Retrieva
tracking what matters ™

(1)   **Your Retrieva™ collar phone number:**

(2)   **Your Retrieva™ collar serial number:**

(3)   **The ICyou™ charger number:**

(4)   **Your Retrieva™ collar key number:**

(5)   **ViewRanger mapping code:**

(6)   **Web Mapping Panel - Visit:**   **www.retrievatracking.co.uk**

         Go to: **'My Retrieva login' (top left hand side)**

         Log In:

         Password:

_____

Please see separate instructions for the **ViewRanger phone mapping solution**

Please see separate full instructions for the **Retrieva internet-based mapping solution**

Full instructions for all Retrieva products can be downloaded from the 'My Retrieva' mapping page – see above for your login details, or contact Retrieva Ltd on +44 (0)1442 877796 or e-mail info@retrievatracking.co.uk requesting your login details.

Contents

Preparing the Retrieva collar

1. **Fully charge your collar** by plugging in the ICyou base station and inserting the collar as shown. The buttons should be to the front and it is inserted into place by leaning the buckle slightly forward and then pushing it upright. Do not force the buckle. The battery light on the buckle will turn amber whilst charging, and then green when fully charged (after about 4 hours from completely flat). To remove the collar from the charger simply pull the buckle gently forward again and lift it out. When it is fully charged the charging LED on the buckle unit will change from AMBER to GREEN.

   If the charging LED on the collar does not come on after 10 seconds then please remove it from the charger, check that the contacts on the buckle are clean and try again.

2. **Put your collar's phone number into your contacts list on your phone** so that you have easy access to it

3. **Adjust the collar to the correct size**

   The collars come in different sizes, and each is adjustable to ensure a comfortable fit. They cannot be adjusted unless the buckle is unlatched. Whilst adjusting please be careful to avoid damaging the metal contact pins or bridge. To adjust the size you should place a thin flat screwdriver down the side of the clasp and under the edge of the webbing and then lever the webbing up and off the black retaining pin. Adjust as necessary and pull the webbing back through the clip so that one of the holes sits over the retaining pin.

4. **IMPORTANT SAFETY NOTICE – Locking the collar and attaching a lead**
   If you have a medium or large dog, or a dog that pulls when on a lead, then we advise using a separate collar for attaching a lead as constant tugging may reduce the lifespan of the collar or cause the collar to break free if put under great strain. If you do intend on attaching a lead to the collar we strongly advise that you lock the tracking collar. This ensures that the clip cannot break free from the buckle unit when put under great strain. It will also ensure that any attempt to remove the collar is significantly hindered. Once the collar is latched simply put the key into the lock on the side of the buckle and turn it anti-clockwise and the collar will lock. If you wish to undo the lock then insert the key into the lock and turn it clockwise. Under no circumstances should you force the lock in either direction. If it doesn't turn easily then make sure that it is properly inserted into the lock and try again.

Your collar comes with 2 keys and you should keep one key with you at all times so that you can remove the collar easily in an emergency. You can also contact Retrieva for additional spares if necessary. Please keep a note of the key number so that you can order duplicates.

5. **Latching and unlatching the collar**
The clip on the buckle can be quite stiff. To ensure easy unlatching press the top and bottom release buttons as shown and press down on both sides of the buckle (as if slowly breaking a pencil). It should then undo easily.

> Whilst pressing the button push down on the clip side of the buckle in a gentle snapping motion
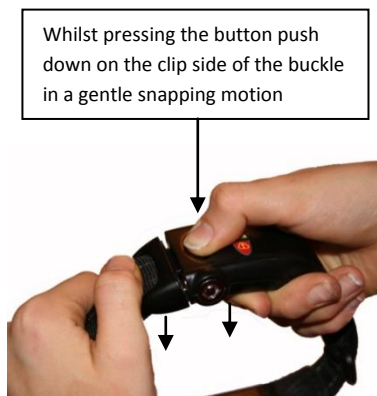
Testing the collar

6. **Switch the collar on by latching the clasp and the buckle unit together.** The right hand LED will start to flash amber to indicate it has switched on and is operating in Roam mode, and the middle LED will also occasionally flash amber to indicate it is searching for a GPS location. The collar does not have an on/off button. To switch the collar off again you should unlatch it.

7. **Ensure the GPS receiver has a view of the sky by placing the latched collar outside with the buttons facing upwards.** The collar will now start to calculate its position –this first GPS fix can take up to 10 minutes.

8. **After 10 minutes press the yellow TEST button on the buckle.** All the LED's should be GREEEN. If the middle LED is amber it has not yet found a good GPS fix. If the right hand LED is amber does not have a phone signal**.** When all of the LED's show GREEN the collar is fully functiona**l**

9. **Send the collar a 'location' request by sending it one of the following SMS text messages:**

   - For location data in latitude and longitude format you should send   **SL?**   by SMS text to the collar

   - For location data with a Google map link (for iPhone etc) you should send   **SM?**   by SMS text to the collar

The collar should send a reply within approximately 1 minute. Refer to page 7 and 8 to fully understand this reply

Naming the collar, setting a 'Phone List' and creating an 'Events List'

10. You can assign a name tag to the collar. You can also create a 'phone list' to ensure that only the phone numbers you approve of can communicate with the collar. You should then instruct the collar which 'event alerts' you want sent to each of the phone numbers you have entered. Each phone number can have a different events list.

You are advised to use the Retrieva internet-based mapping panel to create these settings.

I. Ensure the collar is charged and latched, and press the Test button to ensure that the right hand LED is green – this confirms that the collar is connected to the GSM phone network.

II. Use a computer and go to www.retrievatracking.co.uk. Click on the 'My Retrieva login' button and enter your user name and password (please contact Retrieva if you do not have login details). Once you are in the Home page click on the '*Tracking Device - Settings Management'* option in the top right hand corner and select the serial number of the tracker you wish to set up. You will see the following page appear.

Standard						
			Transmit Settings Request Cancel			
				Set	Response Text	Response Date & Time
Name the Device	Henry			☑		
Request Time Zone Info				☐	+00:00	
Request Firmware Version				☐		
Request Pairing Information				☐		
Request Phone List				☐		
Change Phone List [include +international dialing code]	1:+447772123456	2:+447773234567	3:	☑		
E-mail:	1:howard.marriott@sky.com	2:				

Create Events List for:	Select the 'Events' to be reported directly by the tracking device			Select the 'Events' to be reported via the Retrieva mapping panel system		☑
	Mobile 1	Mobile 2	Mobile 3	E-mail 1	E-mail 2	
Panic button pressed	☑	☑	☐	☐	☐	
Entered RF Range	☐	☐	☐	☐	☐	
Left RF Range	☐	☐	☐	☐	☐	
Entered GPS Geofence	☐	☐	☐	☐	☐	
Left GPS Geofence	☐	☐	☐	☐	☐	
Low Battery	☑	☑	☐	☐	☐	
Flat Battery	☑	☑	☐	☐	☐	
Lock Broken	☑	☑	☐	☐	☐	
Tamper Alert	☑	☑	☐	☐	☐	
Panel Perimeter Breach (reported via the Retrieva mapping panel system)						
Entered Perimeter Alert	☐	☐	☐	☐	☐	
Left Perimeter Alert	☐	☐	☐	☐	☐	

I. To name your collar put the chosen name in the 'Name the Device' box. **Tick the 'Set' box.**

II. To create a 'Phone List' you should enter up to 3 mobile phone numbers in the 'Change Phone List' boxes. . You <u>MUST</u> use the international dialling prefix for your phone number, and exclude the first 0 of the phone number. For example if your mobile phone number is 07771123456 and you live in the UK then the number to enter is +447771123456. **Tick the 'Set' box.**

III. To create an 'Events List' you should tick the box beneath 'Mobile 1, 2 or 3' etc for each event that you wish to have reported to each phone. The main events are 'Panic Button Pressed', 'Low Battery' and 'Flat Battery' alerts. The 'entered RF range' and 'left RF range' will alert you when the collar moves in and out of range of the ICyou base station. If you intend on creating and using a map based perimeter you should also tick the 'Entered or Left Perimeter Alert' (this can also be sent by e-mail, which will not impact any fair-usage policy). Be aware that excessive event reporting via SMS may incur extra charges. **Tick the 'Set' box.**

IV. When you have finished entering the settings you should press the '**Transmit Settings Request'** button at the top of the page. The panel will transmit your settings to the collar and the collar will confirm within 5 minutes that it has accepted the settings.

It is also possible to create these settings using SMS messages from your phone. Please refer to page 12 for instructions on how to do this.

11. **Understanding the ICyou™ base station**.

The base station can operate in a 'standard' state or a 'paired' state. It has 3 main functions:

- *To charge the collar (this works in a standard state or a paired state)*. If the base station has not been paired with the collar then it can only act as a charger for the collar (see page 8 for details)

- *To act as an automatic ON/OFF switch for the collar (this works only when paired)*. If the base station has been 'paired' with the collar then it will automatically switch the collar OFF when the collar is within a 50m-100m range of the plugged-in base station. This significantly increases battery life if the collar is used near the base station, as it is considered 'safe' whilst it is within range. It will also automatically switch the collar back ON again when it leaves the range of the base station (note that there is a delay of approximately 4 minutes before the collar switches itself on again). The collar cannot communicate with you whilst it is in the range of a paired base station as the GSM modem and GPS are both switched off (it is in 'Home' mode)

- *To create a Home Geofence alert (this works only when paired)*. The collar can be set to report to you when it enters or leaves the range of the ICyou™ base station, enabling you to be alerted each time the collar enters or leaves this safe environment. You must tick the 'entered RF range' and /or 'left RF range' box in the events list on the settings panel (above) for this to be effective

How to pair the ICyou base station to your collar

If you wish to use the base station in a 'paired' state you will need to pair the collar with the ICyou™ base station. To do this:

- Latch your collar to switch it on and ensure it is in close proximity to the ICyou™ base station. The right hand LED on the collar will flash amber to indicate it has switched ON

- Look at the underside of the ICyou™ base station and write down the serial number

- Plug in the ICyou base station to switch it on

- Send the collar the following text message   **PR1=<charger serial number>,<channel number>**

where the <charger serial number> is the number on the bottom of the base station (usually 20000xxx) and the <channel number> is the number of the LED (1-4) on the front of the base station that you want to assign to the collar.

For example, if the base station serial number is *20000123* and you wanted to assign the collar to the first LED on the base station then you would send the text message **PR1=20000123,1** (do not leave any spaces in this command).

After a couple of minutes you will receive a confirmation text from the collar that it has paired to the base station and you will see the assigned LED on the front of the base station switch on to confirm that the collar has paired and is in range of the base station.

Once the collar has paired it will automatically switch OFF when it is in range of the base station (the right hand LED on the buckle unit will flash green instead of amber) and you will no longer be able to communicate with it until either the collar leaves the range of the base station, or the base station is unplugged and switched off. If you wish to pair the collar to a second base station you should use the same command but use **PR2** instead of **PR1**

SMS Text Location Option 1.   TEXT MESSAGE TO SEND IS   <mark>SL?</mark>

This message requests a location from the collar in which the reply is in the format of decimal latitude and longitude, and also obtains the cell phone 'cell id' so that this extra information may be used to aid location. This message uses narrative to express signal levels, and also includes your collar's speed and location, as well as the GPS time fix expressed to the nearest second

Below is an explanation of the data shown on the incoming text reply from the collar:

	TEXT MESSAGE DATA	EXPLANATION
Line 1	10000623 Oscar123: Track	Tracker ID, Tracker Name and Operating Mode
Line 2	Batt: Good / GSM: OK	Battery Status *(Good>3.8v; OK=3.7v-3.8v; Low=3.6 -3.7v; Poor <3.6V)* GSM Status *(Good / OK / Low)*
Line 3	Cell: "00004","3B40"	GSM location data using cell phone masts
Line 4	GPS: New / Time: 17:45:40	GPS Status: *(New / Old / NA)* / Time that GPS fix was acquired *(Hrs:Mins:Secs)* *New<2 minutes old; Old >2 minutes old; N/A No fix within last 12 hours*
Line 5*	Lat: 51.6719187	Decimal latitude position determined by GPS
Line 6*	Lon: -0.6487898	Decimal longitude position determined by GPS
Line 7	Spd: 6kmh / Hdg: 164	Speed of your collar expressed in Km/hour Direction your collar is heading *(0º=North, 90º=East, 180º=South, 270º=West)*

*The latitude and longitude figures can be copied and pasted (including any + or – indicators) into any mapping application (phone-based or computer based) to show the exact location of your collar. If you use the ViewRanger software application that comes with the collar then this will be done automatically by the ViewRanger software.

SMS Text Location Option 2.   TEXT MESSAGE TO SEND IS   **SM?**   **(for GOOGLE MAP applications)**

This message requests a location where the location data is in the format of a Google map link. Below is an explanation of the data shown on the incoming text reply from the collar:

	TEXT MESSAGE DATA	EXPLANATION
Line 1	10000623 Oscar123: Track	Tracker ID, Tracker Name and Operating Mode
Line 2	Batt: Good / GSM: Good	Battery Status *(Good>3.8v; OK=3.7v-3.8v; Low=3.6 -3.7v; Poor <3.6V)* GSM Status *(Good / OK / Low)*
Line 3	Cell: "00004","3B40"	GSM location data using cell phone masts
Line 4	GPS: New / Time: 17:45:40	GPS Status: *(New / Old / NA)* / Time that GPS fix was acquired *(Hrs:Mins:Secs)* *New<2 minutes old; Old >2 minutes old; N/A No fix within last 12 hours*
Line 5*	http://maps.google.com/?q=loc:51.6658395,-0.6020313	Google map link showing collar's location. Open this link to download the Google map data file. Included beneath the basic map may be the option to 'Show in Google Maps?' – follow this and the full Google map and functionality will open. If your phone has built-in GPS it will also start to plot your location relative to that of your collar. Send **SM?** again to request an updated location. See below for Google map details
Line 7	Spd: 6kmh / Hdg: 164	Speed of your collar expressed in Km/hour Direction your collar is heading *(0º=North, 90º=East, 180º=South, 270º=West)*

Notes for the Google Map Link

For best results please ensure you have downloaded the latest Google mapping application (use your phone's browser to visit **http//m.google.com/maps** and follow the instructions to download the latest mapping application to your phone). You are advised to ensure you have a data allowance included in your contract so that you don't incur additional charges when using this method of location.

Click the Google map link within the text message reply and this will connect to the Google map network via your phone's web-browser. Depending on your phone and the type of the browser this will produce 2 different outcomes:

1.   On certain types of phones this link will take you straight into the Google mobile map application and plot the location of your tracker. This should be the outcome on the **iPhone** for example.

2.   On other phones it may produce a reply of 'no pages matching this criteria' or similar. If this is the case you have 2 options:
      o   If you still want to use the Google map application on your phone then you should use the 'copy' facility on your phone to copy the location data from the text message into Google maps (i.e. highlight the ***http:map*** link in the text message, then press options and copy). Now open the Google map application on your phone, select options, search, and then paste the copied map link into the search box. Now delete the start of this link so that it only shows the ***loc:latitude,longitude*** part of the message and press enter or OK. It will now show you the location of your tracker.
      o   If you want to download the full map from the internet then you should scroll down the page on the screen and you will see that you have the option to view the page in 'mobile' or 'classic'. Press the 'classic' option and it will download the correct map page. Note that you may have to move the cursor around the page to see the tracker pin location (as the downloaded map page is typically larger than the phone screen available).

If the ***http:map*** link in the text message is not underlined or highlighted ensure that your phone settings are set to 'automatic find' or its equivalent. This option can often be found within your phone's 'messages menu'. It may also be the case that if you select non-standard font settings it will not allow the link to be followed, so you may need to reset the font-type settings for reading text messages.

Remember to close the Google Maps application after your have finished using it to save battery life on your phone and to ensure you do not incur additional data charges from your GSM carrier.

Understanding the Buckle Unit and LED Indicators

When the collar is latched the right hand LED will flash to show the current operating mode. The middle LED will also occasionally flash amber to show that the GPS is calculating its location

Right hand LED flashing Green = Home mode

Right hand LED flashing Amber = Roam mode

Right hand LED flashing Red = Track mode

When the collar is latched you can press the yellow **TEST** button to see if the collar is fully operational. The 3 LED's will light simultaneously and may be either Green (fully operational), Amber (operational but without a signal) or Red (switched off) for each service.

Battery   GPS Signal   GSM Phone
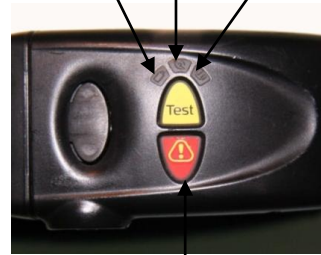
Panic button

Panic Button – Message

When the panic button is pressed the collar will send an alert message to the phone numbers that have been added to the phone list and where they have Panic included within the events list. This message includes a Google map link to allow the recipient to download the location of the collar.

Panic Button – Handshake

The panic message sent by the collar offers the recipient an opportunity to confirm receipt of the alert by replying to the collar with the text **OK**.   Once the collar receives the **OK** reply, it will flash the LED's for a period of time to acknowledge receipt.

Wearing the collar

The collar is ergonomically curved to fit against a dog's neck in two ways. We recommend that small and medium sized dogs should wear the collar 'side-on' (Image 1) with the D ring at the back of the neck. Larger dogs may also wear it with the buckle at the back of the neck and the main housing underneath the dog's head (Image 2). It is important that the buckle unit does not point at the ground as the GPS antenna is situated in the buckle and require a view of the sky.

Image 1

Image 2

Summary of SMS text message commands that you can send to your collar

Below is a list of the important text commands you can send to your collar to enable you to interrogate it and switch it between modes. You can use either upper or lower case, and must use SMS text from a mobile phone that is included in the phone list.

SMS Text Command	Result
M=I	Switches tracker into Idle mode
M=R	Switches tracker into Roam mode
M=T	Switches tracker into Track mode
SL?	Requests a full status report with location in decimal latitude and longitude format
SM?	Requests a full status report with location as a Google map link
PL1=<phone number>	Sets the first number on the phone list. You must use the international dialling code for your phone number (e.g. **PL1=+447771123456**). Use PL2 and PL3 to set the second and third phone number
PL?	Requests a copy of the collar's existing phone list
EV1=<events list>	Sets the events list for the first phone number in the phone list. Do not use commas to separate the list (e.g. **EV1=BF+P+GF-GF**). See full list of Event reporting options. Use EV2 and EV3 to set the events list for the second and third phone numbers
Ev1?	Requests a copy of the event list settings for phone 1. Send EV2? And EV3? for a copy of the events list for the second and third phone number
GF=<meters>	Sets a location based Geofence with a radius of 50m to 64,000m. (e.g. **GF=250**) Send GF=0 to cancel the Geofence
NA=<name>	Gives the tracker a name with a maximum length of up to 8 characters (e.g. **NA=Freddy**)
CT=<time>,<on/off>	Configures how the collar reports its location via GPRS to a web-based mapping panel when in track mode where <time> is expressed in units of 10 second intervals and <on/off> controls whether the RF beacon is switched on or off whilst in track mode. Default is **CT=18,off** (i.e. reports a location once every 3 minutes and the RF beacon is off)
TZ=<+/- hours:minutes>	Adjusts the reported GPS fix time to local time (e.g. British Summer Time), where <time > is quoted as a range of -12 hours to +23 hours 45 minutes. The only acceptable minute figures are 00, 30 or 45. (e.g.**TZ=+1:00**)
PR1=<charger>,<channel>	Pairs the collar to a charger, where <charger> is the serial number of the charger, and <channel> is the LED (1-4) on the charger that you want paired to the collar (e.g. **PR1=20000123,1**)
CP?<charger serial number>	Asks the collar to fetch a list of all paired trackers to a particular charger. (e.g. **CP?20000123**)
DP=<collar serial number>,<charger serial number>	Instructs the collar to delete a pairing from the charger base (e.g. **DP=10000123,20000123**)
RFW=<minutes>	Sets the delay between the tracker losing the link with the base station and switching to Roam mode. Should be set long enough to eliminate false alerts (e.g. **RFW=5**). Default setting is RFW=4
V?	Requests confirmation of the firmware version number

IMPORTANT NOTICE – IF YOU WISH TO USE THE RETRIEVA WEB-BASED MAPPING PANEL TO CONTROL AND TRACK YOUR DEVICE THEN YOU SHOULD USE THE MAPPING PANEL RATHER THAN YOUR PHONE TO CREATE AND ISSUE A PHONE LIST AS THIS WILL ENSURE THAT THE MAPPING PANEL IS AUTOMATICALLY INCLUDED IN THE LIST OF APPROVED PHONE NUMBERS. PLEASE SEE PAGE 4 FOR INSTRUCTIONS ON HOW TO DO THIS.

Instructions on how to use SMS text (rather than the Retrieva mapping panel) to create a phone list and an events list

- You can enter up to 3 different mobile phone numbers into the collar. You <u>must</u> use the international dialling prefix for your phone number, and exclude the first 0. For example if your mobile phone number is 07771123456 and you live in the UK then the number to enter is +447771123456

- You do not have to create a phone list, in which case the collar will accept commands from any mobile phone number, BUT it will not be able to send out any event notifications such as low and flat battery alerts

- You can create a different Events list for each phone number (or no events list at all, in which case the collar will accept commands from that phone but will not issue any event notifications to it). Refer to page 13 for a full list of event reports and their codes

- You can use upper or lower case letters when setting the phone and events list. Do not put spaces in the text message command, and you must separate the phone list from the events list with a *

- You can change the phone list and events list at any time, but only using a phone number that is already included on the existing phone list

Issuing the approved phone and events list using SMS from your phone (see page 12 for Event codes)

- You <u>must</u> start with your own mobile phone number and send:

  PL1=<phone number 1>*EV1=<events list 1>

  For example, if you live in the UK (international code +44) and your mobile number is 07771123456, and you want the collar to alert you when the battery is low (code B), the battery is flat (code F), and when the panic button is pressed (code +P) then you would send the following text message to your collar: PL1=+447771123456*EV1=BF+P

- Once the collar has confirmed this request, you can then set the second and third phone number and events lists as follows using the first phone that you have just set

  PL2=<phone number 2>*EV2=<events list 2>
  PL3=<phone number 3>*EV3=<events list 3>

Naming the collar by SMS text

You can name the collar by sending it   Na=<name>

 (For example **Na=Freddy**)

The collar will reply and confirm its name.

Summary of the Event reporting commands

If you have entered phone numbers onto the collar then you can create an events list for each of the numbers that you have entered.

Below is a list of events that can be entered onto an events list.

Event Code	Description of Event
B	Low battery warning
F	Flat battery warning
+P	Panic button pressed
A	Tamper/cut alert
L	Lock tamper alert
+GF	Entered location based Geofence
-GF	Left location based Geofence
+X	Entered range of base station (Home mode)
-X	Left range of base station (Left Home mode)

We would recommend a standard events list of   **BF+P+GF-GF**

If you are also concerned about theft then we recommend   **BF+P+GF-GFAL**

If you also want to know when your tracker gets home and leaves home then add +X-X, so the events list will be **BF+PAL+GF-GF-X+X**

For example   **Ev1=BF+P+GF-GF** will instruct the collar to send a text warning to the first phone number on the phone list each time the collar's battery is low (B), battery is flat (F), when the panic button is pressed (+P), and when the collar enters and leaves a Geofenced area (+GF and -GF) .

Additional Notes

- You cannot add an event to an existing events list – you must send a complete new events list that includes your chosen events
- When sending the SMS text command there are no commas between the lists of events that you wish to be reported
- Be aware that if you request a lot of events to be reported then it may lead to additional charges being raised if the quantity of messages and alerts is excessive

Collar Reset

- In the unlikely event that the tracker 'locks up' then it is possible to reset the device – to do this unlatch the collar then press and hold the TEST button for a minimum of 15 seconds and until all 3 LED's turn amber at the same time. Release the button and the LED's will stay amber whilst the device reboots itself. You will not lose any settings by performing this reset.

Understanding the Operating Modes

The tracking device has four operating modes. All modes have a default wake-up time in which to process outstanding commands. This is set to wake up once every 24 hours, but can be changed if required.

Idle mode Nothing is switched on. The tracker is on the charger, or a collar is unlatched

Idle mode uses virtually no battery power. Battery life in this mode is up to 2 months

Home mode A tracker automatically enters this mode when it is within range of a paired ICyou home base station. The GSM modem (communication) and GPS (location) functions are switched off until it leaves the range of the base station, at which point it will automatically switch to Roam mode.

Home mode is a low power operating mode. Battery life in this mode is up to 24 days

Roam mode When the device is first latched or when the device leaves the range of a paired ICyou base station it automatically switches to Roam mode. This switches on the GSM modem and cycles the GPS so that you can communicate with the device and it starts to calculate its location once every 2 minutes. You can locate the device whilst in Roam mode by text message (send it the text message *SL?* or *SM?*) or via the ViewRanger mapping application on your phone. The time to first GPS fix whilst in Roam mode can be up to 10 minutes but once it has a fix any further fixes will take less than 1 minute. You can also manually put the device back into Roam mode from Track mode by sending it the following text command: *M=R*

Roam mode is a medium power-usage operating mode. Battery life in this mode is up to 2 days

Track mode When the device is put into Track mode it has GSM, GPS. GPRS and RF (optional) all switched on. To put the device into Track mode you should send it the following SMS text command *M=T.* When in Track mode the device constantly calculates its location. The device will attempt to transmit its location via GPRS to a web-based mapping panel. You can also locate the device whilst in Track mode by text message (send it *SL?* or *SM?* and it will reply with its location) or via the ViewRanger mapping application on your phone. You can also put it into Track mode by pressing the Panic button (but be aware that this will transmit an alert message to all the numbers on your phone list). If the RF beacon is switched on it will transmit a signal at a frequency of **434.350 MHz**

Track mode is a very high power-usage operating mode. Battery life in this mode is up to 15 hours

Summary of Operating Modes and Functionality

Operating Mode ⬇	GSM Mobile phone communication	GPRS mobile data communication	GPS satellite location system	RF Beacon	Power Consumption
Idle (collar unlatched)	Off	Off	Off	Off	Very low – up to 2 months
Home (tracker in range of base station)	Off	Off	Off	On – base station link	Low – up to 24 days
Roam (this is the standard operating mode when the tracker is beyond the range of a paired base station or when first latched)	On	Off	On – every 2 minutes	Off	Medium – up to 2 days
Track (send M=T or press panic button)	On	On	On – constantly	On/Off via settings	High – up to 15 hours

How to Use the Retrieva Collar / Tracker

The collar is designed to be worn up to 24 hours a day, or can be removed at any time when convenient. If it has been paired to a base station it will automatically go to 'sleep' when your collar is around the house (Home mode), and automatically switches itself on again when your collar leaves the house (Roam mode). This will significantly enhance battery life.

Understanding GPS

The principal means of location for your collar is GPS technology. GPS requires a view of the sky in order to operate properly. It is for this reason that the GPS antenna is located in the buckle part of the collar so that it stays on with a view of the sky. It should not be allowed to hang beneath your dog's head. The length of time it takes to get a proper location fix can vary from under a minute to up to 15 minutes. This variance will be determined by many factors, including its environment and how long it was since its last good GPS fix. For example you are strongly advised to ensure the collar has a good location fix before your dog enters woodland. If the collar has a satellite fix then it will most likely maintain its location fix until it either enters Home mode again or goes inside a building.

Locating your collar using your phone

To locate your collar you should text it with **SL?** or **SM?** and it will respond with its location in either decimal longitude and latitude format (SL?) or with a Google map link (SM?). You can input the decimal latitude and longitude figures in any map system such as the search box in Google Earth (separate the lat & long with a comma). See page 7 for full details on how to use the map link.

Alternatively, if you have loaded the tracker into the ViewRanger application on your phone you can locate the collar via the Beacon and Tracker options within ViewRanger. Please see separate instructions on how to download the ViewRanger phone mapping application to your phone, and how to use it with your Retrieva collar.

If you wish to speed up the process of acquiring a GPS fix then you can put the collar into Track mode by sending it **M=T**, though this mode will drain the battery quite quickly and should not be necessary in normal circumstances.

If you get a location fix whilst the collar is in Roam mode then it will have been acquired within the previous 2 minutes. If you get a location fix whilst the collar is in Track mode it will have been acquired within the previous minute. You will always be informed of the exact time of the GPS fix within the reply from the collar.

Other things to note when locating the Retrieva collar by using your phone:

- The collar cannot communicate with you if its battery is flat, if the buckle is unlatched, if it is in range of a paired ICyou base station (HOME mode), if your phone number is not included in the phone list, if there is no GSM cell-phone coverage, or if it is within a defined location based Geofence area.
- You should be aware that the delivery of SMS text messages can be delayed by the mobile phone networks, and if you are uncertain that text messages are getting delivered to your collar in a timely manner then you should dial your collar and let it ring until it goes through to voicemail – do not leave a message but hang up straight away – this will often flush through any outstanding SMS texts to your collar. It is also possible to set your phone to confirm that any text messages you send have been delivered to the collar – this is often under the Message Options menu in your phone – you should set 'Receive report' to 'Yes'.

Locating your collar using the internet (Retrieva web-based mapping panel)

You can log into to Retrieva web-based mapping panel using your log-in details. On the Map/Home page click the 'expand' button to reveal the control options. If you want a single current location press the 'Request Current Location' button – this will work if the collar is in Roam mode or Track mode and will show a one-off current location – or put the collar into Track mode (send it **M=T** by text, or press the 'Set Track Mode' button on the mapping page control options). The collar will then report its location to the mapping panel at regular intervals using GPRS. Ensure you have ticked the 'View' box next to the tracker details, and also tick the 'Trail' box if you want to see a trail. If the tracker location does not appear you can try refreshing the screen/page on your PC.

Geofencing (Virtual Perimeters)

'Geofencing' is the process of creating virtual fences and being alerted when the tracker enters or leaves the area prescribed by the virtual fence. There are 3 different ways to create virtual fences, and they can all be used simultaneously if necessary.

1. Home based Geofence

If you have paired your collar with the ICyou charger base it already has one method of Geofencing as long as your events list includes **left RF range**, and the charger unit is left switched on.

2. Location based Geofence

The collar can also advise you if it moves a set distance from its current location. Your events list should include **+GF** and **–GF**

You can create a Geofence anywhere you go by sending the following SMS text message:

GF=<number between 50 and 64000>

The number is the radius in meters around the current position that you consider a 'safe area', and can be set between 50m and 64000m. Once the device has established its current position it will confirm it has a good GPS fix and then put itself into a Geofence mode. If the collar leaves this area it will then advise you of this event and put itself into Track mode to enable you to follow it.

e.g. if you want a Geofence of 200m radius around the dog's current location then send the text message: **GF=200**

Additional Notes

- To cancel the Geofence send the following SMS text   **GF=0**
- Whilst in Geofence mode the GSM modem is switched off and you cannot communicate with the collar until it leaves the Geofence
- If the collar does not move for a long time it is possible that the GPS fix will 'drift' and transmit a false alert that it has left the Geofenced area, though you will subsequently be advised within a few minutes that the collar has re-entered the Geofence

3. Web-based perimeter

It is possible to create a perimeter using the Retrieva internet based mapping panel. Go to www.retrievatracking.co.uk and login to the mapping panel. Please see the mapping panel instructions for full details on how to set up a virtual perimeter.

Temporary Easy Release Buckle Insert (Optional)

This insert is optional, and intended for use only in circumstances where your dog would not normally wear a dog collar for safety reasons (some working dogs, for example). It is designed to allow the collar to break free if put under strain. Under NO circumstances should a lead be attached to the collar if the yellow easy-release insert is in place as it will give way under strain.

1. Place the yellow insert into the buckle unit
2. If you wish the collar to advise you if it breaks free from your dog you should lock the collar once the insert is in place and the collar is on your dog - this will still enable the collar to break free, but also enables the collar to report this specific event.
3. Ensure that lock tamper event (L) is included in the Events list for your phone
4. If the collar does come off the dog you should receive a text message advising you of a tamper event and the collar will automatically go into TRACK mode. You can now track the collar in the usual way to recover it.
5. When you have recovered the collar you will need to reset it – whilst the collar is unlatched please press and hold the TEST button until all 3 LED's turn amber (this can take up to 30 seconds). This will return the collar to its normal state.

Safety Advice

The ICyou charger unit

The charging unit is suitable for use in recharging the collar and the portable tracker. Please insert the supplied power cable into the socket on the side of the ICyou charger base, and then insert the plug into a (240v) power socket. The left hand LED on the charger unit will glow green to show that the power supply and charger unit are operating correctly. Please ensure that the ICyou charger remains close to a power socket so that the lead is not stretched or likely to cause a hazard. Please note that the ICyou charger unit is **NOT** waterproof and should only be used indoors and away from water.

The Retrieva tracking and anti-theft collar

The dog collar contains a rechargeable Li-ion battery which is sealed inside the larger plastic housing. Under no circumstances should this battery be accessed or removed. To recharge the battery simply place the collar onto the ICyou charger unit. There are no user-serviceable parts in any of the housings in the collar, and no attempt should be made to open the casing or buckle unit. Should you have any problems with the unit, or need to dispose of the unit, please return it to our office at the address on page xxx

The collar is waterproof, but we do not encourage its immersion in water for any length of time. If the collar gets wet it should be removed from the dog and allowed to dry. This will ensure that it does not cause any discomfort to the dog, as well as optimising its performance.

It is important that you keep a key for the collar with you at all times – this will ensure that you can remove the collar should the dog become caught on it for any reason.

Disposal of the unit

Please do not dispose of any Retrieva electrical or rechargeable product. Please return them to our office at the address as shown on page 17

Warranties

For full details please see the Terms and Conditions. The collar has a manufacturer's warranty against any manufacturing defect or fault for a period of 1 year after purchase. Any attempt to open, service or alter the product in any way will invalidate the warranty.

This product operates using GSM networks (mobile/cell), GPS systems and Radio Frequency, and Retrieva cannot guarantee that these systems and signals are available in all areas at all times. By using this product you accept the limitations that this may cause, and do not hold Retrieva responsible or liable for the consequences of such limitations.

Problem Solving

When I press the test button most of the lights are red – This indicates that the tracker is either in Home mode (near a base station) or the battery is flat. Switch off the base station and / or recharge the collar

Why can't I communicate with my device? - The collar/tracker will not communicate with you if its battery is flat, if the buckle is unlatched, if it is in range of a paired ICyou charger unit that is plugged in (HOME mode), if there is no GSM (cell-phone) signal, or if your cell-phone number is not included in the collar's phone list. If you are sure that none of the above is the cause then you can try ringing the tracker / collar's phone number – if it rings and goes through to voicemail DO NOT LEAVE A MESSAGE, but hang up. This confirms that the device is live on the network, and often ringing it will flush through any outstanding SMS text messages that the network has not yet delivered. If it does not ring but goes straight through to voicemail then it is not live on the network and indicates that there is no GSM reception or an error.

I have entered the wrong phone number on the phone list and now cannot talk to the tracker. Please contact Retrieva Ltd and we can delete the phone list for you so that you can start again.

Why are there no LED's flashing on my collar / tracker? – If the right hand LED is not flashing then the device is either in Idle mode (i.e. unlatched), the battery is flat, or the buckle clip has not made a good connection with the buckle unit when it has been latched. Please unlatch the collar and re-latch it, making sure that there is nothing (such as dog hair) obstructing the brass contacts on the buckle and the brass pins on the clip.

Why won't my collar / tracker charge? – Please make sure that the collar or tracker is sitting properly in the charging unit and that the metal contacts are clean. If the charging LED (first LED on buckle / tracker) does not come on after a few seconds then remove it and try replacing it again until the charging light does comes on.

Why does the range of the ICyou base station seem to be less than that indicated? – In normal conditions the range of the ICyou base station should be approximately 100m radius. However as it is an RF device many things can increase or decrease this range, including obstructions, atmospherics, and the siting on the base station. For example if you want to increase the range you can place it higher up in a building or near a window. It is also possible to add more base stations to increase the coverage.

Why are the latitude and longitude figures both shown as 0.0000? – This is a typical result from first use when the device has not had chance to acquire any fix. Leave the device (with the buttons facing skywards) in an unobstructed location such as your garden whilst in Roam mode. If your product is a dog collar please also ensure that it is latched (buckled). You are advised to temporarily unplug the ICyou base station as this may keep the tracker in Home mode.

Why are the latitude and longitude old fixes? – The GPS status indicator within the text reply from the tracker will tell you what the status of its GPS fix is. If the fix is old (i.e.'2' or 'Old') then it is using its last good fix as long as it was obtained within the previous 12 hours. You should allow more time for it to acquire a new fix.

How can I see what services are available? – If you press the yellow Test button for a couple of seconds the 3 LED's will light up indicating either red (system not active), amber (attempting to connect to a service), or green (good service). The first LED will show you battery level, the second will show you the GPS fix status, and the third will show you if there is adequate GSM cell phone coverage.

Can I track the device if there is no GSM phone coverage? – Yes, whilst in Track mode the tracker can transmit data via an RF signal and RF receivers can locate and read this data. However, you may require specialist equipment to do this.

The tracker keeps waking up whilst in Home mode and advising me that it has left the range of the base station*, even when *it has not – it is possible that something is interfering with the RF link – you should extend the wake up interval to at least 4 or 5 minutes to minimise the risk of false alerts (send RFW=4 or RFW=5)

To contact Retrieva limited please either write to Retrieva Ltd, 103 High Street, Berkhamsted, Hertfordshire, HP4 2DG; phone us on 01442-877796; or contact us via e-mail at info@retrievatracking.co.uk . You can also visit our web-site at www.retrievatracking.com for more information.