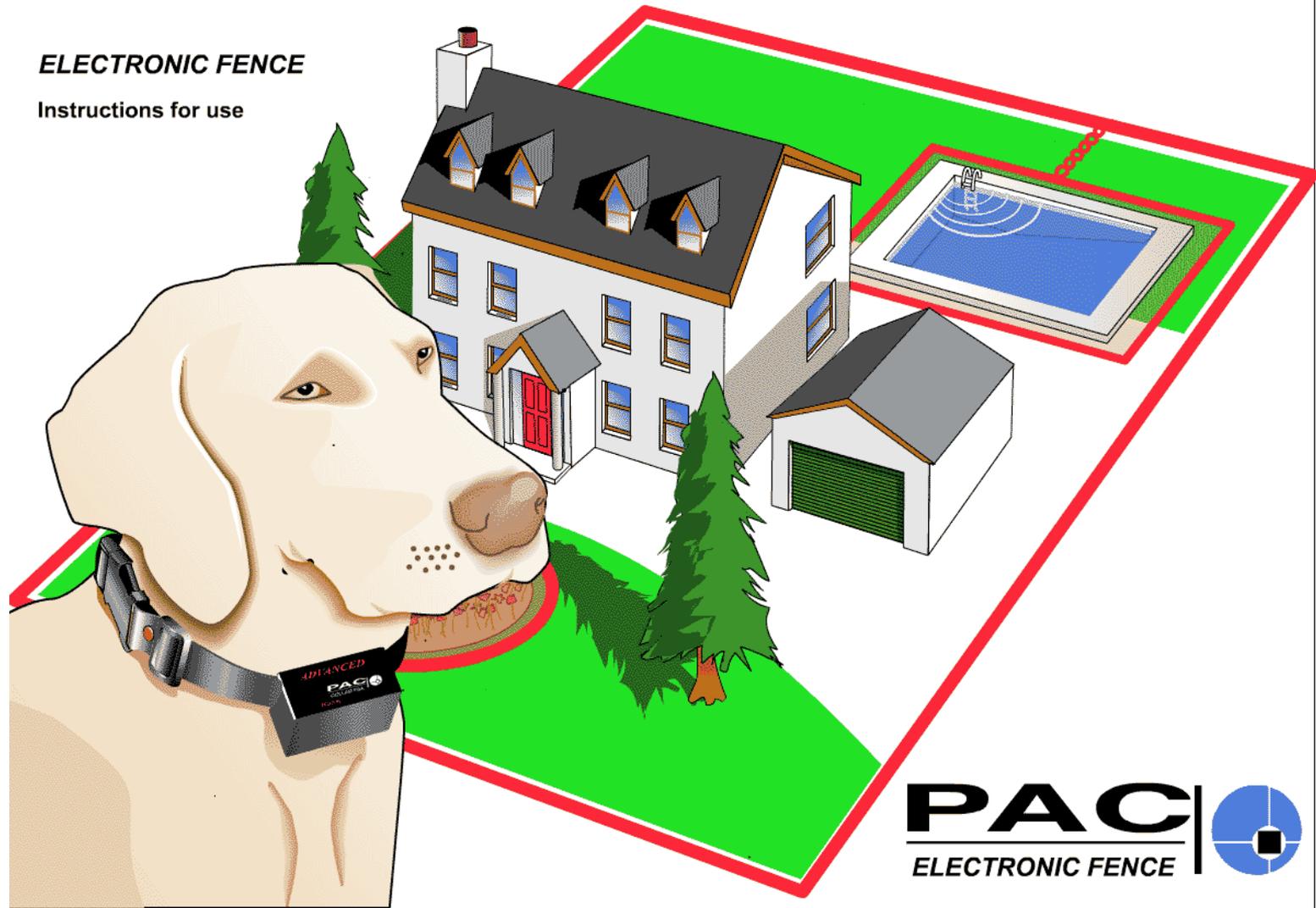


# ***ELECTRONIC FENCE***

Instructions for use



**PAC** |   
ELECTRONIC FENCE

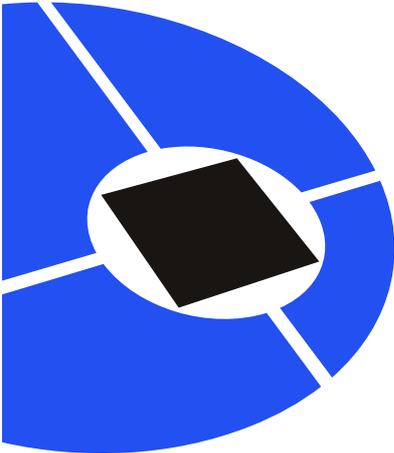
1. Introduction
2. Kit Contents
3. Collar Unit Features
4. Control Unit: Features and Fixing
5. Other Requirements
6. How the system works
7. Layout Overview
8. Choosing the Route
9. Loop Wire Installation: Active Zone/Positioning
10. Avoid Signal Pick-up!
11. Tips for laying the wire
12. Other tips for a tidy installation
13. Joining the Loop wire
14. Twisting the Loop Wire
15. Locating the Control Unit
16. Linking the Control Unit
17. Typical Installation example
18. Fitting the Collar and Maintenance
19. Recharging The Collar
20. Using the RESET magnet
21. System Set-up: Testing
22. System Set-up: Changing the Zone Size
23. Training: Set-up and familiarisation
24. Training: Introduction to the new system
25. Training: Confirmation and Reassurance
26. Going Off-site
27. Troubleshooting: Collar Problems?
28. Troubleshooting: Loop Wire Problems?
29. Troubleshooting: Control Unit Problems?



### **Introduction**

Congratulations on your decision to buy a PAC Electronic Fence. PAC has over 10 years of experience in the design, manufacture and supply of dog containment and training equipment for professionals, enthusiasts and pet owners alike. Many thousands of PAC clients will testify to our enormous success through innovation, reliability and service. PAC is the most popular brand of fence, since it is so easy to install, and has negligible running costs.

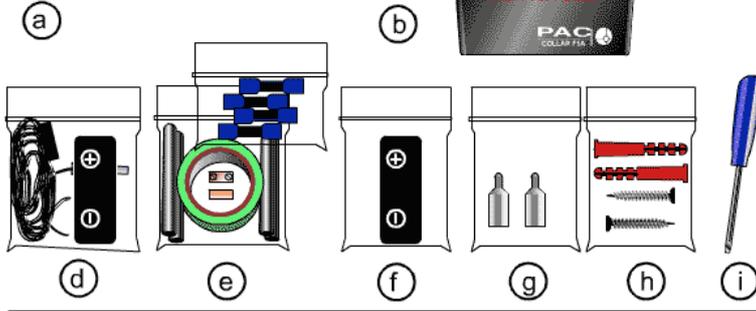
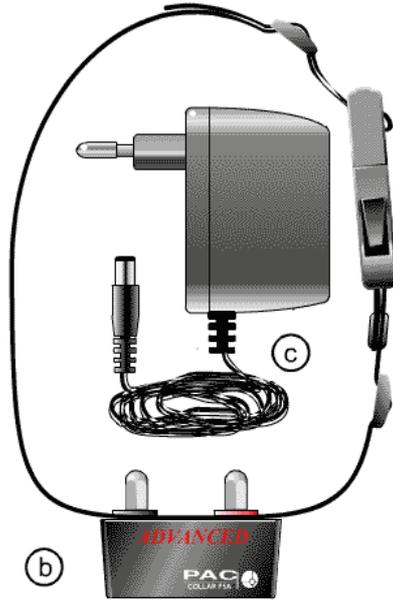
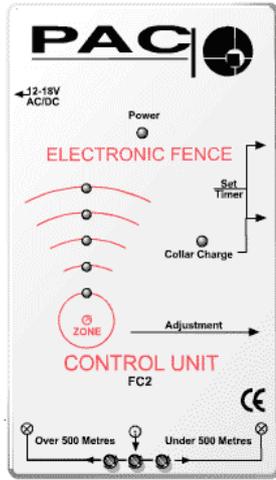
---

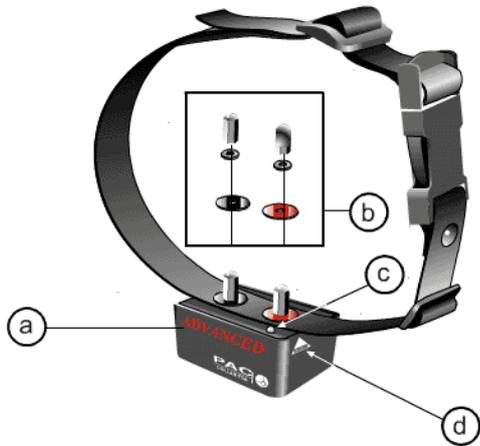


made in EU  
printed in EU

© PAC Products Ltd. 2004

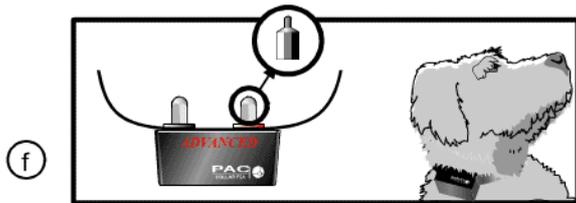
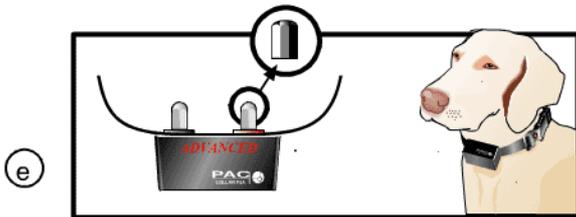
- a) Control Unit
- b) Collar Unit
- c) Mains power adaptor
- d) Charging leads
- e) Loop-wire connector kit (crimp OR screw-join)
- f) Neon tester (p27)
- g) Pointed probes (see **Collar Unit features**)
- h) Wall fixings NB Loop-wire is not normally supplied with the kit see p5
- i) screwdriver



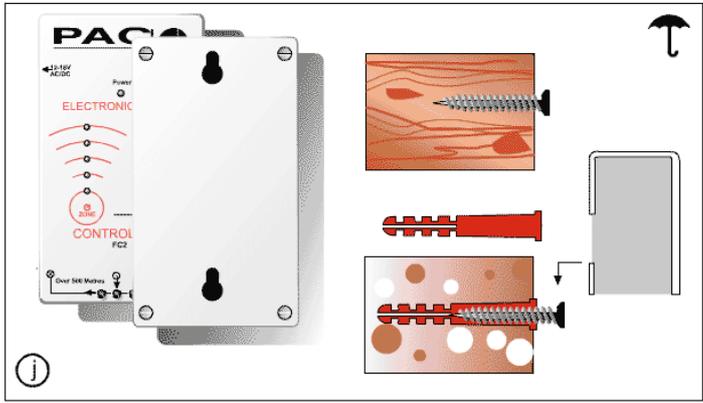
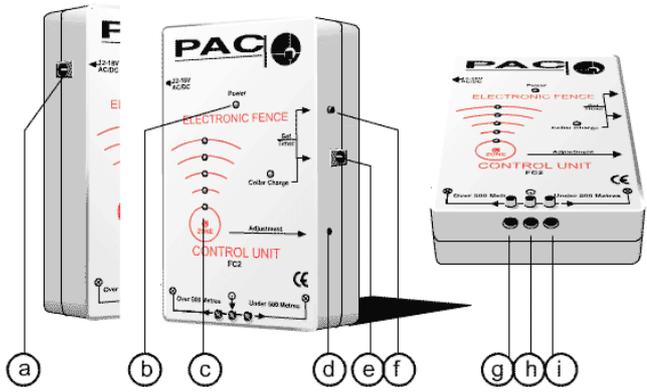


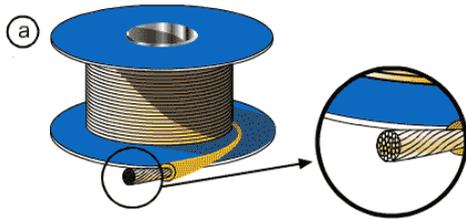
a) Collar unit (waterproof)  
 b) Probe assembly  
 c) Status indicator

d) **Reset** contact point (activated by magnet attached to charging lead, see page 20.)  
 e) Pointed probes for longhaired coats.  
 f) Fitted probes for normal coats.



- a) Power input socket
  - b) Power supply indicator
  - c) Loop-wire zone display
  - d) Loop-wire zone adjustment
  - e) Collar charging socket
  - f) Charge timer button
  - g) 'Under 500m' terminal
  - h) Common terminal
  - i) 'Over 500m' terminal
  - j) Use supplied template to mark wall for fixings into wood or masonry
- NB Install undercover/indoors.(p15)





100 Metre reel of 1.5mm<sup>2</sup> multi-cored PVC cable 7/0.53 BS 6491X or equivalent:

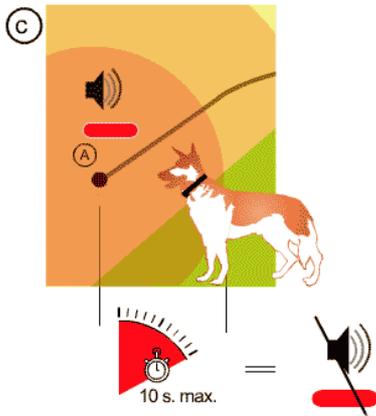
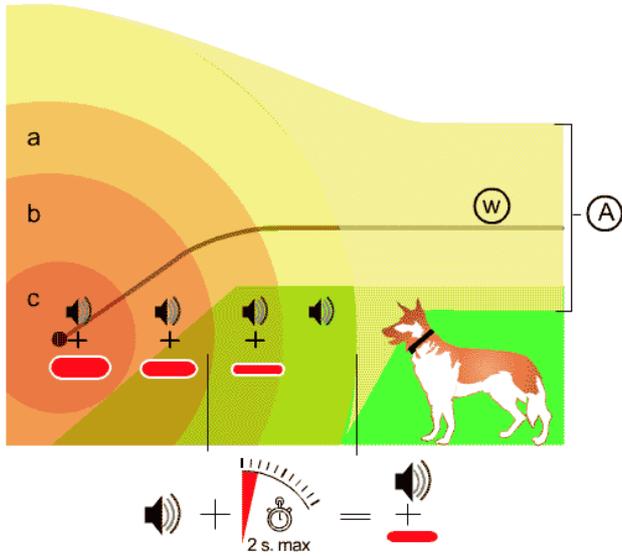
hectares	0.1	0.2	0.4	0.5	0.8	1.0	2.0	4.0
acres:	0.25	0.5	1	1.25	2.0	2.5	5.0	10
 x	2	2	3	4	5	5	7	10



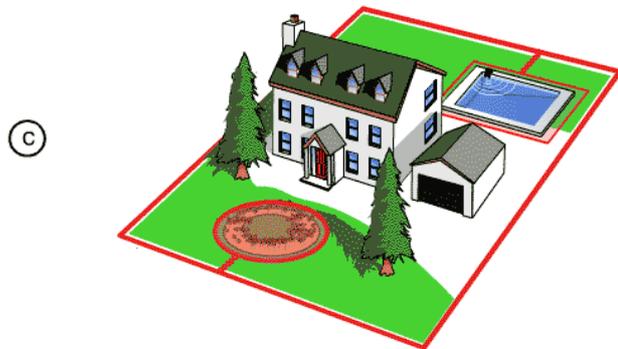
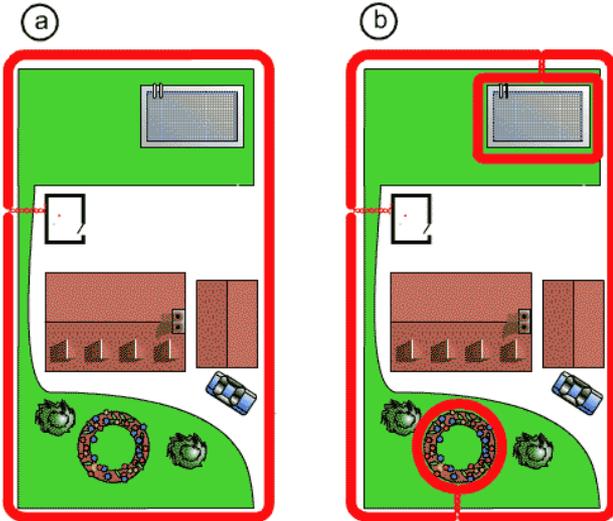
A. **Loop-wire** (available from most electrical wholesalers in 100 metre reels)  
 Specification - 1.5mm<sup>2</sup> multi-cored PVC cable 7/0.53 BS 6491X (or equivalent).  
 See table for minimum number of reels required. Add approximately 20% to allow for awkward shaped perimeters.

B. (Recommended) **Boundary-demarcation plastic-tape**, temporarily to help the dog recognise the new boundaries during the initial training period. See Training section page 23.) Available from Plant Hire shops and Sports outlets.

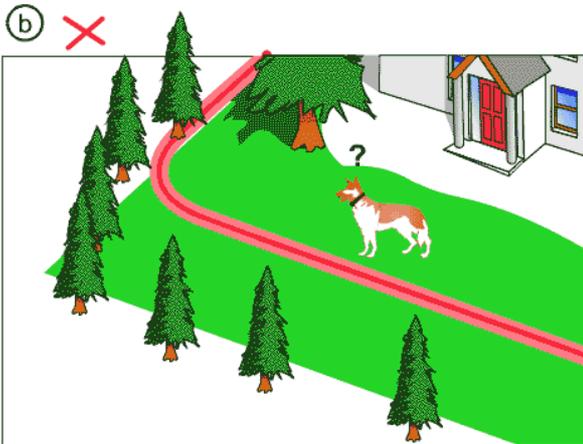
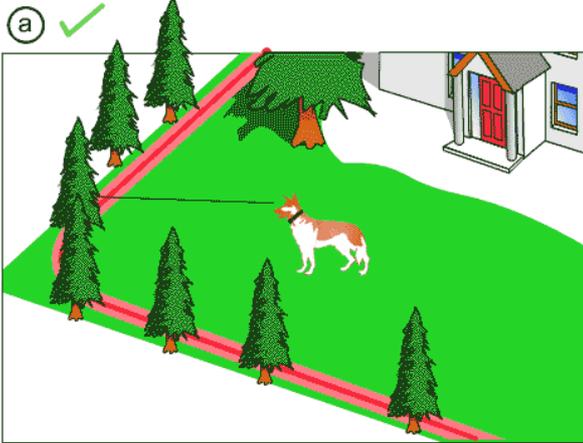
- The electromagnetic, active zone (A) comprises 3 sub-zones. The collar reacts immediately according to time and distance from the wire (w).
- Tone-only followed after 2 seconds by low level stimulus.
  - Tone plus immediate medium level stimulus.
  - Tone plus immediate high level stimulus (10 seconds max. for humane reasons) All deterrent activity ceases immediately the dog withdraws, and the collar automatically resets



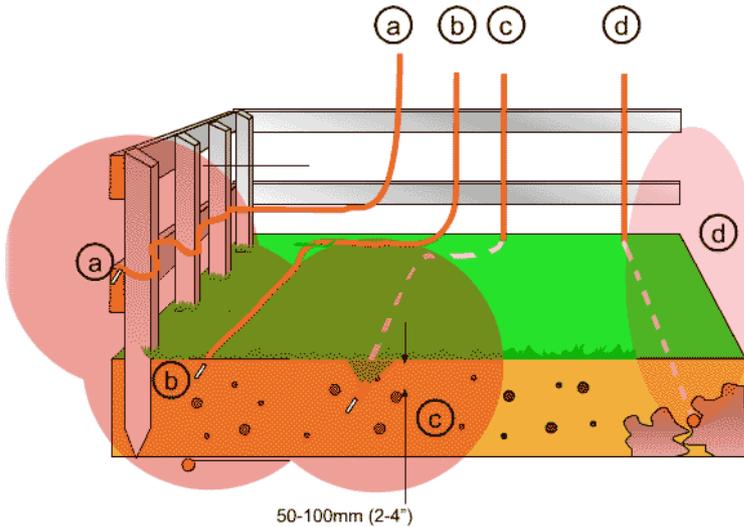
- a) The wire must form a complete loop around the area to be enclosed, starting and finishing at the Control Unit.
- b) Before attempting to bury or otherwise fix the wire in place, lay the complete loop on the surface and test that your chosen route will work to your expectation (see p21). This will facilitate any necessary later adjustment to the proposed route.
- c) When satisfied, firm up the installation (see pages 11 & 12)



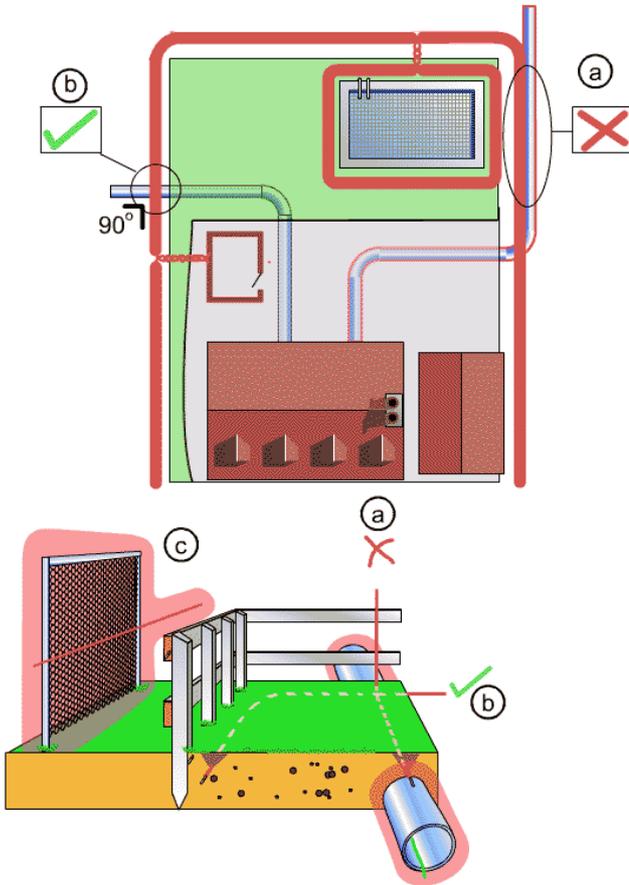
- a) Follow natural boundary markers e.g. fence, wall, line of bushes or trees or the edge of the lawn.  
b) Crossing the lawn, for example, is not recommended, since the dog will not easily recognise an arbitrary boundary.
- 



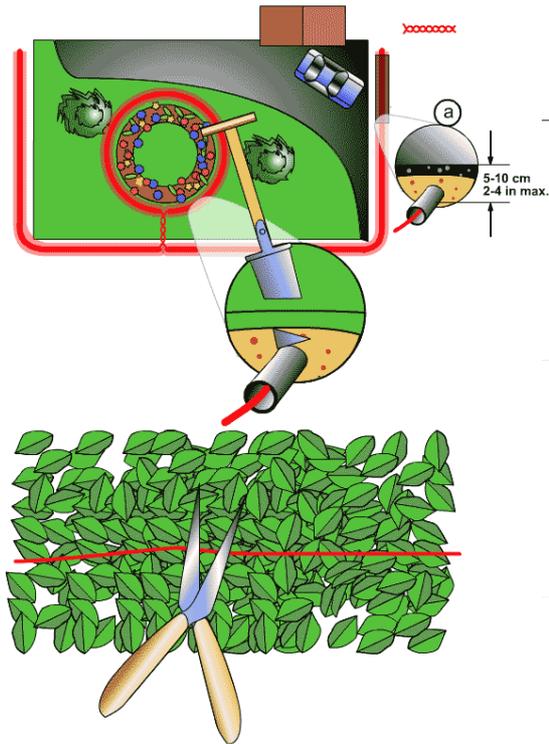
- a) Tacked to a boundary feature. Optimum position = dog collar height.
  - b) Laid on the surface (needing a larger zone size).
  - c) Buried just below the surface. 50-100mm (2-4")
  - d) In some areas with high mineral content it will not be possible to bury the wire much below the surface due to local, environmental factors that can affect the zone shape and size.
- 



- a) Do not lay the cable parallel to incoming conductive (metal) services – e.g. electricity cables or water pipe – since this might cause stray signals to affect the dogs collar in the house.
- b) To avoid this, always cross such services at right angles.
- c) If the loop-wire is attached to a wire mesh fence it will pick-up and radiate the signal. This will not be important if the mesh fence is part of the boundary.

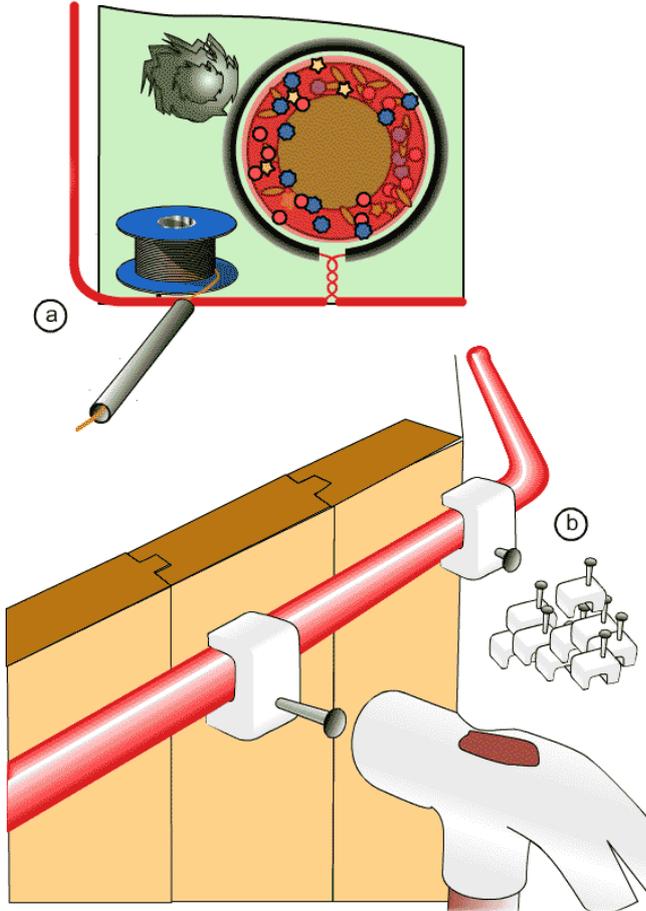


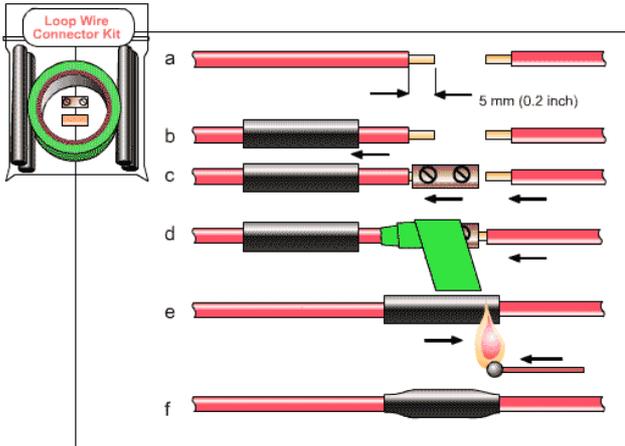
- If burying the cable or laying it on the surface, consider ...
- a) protecting it from excessive wear (e.g. when running across a gravel driveway) or accidental damage (e.g. by a gardener's spade... or lawn mower) by running it through a protective sheath e.g. a plastic (water-) pipe (page 12).
  - b) using coloured wire for better visibility when clipping the hedge.
- 



If using plastic piping to sheath the wire, to avoid difficulty in threading the wire through long sections:

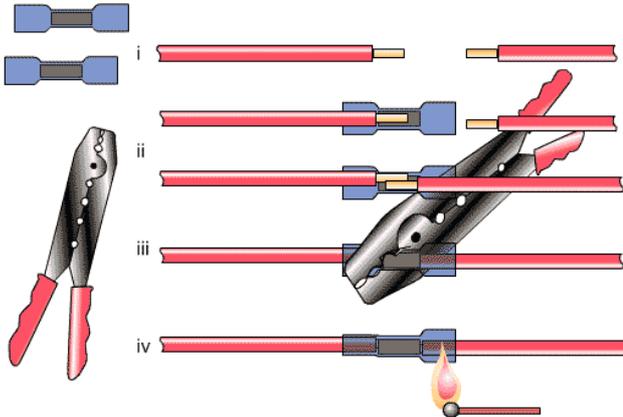
- a) use shorter sections of pipe, joining them using short sleeves of larger cross-section pipe.
  - b) Use cable clips (available from all electrical wholesalers) to tack the loop-wire to fences or walls.
- 



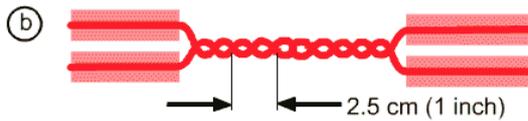
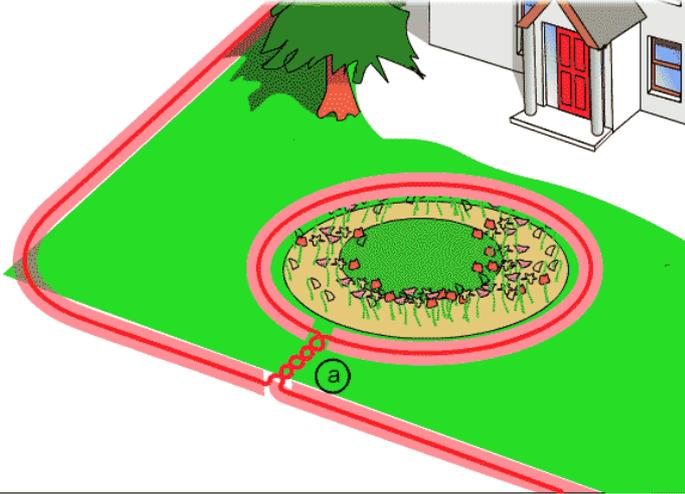


Standard connector:

- Strip both ends of the wire to 5mm ( $\frac{1}{4}$ " )
  - Slide shrink-sleeve over one of the wires
  - Join the two ends together using the metal connector
  - Wrap joint tightly with the PVC tape
  - Slide sleeve over the assembly and shrink it with gentle heat.
- Heatseal™ Connector:** i) strip as above, ii) place both ends into centre of connector iii) crimp with crimping tool iv) heatseal



- a).When the loop signal needs to be cancelled twist an incoming and outgoing section
  - b) Ensure twists are close enough to cancel signal
- 

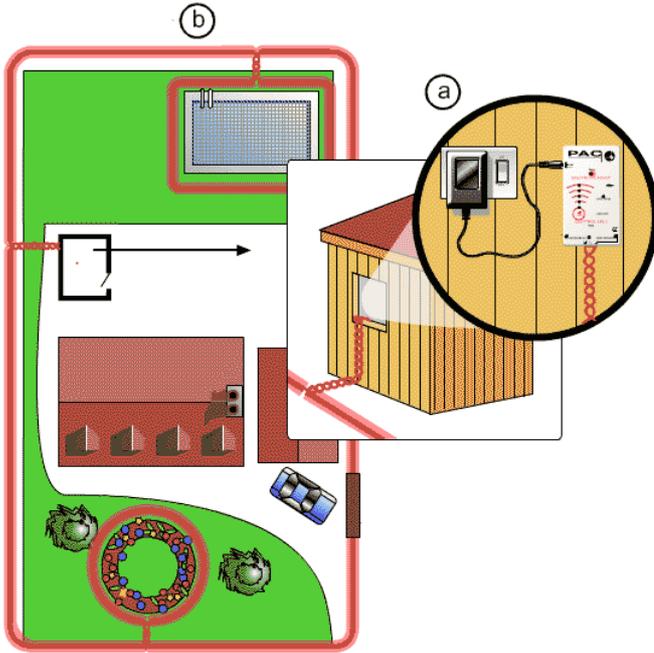


Position the Control Unit somewhere under cover, protected from the weather where it can be seen on a regular basis to check

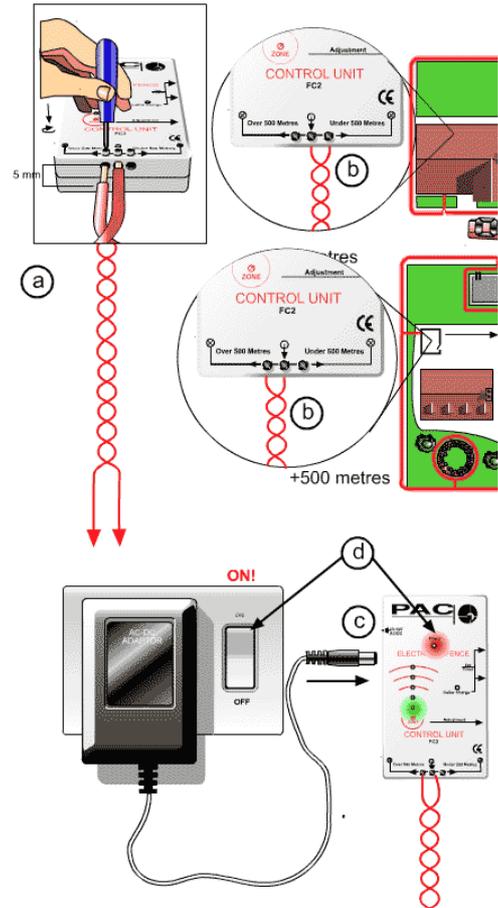
- a) power source
- b) the continuity of the loop and
- c) the nominal size of the zone

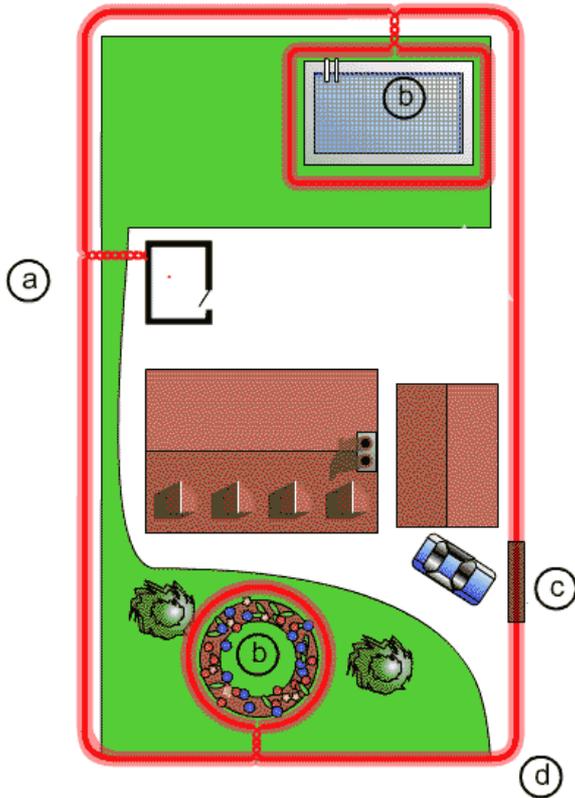
An ideal place would be next to the door through which the dog(s) go

---

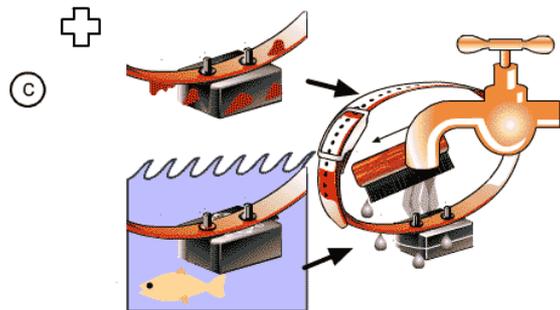
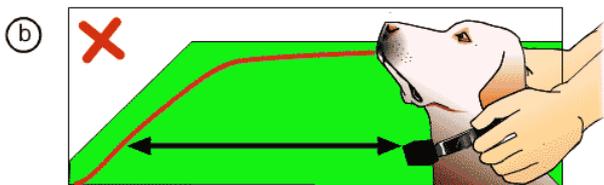
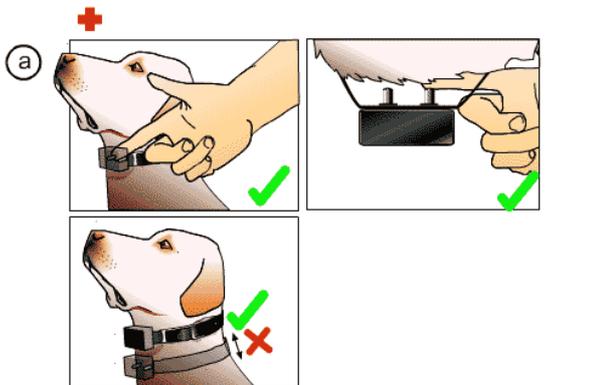


- a) Twist the loop-wire tails all the way from the perimeter to the Control Unit.
- b) Connect loop-wire tails to the Control Unit – One end to the middle (common) terminal and the other to the appropriate, 'Over-' or 'Under-500 metres'. Never use the 'Over 500 metres' terminal for loops of less than 500 metres in length.
- c) Connect power supply from the mains adapter or car battery to the control unit.
- d) Turn power on and check that power-on and Zone LED(s) light up.





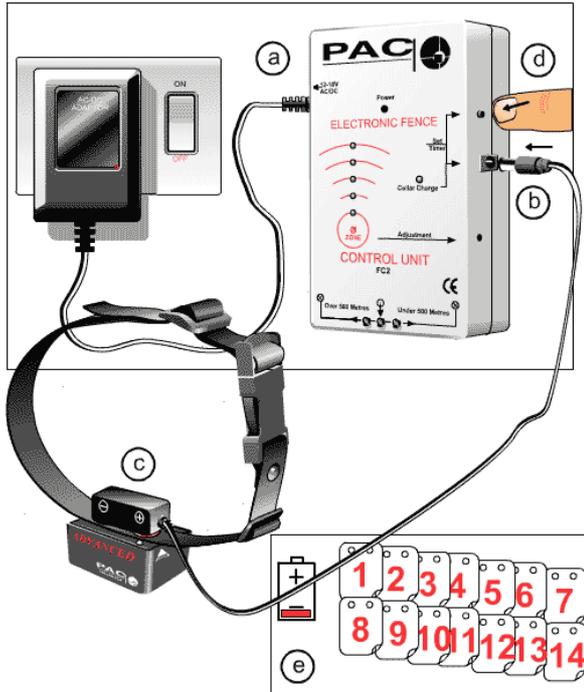
- a) Loop-wire tails are twisted all the way from the perimeter to the control unit
  - b) Loop-wire can be twisted and re-opened to create a satellite loop around the swimming pool and/or flowerbed. Twisted section gives dog free access.
  - c) The wire can be buried and sheathed in a protective, plastic conduit to run beneath the driveway. Signal is still active.
  - d) Gentle curves on the corners reduce signal interference.
-



- a) Ensure that the collar is correctly and snugly positioned on the dog's neck. Inspect for skin irritation on a daily basis. For longhaired breeds use the more pointed probes.
- b) Never fit the collar to your dog when near to the zone!
- c) If soiled or exposed to salt water, wash with fresh water and brush.
-

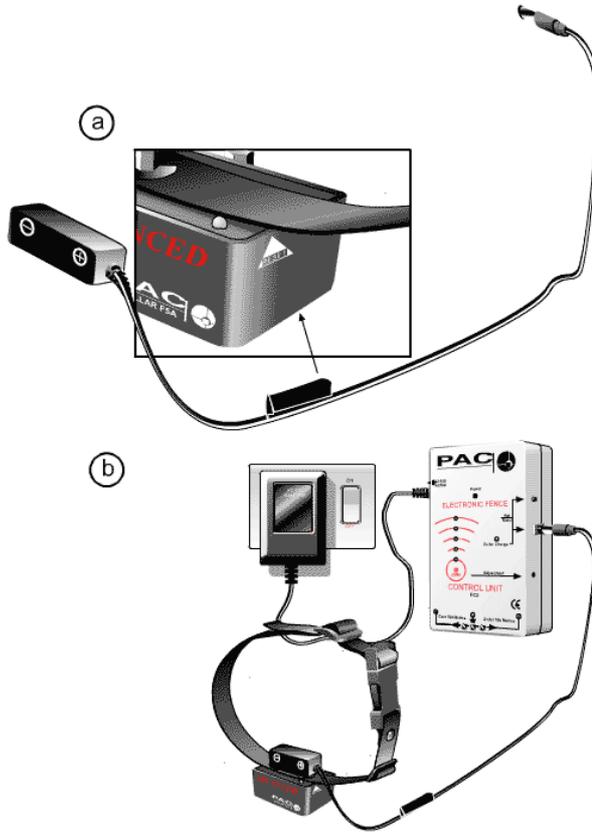


- a) Use reset magnet to de-activate the collar (in zone turns off) (see page 20).
- b) Insert charging lead into jack socket.
- c) Fix crocodile clips to collar probes (black-to-black & red-to-red)
- d) Push Set timer for 17-hour charge. Charge LED will glow red.
- e) Charge on installation; then every 2-weeks during training; and every 2-4 weeks thereafter.



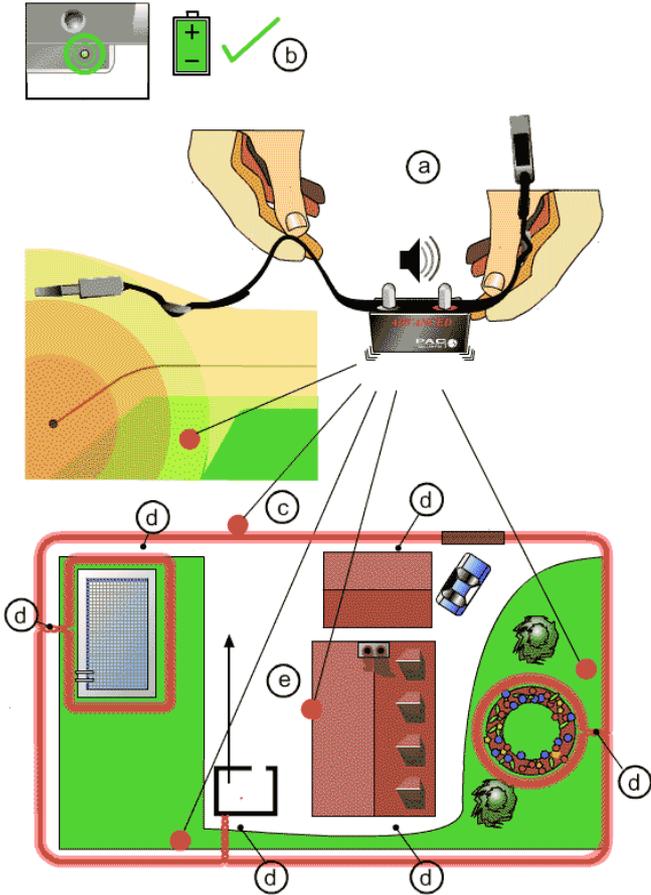
Holding the magnet next to the RESET contact point (on the collar) will:  
a) turn a collar off while it is within the active zone, usually to:  
b) enable the collar to be charged (when next to the Control Unit).  
c) Reset a collar that has been turned off.  
NB A collar will normally automatically reset itself once it is removed from the active zone. See also use of 'reset' in Troubleshooting (page 27)

---

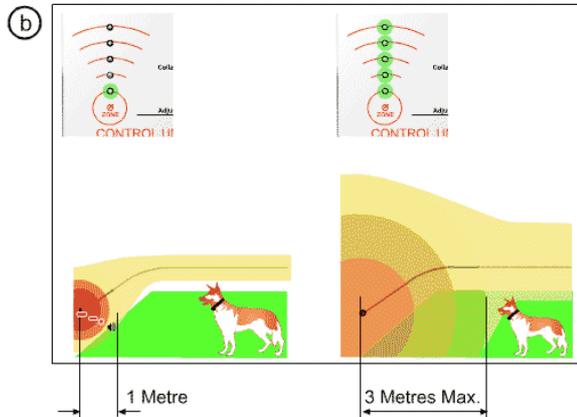
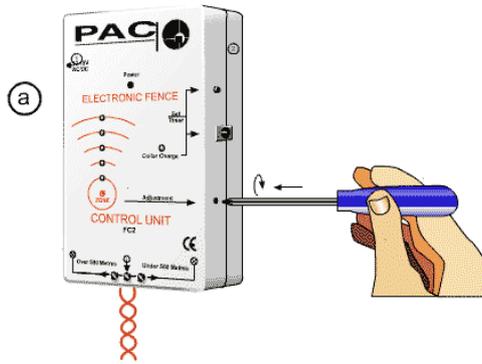


- a) The distance from the wire where the collar first emits a tone warning indicates the zone size.
- b) Check that the battery is fully charged
- c) Check at several points on the perimeter to ensure the collar and loop are working properly and consistently (i.e. similar zone size throughout).
- d) Check that the Zone size is OK for all critical locations (e.g. narrow access areas.)
- e) Test within the house and other 'inside' areas that there are no stray pick-ups.

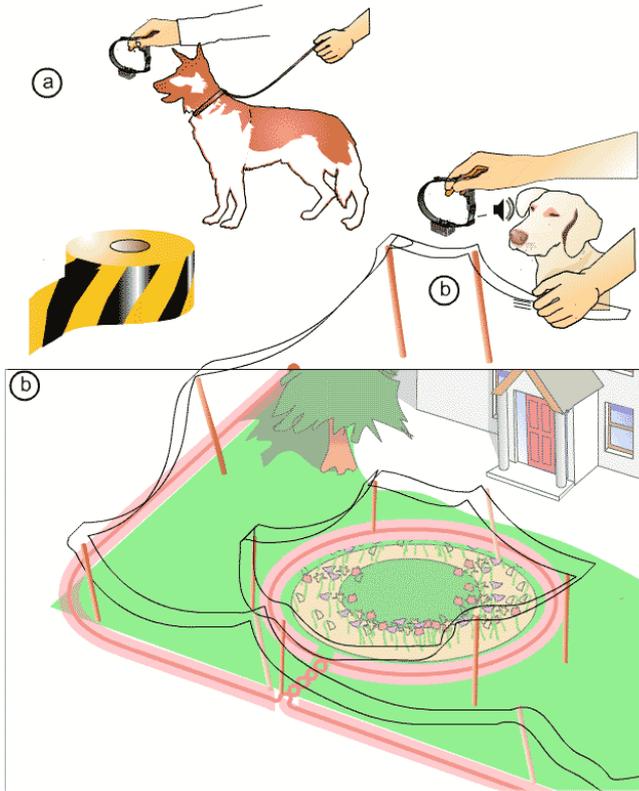
E  
E  
C  
C  
E

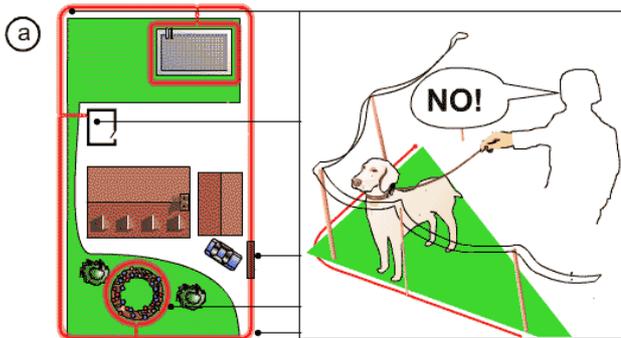


- a) The size of the active zone can range from 0 to about 3 metres. To adjust the size, insert a small screwdriver into the adjustment screw. Turning the screw clockwise increases the zone size.
- b) The zone LEDs will act as a guide to zone size. The unit has been factory preset to give a zone size of about 1 metre.
- 

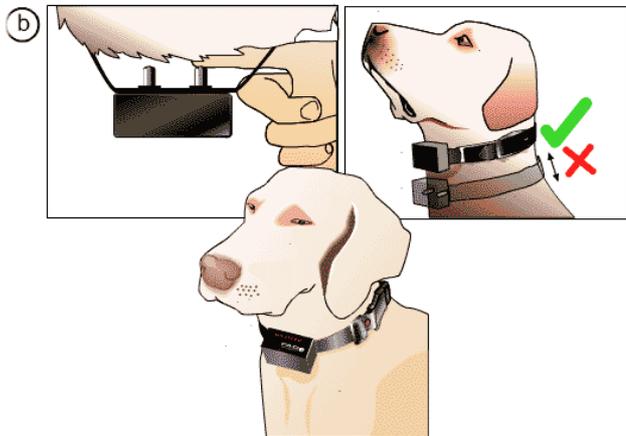


- a) During the initial training period hold the PAC collar in your hand, take the dog into the 'garden' on a standard lead. Never attach a lead to a PAC collar.
  - b) Introduce him to the boundary with the collar beeping in front of him as he approaches. If the route is new, or differs from earlier, it would be advisable to define the line, using some form of demarcation, such as plastic tape as shown, or a line of flags. Associate the tape/boundary with the collar unit.
- 

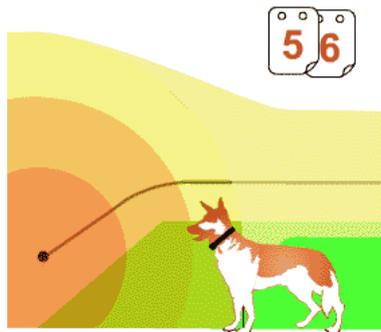
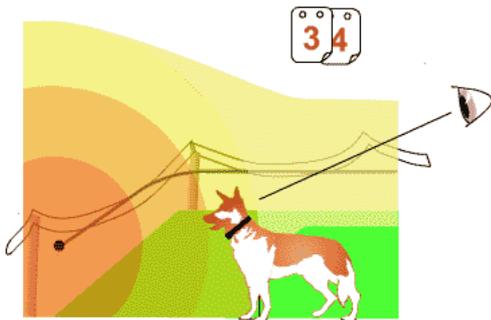
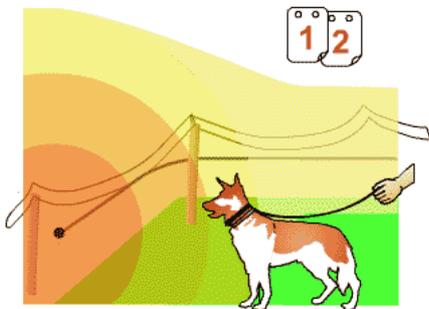




- a) Introduce him each day to various points on the boundary; let him penetrate the outer zone for sufficient time for him just to hear the 'beep, beep, beep'; immediately pull him back a couple of metres; and praise him. Put extra effort into training him to stay clear of an open driveway.
- b) Fit PAC collar to dog and tighten until it is a snug fit. You should just be able to slip a finger under each probe. Ensure that the collar is fitted to the narrowest part of his neck (see page 18).
- 

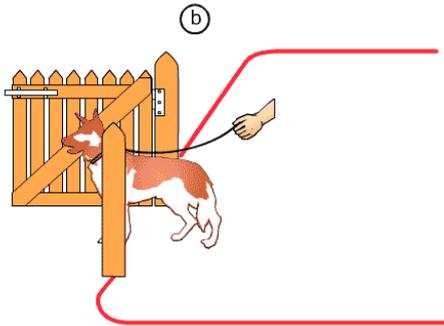
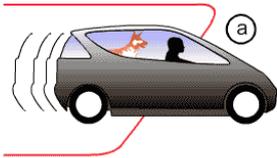
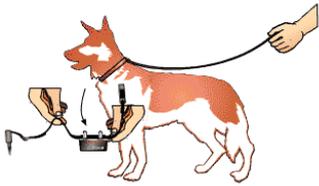


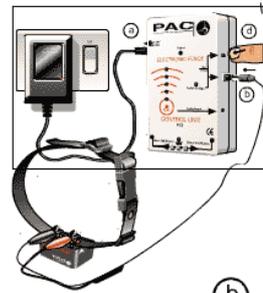
Fit the PAC Collar. **Day 1 and 2:** Keep him on a lead attached to a leather collar, but now let him experience the occasional low level stimulation, by lingering in the outer zone for more than 2 seconds; withdraw and praise him as before and reassure him. **Day 3 and 4:** let him roam free with the system live. Stay in the 'garden' to keep an eye on him and to reassure him. When you feel that both you and he are confident with the new containment régime, leave him to explore on his own. Be attentive for the first few days. Gradually remove the demarcation system.



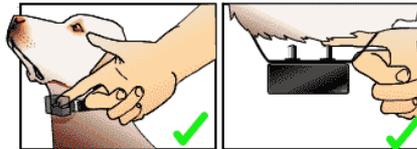
To avoid confusing the dog when taking him across the loopwire boundary, remove his PAC collar and either a) transport him across by car or, if practical, by b) physically carrying him, or c) take him through a normally-closed gate for his exit on a lead.

---



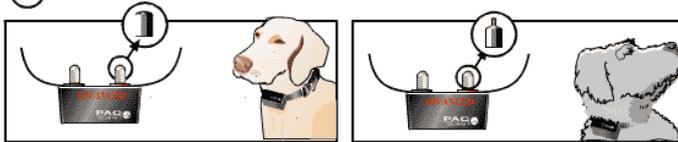


(a)



(b)

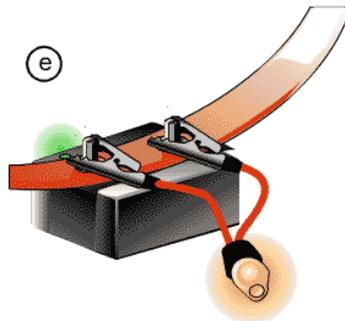
(c)



(d)

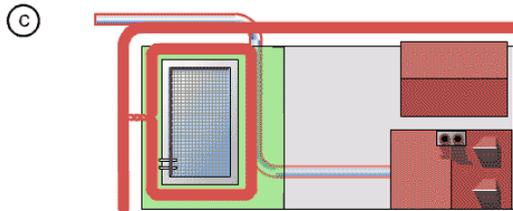
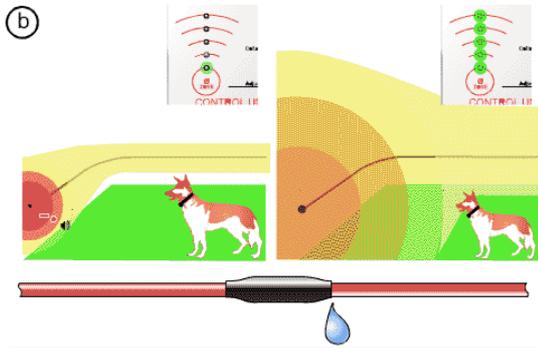
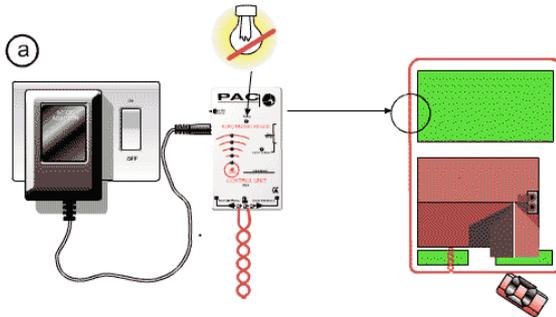


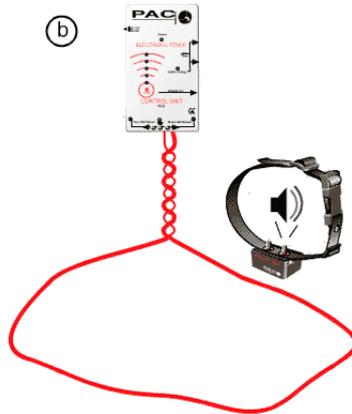
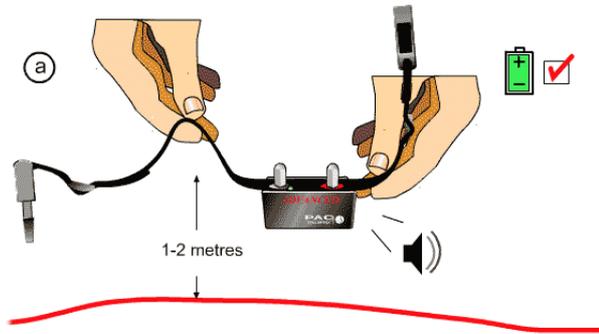
(e)



- a) Battery low/empty? – Recharge (see page 21).
- b) Collar fitted properly? – Tighten (see page 20).
- c) Longhaired dog? – Fit pointed probes (see page 5).
- d) Collar processor locked off? – Reset (see page 22).
- e) Use neon tester to check impulse stimulus

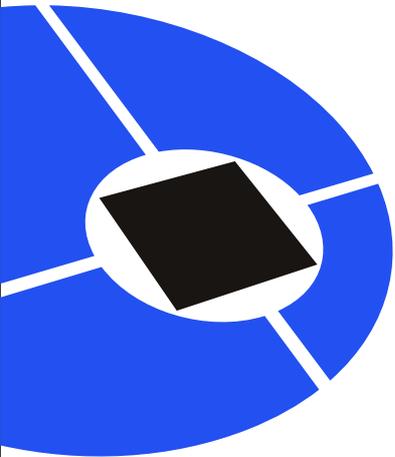
- a) No zone light(s)? Check for Loop-wire continuity. Circuit broken? Find break and repair.
  - b) Zone too small? Increase (see page 24). - Not possible? Check circuit resistance. If more than 1 ohm/100 metres length, check for corrosion on your joins (see page 21).
  - c) Stray signals within permitted areas? Check Loop-wire run near to incoming services. Raise wire off ground or re-route away from such areas (see page 12) or relocate Control Unit (see page 17).
- 





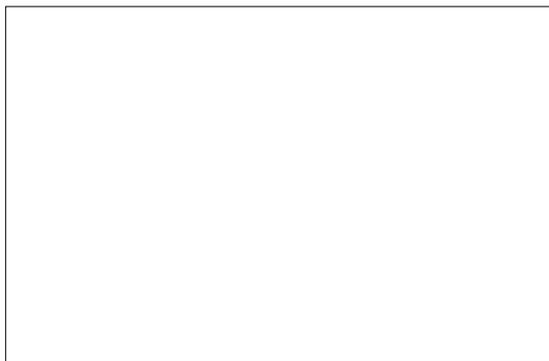
a) Control Unit problems are very rare. Double-check collar/wire!  
 b) Test with a short loop (say, 20 metres) separated out to make a circle. Never connect a short loop to 'Over-500 metres' terminal! This loop should enable you to check both the Collar Unit and the Control Unit operations.

---



# **PAC** |

**ELECTRONIC FENCE**



Local Dealer

**PAC Electronic Fences**  
**Graignamanagh**  
**Co. Kilkenny**  
**Ireland**

[www.pacdog.com](http://www.pacdog.com)  
[info@pacdog.com](mailto:info@pacdog.com)  
[support@pacdog.com](mailto:support@pacdog.com)

**PAC Repairs**  
**Graignamanagh,**  
**Co. Kilkenny,**  
**Ireland.**

made in EU  
printed in EU  
© PAC Products Ltd. 2002



**Instruction Manual for your PAC Electronic Fence**

design and layout: [phelandesign.co.uk](http://phelandesign.co.uk)



