

K5/VSSP and K5/VSSP32 Data Format

update history

2008.07.27 Add a table of sampled data format in a 32-bit word

2007.10.20 Positions of items (format # and filter frequency) in a aux field were wrong (switched). It was corrected.

1 File Structure

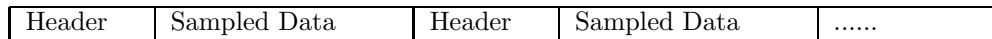


Figure 1: File structure of K5/VSSP or K5/VSSP32 data file. A frame consists of a header block and a data block which contains 1 sec sampled data. Time label of the first sampl in a data block is written in a headder block.

2 Header Format

Table 1: K5/VSSP Header Format (64 bits).

	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
0x00	sync pattern (all 0xFF)															
0x01	sync pattern (all 0xFF)															
0x02	seconds from 0h UTC (17 bits) (LSB)															
0x03	2nd sync pattern (0x8B)					AD bits		sampling frequency			ch		(M)			

Table 2: Typical K5/VSSP32 Header Format (#1) (256 bits).

	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0		
0x00	sync pattern (all 0xFF)																	
0x01																		
0x02	seconds from 0h UTC (17 bits) (LSB)																	
0x03	2nd sync pattern (0x8C) (0x8B for VSSP)								AD bits		sampling frequency			ch			(M)	
0x04	eflg		year (2 digits) (6bits : 0-63)				total day (9bits)											
0x05	major version #				minor version #				AUX FIELD size (in bytes : default is 20)									
0x06	LPF frequency (MHz: 0 means through)								AUX FIELD format # (1)									
0x07	station ID (max 2 charcters)																	
0x08	station name (max 8 characters)																	
0x09																		
0x0A																		
0x0B																		
0x0C	PC host name (max 8 characters)																	
0x0D																		
0x0E																		
0x0F																		
0x0F																		

eflg: set when error occurred in a previous frame

3 Sampled Data Format

Table 3: Sampled data format in a 32-bit word

bit position	31	30	29	28	27	26	25	24	23	22	21	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0	
1ch x 1bit	sample #	32	31	30	29	28	27	26	25	24	23	22	21	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1
1ch x 2bit	sample #	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1																
1ch x 4bit	sample #	8	7	6	5	4	3	2	1																								
1ch x 8bit	sample #	4	3	2	1																												
4ch x 1bit	ch #	4	3	2	1	4	3	2	1	4	3	2	1	4	3	2	1	4	3	2	1	4	3	2	1	4	3	2	1	4	3	2	1
	sample #	8	7	6	5	4	3	2	1																								
4ch x 2bit	ch #	4	3	2	1	4	3	2	1	4	3	2	1	4	3	2	1	4	3	2	1												
	sample #	4	3	2	1	4	3	2	1	4	3	2	1	4	3	2	1																
4ch x 4bit	ch #	4	3	2	1	4	3	2	1	4	3	2	1	4	3	2	1																
	sample #	2	1	2	1	2	1	2	1																								
4ch x 8bit	ch #	4	3	2	1	4	3	2	1	4	3	2	1	4	3	2	1																
	sample #	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1																

1ch×1bit A/D mode

1st 32bit data

D0 (LSB) 1st sampled data (1bit)
D1 2nd sampled data (1bit)
:
D31 (MSB) 32nd sampled data (1bit)

2nd 32bit data

D0 (LSB) 33rd sampled data (1bit)
D1 34th sampled data (1bit)
:
D31 (MSB) 64th sampled data (1bit)

:

1ch×2bit A/D mode

1st 32bit data

D0 (LSB) 1st sampled data (2bit LSB)
D1 1st sampled data (2bit MSB)
D2 2nd sampled data (2bit LSB)
D3 2nd sampled data (2bit MSB)
:
D31 (MSB) 16th sampled data (2bit MSB)

2nd 32bit data

D0 (LSB) 17th sampled data (2bit LSB)
D1 17th sampled data (2bit MSB)
D2 18th sampled data (2bit LSB)
D3 18th sampled data (2bit MSB)
:
D31 (MSB) 32th sampled data (2bit MSB)

:

1ch×4bit A/D mode

1st 32bit data

D0 (LSB) 1st sampled data (4bit LSB)

```

:
D3      1st sampled data (4bit MSB)
D4      2nd sampled data (4bit LSB)
:
:
D7      2nd sampled data (4bit MSB)
:
:
D31     8th sampled data (4bit MSB)
2nd 32bit data
D0 (LSB) 9th sampled data (4bit LSB)
:
:
D31     16th sampled data (4bit MSB)
:

```

1ch×8bit A/D mode

```

1st 32bit data
D0 (LSB) 1st sampled data (8bit LSB)
:
:
D7      1st sampled data (8bit MSB)
D8      2nd sampled data (8bit LSB)
:
:
D15     2nd sampled data (8bit MSB)
:
:
D31     4th sampled data (8bit MSB)
2nd 32bit data
D0 (LSB) 5th sampled data (8bit LSB)
:
:
D31     8th sampled data (8bit MSB)
:

```

4ch×1bit A/D mode

```

1st 32bit data
D0 (LSB) ch1 1st sampled data (1bit)
D1      ch2 1st sampled data (1bit)
D2      ch3 1st sampled data (1bit)
D3      ch4 1st sampled data (1bit)
D4      ch1 2nd sampled data (1bit)
D5      ch2 2nd sampled data (1bit)
:
:
D31 (MSB) ch4 8th sampled data (1bit)
2nd 32bit data
D0 (LSB) ch1 9th sampled data (1bit)
D1      ch2 9th sampled data (1bit)
:
:
D31 (MSB) ch4 16th sampled data (1bit)
:

```

4ch×2bit A/D mode

```

1st 32bit data
D0 (LSB) ch1 1st sampled data (2bit LSB)
D1      ch1 1st sampled data (2bit MSB)
D2      ch2 1st sampled data (2bit LSB)
D3      ch2 1st sampled data (2bit MSB)
D4      ch3 1st sampled data (2bit LSB)
D5      ch3 1st sampled data (2bit MSB)
D6      ch4 1st sampled data (2bit LSB)
D7      ch4 1st sampled data (2bit MSB)

```

D8		ch1 2nd sampled data (2bit MSB)
:		:
D31	(MSB)	ch4 4th sampled data (2bit MSB)

2nd 32bit data

D0	(LSB)	ch1 5th sampled data (2bit LSB)
D1		ch1 5th sampled data (2bit MSB)
D2		ch2 5th sampled data (2bit LSB)
D3		ch2 5th sampled data (2bit MSB)
:		:
D31	(MSB)	ch4 8th sampled data (2bit MSB)

:

4ch×4bit A/D mode

1st 32bit data

D0	(LSB)	ch1 1st sampled data (4bit LSB)
:		:
D3		ch1 1st sampled data (4bit MSB)
D4		ch2 1st sampled data (4bit LSB)
:		:
D7		ch2 1st sampled data (4bit MSB)
D8		ch3 1st sampled data (4bit LSB)
:		:
D11		ch3 1st sampled data (4bit MSB)
D12		ch4 1st sampled data (4bit LSB)
:		:
D15		ch4 1st sampled data (4bit MSB)
D16		ch1 2nd sampled data (4bit LSB)
:		:
D19		ch1 2nd sampled data (4bit MSB)
:		:
D31		ch4 2nd sampled data (4bit MSB)

2nd 32bit data

D0	(LSB)	ch1 3rd sampled data (4bit LSB)
:		:
D31		ch4 4th sampled data (4bit MSB)

:

4ch×8bit A/D mode

1st 32bit data

D0	(LSB)	ch1 1st sampled data (8bit LSB)
:		:
D7		ch1 1st sampled data (8bit MSB)
D8		ch2 1st sampled data (8bit LSB)
:		:
D15		ch2 1st sampled data (8bit MSB)
D16		ch3 1st sampled data (8bit LSB)
:		:
D23		ch3 1st sampled data (8bit MSB)
D24		ch4 1st sampled data (8bit LSB)
:		:
D31		ch4 1st sampled data (8bit MSB)

2nd 32bit data

D0	(LSB)	ch1 2nd sampled data (8bit LSB)
:		:
D31		ch4 2nd sampled data (8bit MSB)

: