

## APPENDIX B. DATA FILE STRUCTURES

### B.1. STRUCTURE OF THE SVAN 949 FILE

Each file containing data from the SVAN 94x instrument consists of several groups of words. In the case of the **SVAN 949** (the internal software revision 5.16) there are nine different types of files that contain:

- the measurement results from the **Sound Level Meter** mode (cf. App. B.2);
- the measurement results from the **Vibration Level Meter** mode (cf. App. B.3);
- the results from **1/1 OCTAVE** analysis (cf. App. B.4);
- the results from **1/3 OCTAVE** analysis (cf. App. B.5);
- the results from the **FFT** analysis (cf. App. B.6);
- the results stored in the file in the instrument's buffer (cf. App. B.7);
- the results of the **LOUDNESS** function (cf. App. B.8);
- the results of the **ENVELOPING** function (cf. App. B.9);
- the results of the **RT60** function (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);
- special settings for profiles (cf. Tab. B.1.5\_SLM and Tab. B.1.5\_VLM);
- the marker for the end of the file (cf. Tab. B.1.17).

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**, **LOUDNESS**, **ENVELOPING**, **RT60**, file from the buffer). These elements are as follows:

- the main results (cf. Tab. B.1.6\_SLM and Tab. B.1.6\_VLM);
- the results coming from **1/1 OCTAVE** analysis (cf. Tab. B.1.7);
- the results coming from **1/3 OCTAVE** analysis (cf. Tab. B.1.8);
- the header of the **FFT** analysis (cf. Tab. B.1.9);
- the results of the **FFT** analysis (cf. Tab. B.1.10);
- the header of the statistical analysis (cf. Tab. B.1.11);
- the results of the statistical analysis (cf. Tab. B.1.12);
- the header of the statistical analysis performed in **1/1 OCTAVE** or **1/3 OCTAVE** analysis (cf. Tab. B.1.13);
- the results of the statistical analysis made in **1/1 OCTAVE** or **1/3 OCTAVE** analysis (cf. Tab. B.1.14);
- the results from the **LOUDNESS** function (cf. Tab. B.1.15);
- the settings of the instrument saved in the setup file (cf. Tab. B.1.16);
- the parameters of the **UBPF** (cf. Tab. B.1.17);
- the parameters of the **ENVELOPING** function (cf. Tab. B.1.18);
- the parameters of the **RT60** function (cf. Tab. B.1.19);
- the results from the **RT60** function (cf. Tab. B.1.20);
- the averaged results from the **RT60** function (cf. Tab. B.1.21);
- statistical levels (cf. Tab. B.1.22);
- the **RPM** results (cf. Tab. B.1.23);
- the buffer header (cf. Tab. B.1.24);
- the data stored during the measurements in the buffer (cf. Tab. B.1.25).

Below, all file structure groups are described separately in Tab. B.1.1 ÷ Tab. B.1.25. 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.

**B.1.1. FILE HEADER**

| Word number | Name           | Comment   |
|-------------|----------------|---|
| 0           | 0xnn01         | [01, nn=header's length]                        |
| 1..4        | FileName       | file or buffer name (8 characters)              |
| 5           | Reserved       | reserved  |
| 6           | CurrentDate    | file creation date                              |
| 7           | CurrentTime    | file creation time                              |
| 8..11       | AssBufFileName | name of the associated buffer or file (8 bytes) |
| ...         | ...            | ...   |

**B.1.2. UNIT AND SOFTWARE SPECIFICATION**

| Word number | Name              | Comment   |
|-------------|-------------------|---|
| 0           | 0xnn02            | [02, nn=specification's length]   |
| 1           | UnitNumber        | unit number   |
| 2           | UnitType          | unit type: 949  |
| 3           | SoftwareVersion   | software version * 100  |
| 4           | SoftwareIssueDate | software issue date   |
| 5           | DeviceMode        | 0 - Vibration Level Meter / Analyser<br>1 - Sound Level Meter /Analyser |
| 6           | UnitSubtype       | unit subtype: 0   |
| 7           | FileSysVersion    | file system version   |
| 8           | LevelMetVersion   | level meter version   |
| ...         | ...               | ...   |

**B.1.3. USER'S TEXT**

| Word number | Name       | Comment  |
|-------------|------------|--|
| 0           | 0xnn03     | [03, nn=specification'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, nn=block's length]  |
| 1           | MeasureStartDate | measure start date   |
| 2           | MeasureStartTime | measure start time   |
| 3           | DeviceFunction   | 1 - <b>SOUND LEVEL METER</b> , 2 - <b>1/1 OCTAVE</b> analyser,<br>3 - <b>1/3 OCTAVE</b> analyser, 5 - <b>LOUDNESS</b> function, 6 - <b>FFT</b><br>analyser, 8 - <b>RT60</b> function, 9 - <b>ENVELOPING</b> function |
| 4           | MeasureInput     | 2 - <b>Microphone</b>  |
| 5           | Range            | 1 - <b>105 dB</b> , 2 - <b>130 dB</b>  |
| 6           | UnitFlags        | calibration flags  |

|        |                |  |
|--------|----------------|--|
| 7      | RepCycle       | 0 - infinity<br>nnnn - number of repetitions $\in (1 \div 1000)$   |
| 8      | NofProf        | number of profiles (3)   |
| 9      | StartDelay     | start delay time   |
| 10..11 | IntTimeSec     | integration time specified in seconds  |
| 12     | TriggerMode    | trigger mode: 0 - <b>OFF</b> , 1 - <b>SLOPE +</b> , 2 - <b>SLOPE -</b> ,<br>3 - <b>LEVEL +</b> , 4 - <b>LEVEL -</b> , 5 - <b>BUFFER</b> , 6 - <b>GRAD +</b>  |
| 13     | TriggerSource  | source of the triggering signal:<br>in the case of <b>SLM</b> and <b>FFT</b> analyser<br>0 - <b>RMS(1)</b> the <b>RMS</b> result from the first profile<br>in the case of TriggerMode=SLOPE+:<br>1 - <b>External IO</b><br>in the case of <b>1/1 OCTAVE</b> analyser<br>nn - number of <b>1/1 OCTAVE</b> filter $\in (8 \div NOct)$<br>in the case of <b>1/3 OCTAVE</b> analyser<br>nn - number of <b>1/3 OCTAVE</b> filter $\in (23 \div NTer)$ |
| 14     | TriggerLev     | level of triggering: 24..136 dB  |
| 15     | TriggerPre     | number of the records taken into account before the fulfilment of the triggering condition $\in (1 \div 50)$   |
| 16     | TriggerPost    | number of the records taken into account after the fulfilment of the triggering condition $\in (1 \div 200)$   |
| 17     | MicFieldCorr   | field correction: 0 - <b>FREE</b> , 1 - <b>DIFFUSE</b>   |
| 18     | reserved       | reserved   |
| 19     | MicPolar       | polarisation of the microphone: 0 - <b>0 V</b>   |
| 20     | LeqInt         | detector's type in the <b>LEQ</b> function: 0 - <b>LINEAR</b> , 1 - <b>EXPONENT.</b>   |
| 21     | SpectrumFilter | 1/1, 1/3 OCTAVE or FFT analysis filter: 0 - <b>HP</b> , 1 - <b>LIN</b> , 2 - <b>A</b> , 3 - <b>C</b>   |
| 22     | SpectrumBuff   | 1/1, 1/3 OCTAVE or FFT buffering (DeviceFunction = 2, 3 or 6):<br>0 - on, 1 - off<br>Level Meter (DeviceFunction = 1):<br>reserved   |
| 23     | RefLev         | reference Level  |
| 24     | RT60Method     | in case of RT60 function:<br>1 - <b>DECAY</b> ,<br>2 - <b>IMPULSE</b><br>in other cases reserved   |
| 25     | Reserved       | reserved   |
| 26     | Reserved       | reserved   |
| 27     | CalibrType     | last calibration type:<br>0 - none, 1 - by measurement, 2 - by sensitivity   |
| 28     | CalibrDate     | last calibration date  |
| 29     | CalibrTime     | last calibration time  |
| 30     | Reserved       | reserved   |
| 31     | Reserved       | reserved   |
| 32     | TriggerGrad    | gradient of triggering: 1dB/ms..100dB/ms   |
| ...    | ...            | ...  |

Table B.1.5\_SLM. SPECIAL SETTINGS FOR PROFILES IN THE CASE OF SLM MODE

| Word number | Name   | Comment                        |
|-------------|--------|--------------------------------|
| 0           | 0xnn05 | [05, nn=block's length]        |
| 1           | 0x0307 | [used_profile, profile's mask] |

|     |                 |   |
|-----|-----------------|---|
| 2   | 0xmm06          | [06, mm=sub-block's length]   |
| 3   | DetectorP[1]    | detector type in the first profile: 0 - <b>IMP.</b> , 1 - <b>FAST</b> , 2 - <b>SLOW</b>   |
| 4   | FilterP[1]      | filter type in the first profile: 1 - <b>LIN</b> , 2 - <b>A</b> , 3 - <b>C</b>  |
| 5   | BufferP[1]      | buffer contents definition in the first profile: 0 - none, 1 - <b>PEAK</b> ,<br>2 - <b>MAX</b> , 3 - <b>MIN</b> , 4 - <b>RMS</b> ,  |
| 6   | CalibrFactor[1] | calibration factor (*10 dB) in the first profile  |
| 7   | ProfileFlags[1] | flags in the first profile  |
| 8   | 0xmm06          | [06, mm=sub-block's length]   |
| 9   | DetectorP[2]    | detector type in the second profile: 0 - <b>IMP.</b> , 1 - <b>FAST</b> , 2 - <b>SLOW</b>  |
| 10  | FilterP[2]      | filter type in the second profile: 1 - <b>LIN</b> , 2 - <b>A</b> , 3 - <b>C</b>   |
| 11  | BufferP[2]      | buffer contents definition in the second profile: 0 - none, 1 - <b>PEAK</b> ,<br>2 - <b>MAX</b> , 3 - <b>MIN</b> , 4 - <b>RMS</b> , |
| 12  | CalibrFactor[2] | calibration factor (*10 dB) in the second profile   |
| 13  | ProfileFlags[2] | flags in the second profile   |
| 14  | 0xmm06          | [06, mm=sub-block's length]   |
| 15  | DetectorP[3]    | detector type in the third profile: 0 - <b>IMP.</b> , 1 - <b>FAST</b> , 2 - <b>SLOW</b>   |
| 16  | FilterP[3]      | filter type in the third profile: 1 - <b>LIN</b> , 2 - <b>A</b> , 3 - <b>C</b>  |
| 17  | BufferP[3]      | buffer contents definition in the third profile: 0 - none, 1 - <b>PEAK</b> ,<br>2 - <b>MAX</b> , 3 - <b>MIN</b> , 4 - <b>RMS</b> ,  |
| 18  | CalibrFactor[3] | calibration factor (*10 dB) in the third profile  |
| 19  | ProfileFlags[3] | flags in the third profile  |
| ... | ...             | ...   |

Table B.1.6\_SLM. MAIN RESULTS IN THE CASE OF SLM MODE

| Word number | Name          | Comment   |
|-------------|---------------|---|
| 0           | 0xnn07        | [07, nn=block's length]                           |
| 1           | 0x0307        | [used_profile, profile's mask]                    |
| 2           | 0xmm08        | [08, mm=sub-block's length]                       |
| 3..4        | MeasureTime   | time of the measurement in the first profile      |
| 5           | Result[1][1]  | <b>PEAK</b> value in the first profile            |
| 6           | Result[1][2]  | <b>P-P</b> value in the first profile             |
| 7           | Result[1][3]  | maximal value ( <b>MAX</b> ) in the first profile |
| 8           | Result[1][4]  | minimal value ( <b>MIN</b> ) in the first profile |
| 9           | Result[1][5]  | <b>SPL</b> value in the first profile             |
| 10          | Result[1][6]  | <b>LEQ</b> value in the first profile             |
| 11          | Result[1][7]  | <b>Lden</b> value in the first profile            |
| 12          | Result[1][8]  | <b>Ltm3</b> value in the first profile            |
| 13          | Result[1][9]  | <b>Ltm5</b> value in the first profile            |
| 14          | Result[1][10] | reserved  |
| 15          | Result[1][11] | reserved  |
| 16          | 0xmm08        | [08, mm=sub-block's length]                       |
| 17..18      | OVL           | overload time of the measurement                  |
| 19          | Result[2][1]  | <b>PEAK</b> value in the second profile           |

|        |               |  |
|--------|---------------|--|
| 20     | Result[2][2]  | <b>P-P</b> value in the second profile             |
| 21     | Result[2][3]  | maximal value ( <b>MAX</b> ) in the second profile |
| 22     | Result[2][4]  | minimal value ( <b>MIN</b> ) in the second profile |
| 23     | Result[2][5]  | <b>SPL</b> value in the second profile             |
| 24     | Result[2][6]  | <b>LEQ</b> value in the second profile             |
| 25     | Result[2][7]  | <b>Lden</b> value in the second profile            |
| 26     | Result[2][8]  | <b>Ltm3</b> value in the second profile            |
| 27     | Result[2][9]  | <b>Ltm5</b> value in the second profile            |
| 28     | Result[2][10] | reserved   |
| 29     | Result[2][11] | reserved   |
|        |               |  |
| 30     | 0xmm08        | [08, mm=sub-block's length]                        |
| 31..32 | Reserved      | reserved   |
| 33     | Result[3][1]  | <b>PEAK</b> value in the third profile             |
| 34     | Result[3][2]  | <b>P-P</b> value in the third profile              |
| 35     | Result[3][3]  | maximal value ( <b>MAX</b> ) in the third profile  |
| 36     | Result[3][4]  | minimal value ( <b>MIN</b> ) in the third profile  |
| 37     | Result[3][5]  | <b>SPL</b> value in the third profile              |
| 38     | Result[3][6]  | <b>LEQ</b> value in the third profile              |
| 39     | Result[3][7]  | <b>Lden</b> value in the third profile             |
| 40     | Result[3][8]  | <b>Ltm3</b> value in the third profile             |
| 41     | Result[3][9]  | <b>Ltm5</b> value in the third profile             |
| 42     | Result[3][10] | reserved   |
| 43     | Result[3][11] | reserved   |
| ...    | ...           | ...  |

#### B.1.4\_VLM. PARAMETERS AND GLOBAL SETTINGS IN THE CASE OF VLM MODE

| Word number | Name             | Comment  |
|-------------|------------------|--|
| 0           | 0xnn04           | [04, nn=block's length]  |
| 1           | MeasureStartDate | measure start date   |
| 2           | MeasureStartTime | measure start time   |
| 3           | DeviceFunction   | 1 - vibration <b>LEVEL METER</b> , 2 - <b>1/1 OCTAVE</b> analyser, 3 - <b>1/3 OCTAVE</b> analyser, 5 - <b>LOUDNESS</b> function, 6 - <b>FFT</b> analyser, 8 - <b>RT60</b> function, 9 - <b>ENVELOPING</b> function |
| 4           | MeasureInput     | 5 - Accelerometer  |
| 5           | Range            | 1 - <b>17.8 ms<sup>-2</sup></b> (145 dB), 2 - <b>316 ms<sup>-2</sup></b> (170 dB)  |
| 6           | UnitFlags        | calibration flags  |
| 7           | RepCycle         | 0 - infinity<br>nnnn - number of repetitions $\in (1 \div 1000)$   |
| 8           | NofProf          | number of profiles (3)   |
| 9           | StartDelay       | start delay time   |
| 10..11      | IntTimeSec       | integration time specified in seconds  |
| 12          | 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>BUFFER</b> , 6 - <b>GRAD +</b>   |
| 13          | TriggerSource    | source of the triggering signal:<br>in the case of the <b>VLM</b> :<br>0 - <b>RMS(1)</b> the <b>RMS</b> result from the first profile<br>in the case of TriggerMode= <b>SLOPE+</b> :<br>1 - <b>External IO</b>     |

|     |                |   |
|-----|----------------|---|
|     |                | in the case of <b>1/1 OCTAVE</b> analyser<br>nn - number of <b>1/1 OCTAVE</b> filter $\in (8 \div \text{NOct})$<br>in the case of <b>1/3 OCTAVE</b> analyser<br>nn - number of <b>1/3 OCTAVE</b> filter $\in (23 \div \text{Nter})$ |
| 14  | TriggerLev     | level of triggering: 60 $\div$ 200 dB   |
| 15  | TriggerPre     | number of the records taken into account before the fulfilment of the triggering condition $\in (1 \div 50)$  |
| 16  | TriggerPost    | number of the records taken into account after the fulfilment of the triggering condition $\in (1 \div 200)$  |
| 17  | Reserved       | reserved  |
| 18  | Reserved       | reserved  |
| 19  | Reserved       | reserved  |
| 20  | LeqInt         | detector type in the <b>RMS</b> function: 0 - <b>LINEAR</b> , 1 - <b>EXPONENTIAL</b>  |
| 21  | SpectrumFilter | <b>0 - HP</b>   |
| 22  | SpectrumBuff   | 1/1, 1/3 OCTAVE or FFT buffering (DeviceFunction = 2, 3 or 6):<br>0 - off, 1 - on<br>Level Meter (DeviceFunction = 1):<br>reserved  |
| 23  | Reserved       | reserved  |
| 24  | RefLev_a       | reference level for acceleration given in $\mu\text{ms}^{-2} \in (1 \div 100)$  |
| 25  | RefLev_v       | reference level for velocity given in $\text{nms}^{-1} \in (1 \div 100)$  |
| 26  | RefLev_d       | reference level for displacement given in pm $\in (1 \div 100)$   |
| 27  | CalibrType     | last calibration type:<br>0 - none, 1 - by measurement, 2 - by sensitivity  |
| 28  | CalibrDate     | last calibration date   |
| 29  | CalibrTime     | last calibration time   |
| 30  | RPM_On         | RPM measure<br>0 - off, 1 - on  |
| 31  | RPM_Pulse      | RPM pulse: 1..360   |
| 32  | TriggerGrad    | gradient of triggering: 1dB/ms..100dB/ms  |
| ... | ...            | ...   |

**B.1.5\_VLM. SPECIAL SETTINGS FOR PROFILES IN THE CASE OF VLM MODE**

| Word number | Name            | Comment  |
|-------------|-----------------|--|
| 0           | 0xnn05          | [05, nn=block's length]  |
| 1           | 0x0307          | [used_profile, profile's mask]   |
| 2           | 0xmm06          | [06, mm=sub-block's length]  |
| 3           | DetectorP[1]    | detector type in the first profile: 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           | FilterP[1]      | filter type in the first profile: 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> , 11 - <b>W-Bxy</b> , 12 - <b>W-Bz</b> , 13 - <b>H-A</b> , 14 - <b>W-Bc</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> |
| 5           | BufferP[1]      | buffer contents definition in the first profile: 0 - none, 1 - <b>PEAK</b> , 2 - <b>P-P</b> , 3 - <b>MAX</b> , 4 - <b>RMS</b> ,  |
| 6           | CalibrFactor[1] | calibration factor (*10 dB) in the first profile   |
| 7           | ProfileFlags[1] | flags in the first profile   |
| 8           | 0xmm06          | [06, mm=sub-block's length]  |
| 9           | DetectorP[2]    | detector type in the second profile: 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>   |
| 10  | FilterP[2]      | filter type in the second: 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> , 11 - <b>W-Bxy</b> , 12 - <b>W-Bz</b> , 13 - <b>H-A</b> , 14 - <b>W-Bc</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>        |
| 11  | BufferP[2]      | buffer contents definition in the second profile: 0 - none, 1 - <b>PEAK</b> , 2 - <b>P-P</b> , 3 - <b>MAX</b> , 4 - <b>RMS</b> ,   |
| 12  | CalibrFactor[2] | calibration factor (*10 dB) in the second profile  |
| 13  | ProfileFlags[2] | flags in the second profile  |
| 14  | 0xmm06          | [06, mm=sub-block's length]  |
| 15  | DetectorP[3]    | detector type in the third profile: 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>   |
| 16  | FilterP[3]      | filter type in the third profile: 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> , 11 - <b>W-Bxy</b> , 12 - <b>W-Bz</b> , 13 - <b>H-A</b> , 14 - <b>W-Bc</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> |
| 17  | BufferP[3]      | buffer contents definition in the third profile: 0 - none, 1 - <b>PEAK</b> , 2 - <b>P-P</b> , 3 - <b>MAX</b> , 4 - <b>RMS</b> ,  |
| 18  | CalibrFactor[3] | calibration factor (*10 dB) in the third profile   |
| 19  | ProfileFlags[3] | flags in the third profile   |
| ... | ...             | ...  |

#### B.1.6\_VLM. MAIN RESULTS IN THE CASE OF VLM MODE

| Word number | Name          | Comment  |
|-------------|---------------|--|
| 0           | 0xnn07        | [07, nn=block's length]                            |
| 1           | 0x0307        | [used_profile, profile's mask]                     |
| 2           | 0xmm08        | [08, mm=sub-block's length]                        |
| 3..4        | MeasureTime   | time of the measurement in the first profile       |
| 5           | Result[1][1]  | <b>PEAK</b> value in the first profile             |
| 6           | Result[1][2]  | <b>P-P</b> value in the first profile              |
| 7           | Result[1][3]  | maximal value ( <b>MAX</b> ) in the first profile  |
| 8           | Result[1][4]  | minimal value ( <b>MIN</b> ) in the first profile  |
| 9           | Result[1][5]  | <b>SPL</b> value in the first profile              |
| 10          | Result[1][6]  | <b>RMS</b> value in the first profile              |
| 11          | Result[1][7]  | <b>VDV</b> value in the first profile              |
| 12          | Result[1][8]  | reserved   |
| 13          | Result[1][9]  | reserved   |
| 14          | Result[1][10] | reserved   |
| 15          | Result[1][11] | reserved   |
| 16          | 0xmm08        | [08, mm=sub-block's length]                        |
| 17..18      | OVL           | overload time percentage of the measurement        |
| 19          | Result[2][1]  | <b>PEAK</b> value in the second profile            |
| 20          | Result[2][2]  | <b>P-P</b> value in the second profile             |
| 21          | Result[2][3]  | maximal value ( <b>MAX</b> ) in the second profile |
| 22          | Result[2][4]  | minimal value ( <b>MIN</b> ) in the second profile |
| 23          | Result[2][5]  | <b>SPL</b> value in the second profile             |

|        |               |   |
|--------|---------------|---|
| 24     | Result[2][6]  | <b>RMS</b> value in the second profile            |
| 25     | Result[2][7]  | <b>VDV</b> value in the second profile            |
| 26     | Result[2][8]  | reserved  |
| 27     | Result[2][9]  | reserved  |
| 28     | Result[2][10] | reserved  |
| 29     | Result[2][11] | reserved  |
|        |               |   |
| 30     | 0xmm08        | [08, mm=sub-block's length]                       |
| 31..32 | Reserved      | reserved  |
| 33     | Result[3][1]  | <b>PEAK</b> value in the third profile            |
| 34     | Result[3][2]  | <b>P-P</b> value in the third profile             |
| 35     | Result[3][3]  | maximal value ( <b>MAX</b> ) in the third profile |
| 36     | Result[3][4]  | minimal value ( <b>MIN</b> ) in the third profile |
| 37     | Result[3][5]  | <b>SPL</b> value in the third profile             |
| 38     | Result[3][6]  | <b>RMS</b> value in the third profile             |
| 39     | Result[3][7]  | <b>VDV</b> value in the third profile             |
| 40     | Result[3][8]  | reserved  |
| 41     | Result[3][9]  | reserved  |
| 42     | Result[3][10] | reserved  |
| 43     | Result[3][11] | reserved  |
| ...    | ...           | ...   |

**B.1.7. 1/1 OCTAVE ANALYSIS RESULTS**

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

**B.1.8. 1/3 OCTAVE ANALYSIS RESULTS**

| Word number | Name                   | Comment   |
|-------------|------------------------|---|
| 0           | 0xnn10, 0xnn28, 0xnn29 | [block_id, nn=block_length]<br>0xnn10 – averaged spectrum results, 0xnn28 – min. spectrum results, 0xnn29 – max. spectrum results |
| 1           | 0x0101                 | [used_profile, profile's mask]  |
| 2           | LowestFreq             | the lowest 1/3 OCTAVE frequency (*100 Hz) = 80  |
| 3           | NTer                   | number of 1/3 OCTAVE values = 45  |
| 4           | NTerTot                | number of <b>TOTAL</b> values = 1   |
|             |                        |   |

|       |           |   |
|-------|-----------|---|
| 5..50 | Tercje[i] | 1/3 octave[i] value (*10 dB); i=1..Nter+NterTot (1..46) |
| ...   | ...       | ...   |

### B.1.9. HEADER OF THE FFT ANALYSIS

| Word number | Name         | Comment   |
|-------------|--------------|---|
| 0           | 0xnn11       | [11, 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 = 1920  |
| 4           | NfftTot      | number of TOTAL lines in the spectrum = 1   |
| 5           | FftBand      | band of the FFT 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> |
| 6           | FftWindow    | window in the FFT analysis: 0 - <b>HANNING</b> , 1 - <b>RECTANGLE</b> , 2 - <b>FLAT TOP</b> , 3 - <b>KAISER-BESSEL</b>  |
| 7           | FftAverag    | type of averaging in the FFT analysis: 0 - <b>LINEAR</b>  |
| 8..9        | FftSampFreq  | sampling frequency  |
| 10          | FFT_wfactor  |   |
| 11          | reserved     |   |
| ...         | ...          | ...   |

### B.1.10. FFT ANALYSIS RESULTS

| Word number | Name           | Comment  |
|-------------|----------------|--|
| 0           | 0x0012         | [12, 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.1.11. STATISTICS IN PROFILE HEADER** (the presence depends on the **SAVE STAT.** position)

| Word number | Name           | Comment  |
|-------------|----------------|--|
| 0           | 0xnn09         | [09, nn=block's length]                              |
| 1           | 0x0703         | [03=number of profiles, 07=active profiles mask]     |
| 2           | 0xmm0A         | [0A, mm=sub-block's length]                          |
| 3           | NofClasses[1]  | number of classes in the first profile (120)         |
| 4           | BottomClass[1] | bottom class boundary (*10 dB) in the first profile  |
| 5           | ClassWidth[1]  | class width (*10 dB) in the first profile            |
| 6           | 0xmm0A         | [0A, mm=sub-block's length]                          |
| 7           | NofClasses[2]  | number of classes in the second profile (120)        |
| 8           | BottomClass[2] | bottom class boundary (*10 dB) in the second profile |
| 9           | ClassWidth[2]  | class width (*10 dB) in the second profile           |

|    |                |   |
|----|----------------|---|
| 10 | 0xmm0A         | [0A, mm=sub-block's length]                         |
| 11 | NofClasses[3]  | number of classes in the third profile (120)        |
| 12 | BottomClass[3] | bottom class boundary (*10 dB) in the third profile |
| 13 | ClassWidth[3]  | class width (*10 dB) in the third profile           |
|    |                |   |

Table B.1.12. RESULTS OF THE STATISTICAL ANALYSIS IN PROFILES

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

Table B.1.13. STATISTICAL ANALYSIS HEADER MADE IN 1/1 OCTAVE OR 1/3 OCTAVE MODE

| Word number | Name        | Comment   |
|-------------|-------------|---|
| 0           | 0xnn13      | [13, nn=block's length]   |
| 1           | NofHist     | number of histogramms (number of <b>1/1 OCTAVE</b> (15) or <b>1/3 OCTAVE</b> (45) filters and <b>TOTAL</b> 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.1.14. STATISTICAL ANALYSIS RESULTS MADE IN 1/1 OCTAVE OR 1/3 OCTAVE MODE

| Word number | Name            | Comment   |
|-------------|-----------------|---|
| 0           | 0x0114          | [14, 01= number of the histogramm ( <b>1/1 OCTAVE</b> or <b>1/3 OCTAVE</b> )] |
| 1           | Sub-blockLength | 2 * NofClasses + 2 (242)  |

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

**Table B.1.15. LOUDNESS RESULTS**

| Word number        | Name              | Comment                                    |
|--------------------|-------------------|--|
| 0                  | 0x001E            | [1E, 00=block's length in the second word] |
| 1                  | Sub-blockLength   | BarkCount+3                                |
| 2                  | LoudResult        |  |
| 3..3+<br>BarkCount | LoudAvgBarkTab[i] | LoudAvgBarkTab[i]                          |

**Table B.1.16. SETUP FILE**

| Word number          | Name        | Comment                                    |
|----------------------|-------------|--|
| 0                    | 0x0020      | [20, 00=block's length in the second word] |
| 1                    | BlockLength | length of the block                        |
| 2..BlockLen<br>gth-1 | SetupData   | saved setup values                         |

**Table B.1.17. UBPF PARAMETERS**

| Word number | Name           | Comment                 |
|-------------|----------------|-------------------------|
| 0           | 0xnn21         | [21, nn=block's length] |
| 1           | Type[1]        |                         |
| 2           | Reserved       |                         |
| 3..4        | Lower pole [1] |                         |
| 5..6        | Upper pole [1] |                         |

|        |                |     |
|--------|----------------|-----|
| 7      | Type[2]        |     |
| 8      | Reserved       |     |
| 9..10  | Lower pole [2] |     |
| 11..12 | Upper pole [2] |     |
| 13     | Type[3]        |     |
| 14     | Reserved       |     |
| 15..16 | Lower pole [3] |     |
| 17..18 | Upper pole [3] |     |
| ...    | ...            | ... |

**Table B.1.18. ENVELOPING PARAMETERS**

| Word number | Name         | Comment  |
|-------------|--------------|--|
| 0           | 0xnn22       | [22, nn=block's length]                                      |
| 1           | env_filter_p | 1/3 octave filter selected: 0..14 (1-800 Hz, ..., 14-20 kHz) |
| 2           | Reserved     | reserved   |
| ...         | ...          | ...  |

**Table B.1.19. RT60 PARAMETERS BLOCK**

| Word number | Name            | Comment                 |
|-------------|-----------------|-------------------------|
| 0           | 0xnn1A          | [1A, nn=block's length] |
| 1           | RT60SaveMode    |                         |
| 2           | RT60Method_p    |                         |
| 3           | RT60Spectrum    |                         |
| 4           | buff_step_p     |                         |
| 5           | ResponseTime_p  |                         |
| 6           | TriggerLevMin_p |                         |
| 7           | DispSmooth      |                         |
| 8           | NoiseMargin     |                         |
| 9           | RT60Averaging   |                         |
| 10          | RT60MeasureNo   |                         |
| ...         | ...             | ...                     |

**Table B.1.20. RT60 RESULTS BLOCK**

| Word number | Name        | Comment   |
|-------------|-------------|---|
| 0           | 0x001B      | [1B, 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.1.21. RT60 AVERAGED RESULTS BLOCK

| Word number | Name           | Comment  |
|-------------|----------------|--|
| 0           | 0x001C         | [1C, 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 |
| ...         | ...            | ...  |

**B.1.22. STATISTICAL LEVELS**

| Word number      | Name             | Comment   |
|------------------|------------------|---|
| 0                | 0xnn17           | [17, 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 <b>Lnn</b> statistics;<br>i=0..N-1              |
| 3+i*(pp+1)+<br>p | <b>Lnn</b> [i,p] | value of the <b>Lnn</b> statistics<br>for profile p (p=1..pp) |
| ...              | ...              | ...   |

**B.1.23. RPM RESULTS** (the presence depends on the **RPM\_On** position)

| Word number | Name             | Comment                 |
|-------------|------------------|-------------------------|
| 0           | 0xnn1F           | [1F, nn=block's length] |
| 1           | f_RpmRes.rpm[0]  | RPM[0]                  |
| 2           | f_RpmRes.rpm[1]  | RPM[1]                  |
| 3           | F_RpmRes.rpmx[0] | RPM Max[0]              |
| 4           | F_RpmRes.rpmx[1] | RPM Max[1]              |
| 5           | F_RpmRes.rpmn[0] | RPM Min[0]              |
| 6           | F_RpmRes.rpmn[1] | RPM Min[1]              |
|             |                  |                         |

**B.1.24. HEADER OF THE FILE FROM THE BUFFER**

| Word number | Name         | Comment  |
|-------------|--------------|--|
| 0           | 0xnn0F       | [0F, nn=header's length]   |
| 1           | BuffTSec     | buffer time step - full seconds part   |
| 2           | BuffTMiliseC | buffer time step - 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 <b>TOTAL</b> values (1)  |
| 6..7        | BuffLength   | buffer length (bytes)  |
| 8..9        | RecsInBuff   | number of records in the buffer  |
| 10..11      | RecsInObserv | number of records in the observation period equal to:<br>number of records in the buffer + number of records not saved |



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

**B.1.25. CONTENTS OF THE FILE FROM THE BUFFER**

| Word number | Name | Comment |
|-------------|------|---------|
|-------------|------|---------|

|                     |  |   |
|---------------------|--|---|
| 0..(BuffLength/2-1) |  | result#1, result#2, ... result#(BuffLength/2-1) |
|---------------------|--|---|

### B.1.26. FILE END MARKER

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

## B.2. STRUCTURE OF THE FILE WITH THE 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.

SPECIAL SETTINGS FOR PROFILES - cf. Tab. B.1.5\_SLM.

**MAIN RESULTS** - cf. Tab. B.1.6\_SLM.

STATISTICAL LEVELS - cf. Tab. B.1.22.

HEADER OF THE STATISTICAL ANALYSIS IN PROFILES (the presence depends on the **SAVE STAT.** position) - cf. Tab. B.1.11.

RESULTS OF THE STATISTICAL ANALYSIS IN PROFILES (the presence depends on the **SAVE STAT.** position) - cf. Tab. B.1.12.

FILE END MARKER - cf. Tab. B.1.26.

## B.3. STRUCTURE OF THE FILE WITH THE 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.

SPECIAL SETTINGS FOR PROFILES - cf. Tab. B.1.5\_VLM.

**MAIN RESULTS** - cf. Tab. B.1.6\_VLM.

RPM RESULTS - cf. Tab. B.1.23. (the presence depends on the **RPM\_On** flag).

FILE END MARKER - cf. Tab. B.1.26.

## B.4. 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.

USER'S TEXT - cf. Tab. B.1.3.

PARAMETERS AND GLOBAL SETTINGS - cf. Tab. B.1.4\_SLM or Tab. B.1.4\_VLM.

SPECIAL SETTINGS FOR PROFILES - cf. Tab. B.1.5\_SLM or Tab. B.1.5\_VLM.

MAIN RESULTS - cf. Tab. B.1.6\_SLM or Tab. B.1.6\_VLM.

STATISTICAL LEVELS - cf. Tab. B.1.22. (SLM only).

RPM RESULTS - cf. Tab. B.1.23. (VLM only - the presence depends on the **RPM\_On** flag).

**1/1 OCTAVE ANALYSIS RESULTS** - cf. Tab. B.1.7.

**1/1 OCTAVE ANALYSIS MIN RESULTS** (the presence depends on the **MIN SPECT.** position) - cf. Tab. B.1.7.

**1/1 OCTAVE ANALYSIS MAX RESULTS** (the presence depends on the **MAX SPECT.** position) - cf. Tab. B.1.7.

HEADER OF THE STATISTICAL ANALYSIS (SLM only - the presence depends on the **SAVE STAT.** position) - cf. Tab. B.1.11.

RESULTS OF THE STATISTICAL ANALYSIS (SLM only - the presence depends on the **SAVE STAT.** position) - cf. Tab. B.1.12.

HEADER OF THE STATISTICAL ANALYSIS PERFORMED IN 1/1 OCTAVE MODE (SLM only - the presence depends on the **SAVE STAT.** position) - cf. Tab. B.1.13.

RESULTS OF THE STATISTICAL ANALYSIS PERFORMED IN 1/1 OCTAVE MODE (SLM only - the presence depends on the **SAVE STAT.** position) - cf. Tab. B.1.14.

FILE END MARKER - cf. Tab. B.1.26.

## **B.5. 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.

USER'S TEXT - cf. Tab. B.1.3.

PARAMETERS AND GLOBAL SETTINGS - cf. Tab. B.1.4\_SLM or Tab. B.1.4\_VLM.

SPECIAL SETTINGS FOR PROFILES - cf. Tab. B.1.5\_SLM or Tab. B.1.5\_VLM.

MAIN RESULTS - cf. Tab. B.1.6\_SLM or Tab. B.1.6\_VLM.

STATISTICAL LEVELS - cf. Tab. B.1.22. (SLM only).

RPM RESULTS - cf. Tab. B.1.23. (VLM only - the presence depends on the **RPM\_On** flag).

**1/3 OCTAVE ANALYSIS RESULTS** - cf. Tab. B.1.8.

**1/3 OCTAVE ANALYSIS MIN RESULTS** (the presence depends on the **MIN SPECT.** position) - cf. Tab. B.1.8.

**1/3 OCTAVE ANALYSIS MAX RESULTS** (the presence depends on the **MAX SPECT.** position) - cf. Tab. B.1.8.

HEADER OF THE STATISTICAL ANALYSIS (SLM only - the presence depends on the **SAVE STAT.** position) - cf. Tab. B.1.11.

RESULTS OF THE STATISTICAL ANALYSIS (SLM only - the presence depends on the **SAVE STAT.** position) - cf. Tab. B.1.12.

HEADER OF THE STATISTICAL ANALYSIS PERFORMED IN 1/1 OCTAVE MODE (SLM only - the presence depends on the **SAVE STAT.** position) - cf. Tab. B.1.13.

RESULTS OF THE STATISTICAL ANALYSIS PERFORMED IN 1/1 OCTAVE MODE (SLM only - the presence depends on the **SAVE STAT.** position) - cf. Tab. B.1.14.

FILE END MARKER - cf. Tab. B.1.26.

## **B.6. STRUCTURE OF THE FILE WITH THE FFT ANALYSIS RESULTS**

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.

SPECIAL SETTINGS FOR PROFILES - cf. Tab. B.1.5\_SLM or Tab. B.1.5\_VLM.

MAIN RESULTS - cf. Tab. B.1.6\_SLM or Tab. B.1.6\_VLM.

STATISTICAL LEVELS - cf. Tab. B.1.22. (SLM only).

RPM RESULTS - cf. Tab. B.1.23. (VLM only - the presence depends on the **RPM\_On** flag).

**HEADER OF THE FFT ANALYSIS** - cf. Tab. B.1.9.

**FFT ANALYSIS RESULTS** - cf. Tab. B.1.10.

HEADER OF THE STATISTICAL ANALYSIS (SLM only - the presence depends on the **SAVE STAT.** position) - cf. Tab. B.1.11.

RESULTS OF THE STATISTICAL ANALYSIS (SLM only - the presence depends on the **SAVE STAT.** position) - cf. Tab. B.1.12.

FILE END MARKER - cf. Tab. B.1.26.

## **B.7. STRUCTURE OF THE FILE CONTAINING RESULTS FROM BUFFER'S FILE**

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.  
 SPECIAL SETTINGS FOR PROFILES - cf. Tab. B.1.5\_SLM or Tab. B.1.5\_VLM.  
**HEADER OF THE FFT ANALYSIS** - cf. Tab. B.1.9.  
**HEADER OF THE FILE FROM THE BUFFER** - cf. Tab. B.1.24.  
**CONTENTS OF THE FILE FROM THE BUFFER** - cf. Tab. B.1.25.  
 FILE END MARKER - cf. Tab. B.1.26.

### B.7.1 The contents of the files in the buffer

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 files in the buffer.

#### B.7.1.1 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 **BUFFER** position of the **PROFILE x** and **SPECTRUM** sub-lists. The following elements can be present (in the given sequence):

- (1) result of the measurement from the first profile if in the **BUFFER** position of the **PROFILE 1** sub-list other then **None** value was selected; one word is written:

<result> - **PEAK, MAX, MIN, RMS** result in the case of SLM or **PEAK, P-P, MAX, RMS** result in the case of VLM, depending on the selected value in the **BUFFER** position;

- (2) result of the measurement from the second profile if in the **BUFFER** position of the **PROFILE 2** sub-list other then **None** value was selected; one word is written:

<result> - **PEAK, MAX, MIN, RMS** result in the case of SLM or **PEAK, P-P, MAX, RMS** result in the case of VLM, depending on the selected value in the **BUFFER** position;

- (3) result of the measurement from the third profile if in the **BUFFER** position of the **PROFILE 3** sub-list other then **None** value was selected; one word is written:

<result> - **PEAK, MAX, MIN, RMS** result in the case of SLM or **PEAK, P-P, MAX, RMS** result in the case of VLM, depending on the selected value in the **BUFFER** position;

- (4) results of **1/1 OCTAVE** analysis if **1/1 OCTAVE** analysis was selected as the measurement function and in the **BUFFER** position of the **SPECTRUM** sub-list 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..16)

- (5) results of **1/3 OCTAVE** analysis if **1/3 OCTAVE** analysis was selected as the measurement function and in the **BUFFER** position of the **SPECTRUM** sub-list other then **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..46 or 1..31)

The value of NT parameter depends on the **BUF.STEP** selection (the position in the **MEASURE SETUP** sub-list). For the buffer steps greater than 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 buffer step 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.7.1.2 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.7.1.3 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.8. STRUCTURE OF THE FILE CONTAINING LOUDNESS FUNCTION RESULTS

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.

SPECIAL SETTINGS FOR PROFILES - cf. Tab. B.1.5\_SLM or Tab. B.1.5\_VLM.

MAIN RESULTS - cf. Tab. B.1.6\_SLM or Tab. B.1.6\_VLM.

STATISTICAL LEVELS - cf. Tab. B.1.22. (SLM only).

RPM RESULTS - cf. Tab. B.1.23. (VLM only - the presence depends on the **RPM\_On** flag).

**LOUDNESS RESULTS** - cf. Tab. B.1.15.

FILE END MARKER - cf. Tab. B.1.26.

## B.9. STRUCTURE OF THE FILE CONTAINING ENVELOPING FUNCTION RESULTS

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.

SPECIAL SETTINGS FOR PROFILES - cf. Tab. B.1.5\_SLM or Tab. B.1.5\_VLM.

MAIN RESULTS - cf. Tab. B.1.6\_SLM or Tab. B.1.6\_VLM.

STATISTICAL LEVELS - cf. Tab. B.1.22. (SLM only).

RPM RESULTS - cf. Tab. B.1.23. (VLM only - the presence depends on the **RPM\_On** flag).

**ENVELOPING PARAMETERS** - cf. Tab. B.1.18.

**HEADER OF THE FFT ANALYSIS PERFORMED IN THE SELECTED BAND** - cf. Tab. B.1.9.

**RESULTS OF THE FFT ANALYSIS** - cf. Tab. B.1.10.

**HEADER OF THE STATISTICAL ANALYSIS** (the presence depends on the **SAVE STAT.** position) - cf. Tab. B.1.13.

**RESULTS OF THE STATISTICAL ANALYSIS** (the presence depends on the **SAVE STAT.** position) - cf. Tab. B.1.14.

FILE END MARKER - cf. Tab. B.1.26.

## B.10. STRUCTURE OF THE FILE CONTAINING RT60 FUNCTION RESULTS

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.

SPECIAL SETTINGS FOR PROFILES - cf. Tab. B.1.5\_SLM or Tab. B.1.5\_VLM.

MAIN RESULTS - cf. Tab. B.1.6\_SLM or Tab. B.1.6\_VLM.

STATISTICAL LEVELS - cf. Tab. B.1.22. (SLM only).

RPM RESULTS - cf. Tab. B.1.23. (VLM only - the presence depends on the **RPM\_On** flag)

**RT60 PARAMETERS BLOCK** - cf. Tab. B.1.19.

**RT60 RESULTS** - cf. Tab. B.1.20. or **RT60 AVERAGED RESULTS** - cf. Tab. B.1.21.

FILE END MARKER - cf. Tab. B.1.26.