

# MARCO POLO™

Pet Monitoring, Tracking and Recovery System



## Operating Instructions

Locator Model ETP-LOC-01

Tag Model ETP-TAG-01

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation. Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation.

If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

This device complies with Industry Canada license-exempt RSS standard(s). Operation is subject to the following two conditions: (1) this device may not cause interference, and (2) this device must accept any interference, including interference that may cause undesired operation of the device.

*Cet appareil s'accorde avec Industrie Canada licence-exempte RSS standard. (1) cet appareil ne peut pas causer l'intervention, et (2) cet appareil doit accepter de l'intervention, y compris l'intervention qui peut causer l'opération non désirée de*

This Class **B** digital apparatus complies with Canadian ICES-003.

*Cet appareil numérique de la classe B est conforme à la norme NMB-003 du Canada.*

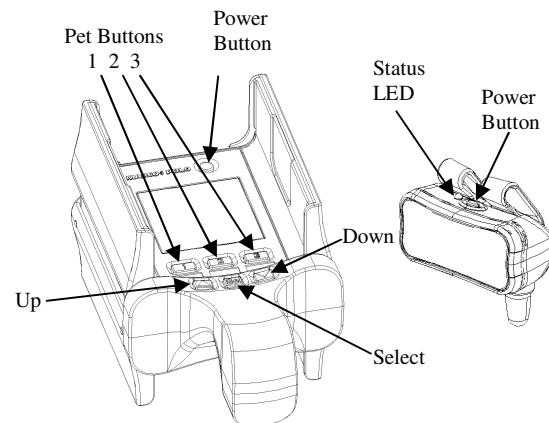
## Disclaimers

The Marco Polo system (the Product) is intended to be used as a supplement to the normal precautions a pet owner would take to ensure the safety of their pets. This Product is not a substitute for proper fencing, use of leashes, tie-outs or any other measures typically used to restrain pets and keep them out of harm's way. If you are a new pet owner you should seek the advice of a trained professional regarding the proper enclosure and environment for your pet.

Eureka Technology Partners, LLC makes no warranties regarding loss of property or personal injury, even if the loss was due to a malfunction of the Product.

This Product is not intended for use on people or for any purpose where injury or loss of life may result from the use or misuse of the Product.

## User Controls and Displays



### **Locator:**

Power Button – Turns the Locator on and off.

Pet Buttons – One button for each of up to 3 pets. Pressing button changes the mode for that pet's tag from Idle to Track to Monitor.

Up Button – Moves the selection cursor up one position.

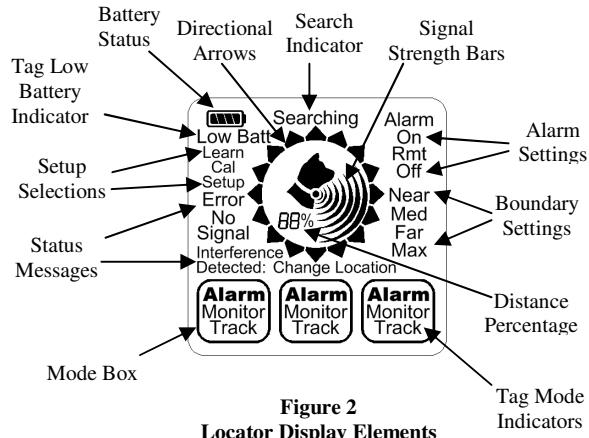
Select Button – Selects the item currently flashing.

Down Button - Moves the selection cursor down one position.

### **Tag:**

Power Button – Hold down to turn power On/Off. LED on steady means the tag is turning off. 1, 2 or 3 flashes indicates battery level and that the tag is turning on.

Status LED – Indicates On and Off status and battery charging status.

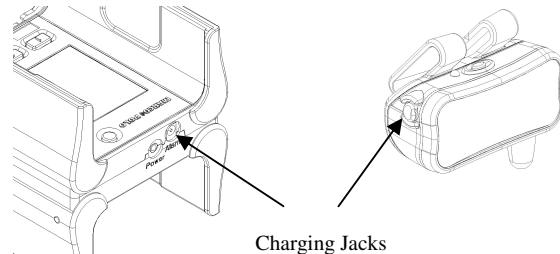


**Figure 2**  
**Locator Display Elements**

## System Setup

### Battery Charging

The Marco Polo pet monitoring and tracking system consists of two parts: a handheld “Locator” unit and up to three “Tag” units that can be attached to your pet’s collar. Prior to first use, the internal lithium-ion rechargeable batteries must be charged with the included battery charger adapter. Also, if the battery is ever removed from the locator, the charger must be connected at least momentarily to reset it. Figure 3 shows the location of the charging jacks.

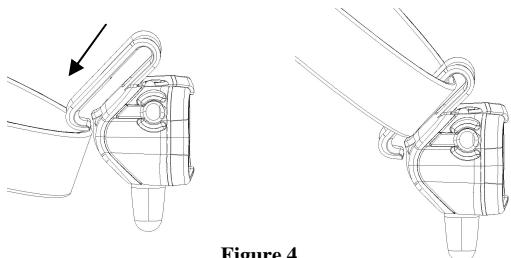


**Figure 3**  
**Location of Charging Jacks**

When charging the tag’s battery, the tag’s status LED will flash until the charge cycle is complete and then the LED will go off. The tag will not function while charging is in progress. When charging the locator, the locator’s battery status indicator will show the charge level increasing during the charge cycle and then the indicator will show full when the charging is complete. The locator can be used in any mode while connected to the charger.

### Tag Attachment

To attach the tag to your pet’s collar, place the hooked end of the collar clip against the top edge of the collar and press down firmly until the collar is all the way inside the clip as shown in Figure 4.



**Figure 4**  
**Attaching the Tag to a Collar**

When attaching the tag to a collar, always select the side of the collar's buckle that is way from the D-ring for holding license and ID tags. The best arrangement is to have the D-ring on the left, buckle in the center and the Marco Polo tag on the right (turn the collar over if necessary to get this arrangement.) If the collar is an adjustable type then the side away from the D-ring may have two thicknesses of material, if this is the case then slip the tag's collar clip over just the outer thickness of the collar so that the clip rests between the two collar straps.

The collar clip on the tag is designed to be used with collars ranging in size from  $\frac{1}{2}$ " (12mm) wide and  $\frac{3}{32}$ " (2mm) thick to 1" (25mm) wide and  $\frac{3}{16}$ " (5mm) thick. Collars in this size range are available to fit most pets. If you are choosing a new collar for your pet then select the widest and thickest collar that will fit them comfortably as this will provide the most secure attachment for the tag.

To remove the tag from the pet's collar, pry the hooked end of the clip outwards from the body of the tag with your finger and then slide the collar out of the clip.

### Powering On the Locator and Tag

To power on the locator: Press and hold the Power button (see Figure 1 for the location of the power button) until all of the display segments flash and the locator beeps twice.

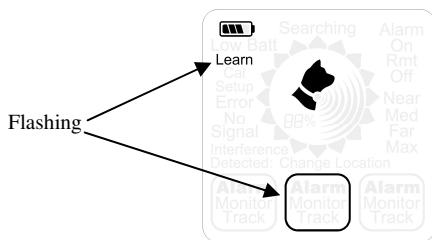
To power on the tag: press and hold the Power button until the Status LED flashes. The number of flashes indicates the tag's battery charge status. Three flashes means fully charged, two flashes is partially charged and one flash indicates the tag is in need of charging before further use. If the tag's status LED shows one long flash it is turning off. If the tag is "busy" it may not respond to the off command, press the Power button again until the one long flash is shown. When the tag is on the LED will flash briefly once every 10 seconds.

### Pairing a Tag and Locator

If you purchase the Marco Polo locator with one included tag then no pairing operation is needed and you may proceed directly to the "Tracking a Pet" section below. If you purchased additional tags or if you have received a replacement tag then you will need to transfer the unique ID code of the tag into the locator before the tag can be used. To do this, first turn the tag off but keep it nearby. Next, press and hold the Select button until Setup and Learn appear on the display. Press the down arrow button so that Learn is flashing and then press select to enter the learn mode. Now press the Pet button (1, 2 or 3) that you wish to assign to the new tag. "Searching" will now flash on the locator.

Once the locator is in learn mode you have 20 seconds to turn the power on to the tag you wish to assign to the selected Pet button on the locator. If the tag and locator are successfully paired then the locator will beep two short beeps and the Learn display will disappear. If you wait too long to turn the tag on or if there is an error you will hear one long beep and the locator display will say "No Signal". If this happens, turn the tag power off again and repeat the above process until the two beeps are heard.

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**Figure 5**  
**Learn Mode Display**  
**(Pet 2 Shown as an Example)**

### Labeling the Pet Buttons

To help remember which pets are assigned to which of the three Pet buttons on the locator, you may fill in the included pet button labels and place them in the label wells under each button. You may wish to abbreviate the pet's name or just use the first letter of the name to write on the label.

### Cloning

If you own two Marco Polo locators, or if you have friends that own them and they wish to help you search for a lost pet, you can clone the Pet ID from one locator into a second locator - even if the pet is lost and you do not have access to the tag. To do this, put the second locator (the one receiving the Tag ID) into Learn Mode, just as you would in the pairing operation above, then within 20 seconds turn on the first locator, the one that has the ID you wish to transfer. The first locator will now prompt you for which of the 3 Pet ID's you want to clone by flashing its 3 select boxes. Press the Pet button that you wish to clone, the second locator should beep twice to indicate it has received the ID. Note that the locator receiving the Tag ID does not have to use the same Pet button assignment as the locator sending the ID. For example, your lost pet may be assigned to Pet 1 on your locator but your friend may wish to clone that Tag ID into Pet 2 or 3 on their locator. You may repeat the cloning operation with any number of locators, one at a time.

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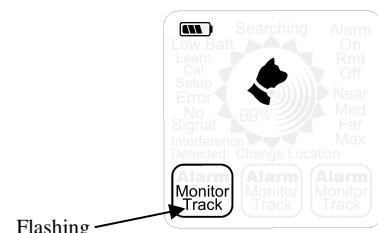
### Backlight

Each time you press a button on the locator the display's backlight will come on for 5 seconds. The Select button can be used to turn on the backlight when needed. If you need the backlight to be on for a more extended time, short presses of the Power button will latch the power on or off. Keep in mind that using the backlight for extended periods will shorten the battery life of the locator.

### Tracking a Pet

#### Paging

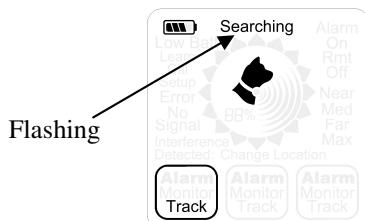
Once your Marco Polo tag is turned on and placed on the pet's collar you may track their whereabouts at any time. To do this, simply turn the locator on and press the Pet button over the name or initial of the pet you wish to track. When you do this the Track icon will begin to flash as shown in Figure 6.



**Figure 6**  
**Starting Track Mode**  
**(Pet 1 Shown as an Example)**

Once the Track icon is flashing you can either start the process immediately by pressing the Select button or you can simply wait 5 seconds and the locator will enter track mode automatically. The first thing the locator does in tracking mode is to send out a signal to get the tag's attention, a process called "paging". Figure 7 shows the appearance of the display in paging mode.

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**Figure 7**  
**Paging Tag 1**

This paging transmission will continue until one of these events has occurred:

1. The paged tag responds
2. The operation is canceled as described below
3. Two minutes have elapsed without a response from the tag

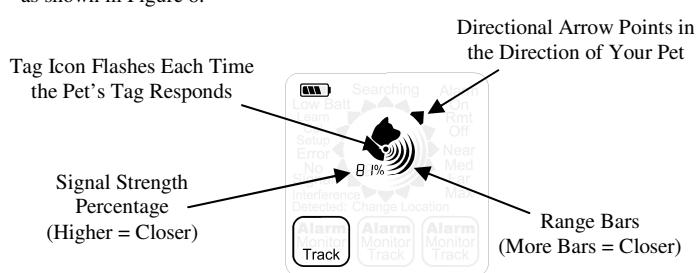
The first time you attempt to page your pet's tag do so with the pet nearby, somewhere in your house or yard where you know the signal will be received. This way you can practice with the locator and know what to expect if an emergency arises. Normally, the tag will respond to the paging signal within 30 seconds but in some cases it can take up to a minute. If your pet's tag does not respond within a minute then make certain it is turned on and review the information on "Pairing a Tag and Locator" above if necessary. If the paging operation times out after two minutes the locator will begin beeping, the Searching icon will disappear and the display will show "No Signal". Pressing the select button again will restart the paging operation for another 2 minutes. Once the paged tag does respond the locator will beep and the display will appear as shown in Figure 8.

If you wish to cancel a paging operation then press the Pet button twice until both Track and Monitor disappear from the display.

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### Tracking

Once the paging operation has been successful the tracking display will appear as shown in Figure 8.



**Figure 8**  
**Tracking Display**

When the tracking mode is activated the locator communicates with your pet's tag about once every 4 seconds. When your pet's tag responds, the following information is updated on the display:

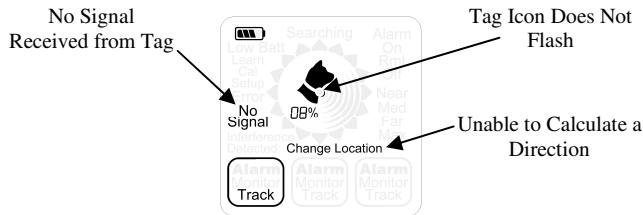
1. The "tag" icon flashes to show that your pet's tag responded to the locator.
2. The signal strength received from the tag is measured and converted to a percentage that ranges from 0% to 99%. 99% means you are very near your pet, 0% means you are far away.
3. The signal strength received from the tag is also displayed as a number of "bars" (like the signal strength bars on your cell phone). The more bars that are showing the closer you are to your pet.
4. If the locator is in an area where there are not too many obstructions, a directional arrow will display showing the direction of your pet.

In addition to the displayed information listed above, the locator will sound a number of beeps each time your pet's tag responds. A single beep means that your pet is not in the immediate vicinity, two beeps means fairly close and three beeps indicate the pet is in close proximity. You can use this audible feedback for hands free searching while driving or to allow you to concentrate

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on your footing when searching at night. To turn the beeping off, press the Down button.

If you and/or your pet are moving then the signal conditions are constantly changing and the information on the tracking display may be rapidly changing as well. For example, if your pet moves behind a large obstruction, such as a large building or a hill, the signal strength may fall off quickly or become too low to be received even though your pet has not moved very much further away. Also, depending on obstructions and objects that might reflect or block the signal coming from your pet's tag, the locator may not be able to calculate the direction to the pet. These conditions will be reflected on the tracking display as shown in Figure 9.



**Figure 9**  
**Tracking Error Messages**

If no signal is received back from the tag the tag icon does not flash and the No Signal message is displayed, this condition can occur from time to time under and is not a malfunction. The locator will keep trying to communicate with the tag. If 10 attempts in a row to communicate with the tag fail (about 40 seconds) the locator will automatically restart the paging operation and the display will appear as in Figure 7. If the paging operation is unsuccessful the locator will emit one long beep and wait for you to press Select to resume paging the tag again.

If the locator can receive a signal back from the tag but can not calculate a direction to the tag the Change Location message will be displayed to remind you to move the locator to a better location (see the Tracking Tips section for more information.) The Change Location display will only appear after the

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locator is unable to calculate a direction after four consecutive attempts. As long as a response is received from your pet's tag the signal strength information will be updated, even if a direction can not be determined.

As you move along in your search for your pet it is normal to see No Signal or Change Location pop up occasionally - the system is designed to accommodate these situations. Continue along the path of the last displayed direction or the path that gives an increasing signal level if no direction is displayed.

### Exiting Track Mode

When you are finished tracking you can exit Track mode by pressing the Pet button to enter the select mode and then twice more to move to idle mode or, if you are finished using the locator, you can simply turn it off. It is never necessary to change anything on your pet's tag; it says on all the time and changes modes automatically.

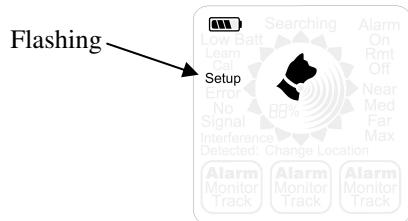
### Monitoring a Pet

One of the most unique and powerful features of your Marco Polo system is the ability to monitor your pets 24 hours a day to ensure that they have not left your yard or other designated area. To get the most out of the monitoring features of the system you will need to customize the settings for your individual situation. After this is done, you will not need to adjust the settings unless you change locations or wish to alter the way Marco Polo notifies you about a missing pet.

### Monitoring Setups

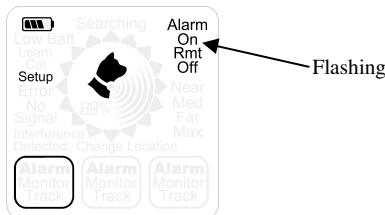
The Marco Polo system allows you to select individual boundaries for up to three different pets as well as select the type of notification you will receive when the pet wanders outside of that boundary area. To enter the Setup mode turn the locator on and then press and hold the Select button until Setup begins flashing on the display as shown in Figure 10. Press select again to enter setup mode. The 3 mode boxes will now flash prompting you to press the Pet button you wish to set up. Press Pet button 1, 2 or 3 to continue.

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**Figure 10**  
**Starting Setup Mode**

Once you have entered setup mode the 3 mode boxes will now flash prompting you to press the Pet button you wish to set up. Press Pet button 1, 2 or 3 to continue. The display will now flash the last stored setting (or factory default) for the alarm mode as shown in Figure 11.



**Figure 11**  
**Setting Alarm Mode for Pet 1**

Press the Down button to cycle through the alarm mode selections:

### On

When the pet is found outside of the designated area for 2 consecutive monitoring checks (about a minute and a half) an audible tone is generated by the locator.

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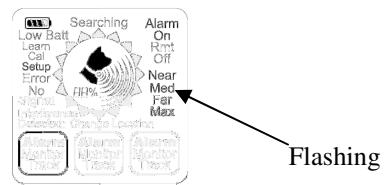
### Remote

An audible tone is generated by the locator plus, after two additional monitoring checks show the pet is outside the designated area, the external alarm output is activated. Please check [eurekaproducts.com](http://eurekaproducts.com) to see the available accessory devices that can be used with this output.

### Off

Only the ALARM indication is shown on the locator's display. No audible or external alarm is generated.

Once you have made your alarm mode selection, press the Select button. The display will now show the last stored (or factory default) boundary selection as shown in Figure 12.



**Figure 11**  
**Setting Alarm Mode for Pet 1**

Press the Down arrow to cycle though the boundary selections. In general, you want to choose the smallest boundary area that does not generate false alarms as your pet moves about. These are the available boundary selections:

### Near

Used when the pet is intended to be very close to the locator at all times. Examples would include an inside pet in a small to medium sized home, an RV, campsite, cabin or other fairly confined area. This setting may also be suitable for a patio home or condominium with a small outside area.

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### Medium

This setting will work for most homes with two stories and a medium to large yard area. This is the factory default setting

### Far

This setting is for homes with basement areas that the pet may frequent, very large yards or yards with obstructions, hills, etc. that may block the signals from the tag.

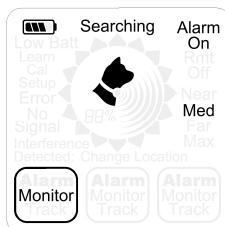
### Max

In this mode the locator must lose communications with the tag to activate an alarm. Use this setting in very large areas or in urban settings where large buildings may block the signals from the tag.

Once you have made your boundary selection, press the Select button to store your settings and exit setup mode. If you have more than one pet you wish to monitor then repeat the setup process for each pet. The monitoring setups are stored permanently in the locator and will not be lost even if the battery is removed.

### Monitoring Your Pets

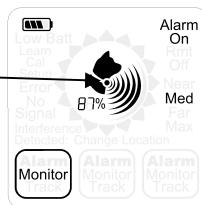
To begin monitoring your pet and receive alarm notifications if they move outside of your selected boundary area, press the Pet button over the pet's name twice. This will cause the word Monitor to flash. You can press Select to start monitor mode immediately or simply wait 5 seconds and the locator will enter monitoring mode automatically. Once the monitoring mode has been started the display will appear as shown in Figure 12.



**Figure 12**  
**Starting Monitor Mode**

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Monitoring mode begins just like tracking mode by paging the selected pet's tag. Once the page is successful (30 to 60 seconds) the display will appear as shown in Figure 13.



**Figure 13**  
**Monitor Mode – Pet 1**

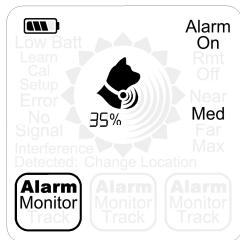
In monitor mode three things are different from tracking mode:

1. The locator only communicates with the tag once every 40 seconds rather than once every 4 seconds.
2. The direction information is not calculated or displayed by the locator.
3. The received signal strength from the tag is compared to the boundary you selected and an alarm is issued if the pet moves outside of that boundary. The alarm may be
  - a. Beeping only (On Mode)
  - b. Beeping plus remote alarm activation (Remote Mode)
  - c. Silent alarm.

To turn the audible alarm off press and hold Select for 3 seconds, press and hold the Down button and then press and hold Select again. Each time you do this the locator will toggle between silent and normal mode.

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If the monitored pet strays outside the selected boundary area and stays there for 90 seconds or more then Alarm be activated on the locator. The alarm display will appear as shown in Figure 13.



**Figure 14**  
**Monitor Mode**  
**Pet 1 Outside Boundary Area**

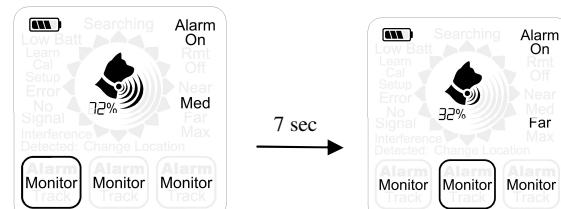
If the pet moves back into the boundary area the alarm will cancel automatically. You can also cancel the audible alarm by pressing the Down button twice. If you wish to cancel monitor mode, press the Pet button once to clear the display. If you wish to track the wandering pet then press the pet button twice and the locator will transition directly to tracking mode.

### Monitoring Multiple Pets

The Marco Polo system can monitor up to three pets at one time. To do this you simply repeat the process of placing each tag into monitor mode one at a time by pressing the Pet button twice for each tag to be monitored. (For now you must wait until each tag is paged before paging the next tag.)

When more than one tag is being monitored the locator's display switches between displaying the information for each tag at about a 7 second rate. The mode box indicates which tag's information is being displayed. Figure 15 shows how the display might look when three tags are being monitored. First the locator will display the information for Pet 1 for 7 seconds then Pet 2, Pet 3 and back to Pet 1.

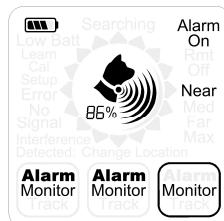
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**Focus on Pet 1**  
**Focus on Pet 2**

**Figure 15**  
**Monitoring 3 Pets**

If a boundary alarm occurs for any pet the Alarm notification will stay on for that pet regardless of which pet's information is being displayed at the moment. Figure 16 shows an example of a display where Pets 1 and 2 have boundary alarms and the display is currently showing the status of Pet 3.



**Figure 16**  
**Monitoring 3 Pets**  
**Pets 1 and 2 in Alarm**

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### Switching Between Modes

You can transition a pet's tag directly from one mode to another by pressing its pet button until the mode you want (Track, Monitor or Idle) is flashing and then press select. You may cycle through the available modes as many times as you want as long as you press the pet button at least once every 5 seconds and don't press Select. Note that only one pet may be tracked at one time so if you move a pet's tag from idle to track or from monitor to track any other active tags will disappear from the display so that you can concentrate on tracking the selected pet.

### Low Battery Alarm

Each time the locator communicates with a tag, the tag sends back its battery's charge status to the locator. If the tag's battery is low then the Low Battery message will appear on the display and there will be one short beep each time the locator communicates with the tag. At the time that the low battery alarm goes off the tag still has enough battery capacity to stay in monitor mode or idle mode for about one more week or track mode for about 8 hours. If you are not using the locator to monitor your pet(s) then you should check the battery status of each tag once a week by turning the tag off and back on and observing the number of times the status LED flashes when the tag starts up. 1 flash means a low battery condition, 2 flashes is half charged and 3 flashes indicates a fully charged battery. You can also check to make certain the tag's battery is not low by putting it into track mode from the locator and checking to see if the Low Battery display comes on.

### Tracking Tips

If you are out in an open area with few houses or hills and your pet is within range of the locator then tracking is easy – just start the tracking mode and follow the arrow directly to your pet. If you are not careful you will run into them or step on them! However, if you are in a crowded residential area and/or an area with many hills, the radio signals lose their power much more quickly and are blocked by some objects while being reflected off others. In these circumstances you will need to master some techniques. Here are some tips on tracking that will help you find your pet quickly:

1. When searching by car, drive slowly with the locator in Searching mode and listen for the beeps to begin. If possible, make a loop

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around the neighborhood. If you do not get any response from your pet's tag then make larger loops or crisscross the area to widen the search. Keep pressing Select to restart the search when you hear the long beep indicating the locator has timed out (about once every 2 minutes.)

2. When searching on foot, if the pet is not in range at first, follow the direction you usually go when you walk your pet. Restart the Searching mode by pressing the Select button when necessary. Moving to higher ground when possible will extend the range of the system
3. Once communications with your pet's tag have started (i.e. the locator is beeping once every 4 seconds) use the directional display to determine which general direction to proceed. If you can not get a directional arrow take the following steps:
  - a. Make certain you are holding the locator in front of you, waist high and level to the ground.
  - b. If possible, move to a clear, unobstructed area away from buildings, automobiles, hills, etc. Higher ground is always better if available.
  - c. If you do not get a reading facing one direction, turn 90 degrees and try again. Once you get a directional arrow, always turn to face directly in that direction, with the arrow straight ahead. Walking away from the tag will not produce good results.
  - d. When you first get a directional indication it is best to qualify it to make certain that you are moving towards the tag and not away from it. To do this, turn your body so that the arrow points straight ahead, now turn 90 degrees and check to see if the arrow still points in the same general direction. If it does then that direction is correct. If the arrow now points in the opposite direction of what it did originally, turn your body to face that direction, if the arrow confirms that direction then it is the correct path to your pet.
  - e. When far away from your pet the directional arrows will show the general path to take to get closer (e.g. up the street vs. down the street). If the pet is far away you know that it's direction from your location can not change quickly so don't try to gauge each step based on the arrow, just move along the road or path until you see a

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consistent change in the indicated direction. Verify that the signal strength is generally increasing (more signal strength bars, higher percentage readings and/or more beeps) as you move along.

- f. When you are close to your pet the directional information will become much more sensitive. For example, if your pet was hiding in a bush just to the right of the path you are walking on you might see the arrow point forward as you approach. Then 4 seconds later the next reading may point directly to the right because you are now next to the bush. If you kept walking, 4 seconds later the arrow would be pointing behind you because you have now passed the bush. This will allow you to find exactly what bush your pet is hiding in!
- g. When driving, you will generally be using the beep tones as your guide while you search in a "hotter/colder" fashion. When you get to intersections, hold the locator up above the dashboard and see if you can get a directional arrow to guide you which way to turn. If not, chose a direction and note if the signal is getting stronger (more beeps) or weaker (fewer beeps). If you drive outside the range of the system then after 10 tries of not being able to communicate with the tag (about 40 seconds) the locator will automatically start paging the tag again to restart communications. If this happens, turn around and go back to the area where you last had contact with the tag.
- h. It is generally fastest to stay in the car until you have found the point on the road that gives you the highest number of beeps. Proceed along while watching for your pet until the number of beeps goes down and then go back to where you received the highest signal and then proceed on foot. Always stop and proceed on foot if you hear three beeps, you are very close to your pet!

Typically, when searching by car in a crowded suburban neighborhood with hills, the time to recover a pet is around 8 to 10 minutes. Sometimes it can take longer in tricky situations or when there is a lot of traffic that slows you down. Stay calm! When you hear that first beep you know you will soon have your best friend back home!