%4	OFF		%4	OFF		4%	OFF		%4	OFF	
0x00	0x00	BATPACK_VOLTS_L (recorder)	0x10	0x40		0x20	0x80		0x30	0xc0	
		BATPACK_VOLTS_H									
0x01	0x04		0x11	0x44		0x21	0x84		0x31	0xc4	
				0x46							
0x02	0x08		0x12	0x48		0x22	0x88		0x32	0xc8	
	0x0a										
										_	
0x03	0x0c		0X13	0x4c		0x23	0x8c		UX33	Охсс	
			+			-			-		
			1			1			1		
0x04	0x10		0v14	0x50		0x24	0x90		0v24	0xd0	
0.04	OXIO		0.14	0,00		0,24	0.00		0.0.34	UXUU	
			1			t —			-		
0x05			0x15	0x54		0x25	0x94		0x35	0xd4	
205			1			1			1		
			1			1			1		
			1	-		1			1		
0x06			0:10	0x58		0x26	Ovon		0:20	0xd8	
UXUB			0110	UX58		UXZO	UX98		UX36	UXU8	
			+			 			-		
			1			1			1		
0x07			0v17	0x5c		0x27	0x9c		0v37	0xdc	
0.07			0/1/	UASC		0,27	UXSC		0.57	UXUC	
			1						I		
			+			1					
0x08	0x20		0x18	0x60		0x28	0xa0		0x38	0xe0	
	0.1.20										
0x09	0x24		0x19	0x64		0x29	0xa4		0x39	0xe4	
0x0a	0x28		0x1a	0x68		0x2a	0xa8		0x3a	0xe8	
0x0b	0x2c		0x1b	0x6c		0x2b	0xac		0x3b	0xec	
			1			1			I —		
			1			1			-		
0x0c	0x30		0.10	0.70		0x2c	0xb0		0434	0xf0	
UXUC	UXSU		OXIC	0x70		UXZC	UXDU		UXSC	UXIU	
			1			1			1		
			1			1					
0x0d	0x34		0x1d	0x74		0x2d	0xb4		0x3d	0xf4	
			1						1		
			1			1					
			1			1					
0x0e	0x38		0x1e	0x78		0x2e	0xb8		0x3e	0xf8	
			1			1					
0x0f	0x3c		0x1f	0x7c		0x2f	0xbc		0x3f	0xfc	
					BATPACK_VOLTS_L (last)						
					BATPACK_VOLTS_H (last)						
%4		VarName	0/4		VarName	%4		VarName	%4		VarName

%4	OFF VarName	%4 Offset(d	VarName	%4	OFF	VarName	%4	OFF	VarName
0x40	0x100 EXT_VIN_VOLTS_L	0x50 0x140	_RTC_SS	0x60	180		0x70	1c0	_INTERNAL_ADC_L
	EXT_VIN_VOLTS_H		_RTC_MM					1c1	_INTERNAL_ADC_H

	0x102	POWPACK_VOLTS_L			_RTC_HH						
		POWPACK_VOLTS_H			RTC WD						
0x41	0x104	HOST_3V3_L	0x51	0x144	RTC MD	0x61	184		0x71	1c4	
UX41	UX1U4		UX51			OXOI	184		UX/1	104	
		HOST_3V3_H		0x145	_RTC_MM						
		//		0x146	RTC YY						
		//		0x147	ALARM_SS						
042	400	BATPACK_STATE (3:overVOLT 2:off/underVOLT / 0:ready / 1: refilling)	0.53			0	400		0.72	4.0	
0x42	108		0x52	148	_ALARM_MM	0x62	188		0x72	108	
	109	MAIN_SUPPLY_SOURCE (EXTVIN / BATPACK)		149	_ALARM_HH						
	0x10a	BATPACK_MONITOR_INDEX (00x7F) (READ/WRITE)		14a	_ALARM_WD						
	0x10b	BATPACK_REFILL_MODE (0: 1 = permanent, pulsed) (READ)		14b	ALARM_MATCH_MODE (0,1,2,3)						
0x43	10c		0x53	14c		0x63	100		0x73	1.00	
0.43	100	EXT_VIN_VOLTS_MAX_L (records the max)	0x33			0x05	100		0.7.5	100	
		EXT_VIN_VOLTS_MAX_H		14d							
	0x10e	EXT_VIN_VOLTS_MIN_L (records the lowest)		14e							
		EXT VIN VOLTS MIN H		14f							
	0.440		0.54				400			4.10	
0x44	0x110		0x54	150		0x64	190		0x74	1d0	
	0x111										
	0x112										
	0x113										
0x45	0x114	HOST_POWEROFF_SECS_L	0x55	154		0x65	194		0x75	1d4	
		HOST_POWEROFF_SECS_H									
	0x116	HOST_POWERON_SECS_L								0x3d6	
		HOST_POWERON_SECS_H									
0x46		BATPACK_REFILL_LOW_L	0x56	158		0x66	198		0x76	140	
UX46	118		UXSO	158		UXDD	198		UX/6	108	
		BATPACK_REFILL_LOW_H									
	0x11a	BATPACK_REFILL_HIGH_L									
		BATPACK_REFILL_HIGH_H									
0x47	11c		0x57	15c		0x67	19c		0x77	1dc	
OX 17	11d		OAS?	100		OAO7	130		OAT 7	100	
	0x11e										
0x48	0x120	POWEROFF (0:1 disabled/enabled)	0x58	160		0x68	1a0		0x78	1e0	
		ALARM0 (0:1 disabled/enabled)									
		ALARMO_ACTION (0:1:2 == POWER(ON , OFF host+chan , OFF host only)									
		POWEROFF_LOG (0:1 disabled / enabled)									
0x49	124		0x59	164		0x69	1a4		0x79	1e4	EEPROM_MAGIC (0x26 = magic number)
										1e5	EEPROM_BLOC (07)
	0x126										
0.4-	0.420	CVCTENA CULUTDONAN (O. A. N.O. / section is about a section)	0.5-	4.00		0	4-0		0.7.	4.0	CAA CTATE
0x4a	UX128	_SYSTEM_SHUTDOWN (0: 1 == NO / system is shutting down)	0x5a	168		0x6a	1a8		0x7a	1e8	
											_CORE_MODULE_ACCESS_GATEWAY_VERSION
										1ea	CORE_MODULE_TYPE_ID
										1eb	CORE_MODULE_FIRMWARE_VERSION
0x4b	12c	_INPUTS_STATE_PRESCALER (loop count , byte) 00xff	0x5b	16c		0x6b	1ac		0x7b	1ec	CM PLINIMODE
0,40	120	_INTOTO_STATE_FRESCALER (100p count , byte) 00xII	OVOD	100		OXOD	Tac		UX/D		CIN_NOTATION
										1ed	
										1ee	
										1ef	
0x4c	130	_INPUTS_STATE (byte)	0x5c	170		0x6c	1b0	SCRATCHPAD (blocsize=16)	0x7c	1f0	CORE_MODULE_EXEC_ADDR
		_USER_INPUT_A_COUNT						(111111)			
		_USER_INPUT_B_COUNT									
		_USER_INPUT_D_COUNT									
0x4d	134	USER_INPUT_E_COUNT	0x5d	174		0x6d	1b4		0x7d	1f4	
	135	_USER_INPUT_F_COUNT									
		USER INPUT G COUNT									
		INPUTS_CLEAR (0x13 = clear counters, BB sets it to 0x00 after command co	moleta)								
		_INPO 15_CLEAR (0x13 = clear counters, BB sets it to 0x00 after command co	mplete)								
0x4e	138		0x5e	178		0x6e	1b8		0x7e	1f8	
0.46	13.		0.50	17.		0.00	45.		0.76	15-	
0x4f	13c		0x5f	17c		0x6f	1bc		0x7f	TţC	
							1bf			0x1ff	

-	FI	FP	R	O	N
	_		11	v	ı٧

0v102 POWPACK

0x00	RTC_CELL_DAYS_L	
0x01	RTC_CELL_DAYS_H	
0x02	POWEROEE RTC SEC	

<----- Gray cells = Not implemented

0x00	module RUNNING / IDLE state
0x01	RTC : get now
0x02	RTC : set
0x03	RTC : set ALARM
0x04	RTC · get Last noweroff

0x03	POWEROFF_RTC_MIN	1 1
0x04	POWEROFF_RTC_HOUR	
0x05	POWEROFF_RTC_DATE (1-31)	
0x06 0x07	POWEROFF_RTC_MONTH (1-12) POWEROFF_RTC_YEAR	
0x07	POWEROFF_RIC_TEAN	
OXOO		
0x0c	HOST_POWEROFF_SECS_L	
	HOST_POWEROFF_SECS_H	
0x0e	HOST_POWERON_SECS_L	
	HOST_POWERON_SECS_H	
0x10	BATPACK_REFILL_LOW_L	bloc 1
	BATPACK_REFILL_LOW_H	
0x12	BATPACK_REFILL_HIGH_L	
0.44	BATPACK_REFILL_HIGH_H	
0x14		
0x18	POWEROFF (disabled/enabled)	
0x19	ALARMO (disabled/enabled)	
0x1a	,	
0x1b	POWEROFF_TIMEDATE_LOG (disabled / enabled)	
0x1c	ALARMO_ACTION (poweroff/poweron)	
0x1d		
0x1e	_BB_INPUTS_STATE_PRESCALER	
0x20		bloc 2
0x24		
0x28		
UX28		
0x2c		
0x30		bloc 3
0x34		
0.00		
0x38		
0x3c		
UNDE		
0x40	EEPROM_BOOT (1=use eeprom data, 2=use default datas)	bloc 4
		1

0x05	//
0x06	System shutdown : inititate
0x07	
0x10	config : WRITE
0x11	config : READ
0x12	config : Restore factory settings
0x66	sleep mode(internal)
0xCB	Core Bus Reset : Reset other cores on the bus

0x50	EEPROM_CONFIG	3_NAME (16)	bloc 5

00/01	W[0x3F]	BATPACK_VOLTS_L	R	1			0x3ff	9.76mV	?
7E/0x7F	14/	EVT VIN VOLTC I					02ff	201/	1
100	W	EXT_VIN_VOLTS_L EXT_VIN_VOLTS_H	R	1			0x3ff	20mV	?
102	W	POWPACK_VOLTS_L	R	- 1			0x3ff	9,76mV	
102	"	POWPACK_VOLTS_H	⊣ "	•			U U U	3,701111	
104	W	HOST_3V3_L	R	ı			0x3ff	2,44mV	
		HOST_3V3_H						,	
108	В	BATPACK_STATE	R	I			3		2
		_							
109	В	MAIN_SUPPLY_SOURCE	R	I			1		
10a	В	BATPACK_MONITOR_INDEX	R				0x7f		
10b	В	BATPACK_REFILL_MODE	R	I			1		
10c	W	EXTVIN_VOLTS_MAX_L	R/W	I		1	0x3ff	20mV	
		EXTVIN_VOLTS_MAX_H							
10e	W	EXTVIN_VOLTS_MIN_L	R/W	ı			0x3fe	20mV	
		EXTVIN_VOLTS_MIN_H							<u> </u>
114	W	HOST_POWEROFF_SECS_L	R/W	SHUT	6		65535	second	10
		HOST_POWEROFF_SECS_H					<u> </u>		
116	W	HOST_POWERON_SECS_L	R/W	BOOT	В	1	65535	second	3
110		HOST_POWERON_SECS_H				0	0.50		0.5
118	W	BATPACK_REFILL_LOW_L	R/W	ı		0x25c	0x3ff	9,76mV	0x266
11-	,,,,	BATPACK_REFILL_LOW_H	D //*/		-	5.9V	10V	0.76	6,0V
11a	W	BATPACK_REFILL_HIGH_L	R/W	ı		0x300	0x3ff	9,76mV	0x2F0
120	В	BATPACK_REFILL_HIGH_H	D/\A/	СПІТ	6	6.5V	10V		7,35V
120	в	POWEROFF	R/W	SHUT	6		1		
121	-	ALARMO	D/W		ALZ		1		1
121	В	ALARM0	R/W	1	ALL		1		
122	-	ALABAMO ACTIONI	D //		***		-		1
122	В	ALARMO_ACTION	R/W	I	ALL		2		
122	-	DOWEDOES : 22	F #	c···-	-				\vdash
123	В	POWEROFF_LOG	R/W	SHUT	6		1		
120	-	CVCTENA CLUSTO CUCTO	+						\vdash
128	В	SYSTEM_SHUTDOWN	R				1		
120	-	INDUITE CTATE DRESCALES	D/W	-			0	100	10
12c	В	INPUTS_STATE_PRESCALER	R/W	1			0xFF	100us	10
120	-	INDUITE CTATE					0		
130	В	INPUTS_STATE	R	1			0xFF		
131	В	USER INPUT A COUNT	R/W	ı			0xFF		?
132	В	USER_INPUT_B_COUNT	R/W	<u>'</u>			0xFF		?
133	В	USER INPUT D COUNT	R/W	1			0xFF		?
134	В		R/W				_		?
	_	USER_INPUT_E_COUNT	_	<u> </u>	1		0xFF		
135	В	USER_INPUT_F_COUNT	R/W	<u> </u>			0xFF		?
136	В	USER_INPUT_G_COUNT	R/W	<u> </u>			0xFF		?
137	В	INPUTS_CLEAR	W	1			0x13		
140	D	DTC SEC	D //A/	-	124		OVEO	DCII	2
140	В	RTC_SEC	R/W	<u> </u>	1,2,4		0x59	DCHex	?
141	В	RTC_MIN	R/W	<u> </u>	1,2,4		0x59	DChex	?
142	В	RTC_HOUR	R/W	1	1,2,4		0x11 / 0x23	DChex	?
	-	DES LUC							<u> </u>
143	В	RTC_WD	R/W	1	1,2,4	1	7	DCHex	?
144	В	RTC_ND	R/W	1	1,2,4	1	0x31	DCHex	?
145	В	RTC_MON	R/W	I	1,2,4	1	0x12	DCHex	?
	В	RTC_YEAR	R/W	ı	1,2,4		0x99	DCHex	?
146	В	RTC_ALARM_SEC	R/W	ı	1,2,4		0x59	DCHex	?
147	В	RTC_ALARM_MIN	R/W	ı	1,2,4		0x59	DCHex	?
		RTC_ALARM_HOUR	R/W	ı	1,2,4		0x11/0x23	DCHex	?
147	В					4	007	DCILLen	_
147 148	B B	RTC_ALARM_ND	R/W	1	1,2,4	1	0x07	DCHex	?
147 148 149			R/W R/W	<u> </u>	1,2,4	1	0x07	DCHex	?

1b0	B[16]	SCRATCHPAD	R/W	I	1,1,2,3,4			?
1b1								
1be								
1bf								
1e4	В	EEPROM_MAGIC	W	I	0x10		0x26	0x00
1e5	В	EEPROM_BLOC	W	Ī	0x10,0x11	, in the second	7	?

) PRELIMINARY , V1.0 june 2015 Description Batpack voltage monitor recorder DATAs Main DC input voltage readout Battery Pack current voltage readout BusBoard's 3.3V 1A voltage regulator output voltage readout Battery Pack status register : 0: Ready 1 : Refill is in progress 2 : Undervoltage / No Battery Pack connected 3 : Overvoltage / Battery Pack disabled BusBoard's power source is : 0: EXT_VIN (main DC source) 1 : Battery Pack (main DC source is OFF or Under the voltage threshold) Battery Pack voltage monitor recorder's current index (RAM address) Battery Pack refill mode. 0 : Permanent current 1 : Pulsed current (1 sec ON , 1 sec OFF periods) Main DC input voltage highest value since BusBoard's power up.Can be cleared by user Main DC input voltage lowest value since BusBoard's power up.Can be cleared by user Delay between BusBoards shutdown command received and effective Host powering off (see Command 0x06) Delay between BusBoard's power on and Host power. Applied at Chantilly's BusBoard boot Batpack refill Low Threshold (start charging phase trigger) Batpack refill High Threshold (stop charging phase knee) Shutdown sequence ends up : $\mathbf{0}$: Keep Chantilly System 5V and 3.3V power on , Host power is OFF 1 : power OFF Host , then Chantilly System 5V and 3.3V (full system stop RTC Alarm action 0 : Disabled 1: Alarm is enabled 0 : Alarm trigs a system BOOT 1 : Alarm trigs a power-off sequence (Chantilly System AND Host) 2: Alarm trigs a power-of sequence for the HOST. Chantilly systems remains powered-on Power-off timedate logging into BusBoard's embedded EEPROM 0: Log disabled 1: Enabled System shutdown status : 0: BusBoard normal run 1 : A shutdown sequence is in progress (see Command 0x06) Anti-bounce prescaler for user inputs A,B,D,E,F,G 0 : Cancel prescaler User inputs A,B,D,E,F,G immediate state (Bit states are : 1=contact open / 0=contact is closed) Bit 1: user input A state Bit 2 : user input B state Bit 3: unused/read as '1' Bit 4: user input D state Bit 5: user input E state Bit 6: user input F state Bit 7: user input G state User input A transitions counter. Each contact closing increments this counter by 1. trigs on HI->low transitions User input B transitions counter, Each contact closing increments this counter by 1, trigs on HI->low transitions User input C transitions counter. Each contact closing increments this counter by 1. trigs on HI->low transitions User input D transitions counter. Each contact closing increments this counter by 1. trigs on HI->low transition. User input E transitions counter. Each contact closing increments this counter by 1. trigs on HI->low transitions User input F transitions counter. Each contact closing increments this counter by Input counters are clear if user writes magic key 0x13 into this ram address INPUTS_CLEAR's content is cleared to 0x00 when the BusBoard has cleared all counters. Embedded BuBoard's RTC seconds (see Command 0x01,0x02,0x04) Bit 6 : cleared=24Hour mode , set=12Hr AM/PM mode Bit 5 : in 12hr mode, set=PM , cleared = AM Bit 7: always cleared Day number of the Week (1=Monday 7=Sunday) Day of the Month Month of the Year Year in the range 0..0x99 BusBoard's ALARM seconds value BusBoard's ALARM minutesvalue BusBoard's ALARM hours value BusBoard's ALARM day of the week value BusBoard's ALARM enable mask

0x0F: Alarm once per second 0x07: Alarm when seconds match 0x03: Alarm when minutes and seconds match

0x01: Alarm when hours, minutes, seconds match
0x00: Alarm when day, hours, minutes and seconds match
Scratchpad Area.
A 16 places RAM area used for RTC functions : setup RTC, Read RTC, set ALARM
EEPROM save configuration magic Key. Set to 0x26 = enable writing the eeprom (see Command 0x10)
EEPROM Read config / Write config Bloc number (see Command 0x10)