
| 4 | MeasureInput | measurement input type:<br>5 - **Accelerometer** |
| 5 | Range | measurement range: 1 - **LOW**, 2 - **HIGH** |
| 6 | UnitFlags | calibration flags |
| 7 | RepCycle | repetition cycle:<br>0 - infinity<br>nnnn - number of repetitions $\in$ (1÷1000) |
| 8 | NofProf | number of profiles (3) |
| 9 | StartDelay | start delay time specified in seconds:<br>0÷60 |
| 10÷11 | IntTimeSec | integration time specified in seconds |
| 12 | Reserved | reserved |
| 13 | LeqInt | detector type in the **RMS** function:<br>0 - **LINEAR**, 1 - **EXPONENTIAL** |
| 14 | SpectrumFilter | **1/1**, **1/3 OCTAVE** or **FFT** analysis filter:<br>0 - **Z** |
| 15 | SpectrumBuff | **1/1**, **1/3 OCTAVE** or **FFT** logger:<br>0 - off, 1 - on<br>in other cases:<br>reserved |
| 16 | | reserved |
| 17 | RefLev_a | reference level for acceleration given in $\mu ms^{-2} \in$ (1÷100) |
| 18 | RefLev_v | reference level for velocity given in $nms^{-1} \in$ (1÷100) |
| 19 | RefLev_d | reference level for displacement given in pm $\in$ (1÷100) |
| 20 | CalibrType | last calibration type:<br>0 - none, 1 - by measurement, 2 - by sensitivity |
| 21 | CalibrDate | last calibration date |
| 22 | CalibrTime | last calibration time |
| 23 | RPM_On | reserved |
| 24 | RPM_Pulse | reserved |

| | | |
|---|---|---|
| 25 | | reserved |
| 26 | | reserved |
| 27 | | reserved |
| 28 | VoltageInput | voltage input:<br>0 - off, 1 - on |
| 29 | HighCurrentIEPE | 0 - 1.5 mA, 1 - 4.5 mA |
| 30÷47 | | reserved |
| … | … | … |

**Table B.1.5. MEASURE TRIGGER parameters**

| Word number | Name | Comment |
|---|---|---|
| 0 | 0xnn2B | [**2B** = id, nn = block's length] |
| 1 | TriggerMode | trigger mode:<br>0 - **OFF**,<br>1 - **SLOPE +**,<br>2 - **SLOPE –**,<br>3 - **LEVEL +**,<br>4 - **LEVEL –**,<br>6 - **GRAD +** |
| 2 | TriggerSource | source of the triggering signal:<br>0 - **RMS(1)** the **RMS** result from the first profile<br>in the case of TriggerMode=**SLOPE +** or **SLOPE –**:<br>1 - **Extended IO** |
| 3 | TriggerLev | level of triggering:<br>24÷136 dB (*10) |
| 4 | TriggerGrad | gradient of triggering (in the case of TriggerMode=**GRAD +**):<br>1dB/ms÷100dB/ms |
| 5 | TriggerPre | reserved |
| 6 | TriggerPost | reserved |
| 7 | Sampling | reserved |
| 8 | RecTime | reserved |
| 9 | BitsPerSample | reserved |
| 10 | Channel | reserved |
| … | … | … |

**Table B.1.6. LOGGER TRIGGER parameters**

| Word number | Name | Comment |
|---|---|---|
| 0 | 0xnn2C | [**2C** = id, nn = block's length] |
| 1 | TriggerMode | trigger mode:<br>0 - **OFF**,<br>3 - **LEVEL +**,<br>4 - **LEVEL –**<br>in the case of **RT60** function and **DECAY** method<br>5 - **DECAY**<br>in the case of **RT60** function and **IMPULSE** method<br>1 - **SLOPE +** |

| | | |
|---|---|---|
| 2 | TriggerSource | source of the triggering signal:<br>0 - **RMS(1)** the **RMS** result from the first profile<br>in the case of **1/1 OCTAVE** analyser<br>nn - number of **1/1 OCTAVE** filter ∈ (8÷NOct)<br>in the case of **1/3 OCTAVE** analyser<br>nn - number of **1/3 OCTAVE** filter ∈ (23÷NTer)<br>in the case of **RT60** function<br>48 - **TOTAL Z** (NTer+NTotal) |
| 3 | TriggerLev | level of triggering:<br>24÷136 dB (*10) |
| 4 | TriggerGrad | in the case of **RT60** function and **DECAY** method<br>decay of triggering: -10dB (*10)<br>in other cases reserved |
| 5 | TriggerPre | number of the records taken into account before the fulfilment of the triggering condition ∈ (1÷50) |
| 6 | TriggerPost | number of the records taken into account after the fulfilment of the triggering condition ∈ (1÷200) |
| 7 | Sampling | reserved |
| 8 | RecTime | reserved |
| 9 | BitsPerSample | reserved |
| 10 | Channel | reserved |
| … | … | … |

**Table B.1.7. RECORDER TRIGGER parameters**

| Word number | Name | Comment |
|---|---|---|
| 0 | 0xnn2D | [**2D** = id, nn = block's length] |
| 1 | TriggerMode | trigger mode:<br>0 - **OFF**,<br>1 - **SLOPE +**,<br>2 - **SLOPE –**,<br>3 - **LEVEL +**,<br>4 - **LEVEL –**,<br>6 - **GRAD +** |
| 2 | TriggerSource | source of the triggering signal:<br>0 - **RMS(1)** the **RMS** result from the first profile<br>in the case of TriggerMode=**SLOPE +** or **SLOPE –**:<br>1 - **Extended IO** |
| 3 | TriggerLev | level of triggering:<br>24÷136 dB (*10) |
| 4 | TriggerGrad | gradient of triggering (in the case of TriggerMode=**GRAD +**):<br>1dB/ms÷100dB/ms |
| 5 | TriggerPre | reserved |
| 6 | TriggerPost | reserved |
| 7 | Sampling | reserved |
| 8 | RecTime | reserved |
| 9 | BitsPerSample | reserved |
| 10 | Channel | reserved |
| … | … | … |

**Table B.1.8. EXTended I/O parameters**

| Word number | Name | Comment |
|---|---|---|
| 0 | 0xnn2E | [**2E** = id, nn = block's length] |
| 1 | Mode | mode:<br>0 - **ANALOG OUT**,<br>1 - **DIGITAL IN**,<br>2 - **DIGITAL OUT** |
| 2 | Function | in case of **ANALOG OUT**:<br>reserved<br>in case of **DIGITAL IN**:<br>0 - **EXTERNAL TRIGGER**<br>in case of **DIGITAL OUT**:<br>0 - **TRIG. PULSE**,<br>1 - **ALARM PULSE** |
| 3 | ActiveLevel | in case of **DIGITAL OUT** and **ALARM PULSE**:<br>0 - **LOW**,<br>1 - **HIGH**<br>in other cases reserved |
| 4 | Source | in case of **DIGITAL OUT** and **ALARM PULSE**:<br>0 - **PEAK(1)**,<br>1 - **SPL(1)**,<br>2 - **LEQ(1)**<br>in other cases reserved |
| 5 | AlarmLevel | in case of **DIGITAL OUT** and **ALARM PULSE**:<br>30÷140 dB (*10)<br>in other cases reserved |
| 6 | AO_Direct | in case of **ANALOG OUT**<br>0 - off, 1 - on<br>in other cases reserved |
| 7 | AO_DA | in case of **ANALOG OUT**<br>0 - off, 1 - on<br>in other cases reserved |
| 8 | AO_Source | in case of **ANALOG OUT** and **AO_DA**:<br>0 - **A**, 1 - **C**, 2 - **Z**, 3 - **RTF1**, 4 - **RTF2**, 5 - **RTF3**<br>in other cases reserved |
| 9 | Polarisation | in case of **DIGITAL OUT** and **TRIG. PULSE**:<br>0 - **POSITIVE**, 1 - **NEGATIVE**<br>in other cases reserved |
| … | … | … |

**Table B.1.9_SLM. Special settings for profiles in the case of SLM mode**

| Word number | Name | Comment |
|---|---|---|
| 0 | 0xnn05 | [**05** = id, nn = block's length] |
| 1 | 0x0307 | [used_profile, profile's mask] |
| | | |
| 2 | 0xmm06 | [**06** = id, mm = sub-block's length] |
| 3 | DetectorP[1] | detector type in the 1st profile:<br>0 - **IMP.**, 1 - **FAST**, 2 - **SLOW** |

| | | |
|---|---|---|
| 4 | FilterP[1] | filter type in the 1st profile:<br>-3 - **R3**, -2 - **R2**, -1 - **R1**,<br>0 - **Z**, 2 - **A**, 3 - **C** |
| 5 | BufferP[1] | logger contents in the 1st profile defined as a sum of:<br>0 - none, 1 - **PEAK**, 2 - **MAX**, 4 - **MIN**, 8 - **RMS** |
| 6 | CalibrFactor[1] | calibration factor (*10 dB) in the 1st profile |
| 7 | ProfileFlags[1] | flags in the 1st profile |
| | | |
| 8 | 0xmm06 | [**06** = id, mm = sub-block's length] |
| 9 | DetectorP[2] | detector type in the 2nd profile:<br>0 - **IMP.**, 1 - **FAST**, 2 - **SLOW** |
| 10 | FilterP[2] | filter type in the 2nd profile:<br>-3 - **R3**, -2 - **R2**, -1 - **R1**,<br>0 - **Z**, 2 - **A**, 3 - **C** |
| 11 | BufferP[2] | logger contents in the 2nd profile defined as a sum of:<br>0 - none, 1 - **PEAK**, 2 - **MAX**, 4 - **MIN**, 8 - **RMS** |
| 12 | CalibrFactor[2] | calibration factor (*10 dB) in the 2nd profile |
| 13 | ProfileFlags[2] | flags in the 2nd profile |
| | | |
| 14 | 0xmm06 | [**06** = id, mm = sub-block's length] |
| 15 | DetectorP[3] | Detector type in the 3rd profile:<br>0 - **IMP.**, 1 - **FAST**, 2 - **SLOW** |
| 16 | FilterP[3] | filter type in the 3rd profile:<br>-3 - **R3**, -2 - **R2**, -1 - **R1**,<br>0 - **Z**, 2 - **A**, 3 - **C** |
| 17 | BufferP[3] | logger contents in the 3rd profile defined as a sum of:<br>0 - none, 1 - **PEAK**, 2 - **MAX**, 4 - **MIN**, 8 - **RMS** |
| 18 | CalibrFactor[3] | calibration factor (*10 dB) in the 3rd profile |
| 19 | ProfileFlags[3] | flags in the 3rd profile |
| … | … | … |

**Table B.1.9_VLM. Special settings for profiles in the case of VLM mode**

| Word number | Name | Comment |
|---|---|---|
| 0 | 0xnn05 | [**05** = id, nn = block's length] |
| 1 | 0x0307 | [used_profile, profile's mask] |
| | | |
| 2 | 0xmm06 | [**06** = id, mm = sub-block's length] |
| 3 | DetectorP[1] | detector type in the 1st profile:<br>0 - **100 ms**, 1 - **125 ms**, 2 - **200 ms**, 3 - **500 ms**,<br>4 - **1 s**, 5 - **2 s**, 6 - **5 s**, 7 - **10 s** |
| 4 | FilterP[1] | filter type in the 1st profile:<br>-3 - **R3**, -2 - **R2**, -1 - **R1**,<br>0 - **Z**, 1 - **HP1**, 2 - **HP3**, 3 - **HP10**,<br>4 - **Vel1**, 5 - **Vel3**, 6 - **Vel10**, 7 - **VelMF**,<br>8 - **Dil1**, 9 - **Dil3**, 10 - **Dil10**,<br>11 - **W–Bxy**, 12 - **W–Bz**, 13 - **H–A**, 14 - **W–Bc**,<br>15 - **KB**,<br>16 - **Wk**, 17 - **Wd**, 18 - **Wc**, 19 - **Wj**,<br>20 - **Wm**, 21 - **Wh**, 22 - **Wg**, 23 - **Wb** |

| | | |
|---|---|---|
| 5 | BufferP[1] | logger contents in the 1st profile defined as a sum of:<br>0 - none, 1 - **PEAK**, 2 - **P–P**, 4 - **MAX**, 8 - **RMS** |
| 6 | CalibrFactor[1] | calibration factor (*10 dB) in the 1st profile |
| 7 | ProfileFlags[1] | flags in the 1st profile |
| | | |
| 8 | 0xmm06 | [**06** = id, mm = sub-block's length] |
| 9 | DetectorP[2] | detector type in the 2nd profile:<br>0 - **100 ms**, 1 - **125 ms**, 2 - **200 ms**, 3 - **500 ms**,<br>4 - **1 s**, 5 - **2 s**, 6 - **5 s**, 7 - **10 s** |
| 10 | FilterP[2] | filter type in the 2nd profile:<br>-3 - **R3**, -2 - **R2**, -1 - **R1**,<br>0 - **Z**, 1 - **HP1**, 2 - **HP3**, 3 - **HP10**,<br>4 - **Vel1**, 5 - **Vel3**, 6 - **Vel10**, 7 - **VelMF**,<br>8 - **Dil1**, 9 - **Dil3**, 10 - **Dil10**,<br>11 - **W–Bxy**, 12 - **W–Bz**, 13 - **H–A**, 14 - **W–Bc**,<br>15 - **KB**,<br>16 - **Wk**, 17 - **Wd**, 18 - **Wc**, 19 - **Wj**,<br>20 - **Wm**, 21 - **Wh**, 22 - **Wg**, 23 - **Wb** |
| 11 | BufferP[2] | logger contents in the 2nd profile defined as a sum of:<br>0 - none, 1 - **PEAK**, 2 - **P–P**, 4 - **MAX**, 8 - **RMS** |
| 12 | CalibrFactor[2] | calibration factor (*10 dB) in the 2nd profile |
| 13 | ProfileFlags[2] | flags in the 2nd profile |
| | | |
| 14 | 0xmm06 | [**06** = id, mm = sub-block's length] |
| 15 | DetectorP[3] | detector type in the 3rd profile:<br>0 - **100 ms**, 1 - **125 ms**, 2 - **200 ms**, 3 - **500 ms**,<br>4 - **1 s**, 5 - **2 s**, 6 - **5 s**, 7 - **10 s** |
| 16 | FilterP[3] | filter type in the 3rd profile:<br>-3 - **R3**, -2 - **R2**, -1 - **R1**,<br>0 - **Z**, 1 - **HP1**, 2 - **HP3**, 3 - **HP10**,<br>4 - **Vel1**, 5 - **Vel3**, 6 - **Vel10**, 7 - **VelMF**,<br>8 - **Dil1**, 9 - **Dil3**, 10 - **Dil10**,<br>11 - **W–Bxy**, 12 - **W–Bz**, 13 - **H–A**, 14 - **W–Bc**,<br>15 - **KB**,<br>16 - **Wk**, 17 - **Wd**, 18 - **Wc**, 19 - **Wj**,<br>20 - **Wm**, 21 - **Wh**, 22 - **Wg**, 23 - **Wb** |
| 17 | BufferP[3] | logger contents in the 3rd profile defined as a sum of:<br>0 - none, 1 - **PEAK**, 2 - **P–P**, 4 - **MAX**, 8 - **RMS** |
| 18 | CalibrFactor[3] | calibration factor (*10 dB) in the 3rd profile |
| 19 | ProfileFlags[3] | flags in the 3rd profile |
| … | … | … |

**Table B.1.10_SLM. Main results in the case of SLM mode**

| Word number | Name | Comment |
|---|---|---|
| 0 | 0xnn07 | [**07** = id, nn = block's length] |
| 1 | 0x0307 | [used_profile, profile's mask] |
| | | |

| | | |
|---|---|---|
| 2 | 0xmm08 | [**08** = id, mm = sub-block's length] |
| 3÷4 | MeasureTime | time of the measurement |
| 5 | Result[1][1] | **PEAK** value in the 1st profile |
| 6 | Result[1][2] | reserved |
| 7 | Result[1][3] | maximal value (**MAX**) in the 1st profile |
| 8 | Result[1][4] | minimal value (**MIN**) in the 1st profile |
| 9 | Result[1][5] | **SPL** value in the 1st profile |
| 10 | Result[1][6] | **LEQ** value in the 1st profile |
| 11 | Result[1][7] | **Lden** value in the 1st profile |
| 12 | Result[1][8] | **Ltm3** value in the 1st profile |
| 13 | Result[1][9] | **Ltm5** value in the 1st profile |
| 14 | Result[1][10] | reserved |
| 15 | Result[1][11] | reserved |
| 16 | UnderRes[1] | underrange value in the 1st profile |
| | | |
| 17 | 0xmm08 | [**08** = id, mm = sub-block's length] |
| 18÷19 | OVL | overload time |
| 20 | Result[2][1] | **PEAK** value in the 2nd profile |
| 21 | Result[2][2] | reserved |
| 22 | Result[2][3] | maximal value (**MAX**) in the 2nd profile |
| 23 | Result[2][4] | minimal value (**MIN**) in the 2nd profile |
| 24 | Result[2][5] | **SPL** value in the 2nd profile |
| 25 | Result[2][6] | **LEQ** value in the 2nd profile |
| 26 | Result[2][7] | **Lden** value in the 2nd profile |
| 27 | Result[2][8] | **Ltm3** value in the 2nd profile |
| 28 | Result[2][9] | **Ltm5** value in the 2nd profile |
| 29 | Result[2][10] | reserved |
| 30 | Result[2][11] | reserved |
| 31 | UnderRes[2] | underrange value in the 2nd profile |
| | | |
| 32 | 0xmm08 | [**08** = id, mm = sub-block's length] |
| 33÷34 | Reserved | reserved |
| 35 | Result[3][1] | **PEAK** value in the 3rd profile |
| 36 | Result[3][2] | reserved |
| 37 | Result[3][3] | maximal value (**MAX**) in the 3rd profile |
| 38 | Result[3][4] | minimal value (**MIN**) in the 3rd profile |
| 39 | Result[3][5] | **SPL** value in the 3rd profile |
| 40 | Result[3][6] | **LEQ** value in the 3rd profile |
| 41 | Result[3][7] | **Lden** value in the 3rd profile |
| 42 | Result[3][8] | **Ltm3** value in the 3rd profile |
| 43 | Result[3][9] | **Ltm5** value in the 3rd profile |
| 44 | Result[3][10] | reserved |
| 45 | Result[3][11] | reserved |
| 46 | UnderRes[3] | underrange value in the 3rd profile |
| … | … | … |

**Table B.1.10_DM. Main results in DOSE METER mode**

| Word number | Name | Comment |
|---|---|---|
| 0 | 0xnn07 | [**07** = id, nn = block's length] |
| 1 | 0x0307 | [used_profile, profile's mask] |
| | | |
| 2 | 0xmm08 | [**08** = id, mm = sub-block's length] |
| 3÷4 | MeasureTime | time of the measurement |
| 5 | Result[1][1] | **PEAK** value in the 1st profile |
| 6 | Result[1][2] | reserved |
| 7 | Result[1][3] | maximal value (**MAX**) in the 1st profile |
| 8 | Result[1][4] | minimal value (**MIN**) in the 1st profile |
| 9 | Result[1][5] | **SPL** value in the 1st profile |
| 10 | Result[1][6] | **LEQ** value in the 1st profile |
| 11 | Result[1][7] | **Lden** value in the 1st profile |
| 12 | Result[1][8] | **Ltm3** value in the 1st profile |
| 13 | Result[1][9] | **Ltm5** value in the 1st profile |
| 14 | Result[1][10] | **LAV** value in the 1st profile |
| 15 | Result[1][11] | **TLAV** value in the 1st profile |
| 16 | UnderRes[1] | underrange value in the 1st profile |
| | | |
| 17 | 0xmm08 | [**08** = id, mm = sub-block's length] |
| 18÷19 | OVL | overlad time |
| 20 | Result[2][1] | **PEAK** value in the 2nd profile |
| 21 | Result[2][2] | reserved |
| 22 | Result[2][3] | maximal value (**MAX**) in the 2nd profile |
| 23 | Result[2][4] | minimal value (**MIN**) in the 2nd profile |
| 24 | Result[2][5] | **SPL** value in the 2nd profile |
| 25 | Result[2][6] | **LEQ** value in the 2nd profile |
| 26 | Result[2][7] | **Lden** value in the 2nd profile |
| 27 | Result[2][8] | **Ltm3** value in the 2nd profile |
| 28 | Result[2][9] | **Ltm5** value in the 2nd profile |
| 29 | Result[2][10] | **LAV** value in the 2nd profile |
| 30 | Result[2][11] | **TLAV** value in the 2nd profile |
| 31 | UnderRes[2] | underrange value in the 2nd profile |
| | | |
| 32 | 0xmm08 | [**08** = id, mm = sub-block's length] |
| 33÷34 | Reserved | reserved |
| 35 | Result[3][1] | **PEAK** value in the 3rd profile |
| 36 | Result[3][2] | reserved |
| 37 | Result[3][3] | maximal value (**MAX**) in the 3rd profile |
| 38 | Result[3][4] | minimal value (**MIN**) in the 3rd profile |
| 39 | Result[3][5] | **SPL** value in the 3rd profile |
| 40 | Result[3][6] | **LEQ** value in the 3rd profile |
| 41 | Result[3][7] | **Lden** value in the 3rd profile |
| 42 | Result[3][8] | **Ltm3** value in the 3rd profile |
| 43 | Result[3][9] | **Ltm5** value in the 3rd profile |
| 44 | Result[3][10] | **LAV** value in the 3rd profile |
| 45 | Result[3][11] | **TLAV** value in the 3rd profile |
| 46 | UnderRes[3] | underrange value in the 3rd profile |
| … | … | … |

**Table B.1.10_VLM. Main results in the case of VLM mode**

| Word number | Name | Comment |
|---|---|---|
| 0 | 0xnn07 | [**07** = id, nn = block's length] |
| 1 | 0x0307 | [used_profile, profile's mask] |
| | | |
| 2 | 0xmm08 | [**08** = id, mm = sub-block's length] |
| 3÷4 | MeasureTime | time of the measurement |
| 5 | Result[1][1] | **PEAK** value in the 1st profile |
| 6 | Result[1][2] | **P–P** value in the 1st profile |
| 7 | Result[1][3] | maximal value (**MAX**) in the 1st profile |
| 8 | Result[1][4] | minimal value (**MIN**) in the 1st profile |
| 9 | Result[1][5] | **SPL** value in the 1st profile |
| 10 | Result[1][6] | **RMS** value in the 1st profile |
| 11 | Result[1][7] | **VDV** value in the 1st profile |
| 12 | Result[1][8] | reserved |
| 13 | Result[1][9] | reserved |
| 14 | Result[1][10] | reserved |
| 15 | Result[1][11] | reserved |
| 16 | UnderRes[1] | underrange value in the 1st profile |
| | | |
| 17 | 0xmm08 | [**08** = id, mm = sub-block's length] |
| 18÷19 | OVL | overload time |
| 20 | Result[2][1] | **PEAK** value in the 2nd profile |
| 21 | Result[2][2] | **P–P** value in the 2nd profile |
| 22 | Result[2][3] | maximal value (**MAX**) in the 2nd profile |
| 23 | Result[2][4] | minimal value (**MIN**) in the 2nd profile |
| 24 | Result[2][5] | **SPL** value in the 2nd profile |
| 25 | Result[2][6] | **RMS** value in the 2nd profile |
| 26 | Result[2][7] | **VDV** value in the 2nd profile |
| 27 | Result[2][8] | reserved |
| 28 | Result[2][9] | reserved |
| 29 | Result[2][10] | reserved |
| 30 | Result[2][11] | reserved |
| 31 | UnderRes[2] | underrange value in the 2nd profile |
| | | |
| 32 | 0xmm08 | [**08** = id, mm = sub-block's length] |
| 33÷34 | Reserved | reserved |
| 35 | Result[3][1] | **PEAK** value in the 3rd profile |
| 36 | Result[3][2] | **P–P** value in the 3rd profile |
| 37 | Result[3][3] | maximal value (**MAX**) in the 3rd profile |
| 38 | Result[3][4] | minimal value (**MIN**) in the 3rd profile |
| 39 | Result[3][5] | **SPL** value in the 3rd profile |
| 40 | Result[3][6] | **RMS** value in the 3rd profile |
| 41 | Result[3][7] | **VDV** value in the 3rd profile |
| 42 | Result[3][8] | reserved |
| 43 | Result[3][9] | reserved |
| 44 | Result[3][10] | reserved |
| 45 | Result[3][11] | reserved |
| 46 | UnderRes[3] | underrange value in the 3rd profile |
| … | … | … |

**Table B.1.11. 1/1 OCTAVE analysis results**

| Word number | Name | Comment |
|---|---|---|
| 0 | 0xnn0E, 0xnn26, 0xnn27 | [block_id, nn=block_length]<br>0xnn**OE** - averaged spectrum results, 0xnn**26** - min. spectrum results, 0xnn**27** - max. spectrum results |
| 1 | 0x0101 | [used_profile, profile's mask] |
| 2 | LowestFreq | the lowest **1/1 OCTAVE** frequency (*100 Hz):<br>100 (**FULL BAND**) or 3150 (**AUDIO BAND**) |
| 3 | NOct | number of **1/1 OCTAVE** values:<br>15 (**FULL BAND**) or 10 (**AUDIO BAND**) |
| 4 | NOctTot | number of **TOTAL** values: 3 |
| | | |
| 5÷20 | Octave[i] | 1/1 octave[i] value (*10 dB); i=1÷NOct+NoctTot (1÷16) |
| … | … | … |

**Table B.1.12. 1/3 OCTAVE analysis results**

| Word number | Name | Comment |
|---|---|---|
| 0 | 0xnn10, 0xnn28, 0xnn29 | [block_id, nn=block_length]<br>0xnn**10** - averaged spectrum results, 0xnn**28** - min. spectrum results, 0xnn**29** - max. spectrum results |
| 1 | 0x0101 | [used_profile, profile's mask] |
| 2 | LowestFreq | the lowest **1/3 OCTAVE** frequency (*100 Hz):<br>80 (**FULL BAND**) or 2000 (**AUDIO BAND**) |
| 3 | NTer | number of **1/3 OCTAVE** values:<br>45 (**FULL BAND**) or 31 (**AUDIO BAND**) |
| 4 | NTerTot | number of **TOTAL** values: 3 |
| | | |
| 5÷50 | Tercje[i] | 1/3 octave[i] value (*10 dB); i=1÷NTer+NTerTot (1÷46) |
| … | … | … |

**Table B.1.13. Header of the FFT analysis**

| Word number | Name | Comment |
|---|---|---|
| 0 | 0xnn11 | [**11** = id, nn = block's length] |
| 1 | reserved | reserved |
| 2 | LowestFreqNo | number of the first line in the **FFT** spectrum |
| 3 | NFft | number of lines in the spectrum |
| 4 | NFftTot | number of TOTAL lines in the spectrum |
| 5 | FftBand | band of the **FFT** analysis:<br>1 - **20 kHz**, 2 - **10 kHz**,<br>3 - **5 kHz**, 4 - **2.5 kHz**,<br>5 - **1.25 kHz**, 6 - **625 Hz**,<br>7 - **312 Hz**, 8 - **156 Hz**,<br>9 - **78 Hz** |

| | | |
|---|---|---|
| 6 | FftWindow | window in the **FFT** analysis:<br>0 - **HANNING**,<br>1 - **RECTANGLE**,<br>2 - **FLAT TOP**,<br>3 - **KAISER–BESSEL** |
| 7 | FftAverag | type of averaging in the **FFT** analysis:<br>0 - **LINEAR** |
| 8÷9 | FftSampFreq | sampling frequency |
| 10 | FFT_wfactor | |
| 11 | Reserved | |
| … | … | … |

**Table B.1.14. FFT analysis results**

| Word number | Name | Comment |
|---|---|---|
| 0 | 0x0012 | [**12** = id, 0 (block is longer than 256 words, the length is given in the second word)] |
| 1 | FftBlockLength | 2 + NFft + NFftTot = 2 + 1920 + 1 = 1923 |
| 2÷1922 | FFT[i] | value of the FFT line (*10 dB); i = 1÷1921 |

**Table B.1.15. Statistical levels**

| Word number | Name | Comment |
|---|---|---|
| 0 | 0xnn17 | [**17** = id, nn = block's length] |
| 1 | 0xpprr | [pp=used_profile, rr=profile's mask] |
| 2 | N_stat_level | number of statistical levels = N |
| 3+i*(pp+1) | nn[i] | number of the **Lnn** statistics;<br>i=0÷N-1 |
| 3+i*(pp+1)+p | **Lnn**[i,p] | value of the **Lnn** statistics<br>for profile p (p=1÷pp) |
| … | … | … |

**Table B.1.16. Header of the statistical analysis in profiles**

| Word number | Name | Comment |
|---|---|---|
| 0 | 0xnn09 | [**09** = id, nn = block's length] |
| 1 | 0x0703 | [03=number of profiles, 07=active profiles mask] |
| | | |
| 2 | 0xmm0A | [**0A** = id, mm = sub-block's length] |
| 3 | NofClasses[1] | number of classes in the 1st profile (120) |
| 4 | BottomClass[1] | bottom class boundary (*10 dB) in the 1st profile |
| 5 | ClassWidth[1] | class width (*10 dB) in the 1st profile |
| | | |

| | | |
|---|---|---|
| 6 | 0xmm0A | [**0A** = id, mm = sub-block's length] |
| 7 | NofClasses[2] | number of classes in the 2nd profile (120) |
| 8 | BottomClass[2] | bottom class boundary (*10 dB) in the 2nd profile |
| 9 | ClassWidth[2] | class width (*10 dB) in the 2nd profile |
| | | |
| 10 | 0xmm0A | [**0A** = id, mm = sub-block's length] |
| 11 | NofClasses[3] | number of classes in the 3rd profile (120) |
| 12 | BottomClass[3] | bottom class boundary (*10 dB) in the 3rd profile |
| 13 | ClassWidth[3] | class width (*10 dB) in the 3rd profile |
| … | … | … |

**Table B.1.17. Results of the statistical analysis in profiles**

| Word number | Name | Comment |
|---|---|---|
| 0 | 0x010B | [**0B** = id, prof_mask#1] |
| 1 | Sub-blockLength | 2 * number of classes in the 1st profile + 2 |
| 2÷3 | Histogram[1][1] | the first counter in the 1st profile |
| 4÷5 | Histogram[1][2] | the second counter in the 1st profile |
| ... | ... | ... |
| | | |
| 0 | 0x020B | [**0B** = id, prof_mask#2] |
| 1 | Sub-blockLength | 2 * number of classes in the 2nd profile + 2 |
| 2÷3 | Histogram[2][1] | the first counter in the 2nd profile |
| 4÷5 | Histogram[2][2] | the second counter in the 2nd profile |
| ... | ... | ... |
| | | |
| 0 | 0x040B | [**0B** = id, prof_mask#3] |
| 1 | Sub-blockLength | 2 * number of classes in the 3rd profile + 2 |
| 2÷3 | Histogram[3][1] | the first counter in the 3rd profile |
| 4÷5 | Histogram[3][2] | the second counter in the 3rd profile |
| ... | ... | ... |

**Table B.1.18. Header of the statistical analysis performed in 1/1 OCTAVE or 1/3 OCTAVE mode**

| Word number | Name | Comment |
|---|---|---|
| 0 | 0xnn13 | [**13** = id, nn = block's length] |
| 1 | NofHist | number of histogramms (number of **1/1 OCTAVE** (15) or **1/3 OCTAVE** (45) filters and **TOTAL** value (1)) |
| 2 | NofClasses | number of classes in the histogramm (120) |
| 3 | BottomClass | bottom class boundary (*10 dB) |
| 4 | ClassWidth | class width (*10 dB) |
| … | … | … |

**Table B.1.19. Results of the statistical analysis performed in 1/1 OCTAVE or 1/3 OCTAVE mode**

| Word number | Name | Comment |
|---|---|---|
| 0 | 0x0114 | [**14** = id, 01 = number of the histogramm (**1/1 OCTAVE** or **1/3 OCTAVE**)] |
| 1 | Sub-blockLength | 2 * NofClasses + 2 (242) |
| 2÷3 | Histogram[1][1] | first counter for the first **1/1 OCTAVE** or **1/3 OCTAVE** filter |
| 4÷5 | Histogram[1][2] | second counter for the first **1/1 OCTAVE** or **1/3 OCTAVE** filter |
| ... | ... | ... |
| | | |
| 0 | 0x0214 | [**14** = id, 02 = number of the histogramm (**1/1 OCTAVE** or **1/3 OCTAVE**)] |
| 1 | Sub-blockLength | 2 * NofClasses + 2 (242) |
| 2÷3 | Histogram[2][1] | first counter for the second **1/1 OCTAVE** or **1/3 OCTAVE** filter |
| 4÷5 | Histogram[2][2] | second counter for the second **1/1 OCTAVE** or **1/3 OCTAVE** filter |
| ... | ... | ... |
| | | |
| ... | ... | ... |
| | | |
| 0 | 0xnn14 | [**14** = id, nn = NofHist = number of the last histogramm (**1/1 OCTAVE** or **1/3 OCTAVE**)] |
| 1 | Sub-blockLength | 2 * NofClasses + 2 (242) |
| 2÷3 | Histogram[nn][1] | first counter for the last **1/1 OCTAVE** or **1/3 OCTAVE** filter |
| 4÷5 | Histogram[nn][2] | second counter for the last **1/1 OCTAVE** or **1/3 OCTAVE** filter |
| ... | ... | ... |

**Table B.1.20. RT60 parameters block**

| Word number | Name | Comment |
|---|---|---|
| 0 | 0xnn1A | [**1A** = id, nn = block's length] |
| 1 | RT60SaveMode | type of results in block 1B:<br>1 - results,<br>2 - averaged results |
| 2 | RT60Method_p | calculation method:<br>1 - **DECAY**,<br>2 - **IMPULSE** |
| 3 | RT60Spectrum | type of spectrum:<br>1 - **1/1 OCTAVE**,<br>2 - **1/3 OCTAVE** |
| 4 | buff_step_p | logger period in milliseconds |
| 5 | ResponseTime_p | 1÷30 |
| 6 | Reserved | reserved |
| 7 | DispSmooth | 0÷15 |
| 8 | NoiseMargin | 0÷20 (*10dB) |
| 9 | RT60Averaging | 0 - Off, 1 - On |
| 10 | RT60MeasureNo | averaging number |
| … | … | … |

**Table B.1.21. RT60 results block**

| Word number | Name | Comment |
|---|---|---|
| 0 | 0x001B | [**1B** = id, 00 = block's length in the second word] |
| 1 | BlockLength | 7 + ((N2_rt60_freq-N1_rt60_freq+1)+N_max_total)*9) |
| 2 | LowestFreq | the lowest **1/3 OCTAVE** frequency (*100 Hz) = 80 |
| 3 | NTer | |
| 4 | NTotal | |
| 5 | N1_rt60_freq | |
| 6 | N2_rt60_freq | |
| 7+i | calculated[i] | i=N1_rt60_freq÷N2_rt60_freq;<br>i=N_tercje÷N_tercje+N_max_total-1 |
| 8+i | edt[i] | i=N1_rt60_freq÷N2_rt60_freq;<br>i=N_tercje÷N_tercje+N_max_total-1 |
| 9+i | rt_20[i] | i=N1_rt60_freq÷N2_rt60_freq;<br>i=N_tercje÷N_tercje+N_max_total-1 |
| 10+i | rt_30[i] | i=N1_rt60_freq÷N2_rt60_freq;<br>i=N_tercje÷N_tercje+N_max_total-1 |
| 11+i | rt_user[i] | i=N1_rt60_freq÷N2_rt60_freq;<br>i=N_tercje÷N_tercje+N_max_total-1 |
| 12+i | cor_edt[i] | i=N1_rt60_freq÷N2_rt60_freq;<br>i=N_tercje÷N_tercje+N_max_total-1 |
| 13+i | cor_rt_20[i] | i=N1_rt60_freq÷N2_rt60_freq;<br>i=N_tercje÷N_tercje+N_max_total-1 |
| 14+i | cor_rt_30[i] | i=N1_rt60_freq÷N2_rt60_freq;<br>i=N_tercje÷N_tercje+N_max_total-1 |
| 15+i | cor_rt_user[i] | i=N1_rt60_freq÷N2_rt60_freq;<br>i=N_tercje÷N_tercje+N_max_total-1 |
| … | … | … |

**Table B.1.22. RT60 averaged results block**

| Word number | Name | Comment |
|---|---|---|
| 0 | 0x001C | [**1C** = id, 00 = block's length in the second word] |
| 1 | BlockLength | 7 + ((N2_rt60_freq-N1_rt60_freq+1)+N_max_total)*9) |
| 2 | LowestFreq | the lowest **1/3 OCTAVE** frequency (*100 Hz) = 80 |
| 3 | NTer | |
| 4 | NTotal | |
| 5 | N1_rt60_freq | |
| 6 | N2_rt60_freq | |
| 7+i | calculated[i] | i=N1_rt60_freq÷N2_rt60_freq;<br>i=N_tercje÷N_tercje+N_max_total-1 |
| 8+i | edt[i] | i=N1_rt60_freq÷N2_rt60_freq;<br>i=N_tercje÷N_tercje+N_max_total-1 |
| 9+i | rt_20[i] | i=N1_rt60_freq÷N2_rt60_freq;<br>i=N_tercje÷N_tercje+N_max_total-1 |
| 10+i | rt_30[i] | i=N1_rt60_freq÷N2_rt60_freq;<br>i=N_tercje÷N_tercje+N_max_total-1 |

| | | |
|---|---|---|
| 11+i | rt_user[i] | i=N1_rt60_freq÷N2_rt60_freq;<br>i=N_tercje÷N_tercje+N_max_total-1 |
| 12+i | cor_edt[i] | i=N1_rt60_freq÷N2_rt60_freq;<br>i=N_tercje÷N_tercje+N_max_total-1 |
| 13+i | cor_rt_20[i] | i=N1_rt60_freq÷N2_rt60_freq;<br>i=N_tercje÷N_tercje+N_max_total-1 |
| 14+i | cor_rt_30[i] | i=N1_rt60_freq÷N2_rt60_freq;<br>i=N_tercje÷N_tercje+N_max_total-1 |
| 15+i | cor_rt_user[i] | i=N1_rt60_freq÷N2_rt60_freq;<br>i=N_tercje÷N_tercje+N_max_total-1 |
| … | … | … |

**Table B.1.23. SETUP data**

| Word number | Name | Comment |
|---|---|---|
| 0 | 0x0020 | [**20** = id, 00 = block's length in the second word] |
| 1 | BlockLength | length of the block |
| 2÷BlockLength-1 | SetupData | saved setup values |

**Table B.1.24. RTF parameters**

| Word number | Name | Comment |
|---|---|---|
| 0 | 0xnn21 | [**21** = id, nn = block's length] |
| | | |
| 1 | Type [1] | type of 1st user filter:<br>0 - **HIGHPASS**, 1 - **LOWPASS**, 2 - **BANDPASS** |
| 2 | Rank [1] | rank of 1st user filter:<br>in the case of **BANDPASS**: 4<br>in other cases: 2 |
| 3÷4 | Lower pole [1] | |
| 5÷6 | Upper pole [1] | |
| | | |
| 7 | Type [2] | type of 2nd user filter:<br>0 - **HIGHPASS**, 1 - **LOWPASS**, 2 - **BANDPASS** |
| 8 | Rank [2] | rank of 2nd user filter:<br>in the case of **BANDPASS**: 4<br>in other cases: 2 |
| 9÷10 | Lower pole [2] | |
| 11÷12 | Upper pole [2] | |
| | | |
| 13 | Type [3] | type of 3rd user filter:<br>0 - **HIGHPASS**, 1 - **LOWPASS**, 2 - **BANDPASS** |

| | | |
|---|---|---|
| 14 | Rank [3] | rank of 3rd user filter:<br>in the case of **BANDPASS**: 4<br>in other cases: 2 |
| 15÷16 | Lower pole [3] | |
| 17÷18 | Upper pole [3] | |
| … | … | … |

**Table B.1.25. Header of the logger file**

| Word number | Name | Comment |
|---|---|---|
| 0 | 0xnn0F | [**0F** = id, nn = header's length] |
| 1 | BuffTSec | logger period - full seconds part |
| 2 | BuffTMilisec | logger period - milliseconds part |
| 3 | LowestFreq | the lowest **1/1 OCTAVE** or **1/3 OCTAVE** frequency (*100 Hz) |
| 4 | NOctTer | number of **1/1 OCTAVE** or **1/3 OCTAVE** results |
| 5 | NOctTerTot | number of **TOTAL** values |
| 6÷7 | BuffLength | logger length (bytes) |
| 8÷9 | RecsInBuff | number of records in the logger |
| 10÷11 | RecsInObserv | number of records in the observation period equal to:<br>number of records in the logger + number of records not saved |
| 12÷13 | AudioRecords | number of audio records in the logger |
| … | … | … |

***Note:*** *The current logger period in seconds can be obtained from the formulae:*
***T = BuffTSec + BuffTMilisec / 1000***

**Table B.1.26. Contents of the logger file**

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

**Table B.1.27. EVENT TRIGGER parameters**

| Word number | Name | Comment |
|---|---|---|
| 0 | 0xnn31 | [**31** = id, nn = block's length] |
| 1 | TriggerMode | trigger mode:<br>0 - **OFF**,<br>1 - **SLOPE +**,<br>2 - **SLOPE –**,<br>3 - **LEVEL +**,<br>4 - **LEVEL –**,<br>6 - **GRAD +** |

| | | |
|---|---|---|
| 2 | TriggerSource | source of the triggering signal:<br>0 - **RMS(1)** the **RMS** result from the first profile<br>in the case of TriggerMode=**SLOPE +** or **SLOPE –**:<br>1 - **Extended IO** |
| 3 | TriggerLev | level of triggering:<br>24÷136 dB (*10) |
| 4 | TriggerGrad | gradient of triggering (in the case of TriggerMode=**GRAD +**):<br>1dB/ms÷100dB/ms |
| 5 | TriggerPre | PreTrigger:<br>0 - non active<br>1 - active<br>recording time before trigger depends on sampling frequency:<br>48kHz - 1s<br>24kHz - 2s<br>12kHz - 4s |
| 6 | TriggerPost | reserved |
| 7 | Sampling | sampling frequency: 0 - 48 kHz, 1 - 24 kHz, 2 - 12 kHz |
| 8 | RecTime | recording time of single event (audio data block) |
| 9 | BitsPerSample | bits/sample: 24 |
| 10 | Channel | 1 |
| … | … | … |

**Table B.1.28. File-end marker**

| Word number | Name | Comment |
|---|---|---|
| 0 | 0xFFFF | file end marker |

## B.2. Structure of the file containing results from logger

File header - cf. Tab. B.1.1.
Unit and software specification - cf. Tab. B.1.2.
USER'S text - cf. Tab. B.1.3.
Parameters and global settings - cf. Tab. B.1.4_SLM or Tab. B.1.4_VLM.
MEASUREMENT TRIGGER parameters - cf. Tab. B.1.5.
LOGGER TRIGGER parameters - cf. Tab. B.1.6.
RECORDER TRIGGER parameters - cf. Tab. B.1.7.
EVENT TRIGGER parameters - cf. Tab. B.1.27.
EXTended I/O parameters - cf. Tab. B.1.8.
Special settings for profiles - cf. Tab. B.1.9_SLM or Tab. B.1.9_VLM.
RTF parameters - cf. Tab. B.1.24.
**Header of the FFT analysis** - cf. Tab. B.1.13.
**Header of the logger file** - cf. Tab. B.1.25.
**Contents of the logger file** - cf. Tab. B.1.26. and the description in B.2.1.
File-end marker - cf. Tab. B.1.28.

### B.2.1 Contents of the files in the logger

The records with the results and (starting from the internal software version 2.30) the records with the state of the markers as well as the records with the breaks in the results registration are saved in the logger files.

### B.2.1.1 Record with the results

The contents of the record with the results depends on the selected device mode, measurement function and the value set in the proper **LOGGER** line (*path: MENU / INPUT / PROFILE X / LOGGER xxx*). The following elements can be present (in the given sequence):

(1) results of the measurement from the first profile if the corresponding **LOGGER** position was active (*paths: MENU / INPUT / PROFILE 1 / LOGGER PEAK; MENU / INPUT / PROFILE 1 / LOGGER MAX; MENU / INPUT / PROFILE 1 / LOGGER MIN; MENU / INPUT / PROFILE 1 / LOGGER RMS*); up to four words are written:

SLM mode:
<result1> - **PEAK** result, depending on the value of BufferP[1] (cf. Tab. B.1.9)
<result2> - **MAX** result, depending on the value of BufferP[1] (cf. Tab. B.1.9)
<result3> - **MIN** result, depending on the value of BufferP[1] (cf. Tab. B.1.9)
<result4> - **RMS** result, depending on the value of BufferP[1] (cf. Tab. B.1.9)

VLM mode:
<result1> - **PEAK** result, depending on the value of BufferP[1] (cf. Tab. B.1.9)
<result2> - **P-P** result, depending on the value of BufferP[1] (cf. Tab. B.1.9)
<result3> - **MAX** result, depending on the value of BufferP[1] (cf. Tab. B.1.9)
<result4> - **RMS** result, depending on the value of BufferP[1] (cf. Tab. B.1.9)

(2) results of the measurement from the second profile if the corresponding **LOGGER** position was active (*paths: MENU / INPUT / PROFILE 2 / LOGGER PEAK; MENU / INPUT / PROFILE 2 / LOGGER MAX; MENU / INPUT / PROFILE 2 / LOGGER MIN; MENU / INPUT / PROFILE 2 / LOGGER RMS*); up to four words are written:

SLM mode:
<result1> - **PEAK** result, depending on the value of BufferP[2] (cf. Tab. B.1.9)
<result2> - **MAX** result, depending on the value of BufferP[2] (cf. Tab. B.1.9)
<result3> - **MIN** result, depending on the value of BufferP[2] (cf. Tab. B.1.9)
<result4> - **RMS** result, depending on the value of BufferP[2] (cf. Tab. B.1.9)

VLM mode:
<result1> - **PEAK** result, depending on the value of BufferP[2] (cf. Tab. B.1.9)
<result2> - **P-P** result, depending on the value of BufferP[2] (cf. Tab. B.1.9)
<result3> - **MAX** result, depending on the value of BufferP[2] (cf. Tab. B.1.9)
<result4> - **RMS** result, depending on the value of BufferP[2] (cf. Tab. B.1.9)

(3) results of the measurement from the third profile if the corresponding **LOGGER** position was active (*paths: MENU / INPUT / PROFILE 3 / LOGGER PEAK; MENU / INPUT / PROFILE 3 / LOGGER MAX; MENU / INPUT / PROFILE 3 / LOGGER MIN; MENU / INPUT / PROFILE 3 / LOGGER RMS*); up to four words are written:

SLM mode:
<result1> - **PEAK** result, depending on the value of BufferP[3] (cf. Tab. B.1.9)
<result2> - **MAX** result, depending on the value of BufferP[3] (cf. Tab. B.1.9)
<result3> - **MIN** result, depending on the value of BufferP[3] (cf. Tab. B.1.9)
<result4> - **RMS** result, depending on the value of BufferP[3] (cf. Tab. B.1.9)

VLM mode:
<result1> - **PEAK** result, depending on the value of BufferP[3] (cf. Tab. B.1.9)
<result2> - **P-P** result, depending on the value of BufferP[3] (cf. Tab. B.1.9)
<result3> - **MAX** result, depending on the value of BufferP[3] (cf. Tab. B.1.9)
<result4> - **RMS** result, depending on the value of BufferP[3] (cf. Tab. B.1.9)

(4) results of **1/1 OCTAVE** analysis if **1/1 OCTAVE** analysis was selected as the measurement function and the **LOGGER** was active (*path: MENU / INPUT / SPECTRUM / LOGGER*); 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÷16)

(5) results of **1/3 OCTAVE** analysis if **1/3 OCTAVE** analysis was selected as the measurement function and **LOGGER** was active (*path: MENU / INPUT / SPECTRUM / LOGGER*); 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÷46 or 1÷31)

The value of NT parameter depends on the **LOGGER STEP** selection (*path: MENU / INPUT / MEASUREMENT SETUP / LOGGER STEP*). For the periods greater then 2 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 value are written (45 + 1 = 46). For the periods equal to 2 ms the value of NT is equal to 31: the outputs from **1/3 OCTAVE** filters from 25 Hz up to 20 kHz and the TOTAL value are written (30 + 1 = 31).

#### B.2.1.2 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.2.1.3 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.2.1.4 Record with audio data

This record exists only in the case when the **EVENT RECORDING** function is active (*path: MENU / SETUP / USB-HOST PORT / EVENT RECORDING*). Samples of the signal, taken in the periods from 1 second to 60 seconds, are saved in the blocks. Each block is divided into frames, which are stored in a file among the logger results. The frame starting block and the frame ending it are marked with the set b10 and b9 bits in the header of the frame, respectively. It happens in the case of stopping the recording that the ending frame does not exist.

The format of the data frame is as follows:

| HS | L | S | L | HE |
|---|---|---|---|---|

where:

HS starting header (1 word)

L block length (1 word), expressed in words (4 + (number of samples)*1.5)

S samples of the measured signal (in the case of SVAN 957 each sample is written in three bytes; the recording starts with the least significant byte)

HE ending header (1 word), which differs from the HS only on b11 bit (thanks to it, it is possible to analyse the recorded file starting from its end)

The HEADER format is as follows:

| b15 | b14 | b13 | b12 | b11 | b10 | b9 | b8 | b7 | b6 | b5 | b4 | b3 | b2 | b1 | b0 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|

where:

b15 - 1

b14 - 0

b13 - 0

b12 - 1, bits b15 ÷ b12 = 9 constitute the marker of the frame

b11 - header type:
0 - HS
1 - HE

b10 - 1 denotes the first frame in the block

b9 - 1 denotes the last frame in the block

b7 - 1 denotes an error (the samples were overwritten in the cycle buffer, which means that the recording in the analysed block is not correct)

b8, b6÷b0 - reserved

## B.3. Structure of the file containing results from the SLM mode

File header - cf. Tab. B.1.1.
Unit and software specification - cf. Tab. B.1.2.
USER'S text - cf. Tab. B.1.3.
Parameters and global settings - cf. Tab. B.1.4_SLM.
MEASUREMENT TRIGGER parameters - cf. Tab. B.1.5.
LOGGER TRIGGER parameters - cf. Tab. B.1.6.
RECORDER TRIGGER parameters - cf. Tab. B.1.7.
EVENT TRIGGER parameters - cf. Tab. B.1.27.
EXTended I/O parameters - cf. Tab. B.1.8.
Special settings for profiles - cf. Tab. B.1.9_SLM.
RTF parameters - cf. Tab. B.1.24.
**Main results** - cf. Tab. B.1.10_SLM.
Statistical levels - cf. Tab. B.1.15.
Header of the statistical analysis in profiles (the presence depends on the **SAVE STAT.** position) - cf. Tab. B.1.16.
Results of the statistical analysis in profiles (the presence depends on the **SAVE STAT.** position) - cf. Tab. B.1.17.
File-end marker - cf. Tab. B.1.28.

## B.4. Structure of the file containing results from the VLM mode

File header - cf. Tab. B.1.1.
Unit and software specification - cf. Tab. B.1.2.
USER'S text - cf. Tab. B.1.3.
Parameters and global settings - cf. Tab. B.1.4_VLM.
MEASUREMENT TRIGGER parameters - cf. Tab. B.1.5.
LOGGER TRIGGER parameters - cf. Tab. B.1.6.
RECORDER TRIGGER parameters - cf. Tab. B.1.7.

EVENT TRIGGER parameters - cf. Tab. B.1.27.
EXTended I/O parameters - cf. Tab. B.1.8.
Special settings for profiles - cf. Tab. B.1.9_VLM.
RTF parameters - cf. Tab. B.1.24.
**Main results** - cf. Tab. B.1.10_VLM.
File-end marker - cf. Tab. B.1.28.

## B.5. Structure of the file containing results from the dosimeter mode

File header - cf. Tab. B.1.1.
Unit and software specification - cf. Tab. B.1.2.
USER'S text - cf. Tab. B.1.3.
Parameters and global settings - cf. Tab. B.1.4_SLM.
MEASUREMENT TRIGGER parameters - cf. Tab. B.1.5.
LOGGER TRIGGER parameters - cf. Tab. B.1.6.
RECORDER TRIGGER parameters - cf. Tab. B.1.7.
EVENT TRIGGER parameters - cf. Tab. B.1.27.
EXTended I/O parameters - cf. Tab. B.1.8.
Special settings for profiles - cf. Tab. B.1.9.
RTF parameters - cf. Tab. B.1.24.
**Main results** - cf. Tab. B.1.10_DM.
Statistical levels - cf. Tab. B.1.15.
Header of the statistical analysis (the presence depends on the **SAVE STAT.** position) - cf. Tab. B.1.16.
Results of the statistical analysis (the presence depends on the **SAVE STAT.** position) - cf. Tab. B.1.17.
File-end marker - cf. Tab. B.1.28.

## B.6. Structure of the file containing results of the 1/1 OCTAVE analysis

File header - cf. Tab. B.1.1.
Unit and software specification - cf. Tab. B.1.2.
USER'S text - cf. Tab. B.1.3.
Parameters and global settings - cf. Tab. B.1.4_SLM or Tab. B.1.4_VLM.
MEASUREMENT TRIGGER parameters - cf. Tab. B.1.5.
LOGGER TRIGGER parameters - cf. Tab. B.1.6.
RECORDER TRIGGER parameters - cf. Tab. B.1.7.
EVENT TRIGGER parameters - cf. Tab. B.1.27.
EXTended I/O parameters - cf. Tab. B.1.8.
Special settings for profiles - cf. Tab. B.1.9_SLM or Tab. B.1.9_VLM.
RTF parameters - cf. Tab. B.1.24.
Main results - cf. Tab. B.1.10_SLM or Tab. B.1.10_VLM.
STATISTICAL LEVELS - cf. Tab. B.1.15. (SLM only).
**1/1 OCTAVE analysis results** - cf. Tab. B.1.11.
**MIN results of 1/1 OCTAVE analysis** (the presence depends on the **MIN SPECT.** position) - cf. Tab. B.1.11.
**MAX results of 1/1 OCTAVE analysis** (the presence depends on the **MAX SPECT.** position) - cf. Tab. B.1.11.
Header of the statistical analysis (SLM only - the presence depends on the **SAVE STAT.** position) - cf. Tab. B.1.16.
Results of the statistical analysis (SLM only - the presence depends on the **SAVE STAT.** position) - cf. Tab. B.1.17.
Header of the statistical analysis performed in 1/1 OCTAVE mode (SLM only - the presence depends on the **SAVE STAT.** position) - cf. Tab. B.1.18.
Results of the statistical analysis performed in 1/1 OCTAVE mode (SLM only - the presence depends on the **SAVE STAT.** position) - cf. Tab. B.1.19.
File-end marker - cf. Tab. B.1.28.

## B.7. Structure of the file containing results of the 1/3 OCTAVE analysis

File header - cf. Tab. B.1.1.
Unit and software specification - cf. Tab. B.1.2.
USER'S text - cf. Tab. B.1.3.
Parameters and global settings - cf. Tab. B.1.4_SLM or Tab. B.1.4_VLM.
MEASUREMENT TRIGGER parameters - cf. Tab. B.1.5.
LOGGER TRIGGER parameters - cf. Tab. B.1.6.
RECORDER TRIGGER parameters - cf. Tab. B.1.7.
EVENT TRIGGER parameters - cf. Tab. B.1.27.
EXTended I/O parameters - cf. Tab. B.1.8.
Special settings for profiles - cf. Tab. B.1.9_SLM or Tab. B.1.9_VLM.
RTF parameters - cf. Tab. B.1.24.
Main results - cf. Tab. B.1.10_SLM or Tab. B.1.10_VLM.
Statistical levels - cf. Tab. B.1.15. (SLM only).
**1/3 OCTAVE analysis results** - cf. Tab. B.1.12.
**MIN results of 1/3 OCTAVE analysis** (the presence depends on the **MIN SPECT.** position) - cf. Tab. B.1.12.
**MAX results of 1/3 OCTAVE analysis** (the presence depends on the **MAX SPECT.** position) - cf. Tab. B.1.12.
Header of the statistical analysis (SLM only - the presence depends on the **SAVE STAT.** position) - cf. Tab. B.1.16.
Results of the statistical analysis (SLM only - the presence depends on the **SAVE STAT.** position) - cf. Tab. B.1.17.
Header of the statistical analysis performed in 1/3 OCTAVE mode (SLM only - the presence depends on the **SAVE STAT.** position) - cf. Tab. B.1.18.
Results of the statistical analysis performed in 1/3 OCTAVE mode (SLM only - the presence depends on the **SAVE STAT.** position) - cf. Tab. B.1.19.
File-end marker - cf. Tab. B.1.28.

## B.8. Structure of the file containing results of the FFT analysis

File header - cf. Tab. B.1.1.
Unit and software specification - cf. Tab. B.1.2.
USER'S text - cf. Tab. B.1.3.
Parameters and global settings - cf. Tab. B.1.4_SLM or Tab. B.1.4_VLM.
MEASUREMENT TRIGGER parameters - cf. Tab. B.1.5.
LOGGER TRIGGER parameters - cf. Tab. B.1.6.
RECORDER TRIGGER parameters - cf. Tab. B.1.7.
EVENT TRIGGER parameters - cf. Tab. B.1.27.
EXTended I/O parameters - cf. Tab. B.1.8.
Special settings for profiles - cf. Tab. B.1.9_SLM or Tab. B.1.9_VLM.
RTF parameters - cf. Tab. B.1.24.
Main results - cf. Tab. B.1.10_SLM or Tab. B.1.10_VLM.
Statistical levels - cf. Tab. B.1.15. (SLM only).
**Header of the FFT analysis** - cf. Tab. B.1.13.
**FFT analysis results** - cf. Tab. B.1.14.
Header of the statistical analysis (SLM only - the presence depends on the **SAVE STAT.** position) - cf. Tab. B.1.16.
Results of the statistical analysis (SLM only - the presence depends on the **SAVE STAT.** position) - cf. Tab. B.1.17.
File-end marker - cf. Tab. B.1.28.

## B.9. Structure of the file containing results of RT60 function

File header - cf. Tab. B.1.1.
Unit and software specification - cf. Tab. B.1.2.
USER'S text - cf. Tab. B.1.3.
Parameters and global settings - cf. Tab. B.1.4_SLM.
MEASUREMENT TRIGGER parameters - cf. Tab. B.1.5.
LOGGER TRIGGER parameters - cf. Tab. B.1.6.
RECORDER TRIGGER parameters - cf. Tab. B.1.7.
EVENT TRIGGER parameters - cf. Tab. B.1.27.
EXTended I/O parameters - cf. Tab. B.1.8.
Special settings for profiles - cf. Tab. B.1.9_SLM.
RTF parameters - cf. Tab. B.1.24.
Main results - cf. Tab. B.1.10_SLM.
Statistical levels - cf. Tab. B.1.15.
**RT60 parameters -** cf. Tab. B.1.20.
**RT60 results** - cf. Tab. B.1.21. or **RT60 averaged RESULTS** - cf. Tab. B.1.22.
File-end marker - cf. Tab. B.1.28.

## B.10. Structure of the setup file

File header - cf. Tab. B.1.1.
Unit and software specification - cf. Tab. B.1.2.
**SETUP data** - cf. Tab. B.1.23.
File-end marker - cf. Tab. B.1.28.

## B.11. 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 */
}
```