

The *PATmicro* from PawTrax



(PawTrax Animal Tracker)

USER GUIDE

V2.2 02/2010

Thank you for purchasing The-PATmicro

The-PATmicro uses GSM (Mobile Phone) and GPS (SATNAV) technology enabling you to FIND, TRACK and SECURE your pet 24/7/365

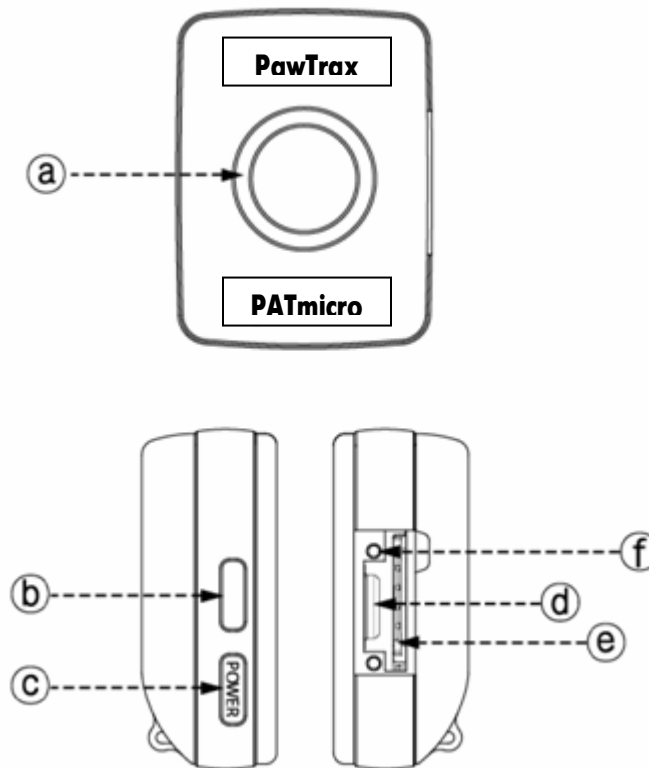
The PATmicro was designed to work using your mobile phone without the need to have access to a PC.

It is simple to operate - if you can send an SMS you can easily use the PATmicro.

Commands to control The PATmicro are sent as SMS messages from your phone. Replies are sent from The PATmicro to your phone via SMS.

General

Let's have a quick look at The PATmicro



- a) LED Window
- b) SOS Button
- c) Power Button
- d) USB Port
- e) SIM Card Slot
- f) Reset Button

- Displays status
- Send SOS Message
- Turn On and Off
- Battery Charger using USB cable
- Inserting your SIM Card
- Resets your device

Charging the battery

Before using The PATmicro for the first time you will need to fully charge the battery. Plug the supplied charging cable into the charging socket and the USB plug into your PC or laptop or a USB wall/car charger.

The LED on the USB charger cable will illuminate red whilst charging and change to green when battery is fully charged.

To fully charge the battery from discharge will take approx 4-5 hours depending on battery condition.

It is better, but not essential, to power off The PATmicro before and during charging.

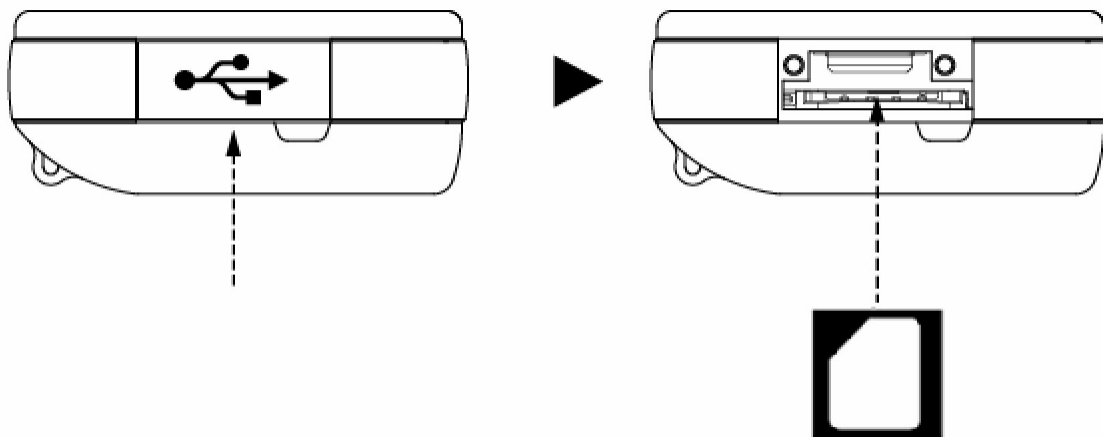
PawTrax recommends, that to ensure maximum capacity, keep charging for 4 hours at least even though the LED indicator may have changed to green after a couple of hours.

We also recommend completely charging and discharging for a few times when using for the first time.

Inserting SIM Card

This device will not work without a SIM card. The SIM card must also be activated. This can be done either at place of purchase or as per instructions from SIM card provider. This usually involves putting the SIM in a mobile phone and making a single call.

You should ensure that the device is powered off before inserting the SIM card. Open the rubber cover on the side and slide the SIM card into the SIM Card slot beneath the USB slot.



Slide SIM card into the slot in the direction shown

The PATmicro will work with any activated SIM card on any network. (PAYG or Contract).

- a) Some carriers provide SIM cards that require a PIN code before you start using them for the first time or when you turn on the power.
- b) The PATmicro will only work with this PIN code disabled. You can check this by inserting the SIM into a mobile phone. If a PIN is required enter the PIN code given to you by the carrier and disable the PIN code function from the menu of the phone. How this is done will vary between phone manufacturers.

If there is a problem with the SIM the yellow LED will illuminate when you turn on The PATmicro

Starting Up

Switching your device on and off

A) Power On

Press and hold 'power button' for 5 seconds. Each LED will turn on and blink 3 times in sequence. You can release the power button once the LED's start blinking.



B) Power Off

Press and hold 'Power Button' for 5 seconds. All LED's will blink 3 times. You can release the Power Button when the LED's start blinking. Power is OFF when all LED's are off.

In normal use all LED's are off and only come on at 'wake up' intervals. To check status of device press and immediately release power button. If the blue LED flashes once then the device is on. If all 3 LED's come on, it is off. If no LED's come on it requires charging.



All commands to The PATmicro are sent via SMS text messages from your mobile phone.

You need to tell it what mobile phone number you want to use to control it and to receive location requests and battery low warnings etc

When you turn on The PATmicro for the first time the Blue LED may remain illuminated depending on the type/providers SIM. If on, once you have registered your mobile phone (the control phone) with the PATmicro, this will turn off.

1) Register

To register your 'control phone' send the following registration command by sms to The PATmicro.

* SMS Command to The PATmicro : **R 1 0000 XXXX**

* The-PATmicro will reply with this SMS to your phone : **HP=D001=REGISTERED**

Notes for command:

"1" is a sequence ID of your device – this can be between 1 and 9 (used for ease of identification should you want to control more than one PATmicro from your phone.

"0000" is the default PIN/passcode (numeric 0)

"XXXX" is your own PIN/passcode of choice (substitute XXXX with 1234 if you want your new PIN to be 1234, or 9876 or 4444 etc)

**** you should allow a space between command letter and each password as shown above**

You can change the control phone at anytime just by registering the new phone using the above command and appropriate PIN numbers

2) Set Up Local Time Zone

The factory default time is set up as GMT and you should change it to your own local time.

Example: Local time for each country shall be as per below from GMT

-08 USA, Canada

-03 Brazil.....

+00 GMT

+01 Western Europe, Germany, France, Italy.....

+09 Korea, Japan

You set up the local time by the following command.

* SMS command to The PATmicro : **T +01** (in case of Western Europe)

* The PATmicro will reply with this SMS : **HP=D001=SET TIME**

Notes for command: You should allow a space between **T** and **+**

3) First Fix of your PATmicro

When you start the PATmicro for the first time, PawTrax strongly recommends for you to place it in a wide open sky area for about 10 mins at least to fix for the first time.

Once it has fixed its initial GPS data subsequent fixes will be obtained a lot quicker, known as 'Hot Start'.

4) Cold Starts

Whenever the PATmicro is switched on from off, or after charging it will always perform a 'Cold Start' to ensure it has an initial fix and is ready for whenever you request a position. This cold start can take between 10 – 20 mins

We therefore recommend that it is placed outside with a clear view of the sky when switching back on from an off condition.

Functions



How to find your lost pet.

You can check the current location of your pet whenever you want by sending this simple SMS command.

* SMS command to The PATmicro: **C**

* Reply:

HP=D001=LOCATION=DATE-06/09/2009=TIME-23:59:59=SPD-110=DIR-359=
Date Time Speed (Km/h) Direction

[http://maps.google.com/maps?q="+22.36600,+114.11977&%z=14](http://maps.google.com/maps?q=)

Then either:

click on the link and if you have a suitable phone that can connect to the web a map will open on your phone with the location plotted

or

enter the co-ordinates onto Google mobile maps on your phone
(+22.36600+114.11977)

or

enter the co-ordinates into Google maps/earth or any mapping software on your PC/Laptop

or

at the PawTrax website free.pawtrax.co.uk

There may be times when The PATmicro sends back location co-ordinates and the time/date stamp displays 00/00/0000 , 00:00:00.

This indicates that it was unable to get a location fix at the time of request and it has returned its last know position

TRACK

You can set The PATmicro to automatically send you a location at preset intervals

By default your PATmicro has been set up to wake from sleep mode every 10 minutes to figure out where it is and remember it but not report it. The period of wake up can be changed by the following command. This can be set from 1 minute to 1380 mins

By sending the following command the PATmicro will wake up, obtain its location and send it to your phone in an sms

* SMS command to The PATmicro: **P Y 9** (in case of reporting every 9 mins)

* Reply from PATmicro: **HP=D001+SET POINT SEND TIME OK**

Notes for command - You should allow a space between **P** and **Y** and also after **Y**

If you just want to change the time period but do not want a position sent to you then follow up with the following command.

* SMS command: **P N**

* Reply: **HP=D001+SET POINT SEND TIME OK**

Notes for command. You should allow a space between **P** and **N**

Before you send the command to cancel period report, we recommend that you send another command **P Y 10** to change the 'wake-up' time back to default status of every 10mins. This will ensure that The PATmicro is operating under the most efficient mode. You then follow this with the **P N** command to stop automatic sending.



Setting up a Safe Zone

By setting up a Safe Zone area you will receive a ZONE OUT sms report whenever the PATmicro moves out of this designated area.

You can set up the radius as wide as you want in increments of 10 metres.

Before setting up the safe zone we recommend that you first let the PATmicro report its current location by using the **C** Command to ensure that it has GPS data.

You will have to obtain the co-ordinates of the centre of the safe zone if it is different from your current location.

You can obtain these co-ordinates from Google Earth. When you drag and point to the centre of your required safe zone you will see the Lat/Lon co-ordinates at the bottom of the Google Earth window.

These co-ordinates are then used in the following command.

In order to activate the Safe Zone function, the PATmicro must be awake while it is located in the Safe Zone area so that it can recognize that it has entered into the Safe Zone. Once it has recognised that it is within the zone it will report by sms whenever it goes out of the zone.

* Command to set up the Safe Zone : **S Y 100 +22.36600 +114.11977**

* Reply :

HP=D001=SET SAFE ZONE=DATE-06/09/2009=TIME-23:59:59=SPD-110=DIR-359=

[http://mapsgoogle.com/maps?q="+22.36600,+114.11977&%z=14](http://mapsgoogle.com/maps?q=)

Notes for command: You should place a space between each letter and number and also between latitude and longitude. **100** stands for **1 Km**

Notes for reply : The PATmicro shall reply whether it gets GPS data or not and with or without date and time information.

Cancel Safe Zone

*Command: **S N**

* Reply :

HP=D001=SET SAFE ZONE=DATE-06/09/2009=TIME-23:59:59=SPD-110=DIR-359=

[http://mapsgoogle.com/maps?q="+22.36600,+114.119777&%z=14](http://mapsgoogle.com/maps?q=)

Setting up My Zone

My Zone is a temporary boundary or geofence. It is not necessary to send an sms command. This is set up by pressing the power and SOS buttons at the same time. The radius is automatically set at 300 metres.

To set up MY ZONE, press and hold the power and SOS buttons for 3 seconds at the point you want to set up as the centre of the MY ZONE. The Blue LED will blink 2 times while the PATmicro is working out its location and sending it to your phone as an sms in the following format.

HP=D001=START MY ZONE=DATE-06/09/2009=TIME-23:59:59=SPD-110=DIR-359=

[http://mapsgoogle.com/maps?q="+22.36600,+114.119777&%z=14](http://mapsgoogle.com/maps?q=)

The PATmicro will send you a ZONE OUT sms when it moves out of the MY ZONE area.

HP=D001= ZONE OUT=DATE-06/09/2009=TIME-23:59:59=SPD-110=DIR-359=

[http://mapsgoogle.com/maps?q="+22.36600,+114.119777&%z=14](http://mapsgoogle.com/maps?q=)

Cancel My Zone

To cancel the MY ZONE press and hold the power and SOS buttons for 3 seconds and the blue LED will blink 2 times and then send the following sms.

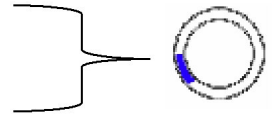
HP=D001=FINISH MY ZONE=DATE-06/09/2009=TIME-23:59:59=SPD-110=DIR-359=

[http://mapsgoogle.com/maps?q="+22.36600,+114.119777&%z=14](http://mapsgoogle.com/maps?q=)

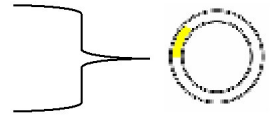
LED Indications

1) Default status before registration by using the R command

a) Ready - Blue LED shall remain on until receipt of the R command



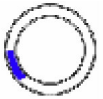
b) PIN code or error with SIM Card



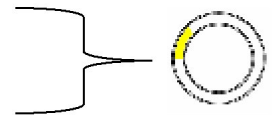
2) Status after registering by R command

a) Operating Indication – Blue LED will blink 1 or 2 times when PATmicro is in operation.

- Blinks once when woken up by quick press of any button or when responding to SMS command or reporting any event.
- Blinks twice when MY Zone function started or stopped.



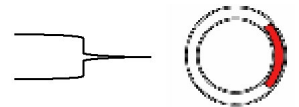
b) GSM Error – Yellow LED will blink if GSM error (no network etc)



c) Sleep Mode – No LED on



d) Low Battery – RED LED will turn on at each 'wake up' interval when battery is low



e) SOS indication Blue and Yellow LED will blink for 30 seconds when SOS button pressed and held for a few seconds



Other Features



The-PAT will automatically send a battery warning SMS when it requires recharging.

1) You will receive a BATTERY WARNING report when remaining battery level drops to 3.65V.

Depending on battery condition as well as setting of wake-up period (periodic report). This report may be sent from a couple of times up to several times.

2) PawTrax recommends that you recharge as soon as you receive the BATTERY WARNING report.

BATTERY WARNING REPORT

HP=D001=BATTERY WARNING =DATE-06/09/2009=TIME-23:59:59=SPD-110=DIR-359=

[http://mapsgoogle.com/maps?q="+22.36600,+114.11977&%z=14](http://mapsgoogle.com/maps?q=)

3) You will receive a LOW BATTERY report when remaining battery level drops to 3.2v

The PATmicro will only send this report if the remaining battery level is enough to obtain a fix and send the message. If the battery level drops rapidly lower than 3.2V due to GSM network conditions or poor GPS signal you may not receive this report.

LOW BATTERY REPORT

HP=D001=LOW BATTERY =DATE-06/09/2009=TIME-23:59:59=SPD-110=DIR-359=

[http://mapsgoogle.com/maps?q="+22.36600,+114.11977&%z=14](http://mapsgoogle.com/maps?q=)

SOS

By pressing the SOS button for 3 seconds the Blue and Yellow LED's shall blink for 30 seconds while working out its location and then send an SOS report to your phone.

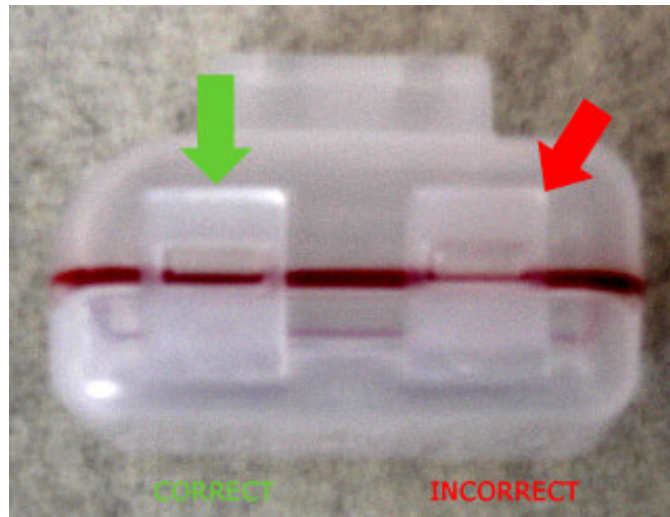
HP=D001=SOS!=DATE-06/09/2009=TIME-23:59:59=SPD-110=DIR-359=

[http://mapsgoogle.com/maps?q="+22.36600,+114.11977&%z=14](http://mapsgoogle.com/maps?q=)

Take Care

In order to avoid accidental damage to the plastic 'tabs' on the waterproof case please take care when opening.

Please lift the tabs in an upward and parallel direction. Do not lift from the corners in a diagonal or oblique angle.



Warranty Limitations

PawTrax warrants that The PATmicro shall be free from defects for a period of 12 months. We cannot accept any liability under the 12 month warranty if The PATmicro is modified, opened or tampered with by you or any third party. Misused or damaged in an accident, as a result of unreasonable use or as a result of your negligence.

Declaration of Compliance

PawTrax declares that The PATmicro is in compliance with all the necessary CE requirements and is also RoHS compliant.

Technical Specification

GSM Module	Quad Band GSM Module (GSM850/900/1800/1900)
GPS Module	ATHEROS AR1511
Accuracy	1 – 5m
Charge Voltage	4.5 – 5V
Battery	3.7 V Rechargeable Lithium Poly (450 mAh)
Operating time	Stand-by time : max 115 hours Full working time : max 7 hours
Size	45mm x 34.5mm x 21mm (excluding waterproof case)
Weight	25g without waterproof case – 40g with case

Battery Capacity Table

The battery capacity depends on operating conditions including GSM network, GPS level and/or reporting period etc. By default The PATmicro is set to wake up every 10 mins to fix GPS and check GSM network, automatically updating for the most ideal operating condition.

Below table indicates expected operating time dependant on periodic report timing. (P Y Value)

Reporting Period	Standby and working time
1 Minute	7 Hours
10 Minutes	35 Hours
30 Minutes	70 Hours
1 Hour	80 Hours
2 Hours	90 Hours
4 Hours	100 Hours
23 Hours	110 Hours

Notes and Cautions

- Do not open The PATmicro
- Do not let your pet chew The PATmicro
- Don't let The PATmicro operate in temperatures below -20C or above 60C.
- Performance maybe limited depending on GSM and GPS signal
- May not always work indoors.
- Complies with CE/RoHS/WEEE requirements
- Should the device stop operating at anytime press the reset button
- The PAT micro uses GSM and GPS technology. Both must be present for it to operate
- Keep checking the website www.the-pat.net for updates to this guide
- We reserve the right to change the specification/functions at anytime without prior notice
- **Please take care when placing the PATmicro in the waterproof case. It will only fit one way. Ensure that the small key ring loop sits in the recess before trying to snap shut the case.**

The PATmicro should not be seen as a substitute for good training and obedience. Please seek expert advice if your pets recall skills are poor.

CE 0984

Certified by CE

RoHS

FC

Certified by FCC

TBA



Tested by GCF Conformance



The IMEI Number is allocated
by GSMA

Websites

www.pawtrax.co.uk
www.the-pat.net
www.gpsdogtracker.co.uk

email

info@pawtrax.co.uk