

Commands to get logged data:

Command set	4 Commands				Returned bytes	Remark
	Report ID	Command 1	Command 2	Command 3		
request Head of Memory Data sets (Cs_HMD)	00h	00h	52h	88h	27 bytes + 9 bytes	Reset Memory Pointer to "A0_007Ah" and read "1st "24 bytes" data with "Memory Pointer + 1" step
request Next Memory Data set (Cs_NMD)	00h	00h	52h	89h	27 bytes + 9 bytes	Read "24 bytes" with "Memory Pointer + 1" step
request Current Memory Data set again (Cs_CMD)	00h	00h	52h	8Ah	27 bytes + 9 bytes	"Memory Pointer - 24" and then read "24 bytes" with "Memory Pointer + 1"

Send out Commands	Returned bytes				Remark
Returned No.	Address (3 bytes) defined by design		Memory pointer	Description	
00h, 00h, 52h, 88h	=00h (Report ID)				*useless byte for data decoding
1				Model_Id	Useful data bytes for data decoding. Put them as <b>Table 2</b> (see accompanied "Memory map encoder" file) order for further decoding
2	A0_007Ah		1	TotalBytes_0	
3	A0_007Bh		2	TotalBytes_1	
4	A0_007Ch		3	TotalBytes_2	
5	A0_007Dh		4	TotalSession_0	
6	A0_007Eh		5	TotalSession_1	
7	A0_007Fh		6	DLE	
8	A0_0080h		7	STX	
9	A0_0081h				
10	=00h (Report ID)				*useless byte for data decoding
11	A0_0082h		8	PS1_Addr0	Useful data bytes for data decoding. Put them as <b>Table 2</b> (see accompanied "Memory map encoder" file) order for further decoding
12	A0_0083h		9	PS1_Addr1	
13	A0_0084h		10	PS1_Addr2	
14	A0_0085h		11	NS1_Addr0	
15	A0_0086h		12	NS1_Addr1	
16	A0_0087h		13	NS1_Addr2	
17	A0_0088h		14	Bfunction	
18	A0_0089h		15	Bselect	
19	=00h (Report ID)				*useless byte for data decoding
20	A0_008Ah		16	Bstatus	Useful data bytes for data decoding. Put them as <b>Table 2</b> (see accompanied "Memory map encoder" file) order for further decoding
21	A0_008Bh		17	SP1_Length0	
22	A0_008Ch		18	SP1_Length1	
23	A0_008Dh		19	SP1_Length2	
24	A0_008Eh		20	1st ML_0	
25	A0_008Fh		21	1st ML_1	
26	A0_0090h		22	1st ML_2	
27	A0_0091h		23	1st SL_0	
28	=00h (Report ID)				*useless byte for data decoding
29	Checksum byte0			=Sum of returned byte No. 1 ~ 27	*useful for verifying data transmission only, but useless for data decoding
30	Checksum byte1				
31	don't care				*useless bytes for data decoding
32	don't care				
33	don't care				
34	don't care				
35	don't care				
36	don't care				
00h, 00h, 52h, 89h	=00h (Report ID)				*useless byte for data decoding
1				1st SL_1	Useful data bytes for data decoding. Put them as <b>Table 2</b> (see accompanied "Memory map encoder" file) order for further decoding
2	A0_0092h		24	1st SL_2	
3	A0_0093h		25	2nd ML_0	
4	A0_0094h		26	2nd ML_1	
5	A0_0095h		27	2nd ML_2	
6	A0_0096h		28	2nd SL_0	
7	A0_0097h		29	2nd SL_1	
8	A0_0098h		30	2nd SL_2	
9	A0_009Ah		31	2nd SL_2	
10	=00h (Report ID)				*useless byte for data decoding
11	A0_009Bh		32	3rd ML_0	Useful data bytes for data decoding. Put them as <b>Table 2</b> (see accompanied "Memory map encoder" file) order for further decoding
12	A0_009Ch		33	3rd ML_1	
13	A0_009Dh		34	3rd ML_2	
14	A0_009Eh		35	3rd SL_0	
15	A0_009Fh		36	3rd SL_1	
16	A0_00A0h		37	3rd SL_2	
17	A0_00A1h		38	4th ML_0	
18	A0_00A2h		39	4th ML_1	
19	=00h (Report ID)				*useless byte for data decoding
20	A0_00A3h		40	4th ML_2	Useful data bytes for data decoding. Put them as <b>Table 2</b> (see accompanied "Memory map encoder" file) order for further decoding
21	A0_00A4h		41	4th SL_0	
22	A0_00A5h		42	4th SL_1	
23	A0_00A6h		43	4th SL_2	
24	A0_00A7h		44	5th ML_0	
25	A0_00A2h		45	5th ML_1	
26	A0_00A3h		46	5th ML_2	
27	A0_00A4h		47	5th SL_0	
28	=00h (Report ID)				*useless byte for data decoding
29	Checksum byte0			=Sum of returned byte No. 1 ~ 27	*useful for verifying data transmission only, but useless for data decoding
30	Checksum byte1				
31	don't care				*useless bytes for data decoding
32	don't care				
33	don't care				
34	don't care				
35	don't care				
36	don't care				
00h, 00h, 52h, 89h	=00h (Report ID)				*useless byte for data decoding
1				5th SL_1	Useful data bytes for data decoding. Put them as <b>Table 2</b> (see accompanied "Memory map encoder" file) order for further decoding
2	A0_00A5h		48	5th SL_2	
3	A0_00A6h		49	6th ML_0	
4	A0_00A1h		50	6th ML_1	
5	A0_00A2h		51	6th ML_2	
6	A0_00A3h		52	6th SL_0	
7	A0_00A4h		53	6th SL_1	
8	A0_00A5h		54	6th SL_2	
9	A0_00A6h		55	7th ML_0	
10	=00h (Report ID)				*useless byte for data decoding
11	A0_00A1h		56	7th ML_1	Useful data bytes for data decoding. Put them as <b>Table 2</b> (see accompanied "Memory map encoder" file) order for further decoding
12	A0_00A2h		57	7th ML_2	
13	A0_00A3h		58	7th SL_0	
14	A0_00A4h		59	7th SL_1	
15	A0_00A5h		60	7th SL_2	
16	A0_00A6h		61	8th ML_0	
17	A0_00A7h		62	8th ML_1	
18	A0_00A8h		63	8th ML_2	
19	A0_00A9h		64	8th SL_0	
20	A0_00AAh		65	8th SL_1	

00h, 00h, 52h, 89h	19	=00h (Report ID)			*useless byte for data decoding	Useful data bytes for data decoding. Put them as <b>Table 2</b> (see accompanied "Memory map encoder" file) order for further decoding
	20	A0_00A9h	64	8th ML_2		
	21	A0_00AAh	65	8th SL_0		
	22	A0_00ABh	66	8th SL_1		
	23	A0_00ACh	67	8th SL_2		
	24	A0_00ADh	68	9th ML_0		
	25	A0_00AEh	69	9th ML_1		
	26	A0_00AFh	70	9th ML_2		
	27	A0_00B0h	71	9th SL_0		
	28	=00h (Report ID)				
29	Checksum byte0	=Sum of returned byte No. 1 ~ 27			*useful for verifying data tansmission only, but useless for data decoding	
30	Checksum byte1					
31	don't care				*useless bytes for data decoding	
32	don't care					
33	don't care					
34	don't care					
35	don't care					
36	don't care					
00h, 00h, 52h, 89h	1	=00h (Report ID)			*useless byte for data decoding	Useful data bytes for data decoding. Put them as <b>Table 2</b> (see accompanied "Memory map encoder" file) order for further decoding
	2	A0_00B1h	72	9th SL_1		
	3	A0_00B2h	73	9th SL_2		
	4	A0_00B3h	74	10th ML_0		
	5	A0_00B4h	75	10th ML_1		
	6	A0_00B5h	76	10th ML_2		
	7	A0_00B6h	77	10th SL_0		
	8	A0_00B7h	78	10th SL_1		
	9	A0_00B8h	79	10th SL_2		
	10	=00h (Report ID)			*useless byte for data decoding	
11	A0_00B9h	80	11th ML_0	Useful data bytes for data decoding. Put them as <b>Table 2</b> (see accompanied "Memory map encoder" file) order for further decoding	allocate useful data bytes to the positions shown in Table 2, and disgard useless bytes	
12	A0_00BAh	81	11th ML_1			
13	A0_00BBh	82	11th ML_2			
14	A0_00BCh	83	11th SL_0			
15	A0_00BDh	84	11th SL_1			
16	A0_00BEh	85	11th SL_2			
17	A0_00BFh	86	12th ML_0			
18	A0_00C0h	87	12th ML_1			
19	=00h (Report ID)			*useless byte for data decoding		
20	A0_00C1h	88	12th ML_2	Useful data bytes for data decoding. Put them as <b>Table 2</b> (see accompanied "Memory map encoder" file) order for further decoding		
21	A0_00C2h	89	12th SL_0			
22	A0_00C3h	90	12th SL_1			
23	A0_00C4h	91	12th SL_2			
24	A0_00C5h	92	13th ML_0			
25	A0_00C6h	93	13th ML_1			
26	A0_00C7h	94	13th ML_2			
27	A0_00C8h	95	13th SL_0			
28	=00h (Report ID)			*useless byte for data decoding		
29	Checksum byte0	=Sum of returned byte No. 1 ~ 27			*useful for verifying data tansmission only, but useless for data decoding	
30	Checksum byte1					
31	don't care				*useless bytes for data decoding	
32	don't care					
33	don't care					
34	don't care					
35	don't care					
36	don't care					
00h, 00h, 52h, 89h	1	=00h (Report ID)			*useless byte for data decoding	Useful data bytes for data decoding. Put them as <b>Table 2</b> (see accompanied "Memory map encoder" file) order for further decoding
	2	A0_00C9h	96	13th SL_1		
	3	A0_00CAh	97	13th SL_2		
	4	A0_00CBh	98	14th ML_0		
	5	A0_00CCh	99	14th ML_1		
	6	A0_00CDh	100	14th ML_2		
	7	A0_00CEh	101	14th SL_0		
	8	A0_00CFh	102	14th SL_1		
	9	A0_00D0h	103	14th SL_2		
	10	=00h (Report ID)			*useless byte for data decoding	
11	A0_00D1h	104	15th ML_0	Useful data bytes for data decoding. Put them as Table 2 (see accompanied "Memory map encoder" file) order for further decoding		
12	A0_00D2h	105	15th ML_1			
13	A0_00D3h	106	15th ML_2			
14	A0_00D4h	107	15th SL_0			
15	A0_00D5h	108	15th SL_1			
16	A0_00D6h	109	15th SL_2			
•	•	•	•	NS1_Addr = (NS1_Addr2, NS1_Addr1, NS1_Addr0)		
•	•	•	•			
•	•	•	•			
A0_008Dh + SP1_DL + 1			DLE			
A0_008Dh + SP1_DL + 2			ETX			
NS1_Addr			DLE			
NS1_Addr + 01h			STX			
NS1_Addr + 02h			PS2_Addr0			
NS1_Addr + 03h			PS2_Addr1			
NS1_Addr + 04h			PS2_Addr2			
NS1_Addr + 05h			NS2_Addr0			
NS1_Addr + 06h			NS2_Addr1			
NS1_Addr + 07h			NS2_Addr2			
NS1_Addr + 08h			Bfunction			
NS1_Addr + 09h			Bselect			
NS1_Addr + 0Ah			Bstatus			
NS1_Addr + 0Bh			SP2_Length0			
NS1_Addr + 0Ch			SP2_Length1			
NS1_Addr + 0Dh			SP2_Length2			
NS1_Addr + 0Eh			1'st ML_0			
NS1_Addr + 0Fh			1'st ML_1			
NS1_Addr + 10h			1'st ML_2			
NS1_Addr + 11h			2'nd ML_0			
NS1_Addr + 12h			2'nd ML_1			
NS1_Addr + 13h			2'nd ML_2			
•	•	•	•	DLE		
	•	•	•			
	•	•	•			
	NS1_Addr + 0Dh + SP2_DL + 1					

NS1_Addr + 0Dh + SP2_DL + 2		ETX	NS2_Addr = (NS2_Addr2, NS2_Addr1, NS2_Addr0)
NS2_Addr		DLE	
NS2_Addr + 01h		STX	
NS2_Addr + 02h		PS3_Addr0	
NS2_Addr + 03h		PS3_Addr1	
NS2_Addr + 04h		PS3_Addr2	
NS2_Addr + 05h		NS3_Addr0	
NS2_Addr + 06h		NS3_Addr1	
NS2_Addr + 07h		NS3_Addr2	
NS2_Addr + 08h		Bfunction	
NS2_Addr + 09h		Bselect	
NS2_Addr + 0Ah		Bstatus	
NS2_Addr + 0Bh		SP3_Length0	
NS2_Addr + 0Ch		SP3_Length1	
NS2_Addr + 0Dh		SP3_Length2	
<div>● ● ●</div>	<div>● ● ●</div>	<div>● ● ●</div>	
NS(n-1)_Addr		DLE	
NS(n-1)_Addr + 01h		STX	
NS(n-1)_Addr + 02h		PSn_Addr0	
NS(n-1)_Addr + 03h		PSn_Addr1	
NS(n-1)_Addr + 04h		PSn_Addr2	
NS(n-1)_Addr + 05h		NSn_Addr0	
NS(n-1)_Addr + 06h		NSn_Addr1	
NS(n-1)_Addr + 07h		NSn_Addr2	
NS(n-1)_Addr + 08h		Bfunction	
NS(n-1)_Addr + 09h		Bselect	
NS(n-1)_Addr + 0Ah		Bstatus	
NS(n-1)_Addr + 0Bh		SPn_Length0	
NS(n-1)_Addr + 0Ch		SPn_Length1	
NS(n-1)_Addr + 0Dh		SPn_Length2	
<div>● ● ●</div>	<div>● ● ●</div>	<div>● ● ●</div>	
A3_FFFFh	last byte		

Proposal design flowchart

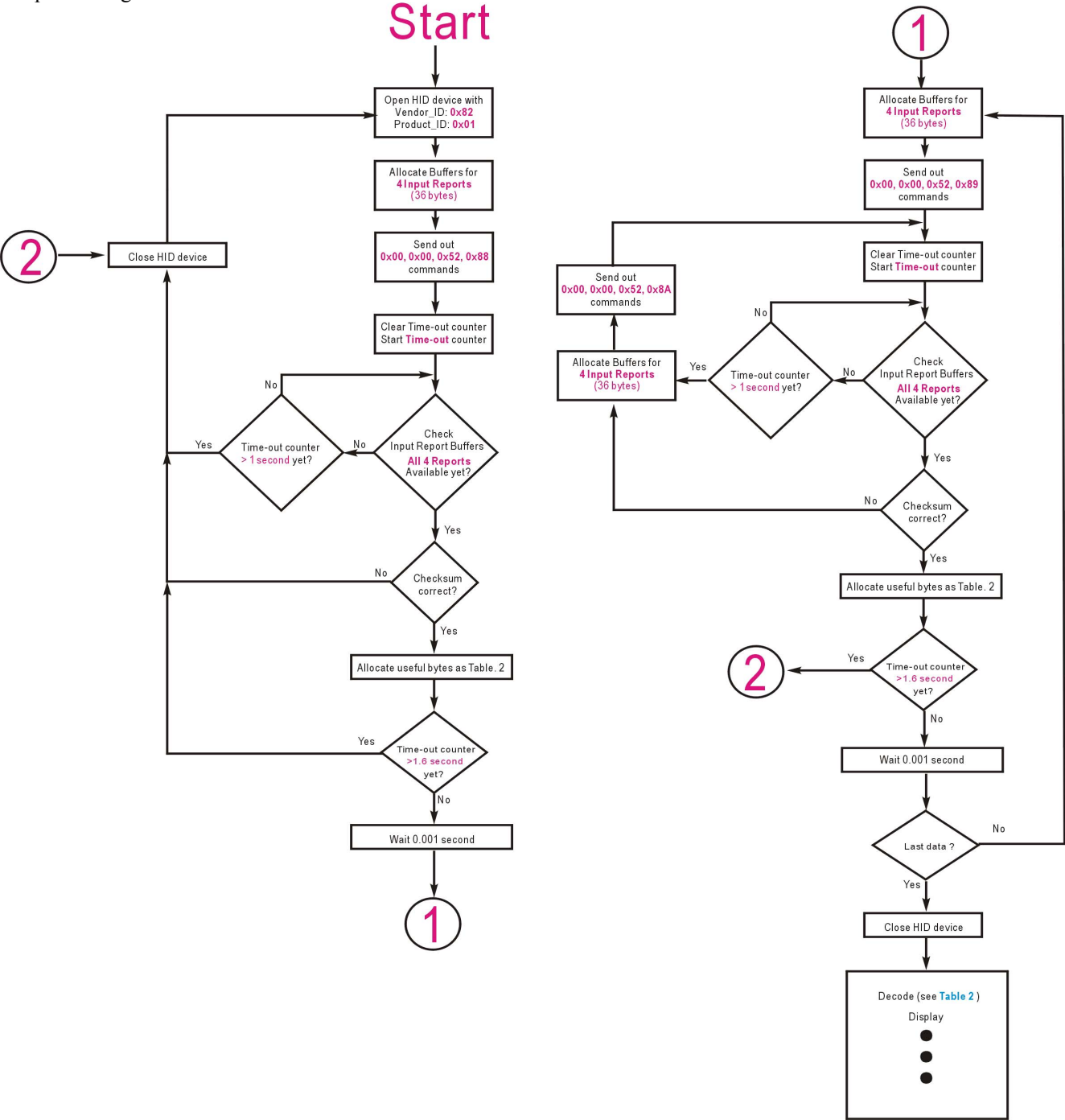


Table 2. Memory Map Encoder

Address (3 bytes) defined by design	Memory pointer	Description	Bit7	Bit6	Bit5	Bit4	Bit2	Bit1	Bit0	Note
A0_007Ah	0	Model_Id	DMM Model ID: = 00h or 01h							
A0_007Bh	1	TotalBytes_0	Total bytes of logged data							
A0_007Ch	2	TotalBytes_1								
A0_007Dh	3	TotalBytes_2								
A0_007Eh	4	TotalSession_0	Total logged Session Pages (MAX: 999 Session Pages)							
A0_007Fh	5	TotalSession_1								
A0_0080h	6	DLE	Head of each session identifier							=0EEh
A0_0081h	7	STX								
A0_0082h	8	PS1_Addr0	Head address of Previous Session Page (don't care for 1'st Session Page)							=PS1_Addr
A0_0083h	9	PS1_Addr1								
A0_0084h	10	PS1_Addr2								
A0_0085h	11	NS1_Addr0	Head address of Next Session Page (don't care for last Session Page)							=NS1_Addr
A0_0086h	12	NS1_Addr1								
A0_0087h	13	NS1_Addr2								
A0_0088h	14	Bfunction	Function details of current Session Page (see Table 3)							
A0_0089h	15	Bselect								
A0_008Ah	16	Bstatus								
A0_008Bh	17	SP1_Length0	1'st Session Page Data Length							=SP1_DL
A0_008Ch	18	SP1_Length1								
A0_008Dh	19	SP1_Length2								
A0_008Eh	20	1'st ML_0	See Table 4							Dual display data
A0_008Fh	21	1'st ML_1								
A0_0090h	22	1'st ML_2								
A0_0091h	23	1'st SL_0								
A0_0092h	24	1'st SL_1								
A0_0093h	25	1'st SL_2	See Table 4							Dual display data
A0_0094h	20	2'nd ML_0								
A0_0095h	21	2'nd ML_1								
A0_0096h	22	2'nd ML_2								
A0_0097h	23	2'nd SL_0								
A0_0098h	24	2'nd SL_1	See Table 4							Dual display data
A0_0099h	25	2'nd SL_2								
A0_009Bh	26	3'rd ML_0								
A0_009Ch	27	3'rd ML_1								
A0_009Dh	28	3'rd ML_2								
A0_009Eh	29	3'rd SL_0	See Table 4							Dual display data
A0_009Fh	30	3'rd SL_1								
A0_00A0h	31	3'rd SL_2								
A0_00A1h	32	4'th ML_0								
A0_00A2h	33	4'th ML_1								
A0_00A3h	34	4'th ML_2	See Table 4							Dual display data
A0_00A4h	35	4'th SL_0								
A0_00A5h	36	4'th SL_1								
A0_00A6h	37	4'th SL_2								
A0_00A1h	38	5'th ML_0								
A0_00A2h	39	5'th ML_1	See Table 4							Dual display data
A0_00A3h	40	5'th ML_2								
A0_00A4h	41	5'th SL_0								
A0_00A5h	42	5'th SL_1								
A0_00A6h	43	5'th SL_2								
A0_00A1h	44	6'th ML_0	See Table 4							Dual display data
A0_00A2h	45	6'th ML_1								
A0_00A3h	46	6'th ML_2								
A0_00A4h	47	6'th SL_0								
A0_00A5h	48	6'th SL_1								
A0_00A6h	49	6'th SL_2	See Table 4							Dual display data
A0_00A1h	50	7'th ML_0								
A0_00A2h	51	7'th ML_1								
A0_00A3h	52	7'th ML_2								
A0_00A4h	53	7'th SL_0								
A0_00A5h	54	7'th SL_1	See Table 4							Dual display data
A0_00A6h	55	7'th SL_2								
A0_00A7h	56	8'th ML_0								
A0_00A8h	57	8'th ML_1								
A0_00A9h	58	8'th ML_2								
A0_00AAh	59	8'th SL_0	See Table 4							Dual display data
A0_00ABh	60	8'th SL_1								
A0_00ACh	61	8'th SL_2								
A0_00ADh	62	9'th ML_0								
A0_00AEh	63	9'th ML_1								
A0_00AFh	64	9'th ML_2	See Table 4							Dual display data
A0_00B0h	65	9'th SL_0								

A0_00B1h	66	9 <sup>th</sup> SL_1		
A0_00B2h	67	9 <sup>th</sup> SL_2		
A0_00B3h	68	10 <sup>th</sup> ML_0	See Table 4	Dual display data
A0_00B4h	69	10 <sup>th</sup> ML_1		
A0_00B5h	70	10 <sup>th</sup> ML_2		
A0_00B6h	71	10 <sup>th</sup> SL_0		
A0_00B7h	72	10 <sup>th</sup> SL_1		
A0_00B8h	73	10 <sup>th</sup> SL_2		
A0_00B9h	74	11 <sup>th</sup> ML_0	See Table 4	Dual display data
A0_00BAh	75	11 <sup>th</sup> ML_1		
A0_00BBh	76	11 <sup>th</sup> ML_2		
A0_00BCh	77	11 <sup>th</sup> SL_0		
A0_00BDh	78	11 <sup>th</sup> SL_1		
A0_00BEh	79	11 <sup>th</sup> SL_2		
A0_00BFh	80	12 <sup>th</sup> ML_0	See Table 4	Dual display data
A0_00C0h	81	12 <sup>th</sup> ML_1		
A0_00C1h	82	12 <sup>th</sup> ML_2		
A0_00C2h	83	12 <sup>th</sup> SL_0		
A0_00C3h	84	12 <sup>th</sup> SL_1		
A0_00C4h	85	12 <sup>th</sup> SL_2		
A0_00C5h	86	13 <sup>th</sup> ML_0	See Table 4	Dual display data
A0_00C6h	87	13 <sup>th</sup> ML_1		
A0_00C7h	88	13 <sup>th</sup> ML_2		
A0_00C8h	89	13 <sup>th</sup> SL_0		
A0_00C9h	90	13 <sup>th</sup> SL_1		
A0_00CAh	91	13 <sup>th</sup> SL_2		
A0_00CBh	92	14 <sup>th</sup> ML_0	See Table 4	Dual display data
A0_00CCh	93	14 <sup>th</sup> ML_1		
A0_00CDh	94	14 <sup>th</sup> ML_2		
A0_00CEh	95	14 <sup>th</sup> SL_0		
A0_00CFh	96	14 <sup>th</sup> SL_1		
A0_00D0h	97	14 <sup>th</sup> SL_2		
A0_00D1h	98	15 <sup>th</sup> ML_0	See Table 4	Dual display data
A0_00D2h	99	15 <sup>th</sup> ML_1		
A0_00D3h	100	15 <sup>th</sup> ML_2		
A0_00D4h	101	15 <sup>th</sup> SL_0		
A0_00D5h	102	15 <sup>th</sup> SL_1		
A0_00D6h	103	15 <sup>th</sup> SL_2		
● ● ●	● ● ●	● ● ●	● ● ●	
A0_008Dh + SP1_DL + 1		DLE	END of each session identifier	=EEh
A0_008Dh + SP1_DL + 2		ETX		=C0h
<b>NS1_Addr</b>		DLE	Head of each session identifier	=0EEh
NS1_Addr + 01h		STX		=0A0h
NS1_Addr + 02h		PS2_Addr0	Head address of Previous Session Page (don't care for 1 <sup>st</sup> Session Page)	=PS2_Addr
NS1_Addr + 03h		PS2_Addr1		
NS1_Addr + 04h		PS2_Addr2		
NS1_Addr + 05h		NS2_Addr0	Head address of Next Session Page (don't care for last Session Page)	=NS2_Addr
NS1_Addr + 06h		NS2_Addr1		
NS1_Addr + 07h		NS2_Addr2		
NS1_Addr + 08h		Bfunction	Function details of current Session Page (see Table 3)	
NS1_Addr + 09h		Bselect		
NS1_Addr + 0Ah		Bstatus		
NS1_Addr + 0Bh		SP2_Length0	2 <sup>nd</sup> Session Page Data Length	=SP2_DL
NS1_Addr + 0Ch		SP2_Length1		
NS1_Addr + 0Dh		SP2_Length2		
NS1_Addr + 0Eh		1 <sup>st</sup> ML_0	See Table 5	Single display data
NS1_Addr + 0Fh		1 <sup>st</sup> ML_1		
NS1_Addr + 10h		1 <sup>st</sup> ML_2		
NS1_Addr + 11h		2 <sup>nd</sup> ML_0	See Table 5	Single display data
NS1_Addr + 12h		2 <sup>nd</sup> ML_1		
NS1_Addr + 13h		2 <sup>nd</sup> ML_2		
● ● ●	● ● ●	● ● ●	● ● ●	
NS1_Addr + 0Dh + SP2_DL + 1		DLE	END of each session identifier	=EEh
NS1_Addr + 0Dh + SP2_DL + 2		ETX		=C0h
<b>NS2_Addr</b>		DLE	Head of each session identifier	=0EEh
NS2_Addr + 01h		STX		=0A0h
NS2_Addr + 02h		PS3_Addr0	Head address of Previous Session Page (don't care for 1 <sup>st</sup> Session Page)	=PS3_Addr
NS2_Addr + 03h		PS3_Addr1		
NS2_Addr + 04h		PS3_Addr2		

NS2_Addr + 05h		NS3_Addr0	Head address of Next Session Page (don't care for last Session Page)	=NS3_Addr
NS2_Addr + 06h		NS3_Addr1		
NS2_Addr + 07h		NS3_Addr2		
NS2_Addr + 08h		Bfunction	Function details of current Session Page (see Table 2)	
NS2_Addr + 09h		Bselect		
NS2_Addr + 0Ah		Bstatus		
NS2_Addr + 0Bh		SP3_Length0	2'nd Session Page Data Length	=SP3_DL
NS2_Addr + 0Ch		SP3_Length1		
NS2_Addr + 0Dh		SP3_Length2		
● ● ●	● ● ●	● ● ●	● ● ●	
NS(n-1)_Addr		DLE	Head of each session identifier	=0EEh
NS(n-1)_Addr + 01h		STX		=0A0h
NS(n-1)_Addr + 02h		PSn_Addr0	Head address of Previous Session Page (don't care for 1'st Session Page)	=PSn_Addr
NS(n-1)_Addr + 03h		PSn_Addr1		
NS(n-1)_Addr + 04h		PSn_Addr2		
NS(n-1)_Addr + 05h		NSn_Addr0	Head address of Next Session Page (don't care for last Session Page)	=NSn_Addr
NS(n-1)_Addr + 06h		NSn_Addr1		
NS(n-1)_Addr + 07h		NSn_Addr2		
NS(n-1)_Addr + 08h		Bfunction	Function details of current Session Page (see Table 2)	
NS(n-1)_Addr + 09h		Bselect		
NS(n-1)_Addr + 0Ah		Bstatus		
NS(n-1)_Addr + 0Bh		SPn_Length0	2'nd Session Page Data Length	=SPn_DL
NS(n-1)_Addr + 0Ch		SPn_Length1		
NS(n-1)_Addr + 0Dh		SPn_Length2		
● ● ●	● ● ●	● ● ●	● ● ●	
A3_FFFFh	last byte			

Table 3. Function Encoder							
Bfunction (Byte format in HEX)	Bselect (Byte format in HEX)	Bstatus <sup>*1</sup> (high nibble format in BIN)				Function	
		bit 7 <sup>*2</sup>	bit 6	bit 5 <sup>*3</sup>	bit 4 <sup>*4</sup>	Main Display	Second Display
01h	00h	1	x	x	x	ACV	Hz
01h	01h	1	x	x	x	Hz	ACV
02h	00h	0	x	x	x	DCV	
02h	01h	1	x	x	x	DCV	ACV
02h	02h	1	x	x	x	DCV + ACV	ACV
03h	00h	0	x	x	x	DcmV	
03h	01h	1	x	x	x	DcmV	ACmV
03h	02h	1	x	x	x	DCmV + ACmV	ACmV
03h	03h	0	x	x	x	Hz	
03h	04h	0	x	x	x	Duty	
04h	00h	1	x	x	x	AcmV	Hz
04h	01h	1	x	x	x	Hz	ACmV
05h	00h	0	x	x	x	OHM	
05h	01h	0	x	x	x	Continuity	
05h	02h	0	x	x	x	nS	
06h	00h	0	x	x	0	T1(°C)	
06h	01h	0	x	x	0	T2(°C)	
06h	02h	1	x	x	0	T1(°C)	T2(°C)
06h	03h	1	x	x	0	T1-T2(°C)	T2(°C)
06h	00h	0	x	x	1	T1(°F)	
06h	01h	0	x	x	1	T2(°F)	
06h	02h	1	x	x	1	T1(°F)	T2(°F)
06h	03h	1	x	x	1	T1-T2(°F)	T2(°F)
07h	00h	0	x	x	x	Capacitance	
07h	01h	0	x	x	x	Diode	
08h	00h	0	x	1	x	DCA	
08h	01h	1	x	1	x	DCA	ACA
08h	02h	1	x	1	x	DCA + ACA	ACA
08h	03h	1	x	1	x	ACA	Hz
08h	00h	0	x	0	x	DCmA	
08h	01h	1	x	0	x	DCmA	ACmA
08h	02h	1	x	0	x	DCmA + ACmA	ACmA
08h	03h	1	x	0	x	ACmA	Hz
09h	00h	0	x	x	x	DCuA	
09h	01h	1	x	x	x	DCuA	ACuA
09h	02h	1	x	x	x	DCuA + ACuA	ACuA
09h	03h	1	x	x	x	ACuA	Hz

\*1. Low nibble (bit 3 ~ bit 0) is for Logging Interval; refer to [Table 3-1](#)

\*2. "Bit 7=0": Single Display; "Bit 7=1": Dual Display

\*3. For mA and A functions only. "Bit 5=0": mA function; "Bit 5=1": A function

\*4. For Temperature function only. "Bit 4=0": °C unit; "Bit 4=1": °F unit

Table 3-1. Logging Interval	
Bstatus <sup>*1</sup> (Low nibble format in BIN)	
bit 3 ~ bit 0	Interval (second)
0000	0.05
0001	0.1
0010	0.5
0011	1
0100	2
0101	3
0110	4
0111	5
1000	10
1001	15
1010	30
1011	60
1100	120
1101	180
1110	300
1111	600

(= 1 minute)

(= 2 minutes)

(= 3 minutes)

(= 5 minutes)

(= 10 minutes)



**Table 4. Dual display data set format**

	bit 7 <sup>*1</sup>	bit 6 <sup>*2</sup>	bit 5 <sup>*3</sup>	bit 4	bit 3 <sup>*4</sup>	bit 2 <sup>*4</sup>	bit 1 <sup>*4</sup>	bit 0 <sup>*4</sup>	Remark
1'st ML_0	+/-	OL	LB	x	MLRange				Main display data set
1'st ML_1	D1				D0				
1'st ML_2	D3				D2				
1'st SL_0	+/-	OL	x	x	SLRange				Second display data set
1'st SL_1	D1				D0				
1'st SL_2	D3				D2				

x: don't care

\*1. bit 7 = 0: "+"; bit 7 = 1: "-"

\*2. bit 6 = 0: "not OL"; bit 6 = 1: "OL"

\*3. If bit 5 = 1, then this data set was logged at low-battery status

\*4. See [Table 6](#)

**Table 5. Single display data set format**

	bit 7 <sup>*1</sup>	bit 6 <sup>*2</sup>	bit 5 <sup>*3</sup>	bit 4	bit 3 <sup>*4</sup>	bit 2 <sup>*4</sup>	bit 1 <sup>*4</sup>	bit 0 <sup>*4</sup>	Remark
1'st ML_0	+/-	OL	LB	x	MLRange				Main display data set
1'st ML_1	D1				D0				
1'st ML_2	D3				D2				

x: don't care

\*1. bit 7 = 0: "+"; bit 7 = 1: "-"

\*2. bit 6 = 0: "not OL"; bit 6 = 1: "OL"

\*3. If bit 5 = 1, then this data set was logged at low-battery status

\*4. See [Table 6](#)

**Table 6. Range bits**

Function	4 Range bits						
	0000	0001	0010	0011	0100	0101	0110
ACV	9.999V	99.99V	999.9V	9999V*	N/A	N/A	N/A
DCV	9.999V	99.99V	999.9V	9999V*	N/A	N/A	N/A
ACV+DCV	9.999V	99.99V	999.9V	9999V*	N/A	N/A	N/A
ACmV	60.00mV	600.0mV	N/A	N/A	N/A	N/A	N/A
DCmV	60.00mV	600.0mV	N/A	N/A	N/A	N/A	N/A
ACmV+DCmV	60.00mV	600.0mV	N/A	N/A	N/A	N/A	N/A
Hz	9.999Hz	99.99Hz	999.9Hz	9.999kHz	99.99kHz	999.9kHz	9.999MHz
Duty	99.99%	100.0%	N/A	N/A	N/A	N/A	N/A
Ω	600.0Ω	6.000kΩ	60.00kΩ	600.0kΩ	6.000MΩ	60.00MΩ	N/A
·))	600.0Ω	N/A	N/A	N/A	N/A	N/A	N/A
nS	99.99nS	N/A	N/A	N/A	N/A	N/A	N/A
CAP	60.00nF	600.0nF	6.000uF	60.00uF	600.0uF	6.000mF	25.00mF
DIODE	2.000V	N/A	N/A	N/A	N/A	N/A	N/A
ACA	6.000A	60.00A	N/A	N/A	N/A	N/A	N/A
DCA	6.000A	60.00A	N/A	N/A	N/A	N/A	N/A
ACA+DCA	6.000A	60.00A	N/A	N/A	N/A	N/A	N/A
ACmA	60.00mA	600.0mA	N/A	N/A	N/A	N/A	N/A
DCmA	60.00mA	600.0mA	N/A	N/A	N/A	N/A	N/A
ACmA+DCmA	60.00mA	600.0mA	N/A	N/A	N/A	N/A	N/A
ACuA	600.0uA	6000uA	N/A	N/A	N/A	N/A	N/A
DCuA	600.0uA	6000uA	N/A	N/A	N/A	N/A	N/A
ACuA+DCuA	600.0uA	6000uA	N/A	N/A	N/A	N/A	N/A

N/A: Not Available

\*not actual hardware range, software range only