

PTCarPhone 4

Command Description Manual

Application Note 1303

Revision: 1.1

May 2014

Table of Contents

0 Document History	6
0.1 Related Documents	6
1 Introduction	6
1.1 Definitions	7
1.2 Command Structure	8
1.3 Required Components	8
1.4 Programming Cable's Specification	9
1.5 Establishing a Connection via the Serial Interface.....	10
1.6 Commented Overview Plan	11
2 Phone Book	14
2.1 Listing Phone Book Entries.....	14
2.1.1 Test.....	14
2.1.2 Output.....	15
2.1.3 Querying Storage Space.....	15
2.2 Selecting the Active Phone Book (Operation Mode)	16
2.2.1 Test.....	16
2.2.2 Selecting the Active Phone Book (Operation Mode).....	16
2.2.3 Query	17
2.3 Adding Entries to the Internal Phone Book.....	17
2.3.1 Test.....	17
2.3.2 Set	18
2.3.3 Query	18
2.4 Erasing the Internal Phone Book	19
2.4.1 Test.....	19
2.4.2 Erase.....	19
3 Queries	20
3.1 Querying the Phone Settings.....	20
3.1.1 Test.....	20
3.1.2 Query	21
3.2 Querying the Call Duration.....	24
3.2.1 Test.....	24
3.1.2 Query	24
4 Initialization Commands.....	25
4.1 TCP Connection Request	25
4.1.1 Test.....	25
4.1.2 Parameter Handover.....	25
4.1.3 Query	26
4.1.4 Closing the TCP Connection	26

4.2 Changing the Online Password	27
4.2.1 Test.....	27
4.2.2 Setting a New Online Password	27
4.3 Requesting the traxactive Access Configuration.....	28
4.3.1 Test.....	28
4.3.2 Parameter Handover.....	28
4.3.3 Parameter Handover for the Initialization	29
4.3.4 Query	29
4.3.5 Stopping the Connection	30
4.3.6 Starting the Connection	30
4.4 GPRS and FTP Configuration.....	31
4.4.1 Test.....	32
4.4.2 Set	32
4.4.3 Query	33
4.4.4 Listing Stored GPRS Access Data	33
4.5 Hardware Configuration.....	34
4.5.1 Test.....	34
4.5.2 Setting the Hardware Configuration	34
4.5.3 Query	35
4.6 Setting the Time	36
4.6.1 Test.....	36
4.6.2 Set	36
4.6.3 Query	36
4.7 Logo	36
4.7.1 Test.....	37
4.7.2 Set	37
4.7.3 Query	38
4.7.4 Display	38
4.8 Setting the Delay Timer.....	39
4.8.1 Test.....	39
4.8.2 Setting the Delay Timer	39
4.8.3 Query	40
4.9 Automatic Configuration	40
4.9.1 Test.....	40
4.9.2 Setting the Automatic Configuration	41
4.9.3 Query	41
5 Update Commands	42
5.1 Software Update	42
5.1.1 Test.....	42
5.1.2 Starting the Software Update	42
5.2 Configuration Update	43
5.2.1 Test.....	43
5.2.2 Starting the Configuration Update	43

6 Control Commands	44
6.1 Switching Output	44
6.1.1 Test.....	44
6.1.2 Setting the Switching Output.....	44
6.1.3 Query	45
7 Commands for the Positioning Feature	46
7.1 Position Query	46
7.1.1 Test.....	46
7.1.2 Position Query.....	46
7.2 Cyclic Position Query	47
7.2.1 Test.....	47
7.2.2 Initializing a Cycle	47
7.2.3 Status Query	48
7.3 Stopping Cyclic Positioning Notifications	48
7.3.1 Test.....	48
7.3.2 Stopping a Cycle.....	48
8 Data Logger	49
8.1 Configuration.....	49
8.1.1 Test.....	50
8.1.2 Stopping the Data Logger	50
8.1.3 Starting the Data Logger.....	50
8.1.4 Fill Level Query	51
8.1.5 Event List Compilation	51
8.1.6 Composing the Data Set	52
8.1.7 Setting the Cycle Time.....	53
8.1.8 Send Mode.....	54
8.1.9 Optimization.....	54
8.1.10 Data Output Format.....	55
8.1.11 Reading the Data Logger	55
8.1.12 Query	56
8.2 Manual Data Output via FTP	57
8.2.1 Test.....	57
8.2.2 Data Output.....	57
8.3 Manual Data Output by Email	58
8.3.1 Test.....	58
8.3.2 Data Output.....	58
8.3.3 Query	59
8.4 Sender Account.....	59
8.4.1 Test.....	59
8.4.2 Account Data	59
8.4.3 Query	60
8.5 Email Structure	60

8.5.1 Subject	60
8.5.2 Body.....	60
8.5.3 Attachment	60
8.6 Log File	61
8.6.1 File Name	61
8.6.2 File Header	62
8.6.3 Data	64
9 Messages.....	65
9.1 Status Message Switching Output	65
9.2 Acknowledgement for Changing the Online Password.....	65
9.3 Panic Message	65
9.4 Position Message	66
10 Interface of the Handset.....	67
10.1 Switch the Interface to Command Input Mode	67
10.2 Quitting the Command Input Mode	67
11 Description of a TCP Connection	68
12 Addendum	69
12.1 Sample Log File in Binary Format	69
12.2 Sample Log File in Table Format	70
12.3 Sample Log File in CSV Format.....	71

0 Document History

Date	Revision	Author	Remark
January 2014	1.0	BP/CS	First edition/Translation
May 2014	1.1	CS	More hyperlinks added

Table 1: Document History

0.1 Related Documents

No.	Title	Remark
1	AN1305 Phonemanager 3 Manual	Application Note 1305
2	PTCarPhone 4 Brief Instruction	Shipped with the PTCarPhone 4
3	PTCarPhone 3 User Manual	For download from www.ptcarphone.de

Table 2: Related Documents

1 Introduction

This document describes the control commands for the "PTCarPhone 4" series. The commands in this manual allow administrating the PTCarPhone without direct physical connection. To give some examples, the online password can be changed via SMS, or for PTCarPhones with GPS option, positioning requests can be send by SMS.

1.1 Definitions

Serial Interface

The serial interface is a 10 pin western connector (RJ50) at the VDA cable set of the PTCarPhone 4. Using a computer, which is connected via a programming cable (see also [1.4 Programming Cable's Specification](#)) to this connector, the commands in this manual can be sent directly to the PTCarPhone 4. To do so, a terminal program (for example HyperTerminal or PuTTY) is required. The connection parameters to set up a connection to the PTCarPhone 4 are described in section [1.5 Establishing a Connection via the Serial Interface](#).

Online Password

The online password prevents unauthorized access to the PTCarPhone 4. The PTCarPhone 4 executes the commands of this Command Description only, if they are sent to the device via a direct physical connection over the serial interface, via a TCP data connection (see also [4.1 TCP Connection Request](#)) or by text message (SMS). Sending the commands via TCP or SMS requires the sender of the command to login at the PTCarPhone 4. For this purpose, the online password is used.

As of firmware version 4.00.02, the default online password¹ of the PTCarPhone 4 is composed of the last six digits of the IMEI number. The IMEI number can be located on the label on top of the PTCarPhone 4. For security reasons, we strongly recommend changing the online password immediately, when the PTCarPhone 4 is first set up (see also [4.2 Changing the Online Password](#)).

Master

A master phone is authorized to send configuration commands without online password by SMS to the PTCarPhone 4. Other subscribers need to identify themselves at the PTCarPhone 4 with the online password; otherwise, all commands sent to the device are ignored. Section [2 Phonebook](#) describes how a phone number is defined as a master.

¹ Up to Firmware-Version 4.00.01, the default online password is "Peitel"

Notice:

As of firmware version 4.00.02, the characteristic **Master** only exists for compatibility reasons, but has no function.

1.2 Command Structure

Commands can be transmitted to the car phone via the serial interface, text message (SMS) or a TCP data link. For every command description, the available transmission modes are stated.

Command structure for the transmission via the serial interface or TCP data link:

AT*cccc [= <parameter>]

Command structure for the transmission via SMS:

AT*cccc = <"online password">[, <parameter>]

1.3 Required Components

- PTCarPhone 4
- Programming cable (see also [1.4 Programming Cable's Specification](#))
- PC
- Terminal program

1.4 Programming Cable's Specification

To connect a PTCarPhone 4 to a PC, a programming cable is required, which connects the 10 pin western connector of the service interface to the serial interface (RS232) of the PC. If the PC doesn't have a serial interface, use additionally a commercially available **RS232-to-USB-converter**.

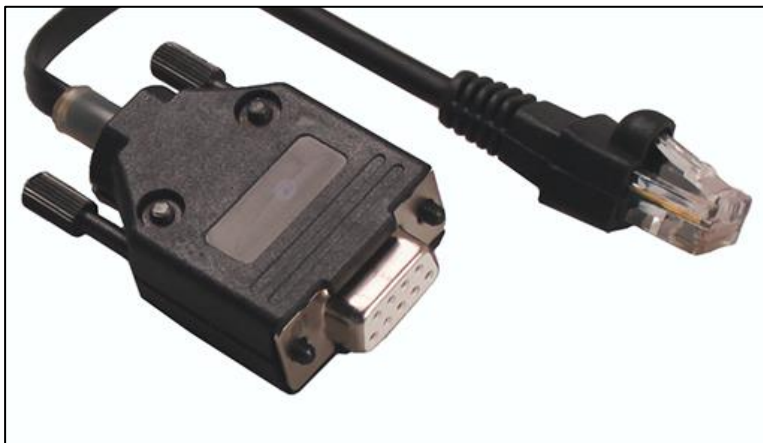


Figure 1: Left RS232 plug (D-Sub), right western plug

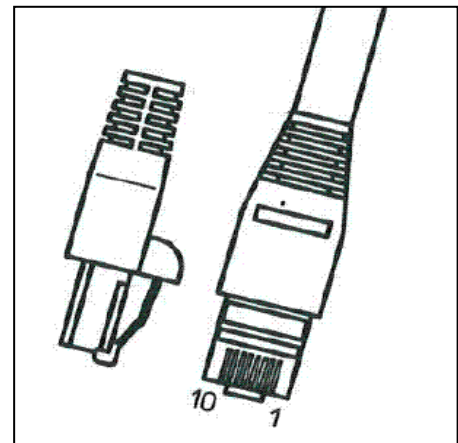


Figure 2: Western plug, 10 pin, numbered

Pin assignment:

DE-9 plug (also known as D-Sub, RS232):

Pin*	Signal
2	RxD
3	TxD
5	GND
7	RTS
8	CTS

* All other pins remain unassigned.

Western plug RJ45, 10 pin:

Pin*	Signal
4	CTS
6	RTS
7	TxD
8	RxD
9	GND

* All other pins remain unassigned.

The pins of the female DE-9 plugs are usually numbered.

If you don't have the means to produce a programming cable on your own, it is possible to purchase it from pei tel. Just get in contact with your pei tel distributor or contact pei tel directly.

Please check out www.peitel.de for contact details.

1.5 Establishing a Connection via the Serial Interface

Communications settings for the terminal program to set up a serial connection:

115200 Baud, 8 data bits, parity none, 1 stop bit (115200, 8, N, 1).

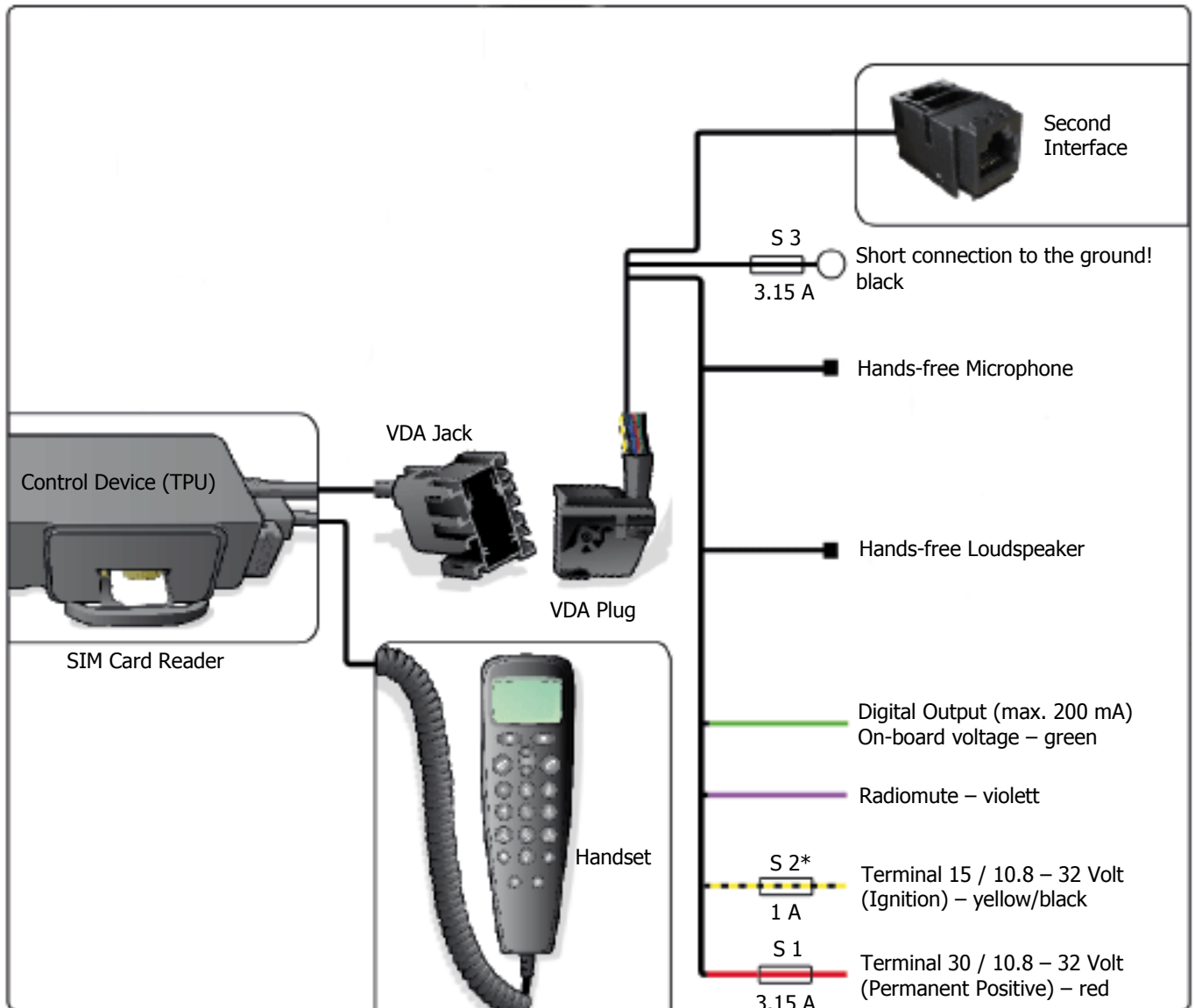


Figure 3 Wiring diagram PTCarPhone 4

In case that the service interface ("second interface", see drawing above) of the PTCarPhone 4 cable set is not accessible or occupied, the interface for the handset, directly at the control device, can be used alternatively, see section [10 Interface of the Handset](#).

1.6 Commented Overview Plan

Chapter-No.	Topic	Comment
2 Phonebook - Administration of the internal phone book		
2.1	Listing phone book entries	
2.2	Select active phone book = operation mode (OM)	<p>Choose between the phone book on the SIM card and the internal phone book of the phone. Restrict incoming and outgoing calls.</p> <ul style="list-style-type: none"> • OM 0: Phone book of the SIM card • OM 1: Internal phone book • OM 2: Outgoing calls and text messages are restricted to numbers of the internal phone book. Emergency calls are possible. • OM 3: Like OM 2 and: Receiving calls and text messages is restricted to numbers from the internal phone book.
2.3	Adding entries to the internal phone book	-
2.4	Erasing the internal phone book	-
3 Queries		
3.1	Querying the phone settings	Output of all configuration values
3.2	Querying the call duration	Total call duration and last phone call duration
4 Initialization commands		
4.1	TCP connection request	Connecting the phone to a computer via the TCP protocol; most of the commands can be sent over this TCP connection.
4.2	Changing the online password	The online password is required when sending commands over TCP or by text message.
4.3	Requesting the traxactive access configuration	Changing the default settings of the traxactive interface in order to use it for customer specific (different) purposes.
4.4	GPRS and FTP configuration	<ul style="list-style-type: none"> • Necessary for firmware updates • To store the content of the data logger on an FTP server or to send it by email
4.5	Hardware configuration	<ul style="list-style-type: none"> • Second interface mode • Microphone amplification • Operation mode of the digital output
4.6	Setting up the time	Setting the time
4.7	Logo	Installing a start logo for the handset's display

Chapter-No.	Topic	Comment
4.8	Setting the delay timer	The delay time is the period of time after the vehicle's ignition was turned off, while the PTCarPhone stays switched on.
4.9	Automatic configuration	Pulling the configuration data from the server after the ignition was turned on.
5 Update commands		
5.1	Software update	Initializing a software update
5.2	Configuration update	Initializing a configuration data update on to the PTCarPhone 4
6 Control commands		
6.1	Switching output	Setting switching statuses; only, if the digital output is configured to be a switch
7 Commands for the positioning feature		
7.1	Position query	Query the current position; only if the phone is fitted with a GPS module
7.2	Cyclic position query	Setting-up regular position notifications by SMS. The receiver phone number, the total amount of notifications and the period of time between notifications are configured.
7.3	Stopping cyclic positioning notifications	Stops the notification before the cycle of configured notifications has finished.
8 Data logger		
8	Data logger	Freely configurable data logger; data can be logged either cyclic and/or triggered by events and are stored in a ring memory.
8.1	Configuration of the data logger	There are 9 functions for choice
8.1.2	Stopping the data logger	-
8.1.3	Starting the data logger	-
8.1.4	Fill level query	Capacity and fill level data
8.1.5	Event list compilation	Selecting the events to be logged
8.1.6	Composing the data set	Selecting the data, that should be included in the data set
8.1.7	Setting the cycle time	Period of time between storing cycling data sets in the memory
8.1.8	Send mode	Choosing a transfer route for logged data to be sent after the ignition was switched off.
8.1.9	Optimization	Interrupting the cyclic recording, when the

Chapter-No.	Topic	Comment
		vehicle doesn't change position.
8.1.10	Data Output Format	Data format (binary, table, CSV)
8.1.11	Reading the data logger	Instantaneous reading
8.1.12	Query	Requesting the data logger configuration
8.2	Manual data output via FTP	Manual initiation of a data log transfer to the FTP server
8.3	Manual data output by email	Manual initiation of a data log transfer by email
8.4	Sender account	Configuration of the SMTP server's access data
8.5	Email structure	Description of a data log email
8.6	Log file	Description of a log file: <ul style="list-style-type: none"> • File name • Header • Data / body
9 Messages		
9.1	Status message for the switching output	Describes the text message reply on setting the switch by text message (SMS).
9.2	Acknowledgement for changing the online password	Describes the text message reply on changing the online password by text message (SMS).
9.3	Panic message	Describes the text message that is generated, when the panic button was pressed.
9.4	Position message	Description of the reply to a positioning query
10 Interface of the handset		
10.1	Switch the interface to command input mode	Changing the handset's interface for service purposes.
10.2	Quitting the command input mode	Restoring the interface
11 Description of a TCP connection		
12 Addendum		
12.1	Sample log file in binary format	-
12.2	Sample log file in table format	-
12.3	Sample log file in CSV format	-

2 Phone Book

This chapter describes commands for the administration of the internal phone book of the PTCarPhone 4. The following characteristics can be assigned to every phone book entry:

Enabling:	Digit, 0 or 1	0	Entry is not visible in the handset's menu
		1	Entry is visible in the handset's menu
Speed dial:	Digit, 0 - 9	0	Entry has no speed dial number assigned
		1 - 9	Key 1 to 9 are assigned as speed dial numbers
Master:	Digit, 0 - 9	0	Ordinary phone book entry
		1 - 9	Phone book entry is a master

Notice:

As of firmware version 4.00.02, the characteristic **Master** only exists for compatibility reasons, but has no function.

2.1 Listing Phone Book Entries

These commands are used to generate a list of phone book entries. The output can be limited by parameters.

2.1.1 Test

Syntax: AT*TITB=?

Reply: *TITB: (1-1000),(1-1000) // The output is limited to a value between 1 and 1000
OK

Available: Serial interface; (see [1.2 Command Structure](#))

2.1.2 Output

The output of entries from entry number n to entry number m. If only one entry is required, only its entry number n needs to be stated.

Syntax: AT*TITB=n,m

Parameter: n: first index of the list
 m: last index of the list

Reply: *TITB: i,number,fkm,name // i: Index of the phone book entry
 OK // number: Phone number
 // fkm: Characteristics for enabling, speed dial and master
 // name: Name of the phone book entry

Example: AT*TITB=3,5
 *TITB: 3,"+4930123456",121,"Headquarter"
 *TITB: 4,"016012345678",100,"John's Mobile"
 *TITB: 5,"+15550123456",100,"John Doe"
 OK

Available: Serial interface, TCP; (see [1.2 Command Structure](#))

2.1.3 Querying Storage Space

Queries the amount of occupied storage locations and the amount of total storage locations.

Syntax: AT*TITB?

Reply: *TITB: x,1000 // x: Number of occupied storage locations
 OK // 1000: Maximum number of storage locations

Example: AT*TITB?
 *TITB: 49,1000
 OK

Available: Serial interface, TCP; (see [1.2 Command Structure](#))

2.2 Selecting the Active Phone Book (Operation Mode)

The active phone book is selected by changing the operation mode. This command changes the operation mode of the PTCarPhone 4.

2.2.1 Test

Syntax: AT*PCHTB=?

Reply: *PCHTB: (0,1,2,3) // Operation modes 0 to 3 are available
 OK

Available: Serial interface; (see [1.2 Command Structure](#))

2.2.2 Selecting the Active Phone Book (Operation Mode)

Syntax: AT*PCHTB=n

Parameter: n: Operation mode // 0: Free dialing; default = SIM phone book
 OK // 1: Internal phone book
 // 2: Internal phone book; dialing restricted to available entries and emergency numbers
 // 3: Like "2" + incoming calls are only displayed and can only be answered, if the phone number is registered in the phone book

Reply: OK // The operation mode was changed and the chosen phone book is now available.

Example: AT*PCHTB=0
 OK

Available: Serial interface, SMS, TCP; (see [1.2 Command Structure](#))

2.2.3 Query

Syntax: AT*PCHTB?

Reply: *PCHTB: x // x: Currently selected operation mode
OK

Example: AT*PCHTB?
*PCHTB: 1
OK

Available: Serial interface, TCP; (see [1.2 Command Structure](#))

2.3 Adding Entries to the Internal Phone Book

This command adds entries to the internal phone book. The internal phone book doesn't have to be necessarily the active phone book. The command permits to write several entries in one line. The instruction length is restricted to 160 characters for a text message (SMS), otherwise to 480 characters. Every entry needs to be enclosed in double quotation marks ("). The entries are separated by commas (,), the components of an entry by semicolons (;).

Entries are deleted just by stating their index number.

If the command for adding phone book entries is sent over a cable connection (serial interface) successively, a line delay of at least 50 ms (msec) needs to be taken in account, or, the "OK" needs to be awaited for every line.

2.3.1 Test

Syntax: AT*PSETITB=?

Reply: *PSETITB: (1-1000),16,20,(0,1) (0-9) (0-9) // Locations 1 to 1000 are available
OK

Available: Serial interface; (see [1.2 Command Structure](#))

2.3.2 Set

Syntax: AT*PSETITB="n;name;number;fkm"[,"n;name;number;fkm"[(.....)]]

Parameter:	n:	Index of the entry
	name:	Name of the phone book entry
	number:	Phone number
	fkm:	Characteristics for enabling, speed dial and master

Reply: OK // Phone book entry is added

Example: AT*PSETITB="3;Headquarter;+4930123456;121"
OK
AT*PSETITB="4" // Delete entry 4
OK

Available: Serial interface, SMS, TCP; (see [1.2 Command Structure](#))

2.3.3 Query

Syntax: AT*PSETITB?

Reply: OK // No function

Available: Serial interface; (see [1.2 Command Structure](#))

2.4 Erasing the Internal Phone Book

This command erases the complete internal phone book. To use this command, the internal phone book must not be selected as active phone book, meaning, the operation mode 0 must be selected. Section [2.2 Select Active Phone Book \(Operation Mode\)](#) describes how to set the operation mode.

2.4.1 Test

Syntax: AT*PCLRITB=?

Reply: OK // The command is available

Available: Serial interface; (see [1.2 Command Structure](#))

2.4.2 Erase

Syntax: AT*PCLRITB

Parameter: none

Reply: OK // The phone book was erased

Example: AT*PCLRITB
OK

Available: Serial interface, SMS, TCP; (see [1.2 Command Structure](#))

3 Queries

3.1 Querying the Phone Settings

With this command, all relevant settings of the PTCarPhone 4 are read out. The data are arranged in sets of parameters. Only configured parameters are read out.

Parameter set 0 (*PCONF: 0):	Phone parameters, always read out
Parameter set 1 (*PCONF: 1):	Digital input/output, always read out
Parameter set 2 (*PCONF: 2):	Handset 1 parameters, always read out
Parameter set 3 (*PCONF: 3):	Handset 2 parameters, when configured only
Parameter set 4 (*PCONF: 4):	GPS receiver parameters, when configured only
Parameter set 5 (*PCONF: 5):	Data logger parameters, when configured only
Parameter set 6 (*PCONF: 6):	Clock and alarm parameters, with activated clock only
Parameter set 7 (*PCONF: 7):	Parameters of the FTP connection for configuration updates
Parameter set 8 (*PCONF: 8):	Parameters of the configured GPRS access
Parameter set 9 (*PCONF: 9):	Not in use
Parameter set 10 (*PCONF: 10):	Device identifiers IMEI and IMSI
Parameter set 11 (*PCONF: 11):	traxactive parameters

3.1.1 Test

Syntax: AT*PCONF=?

Reply: OK // The command is available

Available: Serial interface; (see [1.2 Command Structure](#))

3.1.2 Query

Syntax: AT*PCONF?

Reply:

- *PCONF: 0, vt,ls,lt,ot,ac,rv,rt,sf,sb,cdk,cd,md,ba,db,pa,ca
- *PCONF: 1, ign,so,mo,am,if
- *PCONF: 2, vshs1,tb1,vhs1,vfs1
- *PCONF: 3, vshs2,tb2,vhs2,vfs2
- *PCONF: 4, br,sf,fix,ct,nm,ccnr,ky,alt,aln,acnr,avc
- *PCONF: 5, tf,cf,stf,lnby,lnbi,dl,el,co,mf,sm,opt
- *PCONF: 6, h,m,s,tf,ac
- *PCONF: 7, server IP, user, password, filename, sm, cod
- *PCONF: 8, provider, APN, login, password
- *PCONF: 10, IMEI, IMSI
- *PCONF: 11, ea, URL, read port, write port, cycle time

OK

Parameter Set Description:

*PCONF: 0

vt: Software version text
 ls: SIM language (numeric)
 lt: Phone language
 ot: Switch-off time in seconds (delay timer)
 ac: Automatic answering (number of rings)
 rv: Ringtone volume level
 rt: Ringtone
 sf: Saving an SMS message after sending
 sb: Message alert tone
 cdk: Total call duration
 cd: Last call duration
 md: Data call mode
 ba: Active phone book
 db: Dial blocker
 pa: PIN handling
 ca: Answering by lifting the handset

*PCONF: 1

ign: Ignition
 so: Digital output status
 mo: Digital output mode
 am: Microphone gain
 if: Operation mode of the serial interface

***PCONF: 2**

vshs1: Version text handset 1
 tb1: Keypad tone handset 1
 vhs1: Volume handset 1
 vfs1: Volume hands-free kit 1

***PCONF: 3**

vshs2: Version text handset 2
 tb2: Keypad tone handset 2
 vhs2: Volume handset 2
 vfs2: Volume hands-free kit 2

***PCONF: 4**

br: Baud rate of the GPS receiver
 sf: Stop flag
 fix: Current positioning fix
 ct: Positioning interval in seconds
 nm: Number of remaining messages
 ccnr: Target phone number for cyclic notifications
 ky: Emergency key switch position (0 open, 1 pressed)
 alt: Positioning interval after emergency notification in seconds
 aln: Number of notifications to be send
 acnr: Target phone number for emergency notifications
 avc: Voice call attribute (0 no call, 1 voice call for target phone number)

***PCONF: 5**

tf: Flash memory type
 cf: Capacity in bytes
 stf: Start/stop
 lnby: Record length in bytes
 lnbi: Record length in bits
 dl: Data list
 el: Event list
 co: Recording interval in seconds
 mf: Message format
 sm: Send mode
 opt: Optimization

***PCONF: 6**

cod Delay of the automatic configuration after the ignition was turned on
 h: Hour
 m: Minute
 s: Second
 tf: Time format
 ac: Alarm operation mode

***PCONF: 7**

server IP: Server IP or URL, maximum 15 characters for the URL
 user: User name
 password: Password
 filename: File name
 sm: Query mode (0 manual, 1 automatic)
 cod: Waiting period for the configuration after the ignition was turned on, in minutes

***PCONF: 8**

provider: Numeric provider name
 APN: Provider APN
 login: Login, preset by the provider
 password: Password, preset by the provider

***PCONF: 10**

IMEI: PTCarPhone 4's IMEI
 IMSI: IMSI of the SIM card in use

***PCONF: 11**

ea: Activation marker for the traxactive-feature (0 or 1)
 URL: traxactive server URL
 write port: Port for receiving of the server
 read port: Port for receiving of the PTCarPhone 4

Example: AT*PCONF?
 *PCONF: 0,PTC V.3.00.00 Oct 23 2008,0,127,9000,0,6,3,0,1,23,0,0,1,0,1
 *PCONF: 1,1,0,2,60,0
 *PCONF: 2,HA208 V.01.02 23.06.2008,0,2,4,
 *PCONF: 5,AT45DB021B,262144,0,18,141,1023,15,30,1,0,0
 *PCONF: 6,08,37,09,24,0
 *PCONF: 8,"26201","internet.t-de.de","t-d1","t-d1"
 OK

Available: Serial interface, TCP; (see [1.2 Command Structure](#))

3.2 Querying the Call Duration

This command queries the memory for the call duration.

3.2.1 Test

Syntax: AT*PCADUR=?

Reply: OK // The command is available

Available: Serial interface; (see [1.2 Command Structure](#))

3.1.2 Query

Syntax: AT*PCADUR?

Reply: *PCADUR: n,m // n: Total duration of all out-bound calls in seconds
OK // m: Duration of the last call in seconds, if still available
(until the phone is switched off)

Example: AT*PCADUR?
*PCADUR: 234,16
OK

Available: Serial interface, TCP; (see [1.2 Command Structure](#))

4 Initialization Commands

4.1 TCP Connection Request

For administrative works on the PTCarPhone 4, a TCP connection can be requested from the device. The device connects itself to the computer specified by the URL or IP address using the provided connection parameters.

The device tries 3 times to log into the computer. The waiting period between the login attempts is 10 sec. The sequence of an active connection is described in [section 11](#).

4.1.1 Test

Syntax: AT*PTCPS=?

Reply: *PTCPS: 15,(0-65535),(0-65535) // URL or IP address (maximum 15 characters)
 // Server's listening port
 // PTCarPhone 4's listening port
 OK

Available: Serial interface; (see [1.2 Command Structure](#))

If only one port is provided, it is used for sending and receiving.

4.1.2 Parameter Handover

Syntax: AT*PTCPS="url",pcs[,pms]

Parameter: url: Computer URL
 pcs: Computer's listening port
 pms: PTCarPhone 4's listening port

Reply: OK // The connection is being established

Example: AT*PTCPS="123.123.123.123",1300,1400
 OK

Available: Serial interface, SMS; (see [1.2 Command Structure](#))

After the handover of the parameters, a connection attempt without extra activation is started.

4.1.3 Query

Syntax: AT*PTCPS?

Reply: *PTCPS:af,"url",pcs,pms // af: Activation 0 off, 1 on
// url: Computer URL
// pcs: Computer's listening port
// pms: PTCarPhone 4's listening port
OK

Example: AT*PTCPS?
*PTCPS: 1, "123.123.123.123",1300,1400
OK

Available: Serial interface; (see [1.2 Command Structure](#))

4.1.4 Closing the TCP Connection

Syntax: AT*PTCPS=0

Reply: OK

Example: AT*PTCPS=0
OK

Available: Serial interface, SMS, TCP; (see [1.2 Command Structure](#))

4.2 Changing the Online Password

The online password is used for identification when accessing the PTCarPhone 4 via TCP connection or text message. Changing the online password generates a reply text message, see also [9.2 Acknowledgement for Changing the Online Password](#).

As of firmware version 4.00.02, the default online password of the PTCarPhone is composed of the last six digits of the IMEI number. The IMEI number can be located on the label on top of the PTCarPhone. For security reasons, we strongly recommend to change the online password.

For older firmware versions (including 4.00.01), the default online password on the PTCarPhone is "Peitel".

4.2.1 Test

Syntax: AT*PPWD=?

Reply: *PPWD: 10,10 // Maximum number of characters for the old and the new password, 10 characters each
OK

Available: Serial interface; (see [1.2 Command Structure](#))

4.2.2 Setting a New Online Password

Syntax: AT*PPWD=opw,npw

Parameter: opw: Old password, still valid at this stage
npw: New password

Reply: OK // The new password was accepted

Example: AT*PPWD="Peitel","xyz"
OK

Available: Serial interface, SMS, TCP; (see [1.2 Command Structure](#))

4.3 Requesting the traxactive Access Configuration

The access to the traxactive server is already configured by default. The access parameters can be changed, to use this interface for customer specific applications.

4.3.1 Test

Syntax: AT*PETTEX=?

Reply: *PETTEX: 15,(0-65535),(0-65535),(0-86400)
// URL or IP address (maximum 15 characters),
// Server's listening port
// PTCarPhone 4's listening port
// Cycle time for position data in seconds
OK

Available: Serial interface; (see [1.2 Command Structure](#))

If only one port is provided, it is used for sending and receiving.

4.3.2 Parameter Handover

Syntax: AT*PETTEX="url",pcs,pms,ts

Parameter: url: Server URL
pcs: Server's listening port
pms: PTCarPhone 4's listening port
ts: Cycle time for position data in seconds

Reply: OK // The connection is being established

Example: AT*PETTEX="123.123.123.123",1300,1400,120
OK

Available: Serial interface, SMS, TCP; (see [1.2 Command Structure](#))

4.3.3 Parameter Handover for the Initialization

The AT command for the initialization is needed for the establishment of the first connection. On this occasion PTCarPhone 4's phone number is submitted to the receiving server. This phone number is used to register the PTCarPhone 4 with the traxactive server.

Syntax:	AT*PETTEX= 0, phone number	// Without connection establishment after initialization
	1, phone number	// With connection establishment after initialization

Parameter:	connection:	0 = Without connection establishment after initialization 1 = With connection establishment after initialization
	phone number:	Phone number of the PTCarPhone 4

Reply:	OK	// Initialization completed
---------------	----	-----------------------------

Example:	AT*PETTEX=1,"+4917852345451" OK
-----------------	------------------------------------

Available:	Serial interface, SMS, TCP; (see 1.2 Command Structure)
-------------------	--

The initialization takes place after the parameter handover, and also the activation of the traxactive protocol at the server.

4.3.4 Query

Syntax:	AT*PETTEX?
----------------	------------

Reply:	PETTEX: af,"url",pcs,pms,phone number	// af: Activation 0 off, 1 on
		// url: Server URL
		// pcs: Server's listening port
		// pms: PTCarPhone 4's listening port
		// PTCarPhone 4 phone number
	OK	

Example:	AT*PETTEX? *PETTEX: 1, "123.123.123.123",1300,1400,+49154654654 OK
-----------------	--

Available:	Serial interface, TCP; (see 1.2 Command Structure)
-------------------	---

4.3.5 Stopping the Connection

Syntax: AT*PETTEX=0

Reply: OK

Example: AT*PETTEX=0
OK

Available: Serial interface, SMS, TCP; (see [1.2 Command Structure](#))

4.3.6 Starting the Connection

Syntax: AT*PETTEX=1

Reply: OK

Example: AT*PETTEX=1
OK

Available: Serial interface, SMS, TCP; (see [1.2 Command Structure](#))

4.4 GPRS and FTP Configuration

The GPRS configuration is required for the internet access, which is used for example to download software updates. It is also used to upload the content of the data logger to the FTP server or to send it by email.

For some providers and SIM cards, the configuration of the GPRS access data is done automatically.

The following parameter sets are available:

Parameter set 0 (*PGPRS: (0)): **Internet provider**

For some providers, GPRS access data are already available in the PTCarPhone 4. Additionally, it is possible to enter GPRS access data for one (1) more provider.

Parameter set 1 (*PGPRS: (1)): **Automatic configuration**

To be able to load configuration files automatically, FTP access data are entered here.

Parameter set 2 (*PGPRS: (2)): **Data logger**

Stores the access data of the FTP server, which are required to send a file containing the data logger content onto the server.

Parameter set 7 (*PGPRS: (7)): **List of stored GPRS access data**

Command to control the GPRS access data in the device. The command allows to query all access data. If the internet access is initialized, the query command returns the current parameter set, otherwise, it will return the variable parameter set.

Index "0" returns the access data of the additionally stored provider.

4.4.1 Test

Syntax: AT*PGPRS=?

Reply: *PGPRS: (0),6,30,30,30 // Maximum length of each parameter
 *PGPRS: (1),15,50,20,20
 *PGPRS: (2),15,20,20,20
 *PGPRS: (7)
 OK

Available: Serial interface; (see [1.2 Command Structure](#))

4.4.2 Set

Syntax: AT*PGPRS=0,provider number,"APN","login","password"
 AT*PGPRS=1,"server IP","file name","login","password"
 AT*PGPRS=2,"server IP","file prefix","login","password"

Parameter:

provider number:	Numeric provider ID*
APN:	Access Point Name*
login:	User name for the access point*
password:	Password for the access point*
* Please request these data from your provider	
server IP:	IP address of the FTP servers in xxx.xxx.xxx.xxx format
file name:	File, where the configuration to be loaded is stored.
login:	User name for the FTP server
password:	Password for the FTP server
server IP:	IP address of the FTP server in xxx.xxx.xxx.xxx format
file prefix:	Path on the FTP server
login:	User name for the FTP server
password:	Password for the FTP server

Reply: OK // Data are accepted

Example: AT*PGPRS=0,26207,"internet","",""
 OK
 AT*PGPRS=1,"123.45.67.89","Config.cnf","user","#usr"
 OK
 AT*PGPRS=2,"123.45.67.89","Data/log/","user","#usr"
 OK

Available: Serial interface, SMS, TCP; (see [1.2 Command Structure](#))

4.4.3 Query

Index "0" shows the GPRS access data of the current provider.

Syntax: AT*PGPRS?

Reply: *PGPRS: 0 ,provider number,"APN","login","password"
 *PGPRS: 1,"server IP","file name","login","password"
 *PGPRS: 2,"server IP","file prefix"."login"."password"
 OK

Example: AT*PGPRS?
 *PGPRS: 0,"26207","internet", "", ""
 *PGPRS: 1,"123.45.67.89","Config.cnf","user", "#usr"
 *PGPRS: 2," 123.45.67.89","Data/log/","user", "#usr"
 OK

Available: Serial interface, TCP; (see [1.2 Command Structure](#))

4.4.4 Listing Stored GPRS Access Data

If the entry for index 0 is empty: No additional provider was entered.

Syntax: AT*PGPRS=7

Reply: List of GPRS access data // Index, provider number, login, password
 OK

Example: *PGPRS: 7,0,"", "", "", ""
 *PGPRS: 7,1,"26201","internet.t-d1.de","t-d1","t-d1"
 *PGPRS: 7,2,"26202","web.vodafone.de", "", ""
 *PGPRS: 7,3,"26203","internet.eplus.de","eplus","gprs"
 *PGPRS: 7,4,"26207","internet", "", ""
 *PGPRS: 7,5,"20810","websfr", "", ""
 *PGPRS: 7,6,"20820","mmsbouygtel.com", "", ""
 *PGPRS: 7,7,"20801","internet-entreprise","orange","orange"
 *PGPRS: 7,8,"27001","web.pt.lu","internet","internet"
 *PGPRS: 7,9,"22803","internet", "", ""
 *PGPRS: 7,10,"24001","online.telia.se", "", ""
 *PGPRS: 7,11,"50501","telstra.datapack","Telstra", ""
 OK

Available: Serial interface, SMS, TCP; (see [1.2 Command Structure](#))

4.5 Hardware Configuration

Some components of the PTCarPhone 4 hardware can be configured. This gives you the opportunity, to adjust the device perfectly to the installation conditions. The command described below is normally only necessary for the first initialization.

4.5.1 Test

Syntax: AT*PHWSET=?

Reply: *PHWSET: (0-3),,(0-2),(0-2)
OK

Available: Serial interface; (see [1.2 Command Structure](#))

4.5.2 Setting the Hardware Configuration

Syntax: AT*PHWSET=if,br,am,mo

Parameter: if: Serial interface mode	// 0: PTCarPhone as modem // 3: Automatic recognition (default)
br:	// Parameter is not used
am: Microphone amplification	// 0 – 255
mo: Operation mode of the digital output	// 0: Device ON // 1: Ring indicator // 2: Switching output

Reply: OK // Settings are accepted

Example: AT*PHWSET=3,,64,2
OK

Available: Serial interface, SMS, TCP; (see [1.2 Command Structure](#))

4.5.3 Query

Syntax: AT*PHWSET?

Reply: *PHWSET: if,,am,mo
OK

Example: AT*PGPRS?
*PHWSET: 3,,64,0
OK

Available: Serial interface, TCP; (see [1.2 Command Structure](#))

4.6 Setting the Time

This command can be used to set the clock of the PTCarPhone 4 and therefore to synchronize the clock with a central clock.

4.6.1 Test

Syntax: AT*PSCLK=?

Reply: *PSCLK: (0-23),(0-59)
OK

Available: Serial interface; (see [1.2 Command Structure](#))

4.6.2 Set

Syntax: AT*PSCLK=h,m

Parameter: h: Hour // The time is sent in 24h format
m: Minute

Reply: OK // The time change was accepted

Example: AT*PSCLK=14,32
OK

Available: Serial interface, SMS, TCP; (see [1.2 Command Structure](#))

4.6.3 Query

Syntax: AT*PSCLK?

Reply: *PSCLK: h,m
OK

Example: AT*PSCLK?
*PSCLK: 13,40
OK

Available: Serial interface, TCP; (see [1.2 Command Structure](#))

4.7 Logo

When using the handset HA88 (with monochrome display), the PTCarPhone 4's start logo can be replaced by a customized logo.

There are three display options to choose from: **no logo**, **customized logo** or **pei tel logo**.

Choosing the display option does not change the image files. In the same time, uploading a new image file doesn't change the display option. If the HA58 (with color display) is in use, the display option is configured in the handset itself. In this case, the handset ignores AT*PLOGO commands.

4.7.1 Test

Syntax: AT*PLOGO=?

Reply: *PLOGO: 0,(0-2) // Display option 0, 1 or 2
 *PLOGO: (1-6),196 // Image data max. 196 characters
 OK

Available: Serial interface; (see [1.2 Command Structure](#))

4.7.2 Set

Syntax: AT*PLOGO=l,g

Parameter: l 0: g: display option // g = 0: No logo
 // g = 1: Customized logo
 // g = 2: Default logo (pei tel logo)
 l 1 to 6: g: Image data row // ASCII string of the image data of the row
 l without final 'z'

Reply: OK // Image data were saved

Example: AT*PLOGO=1,""
 AT*PLOGO=2,""
 AT*PLOGO=3,"i00c08a00cFEi0 EbCE1Ea1C18a00cFE"
 AT*PLOGO=4,"i00c7F0F0 0c7Fe78"
 AT*PLOGO=5,""
 AT*PLOGO=6,""
 AT*PLOGO=0,1
 OK

Available: Serial interface; (see [1.2 Command Structure](#))

4.7.3 Query

Syntax: AT*PLOGO?

Reply: *PLOGO: 0,g // Set display option
 *PLOGO: 1,g1 // Image data of the first row
 *PLOGO: 2,g2 // Image data of the second row
 *PLOGO: 3,g3 // Image data of the third row
 *PLOGO: 4,g4 // Image data of the fourth row
 *PLOGO: 5,g5 // Image data of the fifth row
 *PLOGO: 6,g6 // Image data of the sixth row
 OK

Example: AT*PLOGO?
 *PLOGO: 0,1
 *PLOGO: 1,""
 *PLOGO: 2,""
 *PLOGO: 3,"i00c08a00cFEi0 EbCE1Ea1C18a00cFE"
 *PLOGO: 4,"i00c7F0F0 0c7Fe78"
 *PLOGO: 5,""
 *PLOGO: 6,""
 OK

AT*PLOGO=0,0 // Turns the logo off
 OK

AT*LOGO?
 *PLOGO: 0,0 // No logo is displayed
 OK

Available: Serial interface; (see [1.2 Command Structure](#))

Image data are only returned, if a customized logo is available on the device.

4.7.4 Display

Syntax: AT*PLOGO

Reply: OK // The active logo is displayed for 5 seconds

Available: Serial interface; (see [1.2 Command Structure](#))

4.8 Setting the Delay Timer

This command configures the delay timer of the PTCarPhone 4, which defines the amount of time, during which the PTCarPhone 4 stays switched on, after the ignition was turned off.

4.8.1 Test

Syntax: AT*PDTIME=?

Reply: *PDTIME: (0..11)
OK

Available: Serial interface; (see [1.2 Command Structure](#))

4.8.2 Setting the Delay Timer

Syntax: AT*PDTIME=n

Parameter: n: Time // 0: turns off immediately
// 1: 5 minutes
// 2: 15 minutes
// 3: 1 hour
// 4: 2 hours
// 5: 4 hours
// 6: 8 hours
// 7: 12 hours
// 8: 1 day
// 9: 7 days
// 10: 10 days
// 11: 30 days

Reply: OK // Delay timer was set

Example: AT*PDTIME=2 // Delay timer was set to 15 minutes
OK

Available: Serial interface, SMS, TCP; (see [1.2 Command Structure](#))

4.8.3 Query

Syntax: AT*PDTIME?

Reply: *PDTIME: n
OK

Example: AT*PDTIME?
*PDTIME: 2 // Delay timer is 15 minutes
OK

Available: Serial interface, TCP; (see [1.2 Command Structure](#))

4.9 Automatic Configuration

After the ignition was turning on, the FTP server will be automatically queried for a configuration file.

4.9.1 Test

Syntax: AT*PACFG=?

Reply: *PACFG: (0,1),(1 – 255)
OK

Available: Serial interface; (see [1.2 Command Structure](#))

4.9.2 Setting the Automatic Configuration

Syntax: AT*PACFG=m,d

Parameter: m: Update mode // 0: A configuration update can only be started Manually; a read configuration file stays on the FTP server
 // 1: The update of the configuration happens after a waiting period after the ignition was turned on; a read configuration file is deleted from the FTP server

d: Waiting period in minutes // 0: 3 minutes (default)
 // 1 to 255: Waiting period in minutes
 If d is not given, the old value is kept

Reply: OK // Settings were applied

Example: AT*PACFG=1,5 // Query for the configuration file after 5 minutes
 OK

Available: Serial interface, SMS, TCP; (see [1.2 Command Structure](#))

4.9.3 Query

Syntax: AT*PACFG?

Reply: *PACFG: n,d
 OK

Example: AT*PACFG?
 *PACFG: 1,5 // The waiting period is 5 minutes
 OK

Available: Serial interface, TCP; (see [1.2 Command Structure](#))

5 Update Commands

5.1 Software Update

A software update for the PTCarPhone 4 can be initiated by a command. The command starts an automatic update, without user involvement, unless the device is in use by a phone call at the time. If the PTCarPhone 4 should download and install a software update, it is necessary, that the GPRS access data are configured correctly. See also [4.4 GPRS and FTP Configuration](#).

5.1.1 Test

Syntax: AT*PSWUPDATE=?

Reply: OK // The command is available

Available: Serial interface; (see [1.2 Command Structure](#))

5.1.2 Starting the Software Update

Syntax: AT*PSWUPDATE

Reply: OK // Update has started

Example: AT*PSWUPDATE
OK

Available: Serial interface, SMS, TCP; (see [1.2 Command Structure](#))

5.2 Configuration Update

The command starts an automatic configuration update, without user involvement, unless the device is occupied by a phone call. If the PTCarPhone 4 should download and install a software update, it is necessary, that the GPRS access data are configured correctly. See also [4.4 GPRS and FTP Configuration](#).

5.2.1 Test

Syntax: AT*PCOUPDATE=?

Reply: OK // The command is available

Available: Serial interface; (see [1.2 Command Structure](#))

5.2.2 Starting the Configuration Update

Syntax: AT*PCOUPDATE

Reply: OK // Update has started

Example: AT*PCOUPDATE
OK

Available: Serial interface, SMS, TCP; (see [1.2 Command Structure](#))

6 Control Commands

6.1 Switching Output

This syntax is only available, if the digital output is configured as a switch. See also [4.5.2 Set Hardware Configuration](#).

6.1.1 Test

Syntax: AT*PSOUT=?

Reply: *PSOUT: (0-2) // Possible switch modes are 0, 1 and 2
OK

Available: Serial interface; (see [1.2 Command Structure](#))

6.1.2 Setting the Switching Output

Syntax: AT*PSOUT=x

Parameter: x: New switch mode // 0: Output LOW
// 1: Output HIGH
// 2: Output HIGH for 5 seconds

Reply: OK

Example: AT*PSOUT=1
OK

Available: Serial interface, SMS, TCP; (see [1.2 Command Structure](#))

If a set command sent by text message was successful, a confirmation text message is generated. See also [9.1 Status Message Switching Output](#).

6.1.3 Query

Syntax: AT*PSOUT?

Reply: *PSOUT: x // x: Current switch mode
OK

Example: AT*PSOUT?
*PSOUT: 1
OK

Available: Serial interface, SMS, TCP; (see [1.2 Command Structure](#))

If the query was sent by text message, a reply text message is generated. See also [9.1 Status Message Switching Output](#).

7 Commands for the Positioning Feature

If the PTCarPhone 4 is equipped with a GPS receiver, commands for positioning are available. These commands allow positioning on request or cyclic positioning. For requests by text message, the reply is only sent to the phone number of the originator of the command.

7.1 Position Query

This command requests the current position. Every query generates one reply containing the current position.

7.1.1 Test

Syntax: AT*PGETPOS=?

Reply: OK // Command is available

or ERROR // There is no GPS receiver present

Available: Serial interface; (see [1.2 Command Structure](#))

7.1.2 Position Query

Syntax: AT*PGETPOS

Parameter: None

Reply: Position notification (see also [9.4 Position Message](#))
OK

Example: AT*PGETPOS
PEIKER: 0.....
OK

Available: Serial interface, SMS, TCP; (see [1.2 Command Structure](#))

7.2 Cyclic Position Query

This command is used to start a cycle of positioning notifications. The time interval and the number of positioning notifications can be configured. All notifications are sent by text message.

The notifications are sent to a configured target phone number. If the command is sent by text message, the target phone number can be omitted, if the notifications should be sent to the sender of the command.

The cycle of positioning notifications finishes after a specifically stated number of notifications, or by command (see also [7.3 Stop Cyclic Positioning Notifications](#)).

7.2.1 Test

Syntax: AT*PCYCPOS=?

Reply: *PCYCPOS: (0-86400),(0-25),20
OK // Command is available

or ERROR // There is no GPS receiver present

Available: Serial interface; (see [1.2 Command Structure](#))

7.2.2 Initializing a Cycle

Syntax: AT*PCYCPOS=t,n<,d>

Parameter: t = Time interval in seconds, maximal 86400
n = Number of notifications, maximal 25
d = Target phone number

Reply: OK // The cycle starts and the position is sent

Example: AT*PCYCPOS=30,3,+4917....567
OK

Available: Serial interface, SMS, TCP; (see [1.2 Command Structure](#))

7.2.3 Status Query

Syntax: AT*PCYCPOS?

Reply: *PCYCPOS: t,n,d // t: Time interval in seconds
 // n: Number of remaining notifications
 // d: Target phone number
 OK

Example: AT*PCYCPOS?
 *PCYCPOS: 30,4,+4917....567
 OK

Available: Serial interface, TCP; (see [1.2 Command Structure](#))

7.3 Stopping Cyclic Positioning Notifications

This command aborts the cycle of positioning notifications before a notification cycle has finished.

7.3.1 Test

Syntax: AT*PSTOPOS=?

Reply: OK // The command is available
or ERROR // There is no GPS receiver present

Available: Serial interface; (see [1.2 Command Structure](#))

7.3.2 Stopping a Cycle

Syntax: AT*PSTOPOS

Parameter: none

Reply: OK // The cycle has been stopped

Example: AT*PSTOPOS
 OK

Available: Serial interface, SMS, TCP; (see [1.2 Command Structure](#))

8 Data Logger

The PTCarPhone 4's data logger can be freely configured. Data are logged either cyclic or dependent on events. The memory operates as a circular buffer, overflows are registered.

Notice:

All positioning data are only available, if the PTCarPhone 4 is fitted with a GPS receiver.

8.1 Configuration

This command is used to configure the whole data logger. Fill levels can be requested.

The command offers 9 functions:

- Function 0: Data logger off
- Function 1: Data logger on
- Function 2: Query for capacity and fill level
- Function 3: Input of the event list
- Function 4: Configuration of the dataset
- Function 5: Setting of the cycle time
- Function 6: Send mode
- Function 7: Optimization
- Function 8: Data output format
- Function 9: Reading via serial interface

Replies by text message are only available for functions 2 and 4.

8.1.1 Test

Syntax: AT*TSLOG=?

Reply: *TSLOG: (0-2)
*TSLOG: (3,4),(0-65535)[,(0,1)][,(0,1)]
*TSLOG: 5,(0,10-31536000)
*TSLOG: 6,(0-2)
*TSLOG: 7,(0-1)
*TSLOG: 8,(0-2)
*TSLOG: 9,(0-1)
OK

Available: Serial interface; (see [1.2 Command Structure](#))

8.1.2 Stopping the Data Logger

The data recording is stopped.

Syntax: AT*TSLOG=0

Reply: OK

Available: Serial interface, SMS, TCP; (see [1.2 Command Structure](#))

8.1.3 Starting the Data Logger

The data recording is started.

Syntax: AT*TSLOG=1

Reply: OK

Available: Serial interface, SMS, TCP; (see [1.2 Command Structure](#))

8.1.4 Fill Level Query

Capacity and fill level data are queried. This command only generates a reply, if the dataset is configured.

Syntax: AT*TSLOG=2

Reply: *TSLOG: 2,cap,used,up,ur,or // cap: Dataset capacity
 // used: Number of occupied sets
 // up: Occupancy in percent
 // ur: Number of unread sets
 // or: Memory overflow
 OK

Example: AT*TSLOG=2
 *TSLOG: 2,14563,3918,26,699,0 // 14563 total amount of storage locations for sets
 // 3918 sets occupied
 // 26 % occupied
 // 699 sets unread
 // 0 – no overflow
 OK

Available: Serial interface, SMS, TCP; (see [1.2 Command Structure](#))

8.1.5 Event List Compilation

Several different events can be chosen to generate entries in the data logger. Events can be changed, while the data logger is running.

Syntax: AT*TSLOG=3,el

Parameter: el Event list as a decimal number or HEX number (description see below)

Reply: OK

Example: AT*TSLOG=3,15
or AT*TSLOG=3,"0x000F"
 OK

Available: Serial interface, SMS, TCP; (see [1.2 Command Structure](#))

Decimal Value	Hexadecimal Value	Event
1	0x0001	Digital output on
2	0x0002	Digital output off
4	0x0004	Ignition on
8	0x0008	Ignition off
16	0x0010	Digital input on
32	0x0020	Digital input off

The parameter value is generated by adding events values.

8.1.6 Composing the Data Set

A data set is generated by choosing components. The sequence of the components is not changed. In doing so, the data set length becomes variable and the capacity of the memory depends on it. The configuration command can only be processed, when the data logger is disabled.

Notice:

This command deletes the content of the data logger!

During the configuration procedure, the data set length is shown in bits and bytes. Note: In the memory each data set occupies complete bytes.

Syntax: AT*TSLOG=4,dl

Parameter: dl Data list as a decimal number or HEX number

Reply: *TSLOG: 4,bit,byte // bit: Data set length in bit
 // byte: Data set length in byte
 OK

Example: AT*TSLOG=4,4095
or AT*TSLOG=4,"0x0FFF"
 *TSLOG: 4, 143,18 // Every set occupies 143 bit / 18 byte
 OK

Available: Serial interface, SMS, TCP; (see [1.2 Command Structure](#))

Decimal Value	Hexadecimal Value	Component	Number of Bits in Memory
1	0x0001	Time Stamp	32
2	0x0002	Position	24+25
4	0x0004	Speed	8
8	0x0008	Ignition off	11
16	0x0010	HDOP	12
32	0x0020	Height	9
64	0x0040	Course	4
128	0x0080	Satellite Number	2
256	0x0100	Fix	12
512	0x0200	Kilometer count	2
1024	0x0400	Digital Output	1
2048	0x0800	Digital Input	1

The parameter value is generated by adding events values.

8.1.7 Setting the Cycle Time

The cycle time can be set to values between 10 s and one year. The cycle time defines, how often cyclic data sets are stored in the memory. Setting the cycle time to 0 s stops the cyclic data recording. The command can be sent while the data logger is running. The timer is actualized immediately.

Syntax: AT*TSLOG=5,cycle

Parameter: cycle Cycle time in seconds

Reply: OK

Example: AT*TSLOG=5,30 // Every 30 s a data set is recorded
 OK

Available: Serial interface, SMS, TCP; (see [1.2 Command Structure](#))

8.1.8 Send Mode

The data logger content is sent to an FTP server or as an email attachment, when the ignition is turned off, provided that the connection is set up correctly.

Syntax: AT*TSLOG=6,mode

Parameter: mode: 0 – manually, 1 – upload on the FTP server, 2 – send by email

Reply: OK

Example: AT*TSLOG=6,0 //The data logger is read manually
OK

Available: Serial interface, SMS, TCP; (see [1.2 Command Structure](#))

8.1.9 Optimization

In order to save memory space, the cyclic data recording can be suppressed, if there is no location change.

Syntax: AT*TSLOG=7,opt

Parameter: opt 0: Off 1: On

Reply: OK

Example: AT*TSLOG=7,0 // No optimization, all positions are recorded
OK

Available: Serial interface, SMS, TCP; (see [1.2 Command Structure](#))

8.1.10 Data Output Format

The data logger offers several possibilities to file data sets.

Syntax: AT*TSLOG=8,format

Parameter: format 0: Binary 1: Table 2: CSV-format

Reply: OK

Example: AT*TSLOG=8,1 // File and transfer as a table
 OK

Available: Serial interface, SMS, TCP; (see [1.2 Command Structure](#))

For format 2, the recording of the position in the dataset is mandatory.

8.1.11 Reading the Data Logger

The data logger can be read directly using the serial interface or the TCP connection. The file name and the file format correspond to section [8.1.10 Data Output Format](#).

Syntax: AT*TSLOG=9,option

Parameter: option 0: Only unread data are transferred (default)
 1: The entire content is transferred

Reply: File name
 Header
 First data set
 ...
 Last data set
 OK

Example: AT*TSLOG=9,1 // Output of all data
 L_3526E052_351846923878250.tab
 ** 1 0 0 0 4095 **
 // No data available
 OK

Available: Serial interface, TCP; (see [1.2 Command Structure](#))

8.1.12 Query

Syntax: AT*TSLOG?

Reply: *TSLOG: r,el,dl,cycle,mode,opt,format
// r: 0 stopped, 1 active
// el: Event list
// dl: Data list
// cycle: Cycle time
// mode: Send mode
// opt: Optimization
// format: Transfer format

OK

Example: AT*TSLOG?
*TSLOG: 1,0,2047,600,0,0,1
OK

Available: Serial interface, TCP; (see [1.2 Command Structure](#))

8.2 Manual Data Output via FTP

The reading of the data logger can be manually initiated. The output occurs according to the parameters set-up for FTP.

8.2.1 Test

Syntax: AT*PLGUPDATE=?

Reply: *PLGUPDATE: (0,1)
OK

Available: Serial interface; (see [1.2 Command Structure](#))

8.2.2 Data Output

Syntax: AT*PLGUPDATE=option

Parameter: option 0: Only unread data are transferred (default)
 1: The entire content is transferred

Reply: OK

Example: AT*PLGUPDATE=1 // Output of all data
OK

Available: Serial interface, SMS, TCP; (see [1.2 Command Structure](#))

8.3 Manual Data Output by Email

The reading of the data logger can be manually initiated. The output occurs according to the parameters set-up for email.

8.3.1 Test

Syntax: AT*PLGMAIL=?

Reply: *PLGMAIL: (0-2),30
OK

Available: Serial interface; (see [1.2 Command Structure](#))

8.3.2 Data Output

Syntax: AT*PLGMAIL=cmd[,addr]

Parameter: cmd	0: Save receiver address 1: Send email to receiver 2: Save address and send email
addr	Receiver address

Reply: OK

Example: AT*PLGMAIL=2,"xyz@abc.de" // Send data logger to enclosed address
// and save the address
OK

Available: Serial interface, SMS, TCP; (see [1.2 Command Structure](#))

For the parameter cmd = 1, the declaration of the receiver can be omitted, if an address, which was stored earlier, is to be used.

8.3.3 Query

Syntax: AT*PLGMAIL?

Reply: *PLGMAIL: addr
OK

Example: AT*PLGMAIL?
*PLGMAIL: "xyz@abc.de"
OK

Available: Serial interface, TCP; (see [1.2 Command Structure](#))

8.4 Sender Account

In order to be able to send emails, a sender account needs to be set up. With this command, the access data of the email account are submitted.

8.4.1 Test

Syntax: AT*TSMAIL=?

Reply: *TSMAIL: 15,20,20,30
OK

Available: Serial interface; (see [1.2 Command Structure](#))

8.4.2 Account Data

Syntax: AT*TSMAIL=host-IP,user name,password,addr

Parameter: host-IPSMTP: Host address
user name: Sender's user names
password: Sender's password
addr: Sender's email address

Reply: OK

Example: AT*TSMAIL="123.45.67.89","testuser","pw1234","testuser@abc.de"
OK

Available: Serial interface, SMS, TCP; (see [1.2 Command Structure](#))

8.4.3 Query

Syntax: AT*TSMAIL?

Reply: *TSMAIL: host-IP,user name,password,addr
OK

Example: AT*TSMAIL?
*TSMAIL: "123.456.789.012","testuser","pw1234","testuser@abc.de"
OK

Available: Serial interface, TCP; (see [1.2 Command Structure](#))

8.5 Email Structure

Each email has a subject, a body and an attachment.

8.5.1 Subject

The subject contains the name of the log file.

8.5.2 Body

The email body contains the following data:

Title (can't be changed):	Datenlogger PTCarPhone 4
IMEI:	IMEI of the sending PTCarPhone
Records:	Number of data sets sent
Mode:	Transfer mode
Format:	Data format of the log file

The header of the email depends on the email program in use.

8.5.3 Attachment

The attachment contains the file, which was mentioned in the subject. The format is defined by the settings of the PTCarPhone 4.

8.6 Log File

8.6.1 File Name

The file names of the transferred files allow sorting the log files according to their time stamp or originating device. The file name is built according to the rules below:

L_<timestamp>_<IMEI>.<end>

<timestamp>: condensed time stamp, 8-digit hexadecimal number

3	3	2	2	2	2	2	2	2	2	2	2	1	1	1	1	1	1	1	1	1	1	9	8	7	6	5	4	3	2	1	0
1	0	9	8	7	6	5	4	3	2	1	0	9	8	7	6	5	4	3	2	1	0										
Year				Month				Day				Hour				Minute				Second											
16^7				16^6				16^5				16^4				16^3				16^2				16^1				16^0			

<IMEI>: IMEI of the GSM-module, always 15 digits

<end>: File extension

- Format 0 log
- Format 1 tab
- Format 2 csv

Example: L_220E7DC0_351027333216206.log

There are 3 different possibilities to generate a time stamp, which are selected depending on the availability of GPS and the clock:

- 1. GPS is available:** The time stamp is composed of the GPS data
- 2. the clock is switched on, no GPS:** The time stamp is composed of the current time
- 3. no clock, no GPS:** The time stamp is composed by an internal, independent counter.

This procedure guarantees that no identic file names are generated.

8.6.2 File Header

For the formats 0 and 1, a header is transferred prior to the data sets. The header is different for every file format. It contains information, which assures that the data can be correctly analyzed and interpreted.

Binary format:

Synchronization (SYNC)	0xCC55
Header number (NR)	always 1
Number of sets to be sent (NSR)	1 to maximum 65535
Number of data sets in memory (NMR)	0 to maximum 65535
Event list (EL)	See also 8.1.5 Event List Input
Data list (DL)	See also 8.1.6 Assembling the Data Set
Set length in bit (LRb)	0 to 255
Set length in byte (LRB)	0 to 52
Buffer (RE)	0
Synchronization (SYNC)	0xCC55

Every data field has a length of 16 bits. The transfer mode is **MSB first**.

Format	2 Byte	2 Byte	2 Byte	2 Byte	2 Byte	2 Byte	2 Byte	2 Byte	2 Byte	2 Byte
Data	SYNC	NR	NSR	NMR	EL	DL	LRb	LRB	RE	SYNC
Example	CC55	0001	03F2	0400	0003	07FF	008D	0012	0000	CC55

Table format:

Synchronization	**
Number of the header	Decimal number (1)
Number of sets to be sent	Decimal number (1 to maximal 65535)
Number of data sets in memory	Decimal number (0 to maximal 65535)
Event list	Decimal number, see also 8.1.5 Event List Input
Daten list	Decimal number, see also 8.1.6 Assembling the Data Set
Synchronization	**

The declarations are separated by tab (0x09).

Example, like above: `**\t1\t1010\t1024\t3\t2047\t**\r\n`

\t = Tab
 \r = CR
 \n = LF

8.6.3 Data

The data sets are transferred continuously from the memory. The data set stored last is transferred first (LIFO). The set length is variable, depending on the configuration. Binary data is transferred continuously without separator. The information in the header permits the division of the components.

For tables, the components are divided by tab (0x09) and the sentences are divided by CR/LF (0x0A, 0x0D). This data format can be imported into Microsoft® Excel®.

Data scaling:

Value	Scaling		
	Binary file	Table	CSV
Time stamp	32 Bit	Plain text date and time	Not available
Position Longitude	Binary number in 0.001 min, signed	Decimal number in 0.001 min, if negative, signed	Decimal number in degrees, if negative, signed
Position Latitude	Binary number in 0.001 min signed	Decimal number in 0.001 min if negative, signed	Decimal number in degrees, if negative, signed
Speed	Binary number in m/s	Decimal number in m/s	Not available
HDOP	Binary number in 0.01	Decimal number in 0.01	Not available
Height	Binary number in m signed	Decimal number in m if negative, signed	Not available if negative, signed
Course	Binary number in degrees	Decimal number in degrees	Not available
Number of satellites	Binary number	Decimal number	Not available
Positioning fix	Binary number 0 - 3	Decimal number 0 - 3	Not available
Kilometer counter	Binary number in m	Decimal number in m	Not available
Digital output	Binary number 0.1	Decimal number 0.1	Not available
Ignition state	Binary number 0.1	Decimal number 0.1	Not available
Digital input	Binary number 0.1	Decimal number 0.1	Not available

9 Messages

9.1 Status Message Switching Output

This text message reply is generated and sent when the switching output was set by text message (see also [6.1.2 Setting Switching Output](#)).

Message: PEIKER:6,x

Parameter: x: Switch status // 0: Output LOW
 // 1: Output HIGH

Available: SMS; (see [1.2 Command Structure](#))

9.2 Acknowledgement for Changing the Online Password

This text message reply is generated and sent when a new online password was set by text message (see also [4.2.2 Setting a New Online Password](#)).

Message: *PPWD: x

Parameter: x: Status // 0: Change refused
 // 1: Password was changed successfully

Available: SMS; (see [1.2 Command Structure](#))

9.3 Panic Message

This text message is generated and sent when the panic button was pressed.

Message: PANIKALARM

Parameter: none

Available: SMS; (see [1.2 Command Structure](#))

9.4 Position Message

This message is the reply on a positioning request.

Message: Peiker: messagetype,timestamp,latitude,longitude,sc,hdop,speed,course

Parameter: messagetype:	0:	Single position message
	1:	Cyclic position message
	2:	Alarm message button 0
	8:	Alarm message button 1
timestamp: jj.mm.tt hh:mm:ss	jj:	Year
	mm:	Month
	tt:	Day
	hh:	Hour
	mm:	Minute
	ss:	Second
latitude: x.xxxx		Latitude, 4 decimal places
longitude: x.xxxx		Longitude, 4 decimal places
sc: cc		Status "NA" or "2D" or "3D"
hdop: x.xx		HDOP, 2 decimal places
speed: x.xx		Speed in m/s, 2 decimal places
course: x		Course in degrees

Example: PEIKER: 1,08.07.23 18:37:10,52.9784,14.1226,3D,3.00,0.03,98
OK

Available: Serial interface, SMS, TCP; (see [1.2 Command Structure](#))

10 Interface of the Handset

If the serial interface socket (also called service interface, located at the cable set) is not accessible, it is possible, to use the handset's interface socket instead (located at the electronics box) for programming.

The communication settings for the serial interface are: 115200 Baud, 8 Bit, no parity, 1 stop bit

10.1 Switch the Interface to Command Input Mode

Remove the handset from the PTCarPhone 4 and connect the interface with the PC using the programming cable (see also [1.4 Programming Cable's Specification](#)).

Type **+++** to switch the interface to AT command input mode.

After **OK** is replied, the interface is ready for command input.

10.2 Quitting the Command Input Mode

After command input, the interface needs to be switched back to handset mode. This is done by using the command **ATO**. After **OK** is replied, the handset can be reconnected.

When switching the PTCarPhone 4 on, it always expects a handset at this interface.

11 Description of a TCP Connection

For administrative purposes, the PTCarPhone 4 can connect to a computer via a TCP socket on its own. This connection is initiated by the administrator using the command AT*PTCPS (see also [4.1 TCP Connection Request](#)). After the command was received by the computer, the PTCarPhone 4 will send a PTC4 Service REQUEST message to the computer including its IMEI.

Example: PTC4 Service REQUEST 361911234567543

The computer will send the online password as reply to this request. The PTCarPhone sends this invitation up to 5 times in 10 s intervals. If it doesn't receive a valid online password during this period, it will close the connection.

A valid password is replied by a system string, which contains the device type, software version and a boot code.

Example: PTCarPhone PTC4 V.4.00.01 Apr 19 2013 – 0

After the login succeeded, the PTCarPhone 4 is ready for communication. Nearly the full instruction set is available.

The connection is usually closed by command. However, if there is no data traffic for 5 minutes, the PTCarPhone 4 will close the connection on its own.

In each case, the following message will be generated: **PTC4 Service END**

12 Addendum

12.1 Sample Log File in Binary Format

	0001	0203	0405	0607	0809	0A0B	0C0D	0E0F
0x00	CC55	0001	0017	0017	000F	07FF	008E	0012
0x10	0000	CC55	221A	7DEC	2FE3	BA06	9C8A	8099
0x20	0000	0000	0000	221A	7DE2	2FE3	B906	9C88
0x30	8099	0000	0000	0000	221A	7DD8	2FE3	BA06
0x40	9C87	0000	0000	0000	0000	221A	7DCE	2FE3
0x50	BA06	9C88	0000	0000	0000	0000	221A	7DC4
0x60	2FE3	BA06	9C87	0000	0000	0000	0000	221A
0x70	7DB6	2FE3	BA06	9C88	0000	0000	0000	0000
0x80	221A	7DAB	2FE3	BA06	9C85	0000	0000	0000
0x90	0000	221A	7DA2	2FE3	BA06	9C83	0000	0000
0xA0	0000	0000	221A	7D98	2FE3	BA06	9C85	800D
0xB0	2091	2F2E	25E4	221A	7D8E	2FE3	BA06	9C87
0xC0	0000	0000	0000	0000	221A	7D84	2FE3	BA06
0xD0	9C86	0000	0000	0000	0000	221A	7D76	2FE3
0xE0	B906	9C83	808B	408E	2DBE	25E4	221A	7D6C
0xF0	2FE3	B906	9C84	0000	0000	0000	0000	221A
0x0100	7D62	2FE3	B906	9C84	0000	0000	0000	0000
0x0110	221A	7D57	2FE3	B906	9C83	8019	0000	0000
0x0120	0000	221A	7D4D	2FE3	B906	9C85	8008	C08B
0x0130	2FB6	25E4	221A	7D44	2FE3	B906	9C87	0000
0x0140	0000	0000	0000	221A	7D35	2FE3	BA06	9C88
0x0150	0000	0000	0000	0000	221A	7D2C	2FE3	BA06
0x0160	9C89	0000	0000	0000	0000	221A	7D22	2FE3
0x0170	BA06	9C87	0000	0000	0000	0000	221A	7D18
0x0180	2FE3	BA06	9C86	0000	0000	0000	0000	221A
0x0190	7D0E	2FE3	BA06	9C85	0000	0000	0000	0000
0x01A0	221A	7D04	2FE3	BA06	9C85	0000	0000	0000
0x01B0	0000							

12.2 Sample Log File in Table Format

** 1 23 23 15 2047 **

13.08.2008	07:55:44	3138490	866581	1	400	138	83	4	3	303	0	1
13.08.2008	07:55:34	3138489	866577	1	400	143	84	4	3	303	0	1
13.08.2008	07:55:24	3138490	866574	0	200	141	284	6	3	303	0	1
13.08.2008	07:55:14	3138490	866576	0	230	132	107	5	3	303	0	1
13.08.2008	07:55:04	3138490	866574	0	160	141	165	7	3	303	0	1
13.08.2008	07:54:54	3138490	866576	1	210	142	84	5	3	303	0	1
13.08.2008	07:54:43	3138490	866570	0	200	143	138	6	3	303	0	1
13.08.2008	07:54:34	3138490	866566	0	200	150	119	6	3	303	0	1
13.08.2008	07:54:24	3138490	866571	0	210	145	94	5	3	303	0	1
13.08.2008	07:54:14	3138490	866574	1	210	140	79	5	3	303	0	1
13.08.2008	07:54:04	3138490	866572	0	340	137	99	5	3	303	0	1
13.08.2008	07:53:54	3138489	866567	1	180	142	91	7	3	303	0	1
13.08.2008	07:53:44	3138489	866568	0	240	143	72	5	3	303	0	1
13.08.2008	07:53:34	3138489	866568	1	200	144	91	5	3	303	0	1
13.08.2008	07:53:23	3138489	866567	0	400	146	84	4	3	303	0	1
13.08.2008	07:53:13	3138489	866571	0	140	139	95	6	3	303	0	1
13.08.2008	07:53:04	3138489	866574	0	400	137	70	4	3	303	0	1
13.08.2008	07:52:53	3138490	866576	0	200	139	68	5	3	303	0	1
13.08.2008	07:52:44	3138490	866578	1	400	137	87	4	3	303	0	1
13.08.2008	07:52:34	3138490	866574	0	400	140	119	4	3	303	0	1
13.08.2008	07:52:24	3138490	866572	1	400	141	83	4	3	303	0	1
13.08.2008	07:52:14	3138490	866570	1	400	141	84	4	3	303	0	1
13.08.2008	07:52:04	3138490	866570	0	400	140	93	4	3	303	0	1

12.3 Sample Log File in CSV Format

14,443	52,3081	POS 1
14,4429	52,3081	POS 2
14,4429	52,3081	POS 3
14,4429	52,3081	POS 4
14,4429	52,3081	POS 5
14,4429	52,3081	POS 6
14,4428	52,3081	POS 7
14,4427	52,3081	POS 8
14,4428	52,3081	POS 9
14,4429	52,3081	POS 10
14,4428	52,3081	POS 11
14,4427	52,3081	POS 12
14,4428	52,3081	POS 13
14,4428	52,3081	POS 14
14,4427	52,3081	POS 15
14,4428	52,3081	POS 16
14,4429	52,3081	POS 17
14,4429	52,3081	POS 18
14,4429	52,3081	POS 19
14,4429	52,3081	POS 20
14,4428	52,3081	POS 21
14,4428	52,3081	POS 22
14,4428	52,3081	POS 23

END OF DOCUMENT