

# SJ-AK47 AVL



Photograph



Video Call



Stop mode



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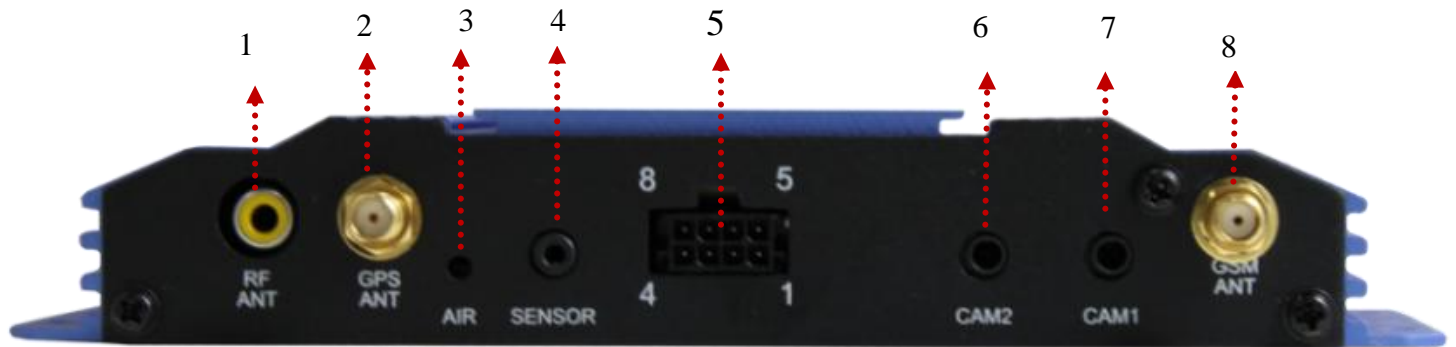
# Package

		
<p>2 pieces external camera</p>	<p>8 M camera extension cable</p>	<p>4M camera extension cable</p>
		
<p>Power / Input Output cable</p>	<p>RF external antenna</p>	<p>Ultrasonic sensor</p>
		
<p>PC setting cable</p>	<p>Remote Controller</p>	<p>GSM external antenna</p>
		
<p>Micro SD card</p>	<p>Manual and PC setting software</p>	<p>GPS external antenna</p>
	<p>Please check your package to ensure all items are included.</p> <p>If any item is lost, please contact us</p>	
<p>AK47</p>		

# Hardware Profile

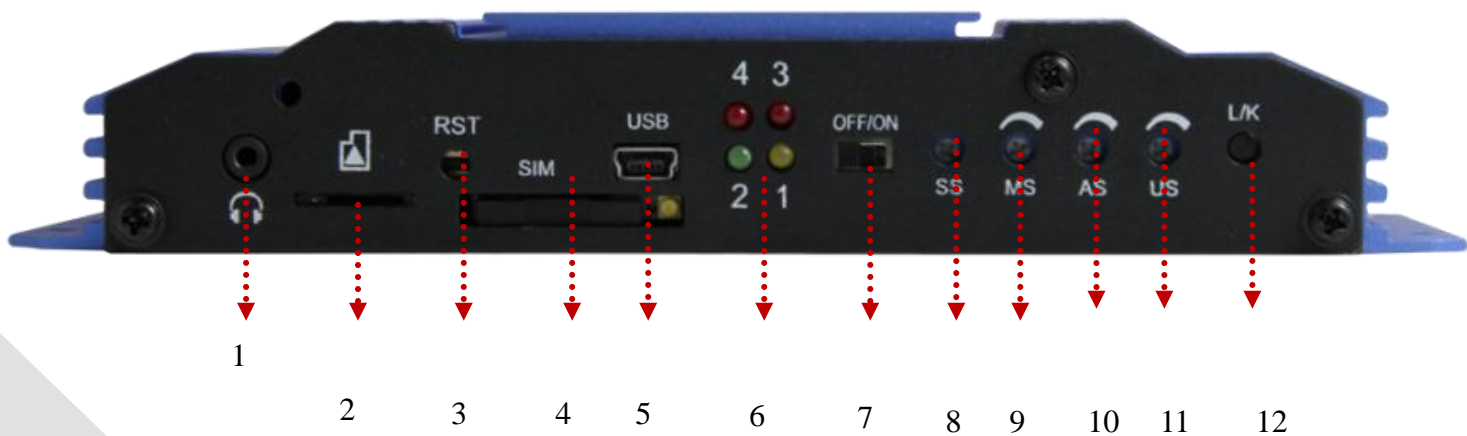
## Rear Side

1	RF antenna connector	5	8 PIN I/O connector
2	GPS antenna connector	6	Camera 2 input
3	Air Pressure sensor	7	Camera 1 input
4	Ultrasonic sensor connector	8	GSM antenna connector



## Front Side

1	External micro phone & speaker	5	PC setting cable connector	9	Motion sensor sensitivity
2	Micro SD card slot	6	LED 1. GSM/2.Learn key/ 3.Battery/ 4 .Alarm	10	Air pressure sensor sensitivity
3	Reset	7	Power OFF/ON	11	Ultrasonic sensor sensitivity
4	SIM card tray holder	8	Sensor Sensitivity	12	Learn Key



# Hardware Specification

Housing	Sensors
L x W x H: 177mm X 76mm X 28mm	Ultrasonic sensor (optional)
Housing: Aluminum	Air pressure sensor (optional)
Power	Motion sensor (optional)
DC Voltage: input 9 ~ 24 VDC	Memory
Rechargeable Battery	Micro SD card: Up to 4G
Minimum Capacity : 1000mAh	Interface/I/O
Nominal Voltage : 7.6V	2.5mm audio Input/output
Discharging Voltage (Min) : 7.2V	6 Pin I/O – 2 Input/ 2 Outputs, 2 A/D
Charging Voltage (Max.) : 8.4.±0.042V	4 LED indicators to display working status
SIM	Video & Photo
Voltage: 3.3 V	Photo resolution: JPG 320X240
Support : 850 / 900 / 1800 / 2100	Video resolution: 160 X120
GPS Functionality	Interface
SiRFIII 20channel	External GPS / GSM antenna
Supports 3.3V Active Antenna	External Micro phone
GPS Protocols: NMEA0183	External speaker
Accuracy (SA off): Position < 10M 2DRMS	RF remote controller : 315 MHz
Tracking Sensitivity: -159dBm	Two channel cameras: 30 Mega Pixels
Environment	USB 2.0 interface
Operating: -20°C to +60°C	Power switch
Storage: -40°C to +85°C	
Humidity : Up to 95% non-condensing	

# Feature

- ◆ *Video Call to view the real time video from inside of the vehicle*
- ◆ *GPS real-time position tracking via cell phone or server*
- ◆ *Car security system: Ultrasonic detection / Vibration detection /Air pressure detection*
- ◆ *Backup server support*
- ◆ *SOS button to ask emergency help*
- ◆ *Remote control/ Detection*
- ◆ *Two way communication*
- ◆ *Remote controller to enable or disable security*
- ◆ *Support server DNS*
- ◆ *Geo-Fence*
- ◆ *Cellular Positioning*
- ◆ *Low-voltage detection*

# Installation Steps

- 1. Insert the SIM card and Micro SD*
- 2. Install the diver and configure AK47*
- 3. Pretest the device before install it on the vehicle*
- 4. Install It on the vehicle*

# Hardware Installation

Please use 3G SIM card with support video call function



3G SIM Card Only



No PIN code protection for SIM card allowed

Insert the SIM card and Micro SD

Use pointy tool to eject SIM card tray holder, and insert the SIM card to the AK47



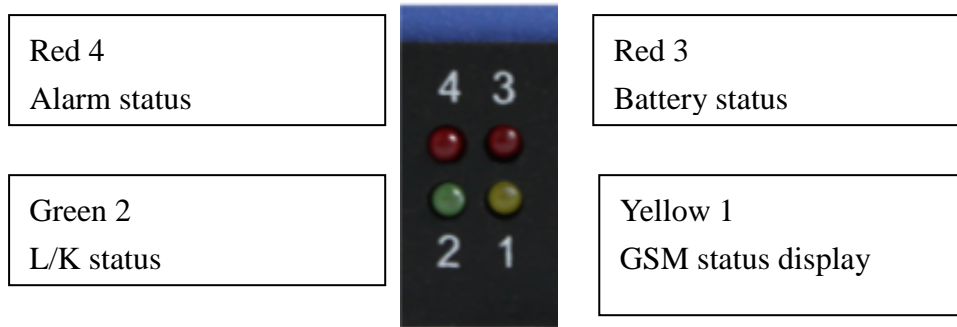
Step 3. Insert the Micro SD card to the AK47.

**Please format your Micro SD first, and do not use quick format**





# LED Status

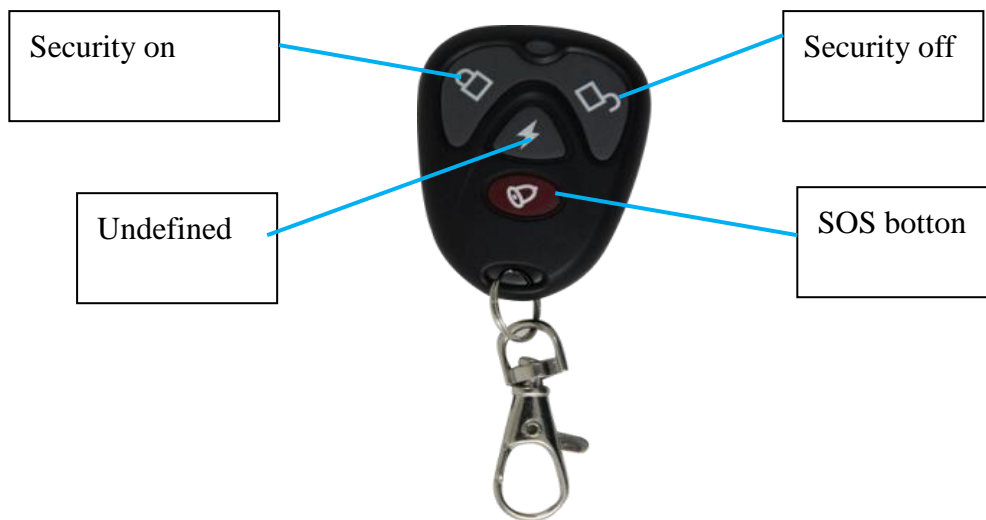


LED status display table

Yellow(1)	Blink twice per seconds	SIM Error
	Blink twice per two seconds	APN Error
	Blink	GSM registering
	ON	Data transfer
	Off	Idle
Green(2)	Light on	Remote controller learn mode
	Blink three times	Reset to default setting
	Off	Idle
Red (3)	Off	Battery fully charged
	Light on	Battery charging now
Red (4)	Blink per three seconds	Alarm system activated
	Blink per second	System triggered
	Blink per five seconds	Low Battery
	Light on	Idle
	Off	Device turn off



# RF Remote Controller



## Learn the Remote controller

1. Press the LK button on the AK47 for 5 seconds, than LED 2 on the device will be light on



2. Press the any key of the remote controller
3. Device buzz four times , when it has learnt the controller

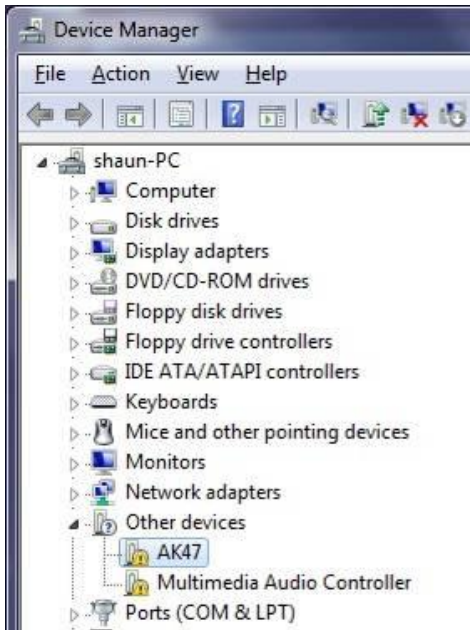
Up to 4 remote controllers supported

Remote Controller buzz table

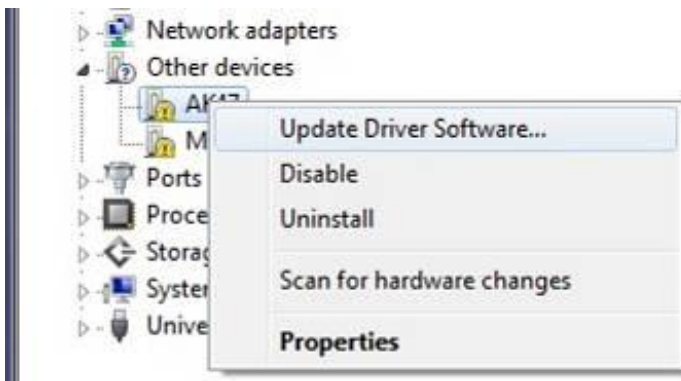
Type	Buzz
Device over learnt the remote controller (exceed 4 controllers)	1 time
Remote controller learnt succeeded	4 times
The remote controller has be learn before	1 time

# Install the Driver

1. Connect the PC setting cable to AK47 with your PC
2. Check your Device Manager



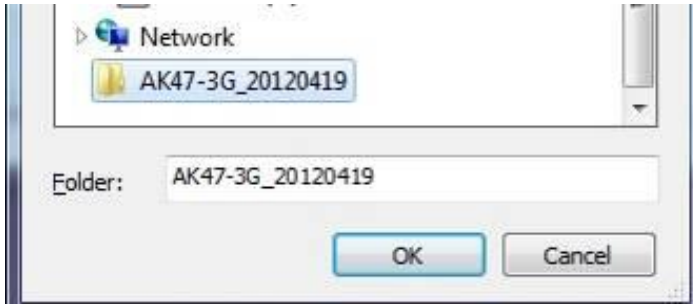
3. Select the AK47 and right click to select the Update Driver Software



4. Select the Browse my computer for driver software



5. Select the AK473G folder in the CD



6. Select Install this driver software anyway



7. Wait for installation finished



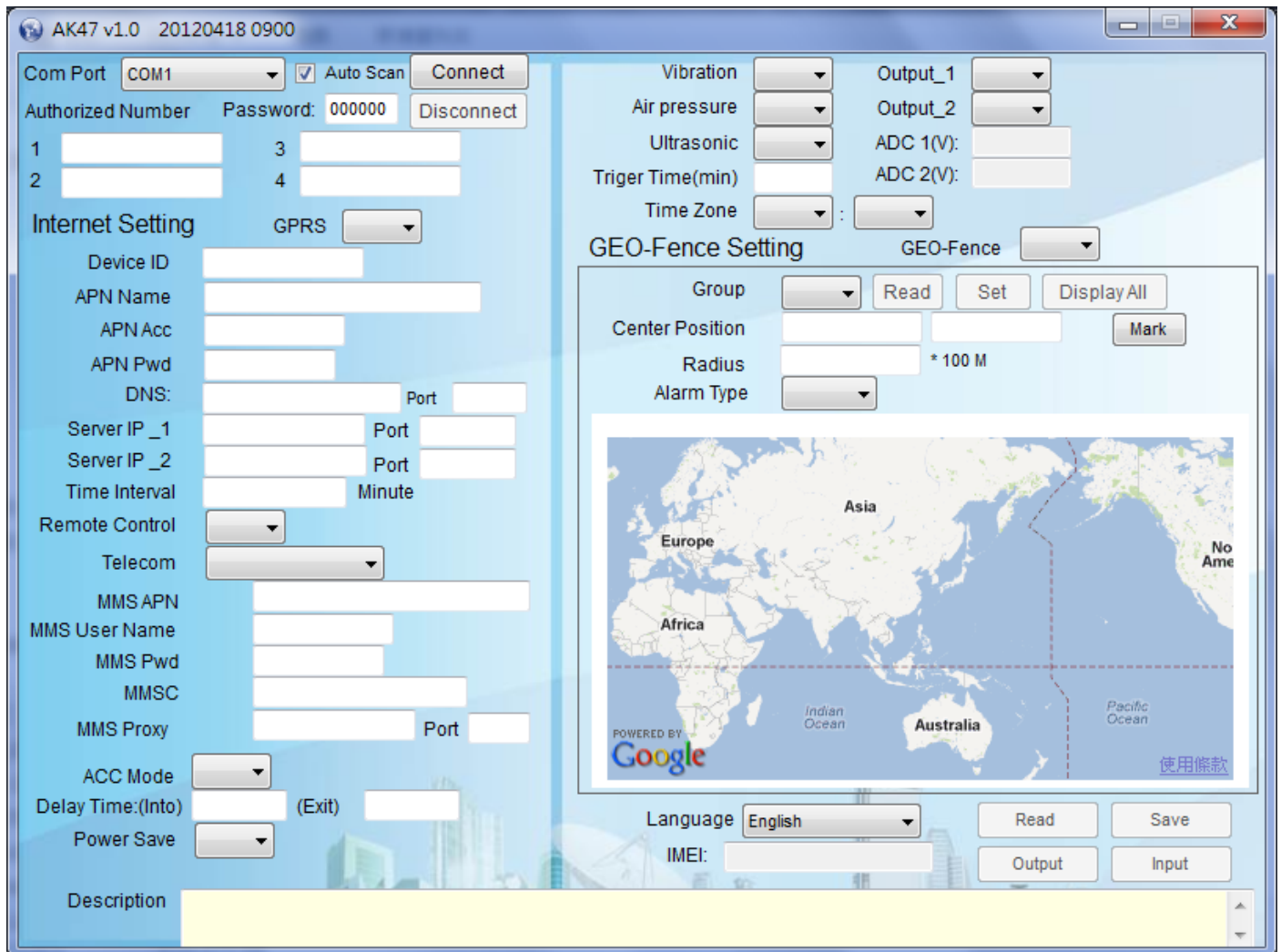
8. Check your Device Manager. Make sure you can find the SJA-AK47



# Software Setting

Please install the driver before you configure the AK47

- Run the “AK473G PC Setting.exe”
- Configure setting and activate the functions wanted. Please refer below

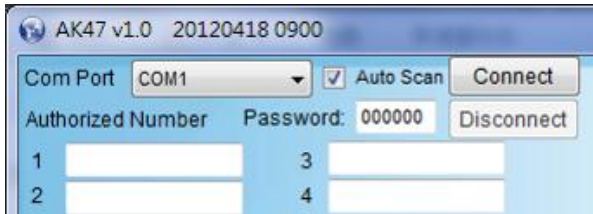


AK47 PC Setting interface

# Authorized Number

Security alarm 、 SOS alarm 、 Low battery alert SMS and SD Card warning SMS will be sent to the authorized number

Only authorized number can change the AK47 setting via SMS. The unauthorized number will not get any reply from AK47



# SOS button



Press SOS button on the remote controller to make vide call to authorized number.

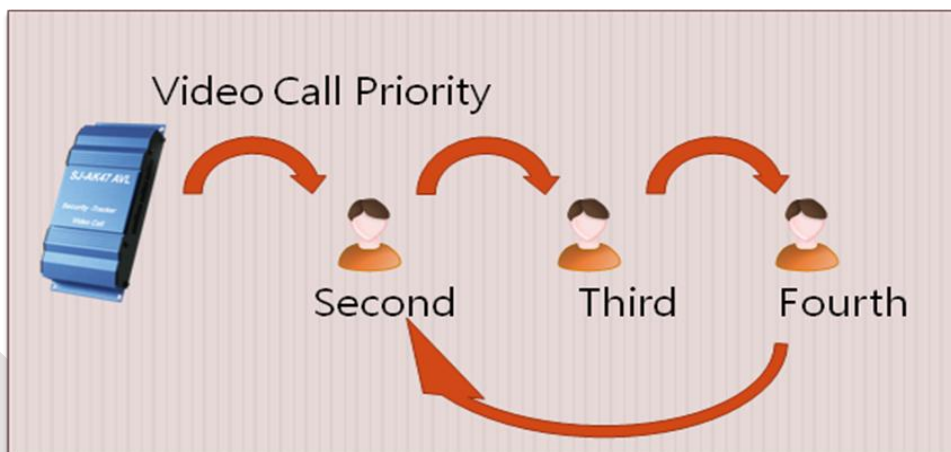
The AK47 will call to second authorize number first.

When authorized number pick the phone call, press key “5” to confirm the call.

If second authorized number does not pick the phone, AK47 call next (third) authorized number.

Priority call: Authorized number NO.2-> NO.3-> NO.4 X 3 rounds

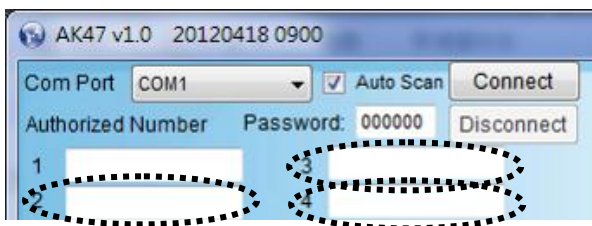
Totally will call for three rounds



## How to Set

1. Run 3GAK47.exe
2. Click “Connect”
3. Key in mobile number in authorized number No.2 /No.3/No.4
4. Click “Save”
5. Click “Disconnect”
6. Press the SOS button on the remote controller

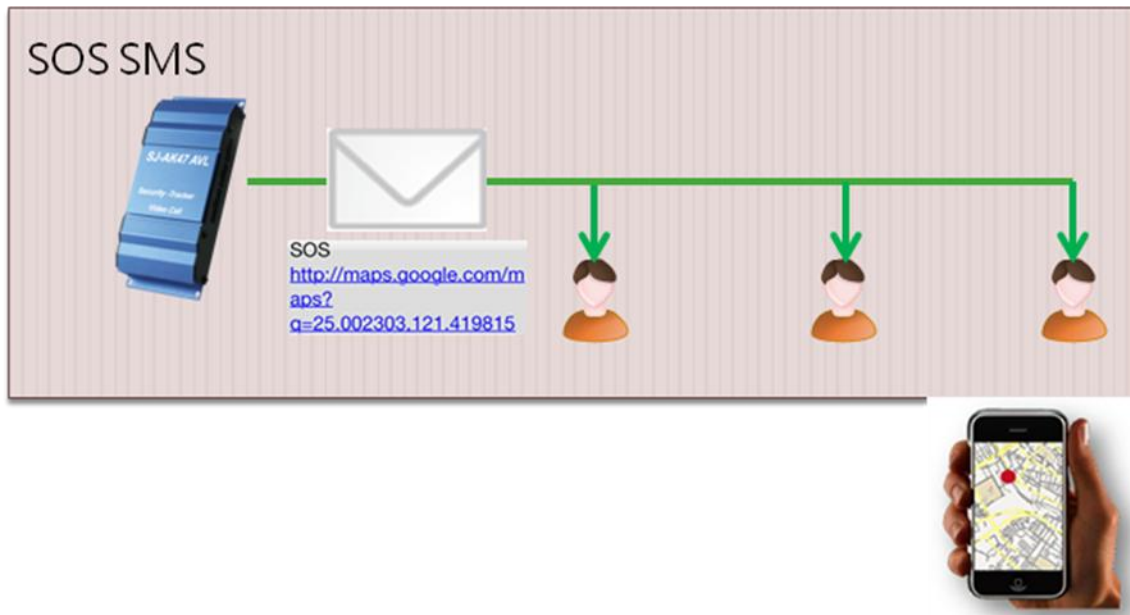
※Make sure your remote controller has been learnt by the device . Please refer the “RF Remote Controller selection”



## SOS map message

If no one pick up the SOS video call after AK47 calling for 3 rounds, AK47 will sends a SOS SMS which include web link to show the location on the map.

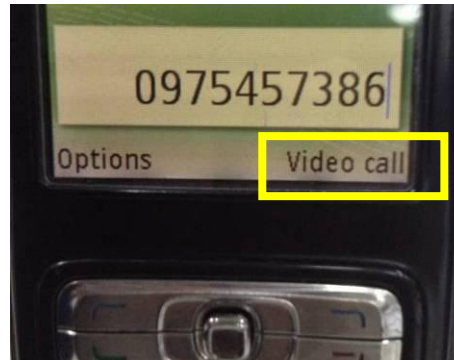
User can see the where the vehicle is



# Video Call

Use 3G mobile to call the AK47

1. Key in the number of the AK47
2. Select the Video call on your mobile phone
3. Dial the number to AK47 to see the video



※Check your mobile 's manual to learn how to make a video call

# GPS real-time position tracking via mobile

Send SMS to the AK47 to get the location map.

Send LOCATION to the AK47

AK47 reply a SMS "TRACKING PLEASE WAIT" message first then send second SMS message which is including map link to the user





# GPS real-time position tracking via server

AK47 sends data to the remote server by GPRS continuously.

User can see the status of AK47 on the server



## How to set

Internet Setting		GPRS	
Device ID	<input type="text"/>		
APN Name	<input type="text"/>		
APN Acc	<input type="text"/>		
APN Pwd	<input type="text"/>		
DNS:	<input type="text"/>	Port	<input type="text"/>
Server IP _1	<input type="text"/>	Port	<input type="text"/>
Server IP _2	<input type="text"/>	Port	<input type="text"/>
Time Interval	<input type="text"/>	Minute	
Remote Control	<input type="text"/>		

### 1. GPRS

Enable / Disable the GRPS transmission. Select on to enable the GRPS

### 2. Device ID

Name an ID for the device. The device ID will be show on Server. 2-12 bits upper and lower case English letters allowed.

### 3. APN Name

Input APN of the SIM card to activate the GPRS.

Please contact your SIM card provider to get the APN.

### 4. APN Acc/Pwd

Put in APN Username and Password of the SIM card to activate the GPRS.

Please contact your SIM card provider to get the APN Username and Password

### 5. DNS (Domain Name System)

Put in your DNS name of the server. Device will send the GPS data to the server.

If DNS link is failed or column is empty, device auto-connect to Server IP\_1

Device server connection priority DNS > IP 1 >IP 2

## 6. *Server IP\_1*

Set an IP address and port for your server.

If Server IP\_1 link is failed or input column is empty, device auto-connect to Server IP\_2

Device server connection priority DNS > IP 1 >IP 2

## 7. *Server IP\_2*

Set the backup IP address and port for your server. The server IP\_2 will assign an IP address to the device, when it received a connect request.

Device server connection priority DNS > IP 1 >IP 2

## 8. *Time Interval*

Define the time interval of the GPRS transmission.

Setting range is from 001 to 120 Minutes EX: 001 . Send data to server per one minute

## 9. *Remote Control*

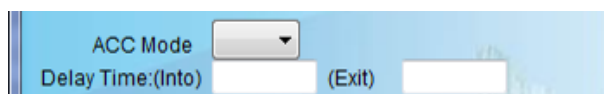
Enable /Disable remote change device setting via remote server

## 10. Click Save

# ACC Mode

## Activated / Inactivated the Alarm by detecting the ACC of the vehicle

when car owner switch off the vehicle , AK47 will detect the ACC of the vehicle is off. AK 47 start countdown. When countdown finished, The AK47 auto-activate security mode to protect the vehicle



ACC Mode

On: Enable / Off: Disable the ACC security alarm mode

Delay Time: Into

Delay security alarm report time when security sensor has been triggered.

Delay time setting is from 0 to 999 seconds.

(Exit)

If Acc is off, the AK47 start countdown. Once the countdown is finished, AK47 auto-activate security mode to protect the vehicle.

Countdown setting range is from 0 to 999 seconds.

# Security Alarm



Press the “Security on key” on the remote controller to activate the security system

If one of security sensor has been triggered, the AK47 will call a video call to authorized number to notice the car owner. Authorized number pick the phone call and press key “5” to confirm the call to see the video

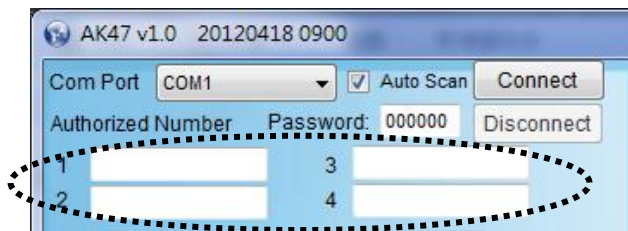
If first authorized number does not pick up the phone, AK47 call next authorized number.

Priority call: Authorized number No1.>NO.2> NO.3> NO.4 X 3 rounds

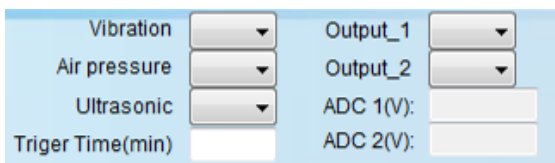
Totally will call for three rounds

How to set

1. Click “Connect” then set the four authorized number



2. Enable the sensor that you wanted



Vibration: Enable / Disable vibration sensor	Air pressure: Enable / Disable Air pressure sensor
Ultrasonic: Enable / Disable ultrasonic sensor	Output_1: Enable / Disable output_1
Output_2: Enable / Disable output_2	ADC 1 (V) : Display status of analog input 1. Range is from 0 to 12 V
ADC 2 (V) : Display status of analog input 2 Range is from 0 to 12 V	Trigger time: Define retrigger time. Setting range is from 0 to 999 seconds. The sensor will not be triggered within defined time setting

# Security Alarm sensitivity

You can change the sensitivity of the sensor by adjusting the VR



Right turn is sensitivity high  
Left turn is sensitivity low



## Time Zone



Set your time zone in your area

## Geo-Fence

GEO-Fence is a virtual perimeter for a real-world geographic area.

You can set 5 GEO-Fences for the AK47. Geo-fence can be a predefined set of boundaries by user; the boundaries could be set from 100 meter to 25.5 KM.

If you come into or out of the Geo-fence (boundaries), AK47 will send a message “GEO-Fence ALARM” by SMS to user. Also, it sends alert to remote server if GPRS is available.

## How to set



1. Click Connect

2. Enable Geo-Fence

ON: Activated the GEO-Fence function

OFF: Disable the GEO-Fence function

3. Select the Group 1- 5

4. Choose your location on the Map

Map Zoom in

Double click mouse left key or Mouse scroll wheel forward

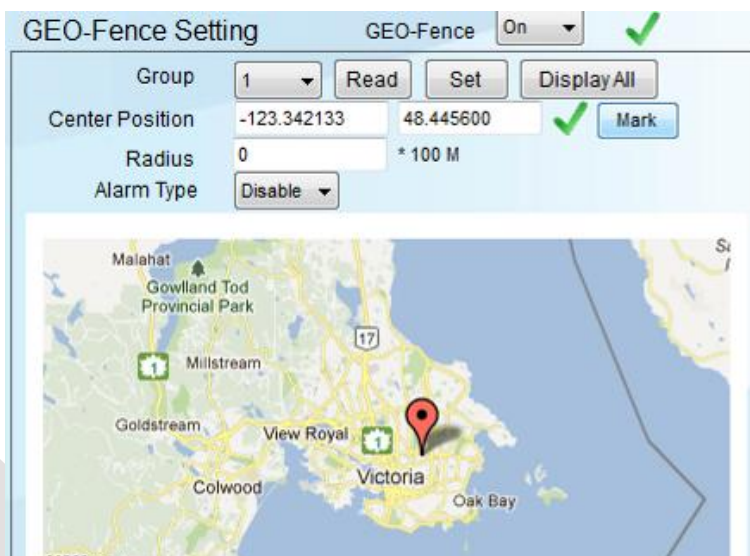
Zoom out

Double click mouse right key or Mouse scroll wheel backward

5. Mark your location

Click a location that you wanted on the map, and you can see a balloon on it.

Click "Mark" key to request the latitude and longitude of the marked position on the map and display at Center Position column.



6. Define the Radius of your location

Define the radius of marked position

Define range from 0 to 255 (per 100 M).

Put 3 digital numbers to define the radius of the GEO-Fence.

EX: 100 = 10 Km

A screenshot of a user interface element for setting a radius. It consists of a light blue rectangular box. On the left side of the box, the word "Radius" is written in a dark font. To the right of "Radius" is a white input field containing the number "100". Further to the right, within the same blue box, is the text "\* 100 M".

#### 7. Alarm Type

Disable: Disable this group

Enter: when enter this area alarm

Leave: when leave this area alarm

#### 7. Set

Set the GEO-Fence range

#### 8. Click Read

Check your setting is correct or you can read specific group's setting

#### 9. Click Display All

Display all group setting to ensure you get the all Geo-fence you needed

#### 10. Click the save

## Language

Change the software display language

## IMEI

Check device's IMEI code by click "Read"

Save

Save the setting

Input

Import a configure file. The file is \*.SJA

Output

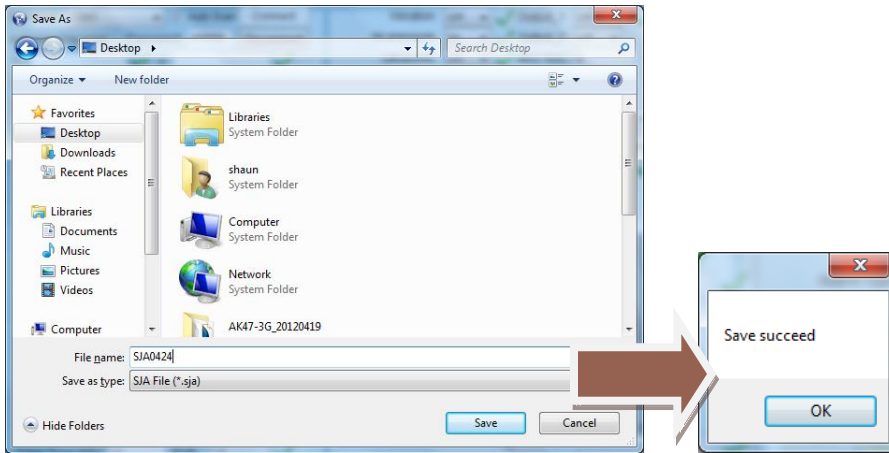
Export the current setting to be a \*.sja file.

# Input / Output the setting file

## Output

Click the Output to export the setting file

Name your setting file. \*.sja

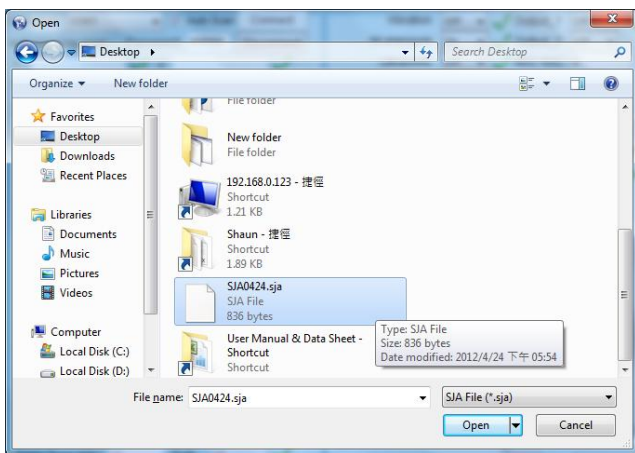


## Input

Click the Input to load the setting file.

Select the setting file \*.sja

Click open



# Cellular Positioning

If the AK47 move to indoor or the GPS signal is too weak, AK47 use GSM base station to position and send based station information to the authorized number or report to the server.



# Low-voltage alert



**The Low battery SMS will be sent to first Authorized number**

AK47 detect the voltage of the battery to make sure device work well.

When the voltage of the battery is low, AK47 sends the SMS immediately to alert the authorized user.

# Mobile phone Remote control

When authorized number get the video from AK47, authorized user can view the real time video, and control the AK47 remotely.

The authorized user just dials the number key on the mobile phone to remote control the AK47



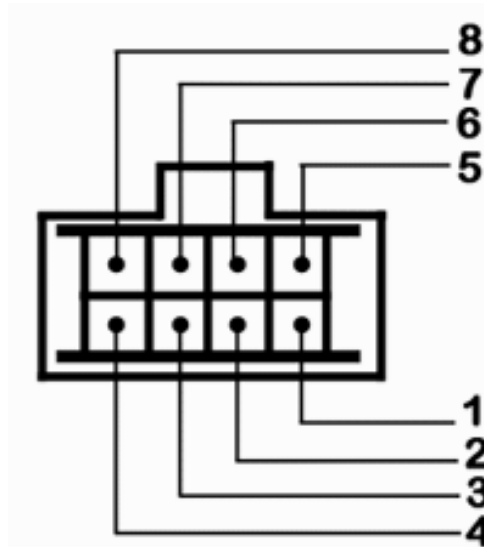
※Authorized user must press key “5” to confirm the call when pick up the phone call

AK47 will cut off the call, if user have no press the “5” (confirm key)

## Remote control number table

Number	Function
1	Display first camera
2	Display second camera
3	Turn on the Speaker
4	Record the video to the SD
5	Confirm key
6	Turn off the speaker
7	Output 1 ON
8	
9	Output 2 ON
0	
*	Output 1 Off
#	Output 2 Off

# I/O Definition



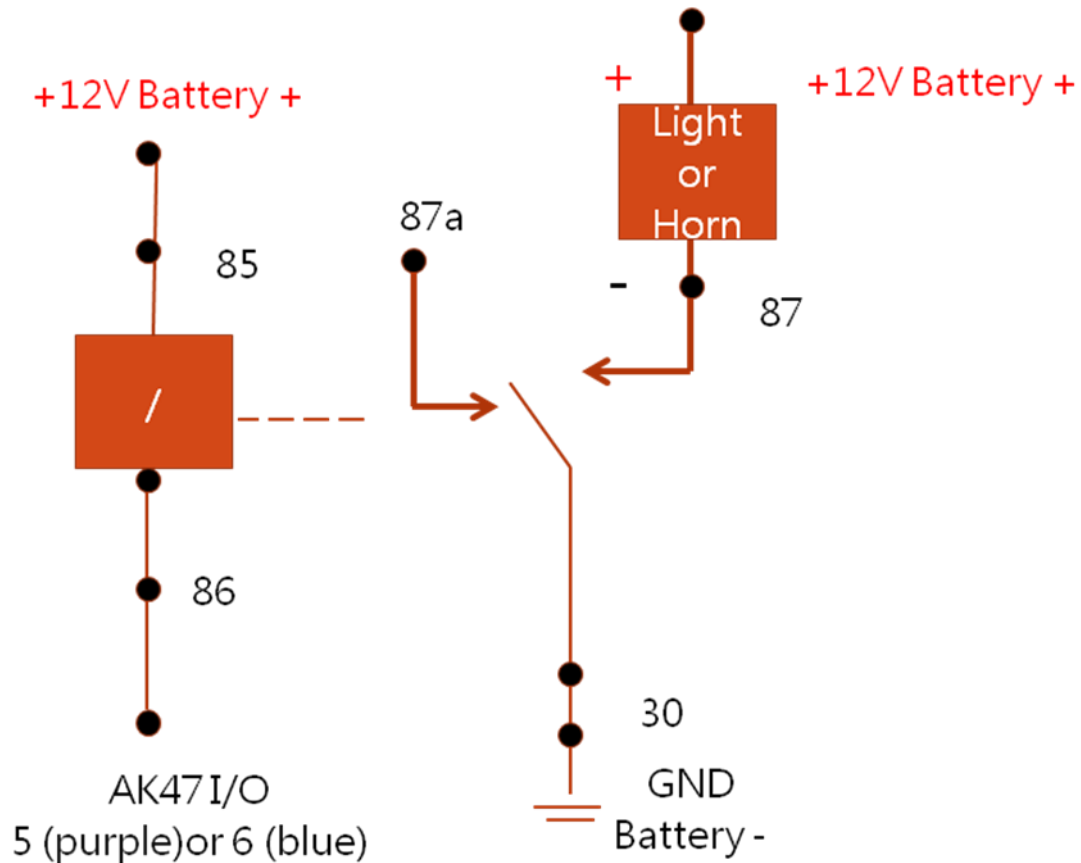
<b>IO</b>	<b>Definitions</b>	<b>Input Voltage</b>
1	Input 2 (none)	24 V
2	Input 1 ACC	24 V
3	Ground	X
4	Battery input +12V	24 V
5	Output 1	X
6	Output 2.	X
7	Analog input 1	24 V
8	Analog input 2	24 V

# Remote Relay Control Setup

You can control the relay via mobile phone which means you can control the device that you wanted  
Just connect I/O 5 or 6 to your relay



Typical Relay for the Car



# Photo shot and Video Recording



## Photo shot

When SOS or Alarm activated, the external cameras will totally take three photos.  
Two photo for first camera, one photo for second camera

You can find your photo in Picture folder in the micro SD card

Name	Date modified	Type
Audio	2012/4/24 下午 02:...	File folder
Picture	2012/4/24 下午 02:...	File folder
Video	2012/4/24 下午 02:...	File folder
VideoCall	2012/4/24 下午 02:...	File folder

Name	Date modified	Type
20120424_142704	2012/4/24 下午 02:...	JPEG image
20120424_142705	2012/4/24 下午 02:...	JPEG image
20120424_142706	2012/4/24 下午 02:...	JPEG image

## Video Recording

In real time monitor mode , press the mobile phone number “4” to record the video  
The format of video is \*.MP4. You can find the video file in the Video Call folder in micro SD card.

Name	Date modified	Type	Size
20120424_142433_n	2012/4/24 下午 02:...	MP4 Video	433 KB

※When the micro SD card memory is 80 % full, the AK47 will send a SMS message to the first authorized number.

# SMS Configuration

Only authorized number can change the AK47 setting via SMS. The unauthorized number will not get any reply from AK47

Authorize number

Security alarm 、 SOS alarm 、 Low battery alert SMS and SD Card warning SMS will be sent to authorized number

SMS: **AUTHOR:number**

Use “/” to input more number. 4 sets maximum

EX: **AUTHOR:0912345678/0923456789/0913673079/0913654679**

AK47 reply **AUTHOR:0912345678/0923456789/0913673079/0913654679 ok**

## Location

Check the current location the AK47. AK47 will send a Google Map link to the SMS sender

SMS: **LOCATION**

AK47 reply **“TRACKING PLEASE WAIT” and Google Map link**

## Security alarm on

Activate Security mode.

SMS: **ALARM ON**

AK47 reply: **ALARM ON ok**

## Security alarm off

Deactivate Security mode.

SMS: **ALARM OFF**

AK47 Reply: **ALARM OFF ok**

## ReSeT

Erase the setting of the AK47

SMS: **ReSeT**

AK Reply: **ReSeT ok**