GPRS Communication Protocol

TV680 TV690

1、This protocol all use the ASCII Code to communication，in the protocol we use "#" for Control Character, please avoid "#" in the communication, if can't, you can use other character to instead of "#"

2、All of the control and configuration command except special command, the server should give the feedback information.

PS ：The command of Configuration is start from "#", if there are some more command ,also use "#" to separate it, every data we use （,） to separate it in the group，all of the command we use two "#" to over, if necessary , every command we can use Enter" to change the line.

3、Whatever use SMS or GPRS way, the Configuration function and data exchange all is the same of our protocol .

4、This unit have some ability can leach the unwanted character from the Controller Command and Data Package automatically.

5、There are a unique IMEI Code, (15 digits) for the identity of this unit .

6. You can use SMS Way to send more control command to the unit, and the unit will implement one by one, using * to separate the different command.

7. All of the places of Latitude and Longitude including Interface, we all use "Degree" format. All of the Speed Interface, we all use Km/h.

Add Monitor Function 555+Password
1. The default Configuration of this unit is: Every two minutes get a data, and will send the data to the server after get two data.
2. All of the Alarm Information such as Over/Return Fence, Low Power alert, SOS Alert... The information will return to the Center and Assistant Center. How to set the Assistant Center : 0755134xxxxxxxx0000
3. If the SOS Alert is Happen, the unit will send one data to the Center and Assistant Center, and then call the three pre-saved number in the tracker.
4. Add Light of Switch On, press "Power" button, after successful, the light will be light 30secs.
5. The unit will send the last Available data to the server automatically from work normally (GPS have signal) to Non GPS Signal. If switch off the unit, the unit will not save the last Available Data.
5. 751 command set the Geo-Fence should use the "Degree, minutes" Format.
6. Call the phone and hang off before hang off. The feedback is the same as 666 command, return position information.
7. 666 Command：if the unit check the area zone is East 8, after send 666 command. The users wait one minute and will receive a TXT message from the center. If over time, the center will send the latitude and longitude information to the users. If the unit checks the area zone is not East 8 Zone, the users will receive the latitude and longitude information.

Configuration Command：

1、Set the Center Number Command：#710#center number 4-20 digits #password 4digit##

After you set this number successful, when the users press SOS Button above 3sec, the tracker will send the feedback to this number.

Eg：#710#1066512000#0000##。So the Center Number is ：1066512000 Password：0000。After successful the tracker will reply：CONFIG OK，If the password error, the tracker will reply： PASSWORD ER。

2、Set the Dial Number Command：#711#user number 1#user number2#user number3#password##

This Command is for the Authority number, you set three numbers. When the number calls the unit, if the users don't hang off above 8 sec, the tracker will hang off automatically. If the users hang off between 8sec, tracker will send the position information according the work mode. If the tracker receives the number which is not register, the tracker will hang off automatically.

Eg ：#711#13900139000###0000##。1390013900 is the first number in the tracker。After successful, the users will receive "CONFIG OK "，if the password is wrong, the users will receive " PASSWORD ER "

3、Set the upload time and PCS of number command：

command number 730# Sampling interval # Pieces of uploads # User password

Example: #730#20#4#0000##

Notes: The parameter “20”indicates getting one point every 20s; after getting points accumulatively for 4 times,

upload one piece of positioning information with the upload interval as 20*4=80s. The user may change this parameter as the case may be.

4. Set the GSM Fence Command: #740#Password##

The Unit will Read the GSM Base Information, including Main base information and neighbor base information. the unit will take the front 4 digits to save it in the units if there are more different 4 digits should be save it. and also open the Geo Fence function, in this state, the units will read all of the base data one time in every 5 minutes, and the unit will compare it with the data which units configured. If there are different, the unit will take alarm.

After the command is successful, the unit will send a message to the users which is "CONFIG OK", when the password is error, the users will receive "PASSWORD ER"

Eg：#740#0000##。After Successful, the unit will take alarm after above 3-5 miles.

5. **Set the Geo- Fence Command：#750 #Radius(Five Digits)#Interval Time(Minutes)#Password##**

Choose the current point be the base point.

After set this command successful, the unit will open the fence function, the unit will compare the data which the user set the interval time and PCS of number. if the unit above the wide, the unit will take alarm, after successful, the users will receive "CONFIG OK", when the password is wrong, the users will receive a message which is "PASSWORD ER"

Eg：

#750##500#5#0000##。This is for 500M, after successful; the users will receive a message which is “CONFIG OK"

When the unit above the Fence, the unit will send a message to the users which is ：OBJIECT OUT

6. Electronic Fence Function：

(1)GPS Fence Function

The guardian could get the center spot of a fence through Google map or single inquiry.

Set Fence Format:

command number (751) # fence radius # sampling interval # longitude # latitude # user password ##.

Example: #751#500#5#22.5442N#113.91E#0000##

After the setup is successful, the mobile phone will receive a piece of ‘CONFIG OK’. Then, each time when the ward leaves this area, the terminal will send the alarming information of being out of the fence to the center number.

7. Read the Geo Fence Command：#752 #password##

When the password is wrong, the users will receive "PASSWORD ER”

Eg：open:1#lat:11456.209400#lng:2233.470100#distance:500#time:5#status:2

：open:1 Fence Open，open:0 close the fence

lat:11456.209400，longitude

lng:2233.470100，latitude

distance:500，radius

time:5，interval time

Status: 2 Available GPS Data, Geo Fence work normally

Status: 1 Geo Fence open, uses can't get the Available GPS Data

Status: 0 No Geo Fence

8. Cancel the Fence command：#760 #Password##

After successful, the uses will receive "CONFIG OK"，then the tracker will cancel the fence function, when the password is wrong, the users will receive "PASSWORD ER "

9. Change the Password Command : #770#new password #old password##。

After successful, the uses will receive : CONFIG OK，when the password is wrong, the users will receive : PASSWORD ER。

Eg：#770#1111#0000##。Then the password will be 1111

10. Set User name Command

SMS Command Format: #801#4~20-digit letters or numbers #4-digit password ##
Example: #801#13900139000#0000##

Notes: After executing this command, the user name of the terminal on GPRS mode is required to be set up according to actual demand. After the setup is successful, the terminal will send reply with 'confirm ok' or 'PASSWORD ERROR' if the password is wrong.

11. Set the APN Command :

Send SMS command #802#APN letters or digits, 4-20 bits # Log user name letters or digits 4-20 bits in # Log password letter or digits 4-20 bits in # terminal password 4 bits ## to the terminal; after executing this command, the terminal will automatically restart and connect to GPRS with APN set.

Command example 1: #802#cmnet###0000###

Command example 2: #802#CCDLEN#QIUXIA.21#RX0000#0000##

After this command is executed, APN will be CCDLEN; the login user name is QIUXIA.21 and login password is RX0000.

Note: The default APN of this product is CMNET.

12. Set IP Command:

Command Format: #803# Fixed IP address# port number#4-digit password##

After successful, the tracker will send a message to the users which is "CONFIG OK "，when Password wrong, the message is "PASSWORD ER "

Eg：#803#210.82.89.132#8123#0000##

Control operation command:

1、**Command of returning the base station data by SMS：**111+password(4 figures)

According to read the base station data and status information of its location, Terminal will return the data as the following format after implementing this command.

#base station information，1base station informationn#state (1 figure)#user password(4 figures)# request number##。When GPIO2 is "high"，its state is "1"，otherwise, it is"0"。It will reply "PASSWORD ER" when password is wrong。

例：#25738841#1#0000#13900139000##

2、**Command of Controlling GPS data returned by SMS：666+** user password(4 figures)

Read GPS data according to the setting and send return as the following format. It will send back up data If cann't read the valid GPS data under 2 minutes. If having no back up data, it will send the base station information.

Data format as follows:

Lat：latitude direction（+/-） latitude value（precision is to 5 figures after the decimal point）

Long：:longitude direction（+/-） longitude value（precision is to 5 figures after the decimal point）

Speed：speed KM/H（precision is to 2 figures after the decimal point）

Direction：course（precision is to 2 figures after the decimal point）

Date：date YYYY-MM-DD

Time：time HH：MM：SS (Greenwich Mean Time)

BS： base station information

FIX: Orientation state.（A/V）

ID：IMEI

STATE: information state（Decimal degree format）

Note: the format of the latitude and longitude which in the last Bracket must be the decimal degrees format after transformation.

If the terminal has been checked at the eight district in Eastern time zone, the terminal need wait for 1 minute to get the text location information which is from the center after this command is sent successful. And then send this information to user cell phone .when overtime (beyond 1minute), only send the latitude and longitude information to user cell phone. If the terminal has not been checked at the eight district in Eastern time zone, it will return the latitude and longitude information according to data format.

data format is returned from the center:

Text messages #state# speed#latitude，longitude##

eg：#Shenzhen Luohu District Shennan East Road #1# 0.0#22.5461,114.1236##

3. **Monitor function**：555+password

the terminal will give a call to the monitor cell phone when the terminal receive this command. If the terminal have been stored the cell phone number in advance, only the cell phone number can monitor. If have not stored the cell phone number in advance, any the cell phone can monitor.

Note: don't let the person who is monitored detect the sound of screen or others. This command implement on the terminal which with screen and ring as A680.

4. Control the way returned by cell phone

When a call from one of the stored phone number comes in, and hangs up after ringing and vibrating 2-5 times. The terminal will ask location information for server center, and then send to the request cell phone by SMS. if overtime, sending the latitude and longitude information to request cell phone（ its format is the same as 666 command）。

data format is returned from the center：

Text messages #state# speed#latitude，longitude##

eg：#Shenzhen Luo HU District ShenNan East Road #1# 0.0#22.5461,114.1236##

note：1. Don't store the cell phone number in advance: any cell phones call the terminal, the terminal will return its location information if it can.

2. Have stored the cell phone number in advance: the terminal will return its location information only when the cell phone stored calls it.

5. Control the way returned by SMS：

The terminal returns GPS location information immediately when pressing its SOS button.

The way of SMS and GPRS are the same :

#IMEI code(15 figures)#user name#state#password# Type of data # data amount #base station information#longitude,E,latitude,N,speed,course#date#time##

eg：

#135790246811222#13486119277#1#0000#SOS#1#27bc10af#11407.4182,E,2232.7632,N,0.00,79.50#070709#134147.000##

6. The way returned at the specified time：

When the terminal returns the data as the specified time, the data format as follows:

the way of SMS：

#EMI code(15 figures)#user name#state#password# Type of data # data amount #base station information#longitude,E,latitude,N,speed,course#date#time##

eg：

#135790246811222#13486119277#1#0000#SOS#1#27bc10af#11407.4182,E,2232.7632,N,0.00,79.50#070709#134147.000##

the way of GPRS：

#IMEI code(15figures)#user name#state#password# Type of data # data amount #base station information,,#longitude,latitude,speed,course#date#time#basestation information#longitude,latitude,speed,course#date#time##

The terminal only transfer the effective information, if it can't receive valid GPS information in the corresponding period, the terminal does not open the GPRS. If not enough valid information received, it will upload this information received according to a specified time.

eg：（Automatically upload the data, the interval is 6 seconds, upload every 1 minute, 10 groups every time.）

#135790246811222#13486119277#1#0000#AUT#10#27bc10af#11407.4189,E,2232.7893,N,0.00,0.66#070709#132022.000#27bc10af#11407.4189,E,2232.7898,N,0.00,0.66#070709#132028.000#27bc10af#11407.4189,E,2232.7902,N,0.00,0.66#070709#132034.000#27bc10af#11407.4190,E,2232.7908,N,0.00,0.66#070709#132040.000#27bc10af#11407.4190,E,2232.7912,N,0.00,0.66#070709#132046.000#27bc10af#11407.4190,E,2232.7913,N,0.00,0.66#070709#132052.000#27bc10af#11407.4192,E,2232.7917,N,0.00,0.66#070709#132058.000#27bc10af#11407.4197,E,2232.7974,N,0.00,0.66#070709#132104.000#27bc10af#11407.4205,E,2232.7972,N,0.00,0.66#070709#132110.000#27bc10af#11407.4211,E,2232.7972,N,0.00,0.66#070709#132116.000##

note：the interval of data sampling is more than 5 seconds, the data number is more than or equal to 1.

8. Low Power Feedback Way：

The terminal checks the voltage of VBAT when work normally, if this voltage lowers than the value which has set before, the terminal will upload the following format information automatically.

The state of SMS is "2", The data type of GPRS is "LPD"

The way of SMS and GPRS are the same。

#EMI code(15 figures)#user name#state#password# Type of data # data amount #base station information,,#longitude,latitude,speed,course#date and time##

eg：

#135790246811222#13486119277#1#0000#LPD#1#27bc10af#11407.4182,E,2232.7632,N,0.00,179.50#070709#134147.000##

note：if can’t get valid GPS data from above data returned, send GSM base station information only.

9. #918## Open AGPS
10. #919## Off AGPS