PYGMALYON ELECTRONIQUE

Project : SYSTEME BB III
Subject : Specification of the protocol

History:

Révision	Date	Version BB3	Modifications
1	31/10/2002		- Creation - change response to list of files (11) 1 order = 1 file - order STOP (02 STOP) addition rate occupation
2	21/01/2003	1.01l	correction orders 30 (error communication HF)
3	25/01/2003	1.01m	addition orders request material information (39)
4	10/02/2003	1.01m	addition orders mode calculation rehabilitation (3P)
5	14/02/2003	1.01n	modification weaves remote loading detection to be identical to a screen of detection
6	20/02/2003	1.01o	- wide orders - definition parameter LL in order wide detection
7	26/02/2003	1.01o	addition orders 02 BUSY
8	06/03/2003	1.02a	- message system coming from the reader - Powering reader, adjustment antenna (3Q, 3H)
9	12/05/2003	1.12a	- Correction orders (11) - addition orders (SM)
10	30/06/2003	1.13a	- Correction order 39 (inverting Month and day)
11	06/07/2003	1.13a	- mark high priority messages
12	07/07/2003	1.15c	- addition order 83 (number of detection in a badger) - correction order 20 (update date & time)
13	21/07/2003	1.16c	- Indication of news from last edition - addition order to get number of detection (3R) - addition order to get chrono status (3T) - addition order to get status of acquisition (3S) - addition order to get antenna status (3HC1) - mofify answer setting chrono, start acquisition - addition end of file list (11) - addition order to get occupation rate of non volatile memory (3U) - modify answer software version, add serial number, software version for long range reader (3V, from version 1.14fx) - set auto answer for AT modem - add current date end time for update time (20) answer - add 02 SYSTEM FULL - change description for 02 FULL - Specification for order 80 (state of the badgers)
14	28/08/2003	1.16c	- update document
15	01/09/2003	1.20a	- System locked message - Unlock function - add order 3W alias of 3R for radio protocol compliance - add order 3X alias of 3S for radio protocol compliance
16	21/12/2003	1.21a	- add order 3Y for write chrono into DAG
17	04/02/2004	2.00a	- add order C0 for state of crédit

18	13/04/2004	2.01a	- add order BR for detection baud rate selection
19	13/04/2004		- add orders to pick detection E2
20	01/07/2005	2.03k	- add order for DECT repeater control
			- add monitoring order
			- correct variable name
21	08/29/2005	2.03k	- add monitoring order HV
22	06/07/2006	2.03k	- correction INFO2 domain
23	21/07/2007	5.05a	- REINTEGRATION_VALUE domain

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This protocol work between all the intelligent elements, (1 reader alone is not an intelligent element, and another protocol is used for standalone readers). It is independent of the physical support of transmission

Communication parameters:

9600 bauds, 8 bits, no parity, 1 stop
19200 bauds, 8 bits, no parity, 1 stop
115200 bauds, 8 bits, no parity, 1 stop

Structure of the frames:

STX + code function + TAB (→) + message + CR (↵)

STX (↺) = 0x02
TAB (→) = 0x09
CR (↵) = 0x0D
SPACE (↧) = 0x20

The fields of the message are separated by TAB (→)
All the data are in ASCII.

Mandatory messages:

Some answer messages have to be implemented to ensure that system work properly. They are on grey background.

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DETECTIONS:

Description	Computer → Slave	Computer ← Slave	BB III	BADGER	NEW
Start acquisition	↳00↵	↳02→GO↵ ↳3T → STATUS_TIMING → HH:MM:SS.CC ↵	*		
Start acquisition in extended mode	↳E0↵	↳02→GO↵ ↳3T → STATUS_TIMING → HH:MM:SS.CC ↵			
Start acquisition in extended pick mode	↳E1↵	↳02→GO↵ ↳3T → STATUS_TIMING → HH:MM:SS.CC ↵			
Detection		↳00 → NNNNNN → BB → 00 → DDDDDDDDDDDDDDDD → HH:MM:SS.CC ↵	*	*	
Detection with information (from 2.03k IB version)		↳00 → NNNNNN → BB → 00 → DDDDDDDDDDDDDDDD → HH:MM:SS.CC → REUSABLE → NB_OP_READ → MANU_OP ↵	*		
Extended detection		↳00 → NNNNNN → BB → LL → DDDDDDDDDDDDDDDD → HH:MM:SS.CC ↵	*		
Detection of test without filing		↳T0 → 000000 → BB → 00 → DDDDDDDDDDDDDDDD → HH:MM:SS.CC ↵	*	*	
Extended detection of test without filing		↳T0 → 000000 → BB → LL → DDDDDDDDDDDDDDDD → HH:MM:SS.CC ↵	*		
	↳E2→NB_PICK↵	If detections are available ↳00 → RRRRRR → BB → LL → DDDDDDDDDDDDDDDD → HH:MM:SS.CC → ... ↳00 → RRRRRR → BB → 00 → DDDDDDDDDDDDDDDD → HH:MM:SS.CC → ↳E2→END↵ If detection are unavailable ↳E2→END↵	*		
Repeat detection	↳0B→RRRRRR↵	↳00 → RRRRRR → BB → 00 → DDDDDDDDDDDDDDDD → HH:MM:SS.CC ↵	*	*	

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DETECTIONS (continuation):

Description	Computer → Slave	Computer ← Slave	BB III	BADGER	NEW
Repeat extended detection	↳0B→RRRRRR↵	↳00 → RRRRRR → BB → LL → DDDDDDDDDDDDDD → HH:MM:SS.CC ↵	*		
Repeat detection with information (from 2.03k IB version)		↳00 → RRRRRR → BB → LL → DDDDDDDDDDDDDD → HH:MM:SS.CC → REUSABLE → NB_OP_READ→ MANU_OP ↵	*		
Hand-over with 0 of time associated with each detection (BLACKBOX ONLY)	↳00→00 :00 :00 .00↵	↳02→RAZ↵ ↳3T → STATUS_TIMING → HH:MM:SS.CC ↵	*		
starting of time associated with each detection with a given value (BLACKBOX ONLY)	↳00→HH :MM :SS .CC ↵	↳02→RAZ↵ ↳3T → STATUS_TIMING → HH:MM:SS.CC ↵	*		
Hand-over with 0 of time associated with each detection	↳00→00 :00 :00 .00↵	↳02→RAZ↵		*	
starting of time associated with each detection with a given value	↳00→HH :MM :SS .CC ↵	↳02→RAZ↵		*	
Stop acquisition	↳01↵	↳02→STOP→ FILEXXXX →NB_ARC→TAUX_OCCUPATION ↵	*		

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DETECTIONS (continuation):

Description	Computer → Slave	Computer ← Slave	BB III	BADGER	NEW
Can't start acquisition, because memory is full for detection storage.		↳02→FULL↵	*		
Can't start acquisition, because not enough place to creeate file		↳02→SYSTEM FULL↵	*		
Can't do the requested order right now, system is busy. (ex deleting files)		↳02→BUSY↵	*		
The system need to be unlocked before the date following		↳02→LOCKARISED →JJ/MM/AAAA↵	*		
From now the system does'nt make any detection		↳02→LOCK→JJ/MM/AAAA↵	*		
Turn off the black box	↳09↵	↳09→END↵	*		
Insert detection (black box set the time)	↳SM→IIIII↵	↳00 → NNNNNN ↑ BB ↑ 00 ↑ 00000000000IIIII → HH:MM:SS.CC ↵	*		
Insert extended detection (black box set the time)	↳SM→IIIII↵	↳00 → NNNNNN ↑ BB ↑ LL ↑ 00000000000IIIII → HH:MM:SS.CC ↵	*		

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UNLOCK function:

Description	Computer➜Slave	Computer⬅Slave	BB III	BADGER	NEW
Get UNLOCK KEY	⤶UK↵	⤶UK➜UNLOCK_KEY↵ if in instance of lock else ⤶02➜FREE↵	*		
Set UNLOCK PASSWORD	⤶UP➜UNLOCK_PASS WORD↵	⤶02➜LOCK➜JJ/MM/AAAA↵ or ⤶02➜LOCKARISED ➜JJ/MM/AAAA↵ if bad password else ⤶02➜FREE↵	*		

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Crédit function:

Description	Computer➔Slave	Computer⬅Slave	BB III	BADGER	NEW
Get state of credit	↳C1↵	↳C1➔ CURRENT_CREDIT ➔ SUM_OF_CREDIT↵	*		
Get CREDIT KEY	↳CK↵	↳UK➔CREDIT_KEY↵	*		
Set CREDIT VALUE	↳CP➔CREDIT_VALUE ↵	↳C1➔ CURRENT_CREDIT ➔ SUM_OF_CREDIT↵	*		

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ARCHIVES:

Description	Computer→Slave	Computer←Slave	BB III	BADGER	NEW
List DAG files	↳11→DAG↵	↳11→*.DAG→FILE_NAME.DAG →FILE_DATE→SIZE→1↵ — ↳11→*.DAG→FILE_NAME.DAG →FILE_DATE→SIZE→1↵ ↳11→*.DAG→END↵	*	*	
Reload DAG file for replay	↳13→ FILE_NAME.DAG ↵	if nonempty file ↳10→NNNNNN→BB→00→ DDDDDDDDDDDDDDD→HH:MM:SS.CC↵ if empty file ↳10→END↵	*	*	
Reload DAG file for replay in extended mode (all detections will be replayed in extended mode)	↳E3→ FILE_NAME.DAG ↵	if nonempty file ↳10→NNNNNN→BB→LL→ DDDDDDDDDDDDDDD→HH:MM:SS.CC↵ if empty file ↳10→END↵	*	*	
Send next detection in file being replayed	↳14↵	If it remains files ↳10→NNNNNN→BB→00→ DDDDDDDDDDDDDDD→HH:MM:SS.CC↵ if empty file ↳10→END↵	*	*	
Send next detection in file being replayed in extended mode	↳14↵	If it remains files ↳10→NNNNNN→BB→LL→ DDDDDDDDDDDDDDD→HH:MM:SS.CC↵ if empty file ↳10→END↵	*	*	

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ARCHIVES (continuation):

Description	Computer→Slave	Computer←Slave	BB III	BADGER	NEW
Send detection in file being replayed.	↳14→RRRRRR↵	If it remains files ↳10 → NNNNNN → BB → 00 → DDDDDDDDDDDDDD → HH:MM:SS.CC ↵ if empty file ↳10→END↵	*	*	
Send detection in file being replayed in extended mode.	↳14→RRRRRR↵	If it remains files ↳10 → NNNNNN → BB → LL → DDDDDDDDDDDDDD → HH:MM:SS.CC ↵ if empty file ↳10→END↵	*		
Archive with information (from 2.03k IB version)		↳10 → NNNNNN → BB → LL → DDDDDDDDDDDDDDD → HH:MM:SS.CC →REUSABLE → NB_OP_READ→ MANU_OP↵	*		

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DATE & HOUR:

Description	Computer→Slave	Computer←Slave	BB III	BADGER	NEW
Update time **you can't change the date but you can change the time**	↳20→HH :MM :SS→ MM-JJ-AAAA↲	↳21→ NUM_ELEMENT ↲ ↳01 → T: TEMP→HH :MM :SS→JJ/MM/AAAA↲	*	*	

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CONTROL:

Description	Computer → Slave	Computer ← Slave	BB III	BADGER	NEW
Set black box, communication link, chronometer time and date.	↳3J→BB→LINK → HH :MM :SS .CC →MM-JJ-AAAA ↵	↳3L→ AAAAA → E↵		*	
Set black box, communication link, real time and date.	↳3K→BB→LINK → HH :MM :SS →MM-JJ-AAAA ↵	↳3L→ AAAAA → E↵		*	
Get software version (BLACK BOX ONLY)	↳35↵	↳35 → SOFTWARE_VERSION → SERIAL_NUMBER↵ ↳3V → SOFTWARE_VERSION_READER↵	*		
Get software version	↳35↵	↳35 → SOFTWARE_VERSION → SERIAL_NUMBER↵		*	
Set power strength (to antenna) in black box	↳3D→0→PWR↵	↳3D → PWR↵	*		
Get system information (date and time)	↳39↵	↳01 → T: TEMP→HH :MM :SS→JJ/MM/AAAA↵	*		
Total number of detection in a badger (sending every 5 seconds for each beager)		↳83→BID → NB_ARC↵	*		
State of the badger, indicate change of state of the power , and lock /unlock of the radio link for each badger		↳80→B00 :CXAL→ | B15 :CXAL→ L00 :CX AL→L01:00↵	*		
Get status timing	↳3T↵	↳3T → STATUS_TIMING → HH:MM:SS.CC ↵	*		
Get number of detection	↳3R↵	↳3R → NB_ARC ↵	*		

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CONTROL (continuation):

Description	Computer → Slave	Computer ← Slave	BB III	BADGER	NEW
Get number of detection use this order instead of 3R .	↳3W↵	↳3W → NB_ARC ↵	*		
Get status of acquisition	↳3S↵	↳3S → ACQUISITION_STATUS ↵	*		
Get status of acquisition use this order instead of 3S	↳3X↵	↳3X → ACQUISITION_STATUS ↵	*		
Get the occupation rate of non volatile memory	↳3U↵	↳3U→TAUX_OCCUPATION ↵	*		
set auto answer for AT modem connected to "SERIAL PC"		ats0=1↵	*		

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DECT MODEM:

Description	Computer → Slave	Computer ← Slave	BB III	BADGER	NEW
Register a new badger	↳3M ↵	↳3M→ LINK_INS ↵	*		
Unregister all badgers	↳3N ↵	↳3N→ 0↵	*		
Error Operation DECT		↳3O→ ERR_DECT↵	*		
Set DECT link direct to badgeur	↳3Z → INTERNAL_MODEM ↵		*		
Register the repeater	↳4O ↵		*		

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PARAMETERS:

Description	Computer → Slave	Computer ← Slave	BB III	BADGER	NEW
Get configuration	↳30↵	↳33→T1↵ ↳37 → BB ↵ ↳21→ NUM_ELEMENT ↵ ↳80→B00 :CXAL→ B15 :CXAL→ L00 :CX AL→L01:00↵ ↳82→B00 :FCT ID→ — B15: FCT ID →L00 :1ID→L01:000↵ ↳3P→ REINTEGRATION_VALUE↵ ↳3R → NB_ARC ↵ ↳3S → ACQUISITION_STATUS ↵ ↳3T → STATUS_TIMING → HH:MM:SS.CC ↵ ↳3U→TAUX_OCCUPATION ↵ ↳3Y→WRITE_CHRONO ↵ ↳BR→BAUD_RATE ↵	*		
Get id	↳37 ↵	↳37 → BB ↵	*	*	
Set id	↳37→BB↵	↳37 → BB ↵	*	*	
Set minimum time between passages	↳33→T1↵	↳33→T1↵	*		
Set duration of the beep for each detection	↳34→BIP_DURATION ↵	↳34 → BIP_DURATION ↵	*		

PARAMETERS (continuation):

Description	Computer → Slave	Computer ← Slave	BB III	BADGER	NEW
programming function detectors	↳81→B00 :FCT ID→ ─ B15: FCT ID → L00 : FCT ID → L01: FCT ID ↵	↳82→B00 :FCT ID→ ─ B15: FCT ID →L00 :1ID→L01:000↵	*		
Set how to handle detections made by badger	↳3P→ REINTEGRATION_VALUE↵	↳3P→ REINTEGRATION_VALUE↵	*		
Get write chrono into DAG option	↳3Y ↵	↳3Y→WRITE_CHRONO ↵	*		
Set write chrono into DAG option	↳3Y→WRITE_CHRONO ↵	↳3Y→WRITE_CHRONO ↵	*		
Get baud rate speed	↳BR ↵	↳BR→BAUD_RATE_ANSWER ↵	*		
Set baud rate speed	↳BR→BAUD_RATE ↵	↳BR→ BAUD_RATE_ANSWER ↵	*		

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ANTENNA:

Description	Computer → Slave	Computer ← Slave	BB III	BADGER	NEW
Recalibrate antenna	↳3H→C1 :3↵		*		
Get status antenna	↳3H→C1 :0↵		*		
Recalibration of antenna OK		↳3H→*NUM_READER* →0↵	*		
Recalibration of antenna ERROR		↳3H→*NUM_READER* →1↵	*		

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READER:

Description	Computer→Slave	Computer←Slave	BB III	BADGER	NEW
Initialize reader NUM_READER		↻3Q➔*NUM_READER*↵	*		

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MONITORING:

Description	Computer→Slave	Computer←Slave	BB III	BADGER	NEW
Get reader identifier	↳41→CMD READER→ NUM_READER→ id↵		*		
Set reader identifier **NO SEPARATOR BETWEEN COMMAND AND DATA**	↳41→CMD READER→ NUM_READER→ ID NUM_READER ↵		*		
BB send reader identifier		↳41→ NUM_READER→ID → NUM_READER ↵	*		
Get configuration 1 parameter	↳41→CMD READER→ NUM_READER→ c1↵		*		
Set configuration 1 parameter **NO SEPARATOR BETWEEN COMMAND AND DATA**	↳41→CMD READER→ NUM_READER→ C1 CFG_PRM ↵		*		
BB send configuration 1 parameter		↳41→ NUM_READER→C1 → CFG_PRM ↵	*		
Get configuration 2 parameter	↳41→CMD READER→ NUM_READER→ c2↵		*		
Set configuration 2 parameter **NO SEPARATOR BETWEEN COMMAND AND DATA**	↳41→CMD READER→ NUM_READER→ C2 CFG_PRM ↵		*		
BB send configuration 2 parameter		↳41→ NUM_READER→C2 → CFG_PRM ↵	*		

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MONITORING (continuation):

Description	Computer➜Slave	Computer⬅Slave	BB III	BADGER	NEW
Get configuration 3 parameter	↳41➜CMD READER➜ NUM_READER➜ c3 ⏎		*		
Set configuration 3 parameter **NO SEPARATOR BETWEEN COMMAND AND DATA**	↳41➜CMD READER➜ NUM_READER➜ C3 CFG_PRM ⏎		*		
BB send configuration 3 parameter		↳41➜ NUM_READER➜C3 ➜ CFG_PRM ⏎	*		
Start antenna setup for specific reader **NO SEPARATOR BETWEEN COMMAND AND DATA**	↳41➜CMD READER➜ NUM_READER➜ RA ⏎	response is standard see antenna command	*		
Get fine tune parameter	↳41➜CMD READER➜ NUM_READER➜ dg ⏎		*		
Set fine tune parameter **NO SEPARATOR BETWEEN COMMAND AND DATA**	↳41➜CMD READER➜ NUM_READER➜ DG DG_PRM ⏎		*		
BB send fine tune parameter		↳41➜ NUM_READER➜DG ➜ DG_PRM ⏎	*		

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MONITORING (continuation):

Description	Computer→Slave	Computer←Slave	BB III	BADGER	NEW
Get power level	↳41➔CMD READER➔ NUM_READER➔ pw↵		*		
Set power level NO SEPARATOR BETWEEN COMMAND AND DATA	↳41➔CMD READER➔ NUM_READER➔ PW PWR ↵		*		
BB send power level		Response is standard PWR message	*		
Get strategy parameter	↳41➔CMD READER➔ NUM_READER➔ ts↵		*		
Set strategy parameter NO SEPARATOR BETWEEN COMMAND AND DATA	↳41➔CMD READER➔ NUM_READER➔ TS STRATEGY ↵		*		
BB send strategy parameter		↳41➔ NUM_READER➔TS ➔ STRATEGY ↵	*		
Get reader version	↳41➔CMD READER➔ NUM_READER➔ v?↵		*		
BB send reader version		↳41➔ NUM_READER➔V= ➔ READER_VERSION ↵	*		

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MONITORING (continuation):

Description	Computer→Slave	Computer←Slave	BB III	BADGER	NEW
Activate antenna field	↳41→CMD READER→ NUM_READER→ AP00001↵		*		
BB send acknowledgement		↳41→ NUM_READER→AP → 00001↵	*		
Deactivate antenna field	↳41→CMD READER→ NUM_READER→ AP00000 ↵		*		
BB send acknowledgement		↳41→ NUM_READER→AP → 00000 ↵	*		
BB send info 1		↳41→ NUM_READER→I1 → INFO1 ↵	*		
BB send info 2		↳41→ NUM_READER→I2 → INFO2 ↵	*		
BB send info 3		↳41→ NUM_READER→I3 → INFO3 ↵	*		
BB send info 4		↳41→ NUM_READER→I4 → INFO4 ↵	*		
BB send emperature		↳41→ NUM_READER→TP → READER_TEMP ↵	*		
Get info refresh periode	↳42↵		*		
Set info refresh period	↳42→REFRESH_ PERIOD↵		*		
BB send random value for reading operation		↳41→CMD READER→ NUM_READER→ HV→HASH_VALUE↵	*		*
Refresh period		↳42→REFRESH_ PERIOD↵	*		

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FIELDS OF VARIABLES:

Name	Description	Length	Field
NNNNNN	Detection number (0 based detection count)	6	000000 → 999999
RRRRRR	Detection number to restart sending from	6	000000 → 999999
BB	Black box id	2	01 → 99
LL	Detection reader id	2	(see table at the end) 00 → standard electronic detection (gate in extended mode) 10 → entered manually 16 → 31 (0x10 → 0x1F) direct electronic detection of the badger HF 1 → 16 32 → 47 (0x20→0x2F) RUF 48 → 63 (0x30 → 0x3F) automatic recalibrated time by the badger HF 1 → 16 64 → 79 (0x40→ 0x4F) RUF 80 → 95 (0x50→ 0x5F) standard electronic detection by badger
DDDDDDDD DDDDDDDD	Identifier (DAG nr)	16	
HH :MM :SS :CC	Time associated with detection	11	00 : 00 : 00 . 00 → 99 : 59 : 59.99
NB_ARC	Number of recorded files	6	000000 → 999999
FILE_NAME	Name of the file: FILE-XXXX if already transferred FILE_XXXX if not transferred yet	9	FILE-0001 → FILE-2730 FILE_0001 → FILE_2730
FILE_DATE	Current date	24	___JJ__ MM_HH :MM :SS_AA_⇩ (_) représente un espace (0x20)

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FIELDS OF VARIABLES (continuation):

Name	Description	Length	Field
SIZE	Number of bytes occupied by the file, must be a multiple of 43	variable	
NB_FILE	Number of files in memory	variable	
HH :MM :SS	Hour	8	00 : 00 : 00 → 99 : 59 : 59
MM-JJ-AAAA	Date	10	
SOFTWARE_VERSION	Character string	variable	
LINK	Radio link channel	2	00 → 15
AAAAA	Number of files in memory	5	00000 → 99999
E	Energy state	1	+ → OK - → WEAK . → HS ? ? REALLY BAD ? → unknown
T1	Minimum time between passages in 1/10 second	variable	0 → 999999
CX	Connection to badger	1	0 → absent 1 → present
AL	Energy state of badger	1	0 → HS ? ? REALLY BAD 1 → WEAK 2 → OK
FCT	Badger function	1	0 → CONTROL 1 → LINE
ID	Black box id or badger id	2	00 → 99

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FIELDS OF VARIABLES (continuation):

Name	Description	Length	Field
LINK_INS	Radio link channel on which the inscription was made	2	1 → 16
PWR	Power strength (to antenna) in black box (crazy scale)	variable	0 → 1000
OCCUPATION	Occupation rate of the nonvolatile memory	3	0 → 100

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FIELDS OF VARIABLES (continuation):

Name	Description	Length	Field
BIP_DURATION	Beep duration in 1/10 second	variable	
ERR_DECT	number (of the ?) element which caused error	1	01 → 16 ID of the badgeur 63 → Subscription failed 64 → Subscription cancel failed 65 → Modem communication error 66 → DECT modem does'nt answer 67 → error in DECT opération
REINTEGRATION_VALUE	value of rehabilitation (second)	variable	0 → 127 is average mode. -The time of the first 10 detections absent from the arrived line is reinstated with time from badger –(REINTEGRATION_VALUE) in second). - For the others, the time of the detection absent from the arrived line is reinstated with average time between time from badger and arrived line of the 10 previous détections. 128 → 255 is absolute mode -The time of the detection absent from the arrived line is reinstated with time from badger –(REINTEGRATION_VALUE – 128) in second)
TEMP	unused for the moment	3	000
NUM_READER	Internal ID of the reader (manufactory setting)	2	00→99 00 is for all readers
ACQUISITION_STATUS	Current state of the acquisition	1	0 → No acquisition running 1 → Acquisition in standard mode 2 → Acquisition in extended mode
STATUS_TIMING	Type of timing source	1	0→ internal clock 1 → chrono
SERIAL_NUMBER	Serial number of a board	14	ASCII data
SOFTWARE_VERSION	Character string	variable	

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READER

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FIELDS OF VARIABLES (continuation):

Name	Description	Length	Field
UNLOCK KEY	Unlock Key to send to DAG SYSTEM to unlock the system	32	ASCII
UNLOCK_PASSWORD	Password to unlock the system **THIS DATA IS PROVIDED BY DAG SYSTEM**	16	ASCII
WRITE_CHRONO	write or not current chrono into DAG	1	0 → no write chrono into DAG 1 → write chrono into DAG
CURRENT_CREDIT	Number of reusable DAG detection available	5	0 → 15000
SUM_OF_CREDIT	Total of reusable DAG detection available	5	0 → 15000
CREDIT_KEY	Credit Key to send to DAG SYSTEM to credit the system	60	ASCII
CREDIT_VALUE	Value to credit the system **THIS DATA IS PROVIDED BY DAG SYSTEM**	34	ASCII
BAUD_RATE	Baud rate for main serial line	1	0 → 9600 bauds 1 → 19200 bauds 2 → 115200 bauds
BAUD_RATE_ANSWER	Baud rate for main serial line	1	0 → 9600 bauds 1 → 19200 bauds 2 → 115200 bauds

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FIELDS OF VARIABLES (continuation):

Name	Description	Length	Field
INTERNAL_MODEM	Mode of link with badgeur	1	0 → DECT Link to badgeur trough repeater 3 → DECT link direct to badgeur
CFG_PRM	Antenna configuration parameter	5	0 → 63
DG_PRM	Fine tune antenna parameter	5	1 → 15
STRATEGY	strategy parameter	5	1 → speed 2 → speed & masses 3 → masses
READER_VERSION	reader sofware version	variable	char
INFO1	reader information 1	5	0 → 1023 After an antenna setup this value should be weak as possible antenna quality formula : $(1 - (INFO1 / INFO2))*100$
INFO2	reader information 2	5	0 → 2047 antenna quality formula: $(1 - (INFO1 / INFO2))*100$
INFO3	reader information 3	5	For PW150 INFO3 = 158 → 317 For PW300 INFO3 = 211 → 475 For PW500 INFO3 = 316 → 581 For PW800 INFO3 = 422 → 687 For PW1000 INFO3 = 475 → 792 Else check your antenna
INFO4	reader information 4	5	947 → 987 OK Else ERROR Check power supply
READER_TEMP	Reader internal temperature (unit 0.5°C)	5	0 → 255
REFRESH_PERIOD	Refresh period for INFO1, INFO2, INFO3,INFO4, READER_TEMP temperature (unit 1 sec)	6	5 → 120

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REUSABLE	1	empty → standard DAG $ → reusable DAG
NB_OP_READ	3	1 → 255 this option is activated by WINDAG
MANU_OP	1	empty → electronic detection M → manual detection
HASH_VALUE	5	00000 → 00063

<table>
<tr><td>REUSABLE</td><td>Indicates if the detection is for reusable DAG or not</td></tr>
<tr><td>NB_OP_READ</td><td>indicates how many times this DAG has been read</td></tr>
<tr><td>MANU_OP</td><td>indicates if the detection is manual or electronic</td></tr>
<tr><td>HASH_VALUE</td><td>Random value used for reading operation</td></tr>
</table>

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Table of the value of field BB & LL in different type of detection modes:

Type of detection	Acquisition Normal	Remote loading normal	Acquisition extended	Remote loading extended	BB	LL
Detection antenna	*	*	*	*	Number BN	00
Detection antenna controlled by badger				*	Number BN	80 → 95 (0x50→ 0x5F)
Automatic rehabilitation			*	*	Number BN	48 → 63 (0x30 → 0x3F)
Direct detection by badger			*	*	Number BN	16 → 31 (0x10 → 0x1F)