TW-100

Development Document

V1.1

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Released Note			
Version	**Change Content**	**Page**	**Date**
1.0	First Release	19	30/06/2015
1.1	1. Increase the parse of Cell ID 2. Adjust notification ratation dial out time from 40 secs to 25 secs. 3. Notification button could be enable when the clock is visiable.	22	04/11/2015

Content

1. Introduction

TW-100 is a wearable personal tracker designed in wrist watch style and intended for safety monitoring of elders and children. Equipped with both microphone and a speaker, the device allows the owner hands-free two-way communication capability. The speed dial/notification buttons provide the wearer easy access to call pre-set phone numbers and sends notification alert with one single push. The device allows monitoring center to remotely configure and track wearers immediately or periodically by sending GPRS/SMS commands to the device.

Features:

- **Dual-Band GSM/GPRS 900/1800 MHz**
- **Dual-Band GSM/GPRS 850/1900 MHz**
- **Speed dial buttons for two-way voice communication**
- **Notification button for two-way voice communication and sending notification SMS/GPRS reports**
- **Speaker-phone capability**
- **Regular/Real-time tracking by remote configuration**
- **Programmable phone numbers / phone book with multi-call auto rotation**
- **Power Low/Off alert via SMS/GPRS**
- **OLED display 96x64 resolution**
- **Cell ID**

2. Message Explanation

2.1 Data Type

Data Type	Description
CHAR	Single ASCII character
CString	ASCII string. If the string length does not meet the defined length, add bianry blanks (0x20H) on the right of the string.
NString	The numeric format string contains 0~9. Add leading zeros (0x30H) to the string if the string length does not meet the defined length.
HString	The hex-numeric format string contains 0~F. Add

	leading zeros (0x30H) to the string if the string length does not meet the defined length.
BIN	Binary
Byte	Byte

2.2 Message Format

TW-100 and application server exchange messages via TCP communication protocol. The complete message structure is presented by the following table.

	Start sign	Device ID	Message code	Message Body	End sign
Field Value	(	The last 12 digits of the IMEI code	4 bytes of message code words	N bytes, N is<=1K	)
Data Type	CHAR	CString	CString	CString	CHAR

Every complete message must include start sign, device ID, message code, content, and end sign.

Start sign and end sign are used to identifying the start and the end of the message. The sign "(", 0X28H, is applied to be the start sign and the sign ")", 0X29H is applied to be the end sign.

Device ID's data type is Cstring, its string length is 12 bytes. Device ID is for server to identify TW-100. TW-100's device ID is the last 12 digits of its IMEI code.

2.3 Message code

Message code's data type is Cstring, and its defined string length is 4 bytes. Message code is for identifying the function of data.

Message Type		Serial Number	Description
A (Server → TW-100)	P	05	Synchronize TW-100's time
		07	Read firmware version
		15	Voice monitor

		16	Set notification phone number, speed dial phone number, and white list's phone number
		17	Clear notification phone number, speed dial phone number, and white list's phone number
		18	Read notification phone number, speed dial phone number, and white list's phone number
		19	Confirm get the response of reading notification phone number, speed dial phone number, and white list's phone number
	R	00	Set period report
		01	Acknowledgement of getting report from TW-100
	S	01	Response to notification/ battery low report
	T	00	Reset TW-100

Example, after getting the registration report of TW-100, server would synchronize TW-100's time to be 16:50:30, March 16th, 2015, and time zone as GMT+8:00, (412000010789AP05,150316,165030,e0800)

Example, read TW-100's firmware version. (412000010789AP07)

Example, make TW-100 to call 0920520777 for voice monitor. (412000010789AP150920520777)

Example, Set TW-100's notification number1/speed dial number1/white list number1 to be 13512345001, notification number2/speed dial number2/white list number2 to be 13512345002, notification number3/white list number3 to be 13512345003, white list number 4 to 13512345004, white list number 5 to 13512345007

(412000010789AP16#13512345001#13512345002#13512345003#13512345004#1351234007)

Example, clear TW-100's notification number/speed dial number/white list number

(412000010789AP17)

Example, read TW-100's notification number/speed dial number/white list number

(412000010789AP18)

Example, confirm getting TW-100's response of reading notification number/speed dial number/white list number (412000010789AP19)

Example, set TW-100 to send period report by 120 seconds, t (412000010789AR000078)

Example, TW-100 would respond when it get the period report (412000010789AR01)

Example, when TW-100 get the notification/ battery low report, it would respond (412000010789AS01)

Example, reset TW-100 (412000010789AT00)

Message Type		Serial Number	Description
B (TW-100→ Server)	E	01	Wrong command parameter
	O	012	Notification report
		018	GPS & GPS buffered Battery low report
		022	Buffered notification report (GPS)
	P	01	Response to read firmware version
		05	Registration report (power-on report)
		16	Response of setting notification phone number, speed dial phone number, and white list's phone number
		17	Response of clearing notification phone number, speed dial phone number, and white list's phone number
		18	Response of reading notification phone number, speed dial phone number, and white list's phone number
	R	00	Period report
		01	Buffered period report (GPS)
	S	20	Response of getting voice monitor command
	T	00	Response of reset TW-100
	Z	00	Cell ID period report
		012	Cell ID notification report
		018	Cell ID & Cell ID buffered battery low report
		02	Buffered Cell ID period report
		042	Buffered notification report (Cell ID)

Example, when server send wrong command, TW-100 would respond (412000010789BE01)

Example, TW-100's notification report(GPS) is like (412000010789BO012150316A2459.7947N12129.2668E000.0082742000.0000000000L00000000,150316,162745)

Example, TW-100's battery low report(GPS) is like (412000010789BO018150414A2459.7947N12129.2668E000.0102742000.0000000000L00000000,150414,182745)

Example, TW-100's buffered notification report (GPS) is like (412000010789BO022150316A2459.7947N12129.2668E000.0102742000.0000000000L00000000,150317,165045)

Example, send registration report after power on (412000010789BP05)

Example, respond to server set notification number/speed dial number/white list number. (412000010789BP16)

Example, respond to server clear notification number/speed dial number/white list number. (412000010789BP17)

Example, respond to server read notification number/speed dial number/white list number. (412000010789BP18#13512345001#13512345002#13512345003#13512345004#1351234007)

Example, period report of TW-100

(412000010789BR00150414A2459.7947N12129.2668E000.6102742000.0000000000L00000000,150414,182745)

Example, buffered period report of TW-100

(412000010789BR01150316A2459.7947N12129.2668E000.0102742000.0000000000L00000000,150317,165045)

Example, response of getting voice monitor command , (412000010789BS20)

Example, response of getting reset command , (412000010789BT00)

Example, Cell ID period report. (888000032619BZ00,5,4660100551A07A12,46601005512B4A18,4660100551A07B0E,4660100551482109,46601005332B3F06,150316,165031)

Example, Cell ID notification report (888000032619BZ012,5,4660100551A07A12,46601005512B4A18,4660100551A07B0E,4660100551482109,46601005332B3F06,150316,165031)

Example, Cell ID battery low report (888000032619BZ018,5,4660100551A07A12,46601005512B4A18,4660100551A07B0E,4660100551482109,46601005332B3F06,150316,165031)

Example, Buffered cell ID period report (888000032619BZ02,5,4660100551A07A12,46601005512B4A18,4660100551A07B0E,4660100551482109,46601005332B3F06,150422,081631)

3. Device setting

3.1 Set notification phone numbers and speed dial numbers and white list's phone numbers

There is a red key used as notification key on the left side of TW-100. When it is long pressed, TW-100 would call the first notification phone number, if the first called number is not answered, TW-100 would call the second notification phone number, and then the third notification phone number. The first notification phone number is the same with the first speed dial phone number. The second notification phone number is the same with the second speed dial phone number.

A whitelist is a list of phone numbers that are granted to call TW-100. User can set up to 10 white list's phone numbers. The first to the third white list's phone numbers are the same with the first to the third notification phone numbers.

	Start sign	Device ID	Message code	Message Body	End sign
Field Value	(	The last 12 digits of the IMEI code	AP16	#number1#number2#number3#number4#...	)

The message format is (Device IDAP16#number1#number2#number3#number4#...)

Example,
(412000010789AP16#13512345001#13512345002#13512345003#13512345004#1351234007)

Note: 13512345001, 13512345002 are the notification phone number1 /2, and speed dial phone number 1 /2, and white list's phone numbers. 13512345003 is the notification phone number 3 and white list's phone number. 13512345004 and 13512345007 are the white list's phone numbers.

TW-100 would respond the message format as following.

	Start sign	Device ID	Message code	Message Body	End sign
Field Value	(	The last 12 digits of the IMEI code	BP16		)

The message format is (Device IDBP16)

Example, (412000010789BP16)

3.2 Clear notification phone number and speed dial number, and white list's phone numbers

The notification phone numbers, speed dial phone numbers, and white list's phone numbers can be cleared by the following command.

	Start sign	Device ID	Message code	Message Body	End sign
Field Value	(	The last 12 digits of the IMEI code	AP17		)

The message format is (Device IDAP17)

Example, (412000010789AP17)

TW-100 would respond the message format as following.

	Start sign	Device ID	Message code	Message Body	End sign
Field Value	(	The last 12 digits of the IMEI code	BP17		)

The message format is (Device IDBP17)

Example, (412000010789BP17)

3.3 Read notification phone number and speed dial number, and white list's phone numbers

Server can read the notification phone numbers, speed dial phone numbers, and white list's phone numbers can be read by the following command.

	Start sign	Device ID	Message code	Message Body	End sign
Field Value	(	The last 12 digits of the IMEI code	AP18		)

The message format is (Device IDAP18)

Example, (412000010789AP18)

TW-100 would respond the message format as following.

	Start sign	Device ID	Message code	Message Body	End sign
Field Value	(	The last 12 digits of the IMEI code	BP18	#number1#number2#number3#number4#...	)

The message format is (Device IDBP18#number1#number2#number3#number4#...)

Example, (412000010789BP18#13512345001#13512345002#13512345003#13512345004#1351234007)

And then server should respond getting the notification phone numbers, speed dial phone numbers, and white list's phone numbers by the message (Device IDAP19)

Example, (412000010789AP19)

3.4 Synchronize TW-100's time

Whenever TW-100 is powered on, it would send the registration report to server.

The registration report format is as following.

	Start sign	Device ID	Message code	Message Body	End sign
Field Value	(	The last 12 digits of the IMEI code	BP05	GPS data	)

The message format is (Device IDBP05GPS data)

If GPS could not be fixed, the message will not contain GPS data.

Example,(412000010789BP05000412000010789080524A2232.9806N11404.9355E000.1101241323.8700000000L000450AB,9634894763457863)

Server could respond TW-100 and synchronize the time by the command as following.

	Start sign	Device ID	Message code	Message Body	End sign
Field Value	(	The last 12 digits of the IMEI code	AP05	,YYMMDD,HHMMSS,e/w time zone e: eastern w:western time zone format:hhmm	)

The message format is (Device IDAP05,YYMMDD,HHMMSS,e/w time zone)

Example, (412000010789AP05,150131,135602,e0800)

3.5 Read TW-100's firmware version

Server can read TW-100's firmware version by the message as below.

	Start sign	Device ID	Message code	Message Body	End sign
Field Value	(	The last 12 digits of the IMEI code	AP07		)

The message format is (Device IDAP07)

Example, (412000010789AP07)

TW-100 would respond the message format as following.

	Start sign	Device ID	Message code	Message Body	End sign
Field Value	(	The last 12 digits of the IMEI code	BP01	Firmware version CCID	)

The message format is (Device IDBP01)

Example,(412000010789BP01RDJT60D_WH03_GS_V02_6,CCID:89886012737700976557)

3.6 Reset TW-100

Server can reset TW-100 by the message as below.

	Start sign	Device ID	Message code	Message Body	End sign
Field Value	(	The last 12 digits of the IMEI code	AT00		)

The message format is (Device IDAT00)

Example, (412000010789AT00)

TW-100 would reset itself and the respond the message format as following.

	Start sign	Device ID	Message code	Message Body	End sign
Field Value	(	The last 12 digits of the IMEI code	BT00		)

The message format is (Device IDBT00)

Example, (412000010789BT00)

4. Tracking

4.1 Period report (GPS)

Periodic mode is for setting an interval for TW-100 to regularly report its location according to the interval.

	Start sign	Device ID	Message code	Message Body	End sign
Field Value	(	The last 12 digits of the IMEI code	AR00	Report interval, 4 byte, the unit is second. The data type is Hstring. 0=stop period report	)

The message format is (Device IDAR00report interval)

Example, make TW-100 send period report by 60 seconds, the command is (412000010789AR00003C)

TW-100 would respond its location by the message format as following.

	Start sign	Device ID	Message code	Message Body	End sign
Field Value	(	The last 12 digits of the IMEI code	BR00	GPS data	)

The message format is (Device IDBR00GPS data)

Example,
(412000010789BR00150414A2459.7947N12129.2668E000.6102742000.0000000000L00000000,150414,182745)

Then server would respond the message below as acknowledgement of getting the report.

	Start sign	Device ID	Message code	Message Body	End sign
Field Value	(	The last 12 digits of the IMEI code	AR01		)

The message format is (Device IDAR01)

Example, (412000010789AR01)

4.2 Period report (Cell ID)

When TW-100 does not get GPS fix, TW-100 would send the report with Cell ID. TW-100 can get up to 7 sets of Cell ID.

The cell ID message format is as following.

	Start sign	Device ID	Message code	Message Body	End sign
Field Value	(	The last 12 digits of the IMEI code	BZ00	Sets of cell ID,MCC1,MNC1,LAC1,CID1,RSSI1 ", "MCC2,MNC2,LAC2,CID2,RSSI2", "MCC3,MNC3,LAC3,CID3,RSSI3"…,local date,local time	)

The message format is (Device IDBZ00,Cell ID sets,Cell ID,local date,local time)

Example,

(888000032619BZ00,5,4660100551A07A12,46601005512B4A18,4660100551A07B0E ,4660100551482109,46601005332B3F06,150316,165031)

The first Cell ID 4660100551A07A12 could be parsed as below:

MCC =466, MNC = 010

LAC = 0551 (in Hex code), CID = A07A (in Hex code)

Final number 12 is RX LEVEL.

Then server would respond the message below as acknowledgement of getting the report.

	Start sign	Device ID	Message code	Message Body	End sign
Field Value	(	The last 12 digits of the IMEI code	AR01		)

The message format is (Device IDAR01)

Example, (412000010789AR01)

4.3 Buffered period report (GPS)

When TW-100 is carried to the areas without GSM/GPRS signal coverage, TW-100 could not send its location reports to server. In order not to lose the location report, TW-100 will save the location reports during the periods without GSM/GPRS signal to buffer storage. When TW-100 is carried to the areas with GSM/GPRS signal, it will send the location reports in the buffer storage to server.

The buffered period message format is as following.

	Start sign	Device ID	Message code	Message Body	End sign
Field Value	(	The last 12 digits of the IMEI code	BR01	GPS data	)

The message format is (Device IDBR01GPS data)

Example,
(412000010789BR01150316A2459.7947N12129.2668E000.0102742000.0000000000L00000000,150317,165045)

4.4 Buffered period report (Cell ID)

If TW-100 can get cell ID but fail to build GPRS connection, it would save the cell ID report to buffer storage and send it out when it can build GPRS connection.

The buffered Cell ID period message format is as following.

	Start sign	Device ID	Message code	Message Body	End sign
Field Value	(	The last 12 digits of the IMEI code	BZ02	Sets of cell ID,MCC1,MNC1,LAC1,CID1,RSSI1 ", "MCC2,MNC2,LAC2,CID2,RSSI2", "MCC3,MNC3,LAC3,CID3,RSSI3"…,local date,local time	)

The message format is (Device IDBZ02,Cell ID sets,cell ID,local date,local time)

Example,
(888000032619BZ02,5,4660100551A07A12,46601005512B4A18,4660100551A07B0E,4660100551482109,46601005332B3F06,150422,081631)

5. Notification report

5.1 Normal notification report

The Notification button could be enable when the clock is visible. When Notification button is long pressed, TW-100 will send Notification SMS to the preset Notification phone numbers. Then TW-100 would call the first preset phone number for about 25 seconds. And then TW-100 would call the next preset phone number for 25 seconds, and then the third preset phone numbers. After notification call, TW-100 would send each Notification report with its location information to server via TCP per 10 seconds. The rotation would last until anyone of preset phone number picks up the phone.

The notification message format is as following.

	Start sign	Device ID	Message code	Message Body	End sign
Field Value	(	The last 12 digits of the IMEI code	BO012	GPS data	)

The message format is (Device IDBO012GPS data)

Example,
(412000010789BO012150414A2459.7947N12129.2668E000.0102742000.0000000000L00000000,150414,182745)

Server would respond the message format as following.

	Start sign	Device ID	Message code	Message Body	End sign
Field Value	(	The last 12 digits of the IMEI code	AS012	GPS data	)

The message format is (Device IDAS012)

Example, (412000010789AS012)

5.2 Cell ID notification report

When TW-100 does not get GPS fix, TW-100 would send the notification report with Cell ID.

The cell ID notification message format is as following.

	Start sign	Device ID	Message code	Message Body	End sign
Field Value	(	The last 12 digits of the IMEI code	BZ012	Sets of cell ID,MCC1,MNC1,LAC1,CID1,RSSI1 ", "MCC2,MNC2,LAC2,CID2,RSSI2", "MCC3,MNC3,LAC3,CID3,RSSI3"…,local date,local time	)

The message format is (Device IDBZ012, Cell ID sets,cell ID,local date,local time)

Example,
(888000032619BZ012,5,4660100551A07A12,46601005512B4A18,4660100551A07B0E,4660100551482109,46601005332B3F06,150316,165031)

Server would respond the message format as following.

	Start sign	Device ID	Message code	Message Body	End sign
Field Value	(	The last 12 digits of the IMEI code	AS012	GPS data	)

The message format is (Device IDAS012)

Example, (412000010789AS012)

5.3 Buffered notification report (GPS)

If the notification report cannot be sent out, TW-100 would save it to buffer storage and then send it out when network is available.

The buffered notification message format is as following.

	Start sign	Device ID	Message code	Message Body	End sign
Field Value	(	The last 12 digits of the IMEI code	BO022	GPS data	)

The message format is (Device IDBO022GPS data)

Example,
(412000010789BO022150316A2459.7947N12129.2668E000.0102742000.0000000000L00000000,150317,165045)

Server would not respond any message.

5.4 Buffered notification report (Cell ID)

If the notification report cannot be sent out, TW-100 would save it to buffer storage and then send it out when network is available.

The buffered notification message format is as following.

	Start sign	Device ID	Message code	Message Body	End sign
Field Value	(	The last 12 digits of the IMEI code	BZ042	Sets of cell ID,MCC1,MNC1,LAC1,CID1,RSSI1 ", "MCC2,MNC2,LAC2,CID2,RSSI2", "MCC3,MNC3,LAC3,CID3,RSSI3"…,local date,local time	)

The message format is (Device IDBZ042, Cell ID sets,cell ID,local date,local time)

Example,
(888000032619BZ042,5,4660100551A07A12,46601005512B4A18,4660100551A07B0E,4660100551482109,46601005332B3F06,150316,165031)

Server would not respond any message.

6. Battery low report

6.1 Battery low report (GPS & GPS Buffer)

TW-100 would send battery power low report to server when its power capacity is low.

The battery low message format is as following.

	Start sign	Device ID	Message code	Message Body	End sign
Field Value	(	The last 12 digits of the IMEI code	BO018	GPS data	)

The message format is (Device IDBO018GPS data)

Example,
(412000010789BO018150414A2459.7947N12129.2668E000.0102742000.0000000000L00000000,150414,182745)

Server would respond the message format as following.

	Start sign	Device ID	Message code	Message Body	End sign
Field Value	(	The last 12 digits of the IMEI code	AS018	GPS data	)

The message format is (Device IDAS018)

Example, (412000010789AS018)

6.2 Battery low report (Cell ID & Cell ID Buffer)

When TW-100 does not get GPS fix, TW-100 would send the battery low report with Cell ID.

The cell ID battery low message format is as following.

	Start sign	Device ID	Message code	Message Body	End sign
Field Value	(	The last 12 digits of the IMEI code	BZ018	Sets of cell ID,MCC1,MNC1,LAC1,CID1,RSSI1 ", "MCC2,MNC2,LAC2,CID2,RSSI2", "MCC3,MNC3,LAC3,CID3,RSSI3"…,local date,local time	)

The message format is (Device IDBZ018,Cell ID sets,cell ID,local date,local time))

(888000032619BZ018,5,4660100551A07A12,46601005512B4A18,4660100551A07B0E,4660100551482109,46601005332B3F06,150316,165031)

Server would respond the message format as following.

	Start sign	Device ID	Message code	Message Body	End sign
Field Value	(	The last 12 digits of the IMEI code	AS018	GPS data	)

The message format is (Device IDAS018)

Example, (412000010789AS018)

7. Voice monitor

Server can send a command to TW-100 to make it call a phone number for voice monitor.

	Start sign	Device ID	Message code	Message Body	End sign
Field Value	(	The last 12 digits of the IMEI code	AP15	Phone number for listening to TW-100 for voice monitor	)

The message format is (Device IDAP15voice phone number)

Example, make TW-100 call 1351690008 for voice monitor, (412000010789AP151351690008)

TW-100 would respond the message format as following.

	Start sign	Device ID	Message code	Message Body	End sign
Field Value	(	The last 12 digits of the IMEI code	BS20	GPS data	)

****

The message format is (Device IDBS20)

Example, (412000010789BS20)

And then TW-100 would call the number for voice monitor.

If server does not set the phone number posterior to AP15, TW-100 would call notification number 1.

If server sends voice monitor command with wrong parameters, TW-100 would respond the message format as following.

	Start sign	Device ID	Message code	Message Body	End sign
Field Value	(	The last 12 digits of the IMEI code	BE01		)

\

The message format is (Device IDBE01)

Example, (412000010789BE01)

8. GPS data

	GPS fix date	GPS fix status:	Latitude	Longitude	Reserved	GPS fix time	Reserved	Reserved	Reserved	Local date	Local time
Byte	6	1	10	11	5		6	8	9	6	6
Value	YYMMDD	A=GPS fix V=Not fix	N orS ddmm.mmmm	E or W dddmm.mmmm	000.0	hhmmss	000.00	00000000	L00000000	YYMMDD	hhmmss

9. Set TW-100 by SMS

Note:

1. Default of setting password is 000000
2. TW-100 would send "**config ok**" when setting is done and send "**config failed**" when setting is failed.
3. Command code must be upper case.

9.1 Communication

9.1.1 Setup APN, APN user name and APN password

#APN#APN#APN user name#APN password#Setting password#

Example,#APN#internet###000000#

Example,#APN#internet#internet.com#abc123#000000#

9.1.2 Setup server IP and port

#SERVER#IP/domain#port#Setting password#

Example, #SERVER#201.89.56.207#6000#000000#

Example,#SERVER#www.trackingserver.com#6000#000000#

9.1.3 Setup notification phone number

#SERVICE#notification phone 1# notification phone 2#notification phone 3#Setting password#

Example, #SERVICE##13512345001#13512345002#13512345003#000000#

9.1.4 Enable/ disable outgoing call of notification key

#DIAL#ON/OFF#Setting password#

Example, #DIAL#ON#000000#

9.1.5 Switch between Two-way Communication and voice monitor in notification State
#DIAL#1/2#Setting password#

The defaults is two-way communication. You can set 1 to switch to voice monitor. You can also set 2 to become two-way communication.

Example, #DIAL#1#000000#

9.2 Tracking

9.2.1 Ping TW-100 for getting Google map's link
#URL#Setting password#

Example, #URL#000000#

9.2.2 Setup periodic report
#INTERVAL#report interval(60~64,800 seconds) #Setting password#

Example, #INTERVAL#60#000000#

9.3 Setting

9.3.1 Setup device name

#NAME#Device name#Setting password#

Example, #NAME#Jack#000000#

9.3.2 Setup time zone
#TIMEZONE#E/W(Eastern or Western hemisphere)#HHmm(Time format, hour hour minute minute)#Setting password#

Example, #TIMEZONE#E#0530#000000#

Note: It means Greenwich Mean Time+05:30

9.3.3 Multi setting
#ALL#notification phone 1#notificatio phone 2 #notificatio phone 3 #Device name#Report interval (seconds)#UTC time#time zone#

Example, #ALL#13512345001#13512345002#13512345003#Victor#600#0610#e0800#

9.3.4 Change setting password
#PWD#old password#new password#

Example, #PWD#000000#772188#

9.3.5 Language setting (on display and SMS)
(Only support English and simple Chinese)

#LANGUAGE#Country code)#Setting password#

If you want to set Simple Chinese as your language, please set country code as 0086.

If you want to set English as your language, please set country code as 0044.

Example, #LANGUAGE#0044#000000#

9.3.6 Enable/disable power key
#CHILD#ON/OFF#Setting password#

Example, #CHILD#OFF#000000#

The example above would make user cannot turned off TW-100 by pressing power key.

9.3.7 Check firmware version
#VERSION#Setting password #

Example, #VERSION#000000#

9.3.8 Clear preset phone numbers
#CLSUSER#Setting password#

Example, #CLSUSER#000000#

9.3.9 Restore to factory setting
#FACTORY#Setting password#

Example, #FACTORY#000000#

9.3.10 Restart TW-100
#RESTART#Setting password#

Example, #RESTART#000000#

9.4 Turn on/off battery low alarm

Turn on/off battery low alarm

#POWER#ON/OFF#Setting password#

Example, #POWER#OFF#000000#

Default setting of sending battery low alarm is turned on. When the battery is low, TW-100 will send battery low alarm to the preset phone number. The format is like "Low power alarm from{Device ID}, the current location is {Google map's link}"

Example, Low power alarm from Victor, the current location is http://maps.google.com/?q=23.12345,120.12345

9.5 Voice monitoring

#MONITOR#Setting password#

Example, #MONITOR#000000#

After getting the voice monitoring command, TW-100 would call the caller to do the voice monitoring.