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GPS Vehicle tracker

(VT206)

GPRS Protocol

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1. Login Data Packet (Data to server:AP00, Answer:BP00)

Example:	
TRVAP00353456789012345#	
TRV: Flag, 3bit	
AP00: Command Code, 4bit	
353456789012345: Tracker IMEI number, 15byte	
#: End Mark	
Answer:	Server Answer: TRV BP00 #
Note:	Tracker will resend login data when disconnect with server, server must answer

2. Location Data Packet, GPS+LBS+Status (Data to server: AP01, Answer:BP01)

Data	Content	Type	Length (byte)	Destription
Start bit	TRV	CHAR	3	
Command Code	AP01	C_STRING	4	
Information Type		C_STRING	75	
Information Content	GPS,LBS,Status			
End Mark	#	CHAR	1	

Example		
yyymmdd,S, xxmm.dddd, <N S>,yyymm.dddd,<E W>,speed, hhhmss, h.h, GSM, GPS, Battery, ACC, Arm, Mode,		
TRVAP01080524A2232.9806N11404.9355E000.1061830323.8706000908000102,460,0,9520,3671#		
Parameter	Description	Example
TRV	Flag	TRV
AP01	Command code	
yyymmdd	Y=year, M=month, D=date	080524 : May. 24 th , 2008
S	GPS signal status, A = valid, V = invalid (then use LBS data for locating)	A: GPS signal valid
xxmm.dddd	Latitude xx = degrees;	2232.9806N Northern latitude 22degree

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	mm = minutes; dddd = decimal part of minutes	32.9806minutes
<N S>	Either character N or character S N = North, S = South	N = North
yyymm.dddd	Longitude yyy = degrees; mm = minutes; dddd = decimal part of minutes	11404.9355 East longitude 114degree, 04.9355 minutes
<E W>	Either character E or character W E = East, W = West	E =East
Speed	Speed, in unit of knot.	000.1 000.1 km/h
hhmmss	GMT time hh = hours; mm = minutes; ss = seconds;	061830 06 : 18 : 30
h.h	Heading Report	323.87= 323.87degree
GSM	GSM signal Value	060 GSM Signal=60 Full signal is 100
GPS	Number of satellite	009 GSM satellite quantities =9
Battery	Battery Value	080 Battery Balance=80%
ACC	ACC Status 0= ACC no active 1= ACC ON 2= ACC OFF	1 ACC ON
Arm	The status of Arm/Disarm 01 = Arm 02= Disarm 00= No Setting	01 Arm status
Mode	Working Mode 00= No Setting	
LBS	LBS Data.	460,0,9520,3671 460: Country Code, 460 is China 0: MNC. Eg. 0 means China Mobile 9520: LAC, in Decimal 3671: CID, in Decimal Note: if gps signal status is invalid, then use LBS data for location

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Answer:	Server Answer: BP01 TRVBP01#
Note:	<ol style="list-style-type: none"> 1. No need answer this data if server no request, to save gprs cost 2. Decode as per data length, data bit and length should be exactly same as protocol. Or it will cause wrong decode.

3. Tracker Alarm, reply location (Data to server: AP10, Answer:BP10)

Example:	
<p>TRVAP10080524A2232.9806N11404.9355E000.1061830323.8706000908000502,460,0,9520,3671,00,zh-cn,00#</p> <p>TRV: Flag</p> <p>AP10: Command Code</p> <p>00: Alarm Status</p> <p>00=no alarm, 01=SOS, 02=Power Disconnect, 03=Vibration, 04=enter geo-fence, 05 = exit geo-fence, 13=speeding alarm, 09=movment alarm)</p> <p>zh-cn: Device language</p> <p>00:The first 0 = if need answer location? 0=No need answer, 1=Answer The second 0= if location data included mobile URL? 0=No, 1=Included</p>	
Answer:	<p>Server Answer: BP10,</p> <p>Note: if no need answer location, then data packet keep blank for address part as below.</p> <p>TRVBP10df157335e0253575c71533a53576d7759279053003100300037003953f7002000200068007400740070003a002f002f007700770077002e006700700073002e0063006f006d002f006d00610070002e0061007300700078003f006c00610074003d00320033002e0031003200330026006c006e0067003d003100310033002e003100320033#</p> <p>Server answer location , content is NUICODE in hex, above example content is as below:</p> <p>Address: No. 1079, Nanhai Road, Nanshan, Shenzhen</p> <p>http://www.gps.com/map.aspx?lat=23.123&lng=113.123</p>

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	Note: The language of content up to AP10 data packet, if tracker need answer with URL is the same
Note:	<ol style="list-style-type: none"> 1. Server must answer. 2. Decode as per data length, data bit and length should be exactly same as protocol. Or it will cause wrong decode.

4. Update SOS Numbers (Data to server: AP21, Answer: BP21, report to server once set via SMS command)

Example:	
TRVAP21 13412341234 #	
AP21: Command Code	
13412341234: SOS number, multi-group SOS numbers separated via comma	
Server fixed with one set of SOS numbers	
Answer:	Server answer: TRV BP21 #
Note:	Server must answer

5. Heartbeat data packet (Data to server: CP01, Answer: DP01)

Example:	
TRVCP01, 0600090800020030101010020111 #	
CP01: Command code	
This command is used for keeping server and tracker's connection, fixing gps wobble when tracker is stationary	
060009080002003010101002011	
060 = GSM Signal Value	
009 = Numbers of GPS Satellite	
080 = Battery Value	
0 = ACC Status ACC=1 ACC ON, ACC =0 ACC OFF	
02 =Working mode, Arm or Disarm status (00=no setting)	

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<p>0030 = gprs time interval , 30seconds</p> <p>1 = manually set Arm (vibration alarm, 1 = open , 2 = close)</p> <p>010 = the sensitivity of vibration sensor</p> <p>1 = automatically Arm, 1=open, 2 = close</p> <p>0020 = automatically Arm time, 20seconds</p> <p>1 = Oil and electricity status, 1=open, recover oil, 2 = close , cut off oil</p> <p>1 = external power status, 1= connected with external power, 2= disconnected with external power, 0 = no external power</p> <p>1 = Tracker moving status, 1 = tracker is moving, 2= tracker is stationary 0 = invalid status</p>	
Answer:	Server Answer: TRV DP01 #
Note:	Time interval of heartbeat = 3mins is suggested, more than 5mins may cause TCP disconnection.

6. Remotely ARM&DISARM (Data to tracker: BP02, Answer: AP02)

Example:	
<p>TRVBP020000010#</p> <p>BP02: Command</p> <p>000001: Server send serial number, tracker answer</p> <p>0: 0=ARM, 1=DISARM</p>	
Answer:	<p>Tracker Answer: TRVAP020000010#</p> <p>000001: The serial number sent from server, tracker answer</p> <p>0: Command working status, 0=successful, 1=failed</p>
Note:	Terminal must answer command

7. Remotely Cut Oil and Electricity (Data to tracker: BP03, Answer: AP03)

Example:	
<p>TRVBP030000020#</p> <p>BP03: Command code</p> <p>000002: Server send serial number, tracker answer</p>	

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0: = oil cut, 1= electricity cut	
Answer:	Server Answer: TRV AP03 0000020# 000002: The serial number sent from server, tracker answer 0: Command working status, 0=successful, 1=failed
Note:	Terminal must answer command

8. Remotely Recover Oil and Electricity (Data to tracker: BP04, Answer: AP04)

Example:	
TRVBP040000030# BP04: Command code 000003: Server send serial number, tracker answer 0: = oil recover, 1= electricity recover	
Answer:	Tracker Answer: TRV AP04 0000030# 000003: The serial number sent from server, tracker answer 0: Command working status, 0=successful, 1=failed
Note:	Terminal must answer command

9. Set Speeding (Data to tracker: BP06, Answer: AP06)

Example:	
TRVBP06000005080# BP06: Command Code 000005: Server send serial number, tracker answer 080: Limit speed 80km/h	
Answer:	Tracker Answer: TRV AP06 0000050# 000005: The serial number sent from server, tracker answer 0: Command working status, 0=successful, 1=failed
Note:	Terminal must answer command

10. Set GPRS time interval (Data to server: BP07, Answer: AP07)

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TRVBP07000080020#	
BP07: Command code	
000008: Server send serial number, tracker answer	
0020: set GPRS time interval = 20seconds	
Answer:	Tracker Answer: TRV AP07 0000080# 000008: The serial number sent from server, tracker answer 0: Command working status, 0=successful, 1=failed
Note:	Terminal must answer command

11. Set Tracker language (Data to tracker: BP08, Answer: AP08)

Example:	
TRVBP08000009,zh-cn#	
BP08:Command	
000009: Server send serial number, tracker answer	
,: separated symbol	
zh-cn: Language, international standard, eg.: en-us = English, ,fr = French	
Answer:	Tracker Answer: TRV AP08 0000090# 000009: The serial number sent from server, tracker answer 0: Command working status, 0=successful, 1=failed
Note:	This Command is suitable for all trackers

12. Set SOS number (Data to server:BP11, Answer: AP11)

Example:	
TRVBP1100000413412341234#	
BP11: Command code	
000004: Server send serial number, tracker answer	
13412341234: SOS numbers, multi-group numbers are available, separated by comma	
Server fixed with one set of SOS numbers	
Answer:	Tracker Answer: TRV AP11 0000040# 000004: The serial number sent from server, tracker answer 0: Command working status, 0=successful, 1=failed Only tracker answered, server updated SOS number and save it on server

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Note:	Terminal must answer command
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13. Forward Content from Server (Data to tracker: BP13, Answer:AP13)

Example:	
<p>TRVBP1300000406df157335e0253575c71533a53576d7759279053003100300037003953f7002000200068007400740070003a002f002f007700770077002e006700700073002e0063006f006d002f006d00610070002e0061007300700078003f006c00610074003d00320033002e0031003200330026006c006e0067003d003100310033002e003100320033#</p> <p>BP13: Command</p> <p>0: 0 = only forward content to SOS number, 1 = only forward content to authorized phone number, 2= forward content both to SOS numbers and Authorized phone numbers</p> <p>Latter part is UNICODE Content, tracker will forward this part to specific phone number</p>	
Answer:	<p>Tracker answer: TRVAP130000040#</p> <p>000004: The serial number sent from server, tracker answer</p> <p>0: Command working status, 0=successful, 1=failed</p>
Note:	Terminal must answer command

4. AGPS (Data to server: AP14, Answer: BP14)

Example:	
<p>TRVAP14,460,0,9520,3671#</p> <p>AP14: Command Code</p> <p>460,0,9520,3671 : LBS GSM Station data, MCC=country code, 460 = China, 0:MNC= China Mobile, 9520 = LAC, in decimal, 3671,CID, in decimal</p>	
Answer:	<p>Server Answer: TRVBP14,23.113,113.123#</p> <p>23.113,113.123: latitude , longitude</p>
Note:	<ol style="list-style-type: none"> Terminal must answer command Answered latitude and longitude suggested keeping 5 bit

14. Set speed when tracker stationary (Data to tracker: SD01, Answer:SU01)

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TRVSD01000008001#	
SD01: Command Code	
000008: Server send serial number, tracker answer	
010: the first 2 bit are integer part, the third bit is decimal part, 010 = regard tracker statically when speed lower than 1km/h.	
Answer:	Tracker Answer: TRV SU01 0000080# 000008: The serial number sent from server, tracker answer 0: Command working status, 0=successful, 1=failed
Note:	Terminal must answer command

16. Tracker update tracker info (Data to server: INFO)

Example:	
TRVINFO,355512345678910,W20_IN_V1_27_20140624,CKT50D_3232_11B_HW,100,gps.sdwzt.net,8011,cmnet,30,1,7,1,1,1,1#	
<p>TRV: Flag</p> <p>INFO: Command Code</p> <p>355512345678910: IMEI Number</p> <p>W20_IN_V1_27_20140624: Firmware version</p> <p>CKT50D_3232_11B_HW: Hardware version</p> <p>100: GSM signal</p> <p>gps.sdwzt.net: server IP/domain</p> <p>8011: server IP</p> <p>cmnet: APN</p> <p>30:GPRS Time Interval, Unit = second, minimum time interval = 10sec</p> <p>1: GPS Working Status, 1 = working normal, 2 = not working</p> <p>7: Numbers of GPS satellite</p> <p>1: Power disconnect alarm, 1=open, 0=close</p> <p>1: Power disconnect alarm, 1 = working normal, 2 = not working</p> <p>1: Vibration Alarm, 1=open, 0=close</p> <p>1: Vibration Alarm status, 1 = working normal, 2 = not working</p>	
Answer:	TRVINFO,OK# Server Answer: Successful: TRVINFO,OK# Failed: TRVINFO,FAIL#
Note:	This Command is suitable for all trackers

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	<p>Server analyze TRVINFO data package, if all data correct answer with “successful”, otherwise answer with “failed”</p> <p>Note: No need check power disconnect alarm</p>
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17. Set tracker automatically ARM & DISARM (Data to server: BP72, Answer: AP72)

Example:	
TRVBP7200000130#	
BP72: Command Code	
000001: Server send serial number, tracker answer	
30: Set time interval, 00-60mines, 00= cancel this function, unit = minute	
Tracker will be automatically ARM or DISARM when vehicle stop moving reach preset time	
Answer:	Tracker Answer: TRV AP72 0000010# 000001: The serial number sent from server, tracker answer 0: Command working status, 0=successful, 1=failed
Note:	Terminal must answer command

18. Set SMS Alarm (Data to tracker: BP73, Answer: AP73)

Example:	
TRVBP730000011#	
TRV: Flag	
BP73: Command Code	
000001: Server send serial number, tracker answer	
1: 1 = open SMS alarm, 0 = close SMS alarm	
#: End Mark	
Answer:	Tracker Answer: TRV AP73 0000010# 000001: The serial number sent from server, tracker answer 0: Command working status, 0=successful, 1=failed
Note:	Terminal must answer command

19. Set Over Speeding (Data to tracker: BP74, Answer: AP74)

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TRVBP7400001,600,120# TRV : Flag BP73 : Command Code 000001 : Server send serial number, tracker answer 600 : Alarm time of duration 120 : speeding speed #: End Mark	
Answer:	Tracker answer: TRV AP740000010 # 000001 : The serial number sent from server, tracker answer 0 : Command working status, 0=successful, 1=failed
Note:	Terminal must answer command

20. Server and Tracker Time Synchronization (Data to server: AP76, Data to tracker: BP76)

Example:
TRVAP76# TRV : Flag AP76 : Command Code #: End Mark
Server Answer: TRVBP7620150114073900# TRV : Flag BP76 : Command code 20150114073900 : Server current UTC0 time, Jan. 14 th , 2015, 07:39:00 #: End Mark
Terminal must answer command

21 . Delete SOS Number (Data to server: BP77, Answer: AP77)

Example:
TRVBP77000001, 1,0,1 # TRV : Flag BP77 : Command Code 000001 : Server send serial number, tracker answer 1 : the first SOS number, 1 = delete the first SOS number, 0 = keep 0 : the second SOS number, 1 = delete the second SOS number, 0 = keep 1 : the third SOS number, 1 = delete the third SOS number, 0 = keep

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#: End Mark	
Answer:	Tracker answer: TRV AP77 0000010# 000001 : The serial number sent from server, tracker answer 0 : Command working status, 0=successful, 1=failed

22. Synchronization (Data to server AP57 , data to tracker BP57)

Example:	
TRVAP57, 5555555555555555 , 1,00,60 ,13410937109 13310937109 13501837108#	
AP57: Command Code	
5555555555555555 : Tracker IMEI number	
1 : Set Arm/disarm 1=Arm, 0=Disarm	
0 : oil and electricity status is from the left one bit, 0 = oil and electricity connected, 1 = oil and electricity disconnected	
60 : time interval, unit = second, 60=60seconds	
13410937109 13310937109 13501837108 : length of SOS number no limit, separated by “ ”	
Answer:	TRVBP57,OK#
Note:	<ol style="list-style-type: none"> 1. Terminal must answer command 2. If tracker no receiving of answer from server for more than 2mins when tracker update data to server, tracker shall consider keep update accordingly.