

PTCarPhone 5 Command Description Manual

Application Note 1501

Revision: 1.8
July 2019

Table of Contents

0 Document History	5
0.1 Related Documents.....	5
1 Introduction	6
1.1 Definitions	6
1.2 Command Structure	7
1.3 Required Components	7
1.4 Programming Cable's Specification	8
1.5 Establishing a Connection via the Serial Interface	9
1.6 Activation of the Service Mode for USB.....	9
1.6.1 Activation of the USB service interface via handset.....	9
1.6.2 Activation of the Service Mode for the Serial Interface	10
1.6.3 USB Mode	11
1.7 Activation of command extension (API)	12
1.7.1 Activation of command extension [API].....	12
1.7.2 Call Indications and Further Indications	13
1.8 Commented Overview Plan.....	14
2 Phone Book	16
2.1 Listing Phone Book Entries	16
2.1.1 Test.....	16
2.1.2 Output.....	17
2.1.3 Querying Storage Space.....	17
2.2 Selecting the Operation Mode	18
2.2.1 Test.....	18
2.2.2 Selecting an Operation Mode.....	18
2.2.3 Query	18
2.3 Adding Entries to the Phone Book	19
2.3.1 Test.....	19
2.3.2 Set	19
2.4 Delete phone book entry	20
2.5 Edit phone book entry	20
2.6 Deleting the Phone Book	21
2.6.1 Test.....	21
2.6.2 Deleting.....	21
3 Queries	22
3.1 Querying the Phone Settings	22
3.1.1 Test.....	22
3.1.2 Query	23
3.2 Call Duration Query.....	25
3.2.1 Test.....	25
3.2.2 Query	26
3.3 Software Version Query.....	26
3.3.1 Query	26

4 Initialization Commands	27
4.1 Reset to Factory Default Settings	27
4.1.1 Reset to Factory Defaults	27
4.2 Changing the Online Password.....	27
4.2.1 Test.....	27
4.2.2 Setting a New Online Password	28
4.3 Changing the Device Code.....	28
4.3.1 Setting a new Device Code.....	28
4.4 Internet and FTP Configuration	29
4.4.1 Test.....	29
4.4.2 Set	30
4.4.3 Query	30
4.4.4 Listing Stored Internet Access Data	31
4.5 Setting the Delay Timer.....	31
4.5.1 Test.....	31
4.5.2 Setting the Delay Timer	32
4.5.3 Query	32
4.6 Automatic Configuration	33
4.6.1 Test.....	33
4.6.2 Setting the Automatic Configuration (for the Phonemanager only).....	33
4.6.3 Query	34
4.7 Setting the Virtual Ignition.....	34
4.7.1 Test.....	34
4.7.2 Configuring the Virtual Ignition.....	34
4.7.3 Query	35
4.8 Setting the System Time	35
4.8.1 Setting the System Time	35
4.8.2 Query	35
5 Update Commands	36
5.1 Software Update	36
5.1.1 Starting the Software Update	36
5.2 Unlocking Extras	36
5.2.1 Initiate Unlocking	36
6 Control Commands	37
6.1 Switching Output	37
6.1.1 Test.....	37
6.1.2 Setting the Switching Output.....	37
6.1.3 Query	38
6.2 I/O Configuration	38
6.2.1 Test.....	38
6.2.2 Setting the Hardware Configuration	39
6.2.3 Position in Panic-SMS.....	40
6.2.4 Query	40
7 Messages	41
7.1 Status Message Switching Output	41
7.2 Acknowledgement for Changing the Online Password.....	41

7.3 Position Message	42
8 Commands for the Positioning Feature.....	43
8.1 Position Query	43
8.1.1 Test.....	43
8.1.2 Position Query.....	43
9 Configurations	44
9.1 Volume	44
9.1.1 Query	44
9.1.2 Setting the Volume.....	44
9.1.3 Increasing and Decreasing the Volume during a Call.....	45
9.2 Power down	46
9.3 Get SIM Pin State.....	46
9.4 Set SIM + PUK pin	47
9.4.1 Set SIM pin	47
9.4.2 Set PUK Pin.....	47
9.5 Mute or Unmute Microphone	48
9.6 Call handover	49
9.7 Switch Incognito Modes On/Off	50
9.7.1 Read Incognito Mode.....	50
9.7.2 Set Incognito Mode	51
10 Direct calls.....	52
10.1 Start a call with number	52
10.2 End or reject a call	52
10.3 Accept an incoming call	52
10.4 DTMF tones	53
11 Call lists	54
11.1 Get call lists	54
11.2 Delete call lists.....	54
12 Sending & receiving SMS (PDU).....	55
12.1 Sending SMS.....	55
12.2 Reading SMS	56

0 Document History

Date	Revision	Author	Remarks
19 October 2015	1.0	RN	First release
20 October 2015	1.1	RN	Additions to the command set
14 January 2016	1.2	CS	Text updates and English translation
05 February 2016	1.3	CS	Corrections
15 July 2016	1.4	RN	Additions
14 September 2016	1.5	CS	Modified 6.1.2 and 8.1
12 February 2018	1.6	RN	Additions
1 June 2019	1.7	CS	New AT Commands added for Software Version V.5.02.21 Added sections: 1.6, 1.7, 2.4, 2.5, 9, 10, 11, 12
18 July 2019	1.8	RN	Added I/O mode "Microphone Mute"

Table 1: Document History

0.1 Related Documents

No.	Name	Remarks
1	PTCarPhone 5 Series Quick Reference Guide	Shipped with the PTCarPhone 5
2	PTCarPhone 5 Series User Manual	For download from www.ptcarphone.de
3	AN1500: I/O Interface Manual for the PTCarPhone 5 Series	For download from www.ptcarphone.de
4	AN1502: Using the PTCarPhone 5 as a modem	For download from www.ptcarphone.de
5	Telit AT Commands Reference Guide	Link

Table 2: Related Documents

1 Introduction

This document describes the control commands for the "PTCarPhone 5" Series. The commands in this manual allow administrating the PTCarPhone without direct physical access. To give some examples, the online password can be changed via SMS, or for PTCarPhones with GPS option, positioning requests can be sent by SMS.

1.1 Definitions

Serial Interface

The serial interface is one of the two identical 10 pin western connectors (RJ50) at the electronics box (TPU) of the PTCarPhone 5. Using a computer, which is connected via a programming cable (see also [1.4 Programming Cable's Specification](#)) to this interface, the commands in this manual can be sent directly to the PTCarPhone 5. To do so, a terminal program (for example HyperTerminal or PuTTY) is required. The connection parameters to set up a connection to the PTCarPhone 5 are described in section [1.5 Establishing a Connection via the Serial Interface](#).

Online Password

The online password prevents unauthorized access to the PTCarPhone 5. The PTCarPhone 5 executes the commands of this Command Description only, if they are sent to the device via a direct physical connection over the serial interface or by text message (SMS). Sending the commands via SMS requires the sender of the command to login at the PTCarPhone 5. For this purpose, the online password is used.

The default online password is composed of the last six digits of the IMEI number. The IMEI number can be located on the label of the PTCarPhone. We strongly recommend changing the online password immediately at first set up (see also [4.2 Changing the Online Password](#)).

1.2 Command Structure

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

Command structure for the transmission via the serial interface:

AT*cccc [=parameter]

Command structure for the transmission via SMS:

AT*cccc ="Online password"[, parameter]

[]: Content of squared brackets is optional; the squared brackets are not part of the command.

1.3 Required Components

- PTCarPhone 5
- Programming cable (see also [1.4 Programming Cable's Specification](#)) or
USB cable: USB A plug – Mini USB B plug
- PC
- Terminal program

1.4 Programming Cable's Specification

To connect a PTCarPhone 5 to a computer, a programming cable is required, which connects the 10 pin western connector of the service interface (a handset connection) to the serial interface (RS232) of the computer. If the computer doesn't have a serial interface, use additionally a commercially available RS232-to-USB-convertoer.

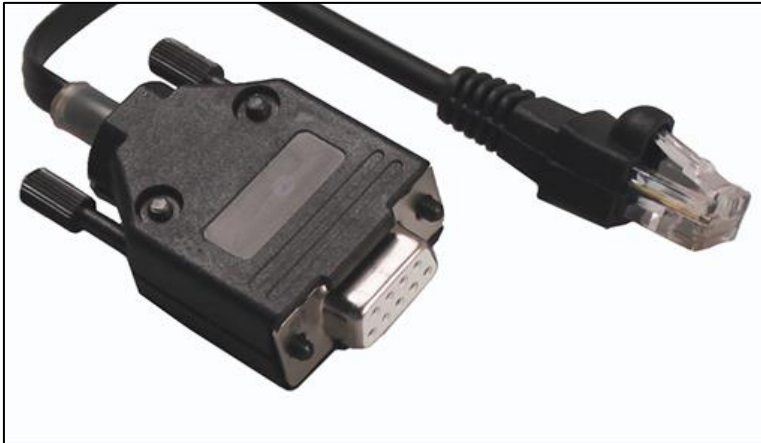


Figure 1: Left RS232 plug (D-Sub), right western plug

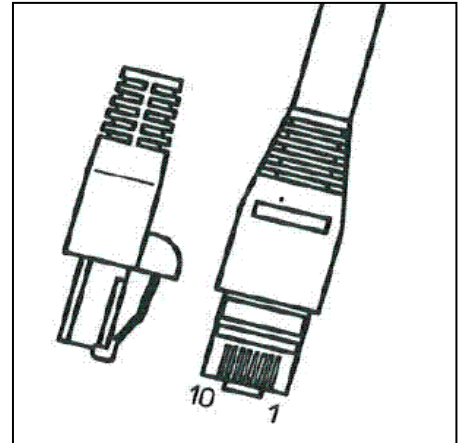


Figure 2: Western plug, 10 pin, numbered

Pin assignment:

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

Pin*	Signal
2	RxD
3	TxD
5	GND

* All other pins remain unassigned.

Western plug RJ50, 10 pin:

Pin*	Signal
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

An alternative: Using an USB cable:

- Cable with USB A plug and Mini USB B plug
- Enable the "Service" function in the phone menu: System → Configuration → USB interface.

See [1.6](#) for more information.

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).

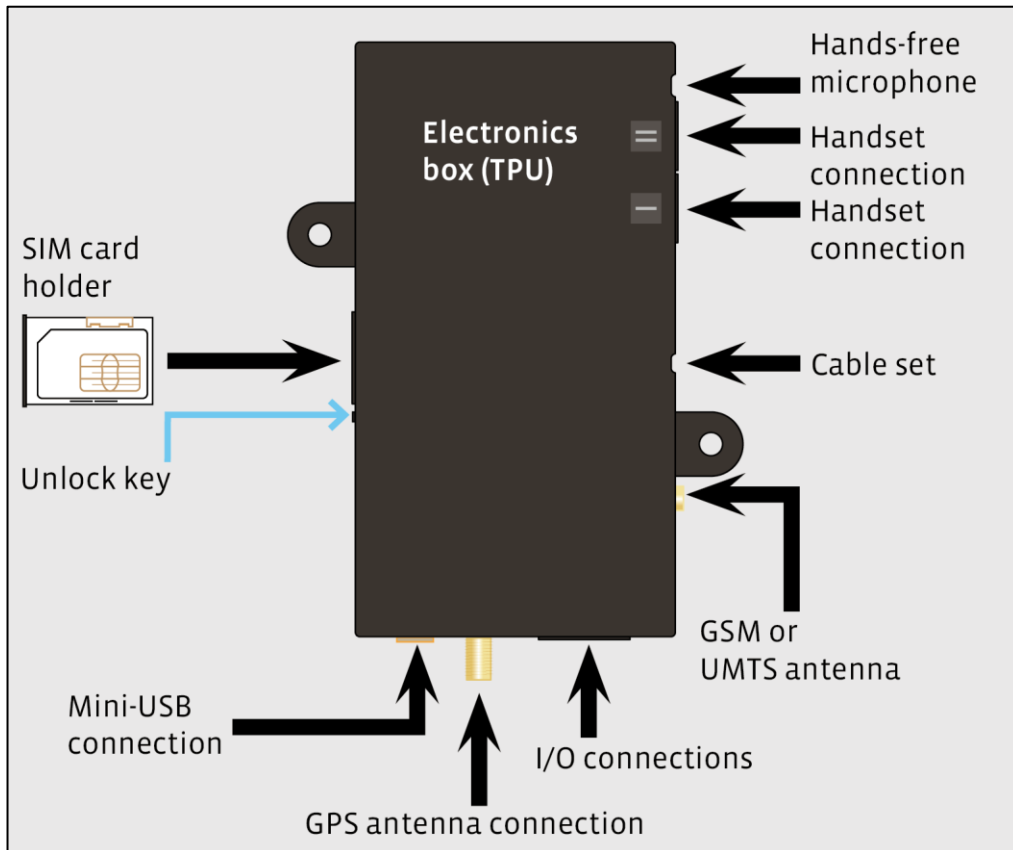


Figure 3: Wiring diagram PTCarPhone 5

1.6 Activation of the Service Mode for USB

The following steps are required to activate the command extension on the USB service interface.

1. Activation of the USB service interface (once) (see section [1.6.1](#) or [1.6.2](#) and [1.6.3](#))
2. Restart PTCarPhone if necessary
3. After starting the PTCarPhone 5, wait for the message "Application started"
4. Activate API with the command `AT*PAPIENABLE=1` (see section [1.6.4](#))

1.6.1 Activation of the USB service interface via handset

The default is Modem. System → Configuration → Device code entry → USB interface → Options Modem or Service.

1.6.2 Activation of the Service Mode for the Serial Interface

To enable the service mode for the USB port without handset, it is necessary to enable the service mode over the serial interface first.

1.6.2.1 Test Service Mode

To activate the special commands, switch the device to service mode. For this you have to use this command. Please use the command only for this case and not in regular operation.

Syntax: AT+PSERVICE=?

Reply: ERROR // Not implemented

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

1.6.2.2 Set Service Mode

Syntax: AT+PSERVICE=m

Parameter: m: Mode // 0: Normal mode
// 1: Service mode

Reply: OK

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

1.6.2.3 Query Service Mode

Syntax: AT+PSERVICE?

Reply: +PSERVICE: m // m: Mode
OK

Example: AT+PSERVICE?
+PSERVICE: 1
OK

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

1.6.3 USB Mode

Now the USB port can be switched to service mode.

This command switches the USB port to service mode and back to modem mode. In modem mode, the device can be used as a mobile modem for example for a PC. Switching the USB port to service mode is necessary to send commands over the USB interface.

1.6.3.1 Test USB Mode

Syntax: AT*PSWITCHUSB=?

Reply: *PSWITCHUSB: (0-1) // limitations 0-1

Available: Serial interface, USB (only if USB service interface is active);
(see [1.2 Command Structure](#))

1.6.3.2 Set USB Mode

Syntax: AT*PSWITCHUSB =m

Parameter: m: Mode // 0: Modem
// 1: Service interface

Reply: OK

Example: AT*PSWITCHUSB=1
OK

Available: Serial interface, USB (only if USB service interface is active);
(see [1.2 Command Structure](#))

1.6.3.3 Query USB Mode

Syntax: AT*PSWITCHUSB?

Reply: *PSWITCHUSB: m // m: Mode
OK

Example: AT*PSWITCHUSB?
*PSWITCHUSB: 1
OK

Available: Serial interface, USB (only if USB service interface is active);
(see [1.2 Command Structure](#))

1.7 Activation of command extension (API)

1.7.1 Activation of command extension [API]

The API enables the usage of the command extension.

Syntax: AT*PAPIENABLE =m

Parameter: m: Mode // 0: API disabled
// 1: API active

Reply: OK

Example: AT*PAPIENABLE=1
OK

Available: Serial interface, USB (only if USB service interface is active);
(see [1.2 Command Structure](#))

1.7.2 Call Indications and Further Indications

After activating the API, the following "indications" are output to the service interface:

1. **#ECAM** - Extended Call Monitoring → ECAM is activated when the PTCarPhone 5 is initialized
 - a. Indicate remote ring
 - b. Indicate call established
 - c. Indicate remote reject call
 - d. Indicate remote ends call
2. **+CLIP:**
 - a. Indicate call with number
3. **+PCALLNAME:**
 - a. Indicate call with name (API-Indication / Name is taken from the phone book)
4. **+PMISSEDCALLS:** n → n = Number of missed calls
5. **+CREG**
 - a. Registration in the network (see Telit AT command description)
6. **+CIEV:**
 - a. The following indicators are active: AT+CIND=0,1,1,0,1,1,1,1,1 (see Telit AT command description)
 - b. Get field strength (included)

The following standard commands are also valid:

1. Get provider name
 - a. AT+COPS? (see Telit AT command description)
2. Get field strength
 - a. AT+CSQ (see Telit AT command description)

1.8 Commented Overview Plan

Chapter-No.	Topic	Comment
2 Phonebook - administration of the phone book		
2.1	Listing phone book entries	
2.2	Select an operation mode (OM)	Choose how to restrict incoming and outgoing calls and SMS. <ul style="list-style-type: none"> • OM 0: No restrictions • OM 1: Phone book entries cannot be copied from the SIM card • OM 2: Outgoing calls are restricted to numbers of the phone book. Emergency calls are possible. • OM 3: Like OM 2 and: Receiving calls is restricted to numbers from the phone book.
2.3	Adding entries to the phone book	
2.4	Delete phone book entry	
2.5	Edit phone book entry	
2.6	Deleting the 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
3.3	Querying the software version	Information on the software version of the PTCarPhone 5
4 Initialization commands		
4.1	Reset to factory defaults	All settings including the online password are reset.
4.2	Changing the online password	This password is needed when sending commands via SMS.
4.3	Changing the device code	This code is used for changing the settings on the PTCarPhone.
4.4	Internet and FTP setup	<ul style="list-style-type: none"> • For software updates • For using the Phonemanager application
4.5	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.
4.6	Automatic configuration	Pulling the configuration data from a FTP server after the ignition was turned on.
4.7	Setting the virtual ignition	Enabling and disabling the virtual ignition.

Chapter-No.	Topic	Comment
4.8	Setting the system time	Setting the system time of the PTCarPhones
5 Update commands		
5.1	Software update	Initialization of a software update
5.2	Unlocking Extras	Unlocking purchased special features
6 Control commands		
6.1	Switching output	Setting switching statuses; only, if the digital output is configured to be a switch.
6.2	I/O configuration	Use this command to define the operation mode of the I/Os.
7 Messages		
7.1	Status Message Switching Output	
7.2	Acknowledgement for Changing the Online Password	
7.3	Position Message	
8 Commands for the positioning feature		
8.1	Position query	Query the current position; only if the phone is fitted with a GPS module
9 Configurations		
9.1	Volume	
9.2	Power down	
9.3	Get SIM pin state	
9.4	Set SIM + PUK pin	
9.5	Mute or unmute microphone	
9.6	Call handover	
9.7	Switching incognito mode on/off	
10 Direct calls		
10.1	Start a call with number	
10.2	End or reject call	
10.3	Accept an incoming call	
10.4	DTMF tones	
11 Call lists		
11.1	Get call lists	
11.2	Delete Call lists	

Chapter-No.	Topic	Comment
12 Sending and receiving SMS		
12.1	Sending SMS	
12.2	Receiving SMS	

2 Phone Book

This chapter describes commands for the administration of the phone book of the PTCarPhone 5. 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 (work):	Digit, 0 – 9	0 Entry has no speed dial number assigned 1 – 9 Key 1 to 9 are assigned as speed dial numbers
Speed dial (mobile):	Digit, 0 – 9	0 Entry has no speed dial number assigned 1 – 9 Key 1 to 9 are assigned as speed dial numbers
Speed dial (home):	Digit, 0 – 9	0 Entry has no speed dial number assigned 1 – 9 Key 1 to 9 are assigned as speed dial numbers

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: (1-5000),(1-5000) // The output is limited to a value between 1 and 5000
OK

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

2.1.2 Output

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(work),number(mobile),number(home),fkkk,surname,first name
 // i: Index of the phone book entry
 OK // number: Phone number (work, mobile, home)
 // fkkk: Characteristics for enabling,
 speed dial (work), speed dial (mobile),
 speed dial (home)
 //surname: Surname of the phone book entry
 //first name: First name of the phone book entry

Example: AT*TITB=3,5
 *TITB: 3,"+4930123456","",1200,"Headquarter",""
 *TITB: 4,"", "016012345678","",1000, "Lehmann", "Max"
 *TITB: 5, "", "", "+15550123456",1000,"Doe", "John"
 OK

Available: Serial interface, USB (only if USB service interface is active);
 (see [1.2 Command Structure](#))

2.1.3 Querying Storage Space

The amount of occupied storage locations and the amount of total storage locations are queried.

Syntax: AT*TITB?

Reply: *TITB: x,5000 // x: Number of occupied storage locations
 OK // 5000: Maximum number of storage locations

Example: AT*TITB?
 *TITB: 49,5000
 OK

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

2.2 Selecting the Operation Mode

This command selects the operation mode of the PTCarPhone 5.

2.2.1 Test

Syntax: AT*PCHTB=?

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

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

2.2.2 Selecting an Operation Mode

Syntax: AT*PCHTB=n

Parameter: n: Operation mode // 0: No restrictions
OK // 1: Phone book entries cannot be copied from the SIM card
// 2: Dialling and SMS are restricted to available phone book entries and emergency
// 3: Like "2" and incoming calls are only shown and can only be answered when the number exists in the phone book.

Reply: OK // Operation mode is selected

Example: AT*PCHTB=0
OK

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

2.3 Adding Entries to the Phone Book

This command adds entries to the phone book. Please note, that the length of an SMS is restricted to 480 characters, when using SMS. The components of an entry need to be separated by semicolon. If the command for adding phone book entries is sent over a cable connection (serial interface) successively, the "OK" needs to be awaited.

2.3.1 Test

Syntax: AT*PSETITB=?

Reply: *PSETITB: 30;30;28;28;28;(0-1)(0-9)(0-9)(0-9) // Locations 1 to 5000 are available
OK

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

2.3.2 Set

Syntax: AT*PSETITB=surname;first name;number(work);number(mobile);number(home);fkkk

Parameter: surname:	Surname of a phone book entry
first name:	First name of a phone book entry
number (work):	Phone number
number (mobile):	Phone number
number (home):	Phone number
fkkk characteristics:	Enabling, speed dial (work), speed dial (mobile), speed dial (home)

Reply: OK // Phone book entry was added

Example: AT*PSETITB=Doe;John;+4930123456;;0306546546;1000
OK

Available: Serial interface, SMS, USB (only if USB service interface is active); (see [1.2 Command Structure](#))

2.4 Delete phone book entry

Syntax: AT*PDELITB=index

Parameter: index: // Index of the phonebook entry, which can be queried with
// the command AT*TITB

Reply: OK

Note: If an entry with a specific index is not available, an error is output.

Example: AT*PDELITB =3
OK

Available: Serial interface, USB (only if USB service interface is active);
(see [1.2 Command Structure](#))

2.5 Edit phone book entry

Syntax: AT*PEDITITB=index;surname;first name;number(work);number(mobile);
number(home);fkkk

Parameter: index: // Index of the phonebook entry, which can be queried with the
command AT*TITB
// surname: Surname of a phone book entry
// first name: First name of a phone book entry
// number (work): Phone number
// number (mobile): Phone number
// number (home): Phone number
// Fkkk characteristics: Enabling, speed dial (work), speed dial
(mobile), speed dial (home)

Reply: OK

Note:
After editing, the phonebook is resorted. The sort order is based on the last name. This means that the indexing of the list can change. If an entry with a specific index is not available, an error is output.

Example: AT*PSETITB=3;Doe;John;+4930123456;;0306546546;1000
OK

Available: Serial interface, USB (only if USB service interface is active);
(see [1.2 Command Structure](#))

2.6 Deleting the Phone Book

The entire phone book is deleted.

2.6.1 Test

Syntax: AT*PCLRITB=?

Reply: OK // Command is available

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

2.6.2 Deleting

Syntax: AT*PCLRITB

Parameter: None

Reply: OK // Phone book was deleted

Example: AT*PCLRITB
OK

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

3 Queries

3.1 Querying the Phone Settings

With this command, all relevant settings of the PTCarPhone 5 are read out. The data are arranged in sets of parameters. Some parameters are only read out when configured, see below.

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):	Parameters of the handset connected to the interface I, only when connected
Parameter set 3 (*PCONF: 3):	Parameters of the handset connected to the interface II, only when connected
Parameter set 6 (*PCONF: 6):	Parameters of the clock
Parameter set 7 (*PCONF: 7):	Parameters of the FTP connection for configuration updates
Parameter set 8 (*PCONF: 8):	Parameters of the configured internet access
Parameter set 9 (*PCONF: 9):	Listing of extras (from software version 5.02.08)
Parameter set 10 (*PCONF: 10):	Device identifiers IMEI and IMSI

3.1.1 Test

Syntax: AT*PCONF=?

Reply: OK // 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,ba,pa,vfs,mt,fw
- *PCONF: 1, ign,sio1,mio1,sio2,mio2,sio3,mio3,sio4,mio4,sio5,mio5,sio6,mio6
- *PCONF: 2, vshs1,tb1,vhs1
- *PCONF: 3, vshs2,tb2,vhs2
- *PCONF: 6, h,m,s,tf
- *PCONF: 7, server IP, user, password, filename, pn, sm, cod
- *PCONF: 9, Extras,Zustand
- *PCONF: 8, provider, APN, login, password
- *PCONF: 10, IMEI, IMSI

OK

Parameter set description:

***PCONF: 0**

vt:	Software version text
ls:	SIM language (numeric)
lt:	Phone language
ot:	Delay time in seconds
ac:	Automatic answering (number of rings)
rv:	Ringtone volume level
rt:	Ringtone melody
sf:	Saving an SMS message after sending
sb:	Message alert tone
cdk:	Total call duration
cd:	Last call duration
ba:	Operation mode
pa:	PIN handling
vfs:	Volume hands-free system
mt:	Type GSM module
fw:	Firmware GSM module

***PCONF: 1**

vign: Virtual ignition on/off
 sign Status ignition on/off
 sio1: Status of the digital input/output 1
 mio1: Mode of the digital input/output 1
 sio2: Status of the digital input/output 2
 mio2: Mode of the digital input/output 2
 sio3: Status of the digital input/output 3
 mio3: Mode of the digital input/output 3
 sio4: Status of the digital input/output 4
 mio4: Mode of the digital input/output 4
 sio5: Status of the digital input/output 5
 mio5: Mode of the digital input/output 5
 sio6: Status of the digital input/output 6
 mio6: Mode of the digital input/output 6

***PCONF: 2**

vshs1: Version text handset 1
 tb1: Keypad tone handset 1
 vhs1: Volume handset 1

***PCONF: 3**

vshs2: Version text handset 2
 tb2: Keypad tone handset 2
 vhs2: Volume handset 2

***PCONF: 6**

h: Hour
 m: Minute
 s: Second
 tf: Time format

***PCONF: 7**

server IP: IP or URL of the servers, URL maximal 15 characters
 user: User name
 password: Password
 filename: File name
 pn: Own phone number
 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 (MCC + MNC)
 APN: APN, preset by the provider
 login: Login, preset by the provider
 password: Password, preset by the provider

***PCONF: 9**

Extras: 8 bit value for the unlocked extras; max. value 255
Maximum amount of unlocked extras is 8

Zustand: The 8 bit value indicates, whether an extra is turned on, or not;
max. value 255

***PCONF: 10**

IMEI: IMEI of the PTCarPhone 5

IMSI: IMSI of the SIM in use

Example: AT*PCONF?
*PCONF: 0,PTCarPhone 5 V.5.01.04 Oct 19 2015,0,0,10,0,1,13,0,1,11,0,0,1,2
*PCONF: 1,0,1,1,2,1,0,0,6,1,0,1,2,1,0
*PCONF: 2,HA59 V.01.14 Sep 7 2015,0,2
*PCONF: 6,10,50,14,24
*PCONF: 7,"123.123.123.123","hello","World","Config.txt","+49179345345",1,6
*PCONF: 8,"26201","internet.t-d1.de","t-d1","t-d1"
*PCONF: 9,3,1
*PCONF: 10,"357164042061344","262010050356378"
OK

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

3.2 Call Duration Query

This command queries the memory for the call duration.

3.2.1 Test

Syntax: AT*PCADUR=?

Reply: OK // Command is available

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

3.2.2 Query

Syntax: AT*PCADUR?

Reply: *PCADUR: n,m // n: Total duration of all outgoing calls in seconds
 OK // m: Duration of the last call in seconds, if still available (availability until disconnecting the power supply)

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

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

3.3 Software Version Query

This command queries the software version information of the PTCarPhone 5.

3.3.1 Query

Syntax: AT*PGMR

Reply: PTCarPhone 5 ... // Version information

Example: AT*PGMR
 PTCarPhone 5 V.5.01.04 Oct 20 2015
 OK

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

4 Initialization Commands

4.1 Reset to Factory Default Settings

This command can only be sent via SMS and resets the PTCarPhone 5. All settings including the online password will be reset!

All settings on the device will be returned to original conditions.

4.1.1 Reset to Factory Defaults

Syntax: AT*PRESET="opw"

Parameter: opw: Online password

Reply: *PRESET:OK // The device was reset.

Example: AT*PRESET="PEITEL"
*PRESET:OK

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

4.2 Changing the Online Password

The online password is used for identification when accessing the PTCarPhone 5 via text message (SMS). Changing the online password generates a reply text message, see also [7.2 Acknowledgement for Changing the Online Password](#).

The default online password is composed of the last six digits of the IMEI number. The IMEI number can be located on the label of the PTCarPhone. For security reasons, we strongly recommend changing the online password.

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; (see [1.2 Command Structure](#))

4.3 Changing the Device Code

The device code is used for identification when accessing some special functions of the PTCarPhone 5 using the handset.

The factory setting of the device code is **0000**. For security reasons we strongly recommend to change this pre-set device code.

4.3.1 Setting a new Device Code

Syntax: AT*PCHDEVPW=opw,gpw

Parameter: opw: Online password
gpw: New device code (maximum 8 digits)

Reply: OK // The new device code was accepted.

Example: AT* PCHDEVPW ="Peitel","1234"
OK

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

4.4 Internet and FTP Configuration

The internet configuration is required for the internet access, which is used for example to download software updates.

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

The following parameter sets are available:

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

For some providers, internet access data are already available in the PTCarPhone 5. Additionally, it is possible to enter internet 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 7 (*PGPRS: (7)): **List of stored internet access data**

Command to control the internet 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"

Parameter:

provider number:	Numeric provider ID (MNC+MCC)*
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
phone number:	Own phone number → required for the Phonemanager

Reply: OK // Data are accepted.

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

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

4.4.3 Query

Index "0" shows the internet 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 ","phone number"
 OK

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

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

4.4.4 Listing Stored Internet Access Data

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

Syntax: AT*PGPRS=7

Reply: List of internet access data // Index, provider number, APN, 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; (see [1.2 Command Structure](#))

4.5 Setting the Delay Timer

This command configures the delay timer of the PTCarPhone 5 after the ignition was turned off.

4.5.1 Test

Syntax: AT*PDTIME=?

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

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

4.5.2 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; (see [1.2 Command Structure](#))

4.5.3 Query

Syntax: AT*PDTIME?

Reply: *PDTIME: n
OK

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

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

4.6 Automatic Configuration

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

4.6.1 Test

Syntax: AT*PACFG=?

Reply: *PACFG: (0,1),(1 – 255)
OK

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

4.6.2 Setting the Automatic Configuration (for the Phonemanager only)

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 and deleting the read file from the FTP server
OK

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

4.6.3 Query

Syntax: AT*PACFG?

Reply: *PACFG: n,d
OK

Example: AT*PACFG?
*PACFG: 1,5 // The waiting period is 5 minutes and the read file is
OK // deleted from the FTP server.

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

4.7 Setting the Virtual Ignition

This command configures the virtual ignition of the PTCarPhone 5. When enabled and the engine starts running, an active ignition is simulated. It is recommended to enable the virtual ignition when the vehicle has no ignition wiring.

4.7.1 Test

Syntax: AT*PVIGN=?

Reply: *PVIGN: (0-1)
OK

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

4.7.2 Configuring the Virtual Ignition

Syntax: AT*PVIGN=n

Parameter: n: Mode // 0: Virtual ignition disabled
// 1: Virtual ignition enabled

Reply: OK // Configuration was accepted.

Example: AT*PVIGN=1 // Virtual ignition was enabled
OK

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

4.7.3 Query

Syntax: AT*PVIGN?

Reply: *PVIGN: n
OK

Example: AT*PVIGN?
*PVIGN: 1 // Virtual Ignition is enabled
OK

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

4.8 Setting the System Time

This command sets the system time of the PTCarPhone 5.

4.8.1 Setting the System Time

Syntax: AT*PSYSTIME="yy/mm/dd,hh:mm:ss"

Parameter:	yy: Year	// (00-99)
	mm: Month	// (01-12)
	dd: Day	// (01-31)
	hh: Hour	// (00-23)
	mm: Minute	// (00-59)
	ss: Second	// (00-59)

Reply: OK // Setting was applied

Example: AT*PSYSTIME="18/02/12,05:15:35"
OK

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

4.8.2 Query

Syntax: AT*PSYSTIME?

Reply: *PSYSTIME: "yy/mm/dd,hh:mm:ss"
OK

Example: AT*PSYSTIME?
*PSYSTIME: "18/02/12,17:03:20"
OK

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

5 Update Commands

5.1 Software Update

A software update for the PTCarPhone 5 can be initiated by a command. The command starts an automatic update, unless the device is in use by a phone call at the time. If the PTCarPhone 5 should download and install a software update, it is necessary, that the internet access data are configured correctly. See also [4.4 Internet and FTP Configuration](#).

5.1.1 Starting the Software Update

Syntax: AT*PSWUPDATE

Reply: OK // Update has started

Example: AT*PSWUPDATE
OK

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

5.2 Unlocking Extras

When extras are purchased later, they need to be unlocked manually. This can be done using the PTCarPhone's menu. Another possibility would be to unlock extras via AT command. The command AT*PCFUPDATE can be send over the serial interface, by SMS or via configuration file. This offers the possibility to initiate the unlocking of extras using the Phonemanager software.

5.2.1 Initiate Unlocking

Syntax: AT*PCFUPDATE

Reply: OK // Unlocking is initiated

Example: AT*PCFUPDATE
OK

Available: Serial interface, SMS; (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 [6.2.2 Setting the Hardware Configuration](#).

6.1.1 Test

Syntax: AT*PSOUT=?

Reply: *PSOUT: (1-6),(0-2) //Output 1-6; possible 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=o,x

Parameter: o: Output	//	1-6
x: New switch mode	//	0: Output OFF
	//	1: Output ON
	//	2: Output ON for 5 seconds

Reply: OK

Example: AT*PSOUT=1,2
OK

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

If a set command sent by text message was successful, a confirmation text message is generated. See also [8.1 Status Message Switching Output](#).

6.1.3 Query

Syntax: AT*PSOUT?

Reply: *PSOUT: x1,x2,x3,x4,x5,x6 // x: Current switch mode
OK

Example: AT*PSOUT?
*PSOUT: 1,0,0,0,1,1
OK

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

6.2 I/O Configuration

Some components of the PTCarPhone 5 hardware can be configured. This gives the possibility to integrate the device perfectly into the installation conditions. The following command is normally only necessary to be used at the initial operation.

6.2.1 Test

Syntax: AT*PIOSET=?

Reply: *PIOSET: (1-6),(0-9)[,28][,320]
OK

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

6.2.2 Setting the Hardware Configuration

Syntax: AT*PIOSET=io,mo[,cn][,txt]

Parameter: io: Input/output	// 1-6 Input/output
mo: Mode of the digital input/output	//0: No functionality (default) //1: Input→Panic key //2: Input→Sending an SMS //3: Input→Answering incoming calls or respectively to terminate an existing call //4: Input→Increasing the volume //5: Input→Reducing the volume //6: Output→Ring tone signal //7: Output→High if the phone is switched on //8: Output→High if an active call exists //9: Output→Switching output //10: Input→Microphone Mute
cn: Target phone number (optional)	//For sending SMS or respectively for calling, mode 1 and 2 only
txt: SMS text (optional)	//For sending an SMS in mode 1 and 2

Reply: OK // Configuration was accepted

Example: AT*PIOSET=6,1, "+49179121454","Panic Alarm"
OK

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

Important:

Mode 1 is only available for output "2" and "6"!

In mode 1, when no text parameter is configured, a call is initialized and therefore no SMS is sent.

6.2.3 Position in Panic-SMS

It is possible to include the information of the position in a panic SMS (Only available on the PTCarPhone 530 and only if "Hidden Emergency Call" is disabled).

Just add the placeholder **!position!** into the SMS. In place of the placeholder the phone is adding a complete tracking set including date, time, latitude, longitude, GPS-fix, quality, speed and direction.

For devices without GPS, the text **NO GPS DEVICE** is inserted. If a GPS device does not have a valid position, the text **NO GPS POSITION** is inserted.

Example: The original text

Alarm position: !position! license plate XYZ

generates the SMS

Alarm position: 16.03.31 17:21:15 52.3081, license plate XYZ

If only the position shall be transmitted, only the placeholder is entered.

6.2.4 Query

Syntax: AT*PIOSET?

Reply: *PIOSET=io1,mo[,cn][,txt]
 *PIOSET=io2,mo[,cn][,txt]
 *PIOSET=io3,mo[,cn][,txt]
 *PIOSET=io4,mo[,cn][,txt]
 *PIOSET=io5,mo[,cn][,txt]
 *PIOSET=io6,mo[,cn][,txt]
 OK

Example: AT*PIOSET?
 *PIOSET: 1,1,"01792345345","Panic Alarm"
 *PIOSET: 2,0,"", ""
 *PIOSET: 3,2,"+4917665465","Test Message"
 *PIOSET: 4,4, "", ""
 *PIOSET: 5,5, "", ""
 *PIOSET: 6,9, "", ""
 OK

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

7 Messages

7.1 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 the Switching Output](#)).

Message: *PSOUT:o,x

Parameter: o: Output	//	1-6
x: Switch mode	//	0: Output OFF
	//	1: Output ON
	//	2: 5 seconds ON

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

7.2 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](#))

7.3 Position Message

This message is the reply on a positioning request.

Message: *PGETPOS:timestamp,latitude,longitude,sc,hdop,speed,course

Parameter:	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: *PGETPOS: 08.07.23 18:37:10,52.9784,14.1226,3D,3.00,0.03,98
OK

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

8 Commands for the Positioning Feature

If the PTCarPhone 5 is equipped with a GPS receiver, commands for positioning are available. These commands allow positioning on request. For requests by text message, the reply is only sent to the phone number of the originator of the command.

8.1 Position Query

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

8.1.1 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](#))

8.1.2 Position Query

Syntax: AT*PGETPOS

Parameter: None

Reply: Position notification (see [8.3 Position Message](#))
OK

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

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

9 Configurations

9.1 Volume

The following commands are used to set and read out the volume parameters.

9.1.1 Query

Syntax: AT*PSETVOL?

Reply: *PSETVOL: a,b,c,d // a: Handset 1 Vol 0-6
 OK // b: Handset 2 Vol 0-6
 // c: Handsfree Vol 0-6
 // d: Ringtone Vol 0-6

Example: AT*PSETVOL?
 * PSETVOL: 5,2,1,1
 OK

Available: Serial interface, USB (only if USB service interface is active);
 (see [1.2 Command Structure](#))

9.1.2 Setting the Volume

Syntax: AT*PSETVOL=a,b,c,d

Parameter: a,b,c,d // a: Handset 1 Vol 0-6
 // b: Handset 2 Vol 0-6
 // c: Handsfree Vol 0-6
 // d: Ringtone Vol 0-6

Reply: OK

Example: AT*PSETVOL=1,3,2,6
 OK

Available: Serial interface, USB (only if USB service interface is active);
 (see [1.2 Command Structure](#))

9.1.3 Increasing and Decreasing the Volume during a Call

The following commands are used to increase and decrease the volume during a call.

9.1.3.1 Increasing the Volume

Syntax: AT*PVOLUP

Reply: +PVOL: m,n // m=1 Handset 1
 OK // m=2 Handset 2
 // m=3 Handsfree
 // n=0-6 Volume

Example: AT*PVOLUP
 +PVOL: 3,1
 OK

Available: Serial interface, USB (only if USB service interface is active);
 (see [1.2 Command Structure](#))

9.1.3.2 Decreasing the Volume

Syntax: AT* PVOLDOWN

Reply: +PVOL: m,n // m=1 Handset 1
 OK // m=2 Handset 2
 // m=3 Handsfree
 // n=0-6 Volume

Example: AT*PVOLDOWN
 +PVOL: 3,1
 OK

Available: Serial interface, USB (only if USB service interface is active);
 (see [1.2 Command Structure](#))

9.2 Power down

The following command puts the PTCarPhone [device] into standby mode. Waking up of the PTCarPhone can be done via the ON / OFF key of the handsets, via ignition and the available inputs (Inputs "2" and "6").

Syntax: AT*PSHDN

Reply: OK

Example: AT*PSHDN
OK

Available: Serial interface, USB (only if USB service interface is active);
(see [1.2 Command Structure](#))

9.3 Get SIM Pin State

Syntax: AT+CPIN?

Reply: +CPIN: <code> // READY - Module is not pending for any password
OK // SIM PIN - Module is waiting SIM PIN to be given
// SIM PUK - Module is waiting SIM PUK to be given

Example: AT+CPIN?
+CPIN: READY
OK

Available: Serial interface, USB (only if USB service interface is active);
(see [1.2 Command Structure](#))

9.4 Set SIM + PUK pin

9.4.1 Set SIM pin

Syntax: AT+CPIN=<pin>

Parameter: <pin> - string type value

Reply: OK

Example: AT*CPIN=0000
OK

Available: Serial interface, USB (only if USB service interface is active);
(see [1.2 Command Structure](#))

Note:

If the error "+CME ERROR: 16" occurs after entering the pin, the pin input was wrong.

If the error "+CME ERROR: 12" occurs after entering the pin, the pin input was wrong and the PUK is required.

9.4.2 Set PUK Pin

Syntax: AT+CPIN=<puk>,<newpin>

Parameter: <puk> - string type value
<newpin> - string type value. Maximum length 8 digits.

Example: AT+CPIN=12345678,0000
OK

Available: Serial interface, USB (only if USB service interface is active);
(see [1.2 Command Structure](#))

9.5 Mute or Unmute Microphone

Mutes or unmutes the microphone during a call.

Syntax: AT*PMUTE=a

Parameter: a // a=1 Mute
// a=0 Unmute

Reply: OK

Example: AT*PMUTE=1
OK

Available: Serial interface, USB (only if USB service interface is active);
(see [1.2 Command Structure](#))

9.6 Call handover

Passes an active call to another device (handset 1 or handset 2).

Syntax: AT*PCALLHANDOVER=a

Parameter: a // a=1 Handset 1
// a=2 Handset 2

Reply: OK

Example: AT*PCALLHANDOVER=1
OK

Available: Serial interface, USB (only if USB service interface is active);
(see [1.2 Command Structure](#))

Please consider the following:

If I trigger a call handover to the handset 1, then all display elements and acoustic signals for this handset are activated.

At the same time, a message is issued via the serial interface (also USB) to signal that the handset is ringing.

+PRING: 1 → every 5 seconds

+PRING: 1

...

If the call is accepted, the following message appears:

+PRING: 0

If the call is not answered after 5 rings, the call is automatically returned to the trigger and the following message is sent:

+PRING: 2

If the call is aborted during the handover, this is notified via the call indication (ECAM).

→On the handset, the call handover can be triggered by pressing the right soft key "intern".

Then the following message is output as a ring indication on the serial interface (also USB):

+PRING: 1

Call acceptance takes place with an external device with the command:

AT*PCALLATA

9.7 Switch Incognito Modes On/Off

In incognito mode, calls are made without passing on the phone number to the receiving device.

9.7.1 Read Incognito Mode

Syntax: AT+CLIR?

Reply: +CLIR: a,b // a: facility status on the Mobile
 OK // b: facility status on the Network

// <a> - facility status on the Mobile
 // 0 - CLIR facility according to CLIR service network status
 // 1 - CLIR facility active (CLI not sent)
 // 2 - CLIR facility not active (CLI sent)

// - facility status on the Network
 // 0 - CLIR service not provisioned
 // 1 - CLIR service provisioned permanently
 // 2 - unknown (e.g. no network present, etc.)
 // 3 - CLI temporary mode presentation restricted
 // 4 - CLI temporary mode presentation allowed

Example: AT+CLIR?
 +CLIR: 2,4
 OK

Available: Serial interface, USB (only if USB service interface is active);
 (see [1.2 Command Structure](#))

9.7.2 Set Incognito Mode

Syntax: AT+CLIR=a

Parameter: a // <a> - facility status on the Mobile
 // 0 - CLIR facility according to CLIR service network status
 // 1 - CLIR facility active (CLI not sent)
 // 2 - CLIR facility not active (CLI sent)

Reply: OK

Example: AT+CLIR=1 //Incognito On
 OK
 AT+CLIR=2 //Incognito Off
 OK

Available: Serial interface, USB (only if USB service interface is active);
 (see [1.2 Command Structure](#))

10 Direct calls

10.1 Start a call with number

Syntax: AT*PCALLATD=n

Parameter: n // n = Phone number

Reply: OK

Example: AT*PCALLATD=+4915324324321
OK

Available: Serial interface, USB (only if USB service interface is active);
(see [1.2 Command Structure](#))

10.2 End or reject a call

Syntax: AT*PCALLATH

Reply: AT*PCALLATH
OK

Available: Serial interface, USB (only if USB service interface is active);
(see [1.2 Command Structure](#))

10.3 Accept an incoming call

Syntax: AT*PCALLATA

Reply: OK

Example: AT*PCALLATA
OK

Available: Serial interface, USB (only if USB service interface is active);
(see [1.2 Command Structure](#))

10.4 DTMF tones

Syntax: AT+VTS=<dtmfstring> [,duration] (See Telit command description)

Parameter:	<dtmfstring>	// String of <dtmf>s, i.e. ASCII characters in the set (0-9), // #,*,(A-D); it allows the user to send a sequence of DTMF // tones, each of them with a duration that was defined // through +VTD command.
	<duration>	// Duration of a tone in 1/100 sec.; this parameter can be // specified only if the length of first parameter is just one // ASCII character. // 0 - a single DTMF tone will be transmitted for a duration // depending on the network, no matter what the current // +VTD setting is. // 1..255 - a single DTMF tone will be transmitted for a time // <duration> (in 10 ms multiples), no matter what // the current +VTD setting is.

Note: This command operates in voice mode only (see +FCLASS).

Note: The character P does not correspond to any DTMF tone, but it is interpreted as a pause of 3 seconds between the preceding and succeeding DTMF string elements.

Reply: OK

Example: AT+VTS =1,10
OK

Available: Serial interface, USB (only if USB service interface is active);
(see [1.2 Command Structure](#))

11 Call lists

11.1 Get call lists

Syntax: AT*PGETCALLLIST=n // 1..7 sum of integers each representing a specific
// call list

Parameter: n: sum of call lists
1 = missed calls
2 = incoming calls
4 = outgoing calls

Reply: *PGETCALLLIST:a,b,c,d,e,f,g // a: List type
OK // b: Memory 1-10
// c: Last name
// d: First name
// e: Phone number
// f: Date/Time YYYY-MM-DD HH:MM:SS
// g: Unix timestamp in seconds from 1970

Example: AT*PGETCALLLIST=7
*PGETCALLLIST: "missed calls",1,""Schulze","Dieter""","+491792225122""
2019-04-16 15:14:26,1555427666
*PGETCALLLIST: "incomming calls",1,"Mustermann","Max","+491792225122",
2019-04-16 15:14:26,1555427652
*PGETCALLLIST: "outgoing calls",1,"Mayer","Klaus","01792225122",
2019-04-16 15:14:26,1555427634
OK

Available: Serial interface, USB (only if USB service interface is active);
(see [1.2 Command Structure](#))

11.2 Delete call lists

Syntax: AT*PDELCALLLIST=n // 1..7 sum of integers each representing a specific call list

Parameter: n: sum of call lists // 1 = missed calls
// 2 = incoming calls
// 4 = outgoing calls

Reply: OK

Example: AT*PDELCALLLIST=7
OK

Available: Serial interface, USB (only if USB service interface is active);
(see [1.2 Command Structure](#))

12 Sending & receiving SMS (PDU)

12.1 Sending SMS

Syntax: AT*PSENDPDU SMS=PDU // PDU length maximum 400 characters

Parameter: PDU // The PDU shall be hexadecimal format (each octet of the PDU is given // as two IRA character long hexadecimal number) and given in one line.

Note:

When the length octet of the SMSC address (given in the PDU) equals zero, the SMSC address should be set with command +CSCA (see Telit command description for the HE910); in this case the SMSC Type-of-Address octet shall not be present in the PDU.

Reply: > 0011010B811097225221F20000AD06D2B7B82CA703?6D2B7B82CA7030x1A
 +CMGS: <mr> // <mr> - message reference number.
 OK // The **green** marked char is a system-generated character for completing the message.

Note:

If message sending fails for some reason, an error code is reported (see Telit command description for the HE910).

Example: AT*PSENDPDU SMS=0011010B811097225221F20000AD06D2B7B82CA703
 > 0011010B811097225221F20000AD06D2B7B82CA7030x1A
 +CMGS: 90
 OK

Available: Serial interface, USB (only if USB service interface is active); (see [1.2 Command Structure](#))

12.2 Reading SMS

All incoming messages can be read, if the API is enabled.

Syntax: +CMT: <sender>,<length><CR><LF><pdu>

Parameter: <sender>: If it is stored in the internal Telit directory.
 <length>: - PDU length
 <pdu>: - PDU message

Example: +CMT: "",24<CR><LF>
 0791947106004049040D91947146676872F300009140033105748004F4F29C0E<CR><LF>

Available: Serial interface, USB (only if USB service interface is active);
 (see [1.2 Command Structure](#))

END OF DOCUMENT