BE-500
Wire and Flag Kit

INSTALLATION
And
OPERATING GUIDE

Please read this entire manual and study all illustrations before you begin installing your system

BOUNDARY WIRE

Even the boundary wire used on your **X-30**, **HC-8000, HC-7000 or X-10** system is unique. The copper alloy wire and insulating coating are all made specially to our custom specifications. We have designed it to be an efficient radio frequency broadcast conductor, with a mechanically strong core and an extra thick, extra tough, outdoor grade insulation that resists sunlight and moisture.

STEP BY STEP INSTALLATION

STEP 1: Plan Your System Layout

This is the most important step. Be sure to take the time to plan carefully. This will avoid time consuming corrections to your installation. Before beginning installation of your system, we recommend you make an aerial sketch of your yard such as the one shown in Figure 6. Your sketch should include all buildings, large plants, trees, walks, driveway, pool, and other important details. Then sketch in where you plan to place the boundary wire. Make sure the wire makes a continuous loop.

SAFETY TIP:

Since you will only be burying the cable 4 inches deep at maximum, it is unlikely that you will disturb power or phone lines. Still, we recommend that you contact your utility companies to find out the location of all buried wires, mark them on your sketch and avoid running the boundary cable in these areas.

TYPICAL LAYOUT FOR BOUNDARIES WITHIN BOUNDARY

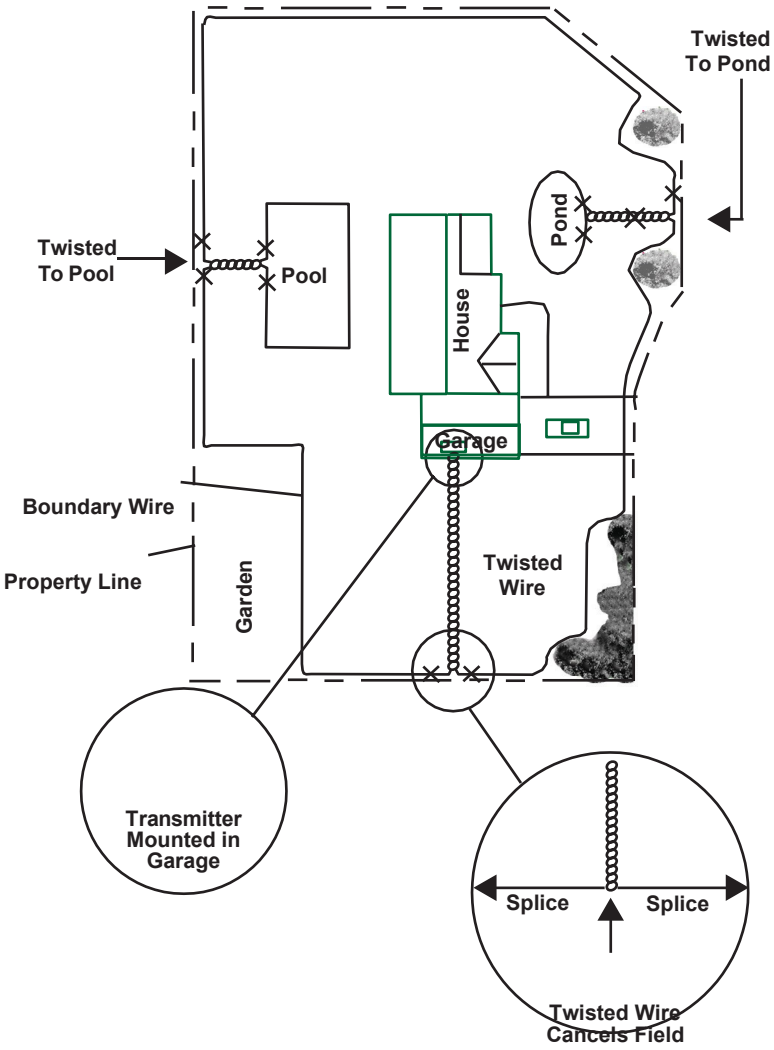
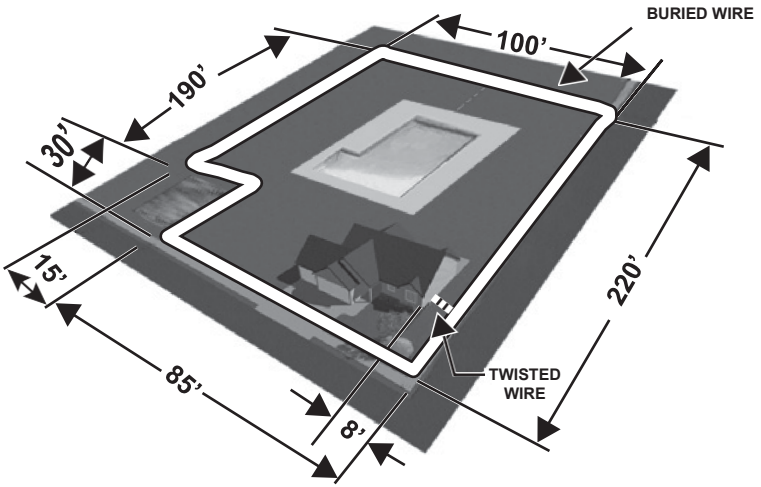


Figure 6

Calculate the total length of wire required to ensure that you have enough to complete the installation. Remember that twisted wire counts as twice its length since there are two strands. Figure 7 shows a basic wire length calculation.

In preparing your layout, note that you will need to allow for a field width of at least 3 feet (preferably 6 – 10 ft.) on each side of the boundary wire. Your dog will need at least another 5 to 10 ft. for a safe roaming area. Avoid making passageways too narrow or your dog may be hesitant to use them.

WIRE LENGTH CALCULATION



Length of Field Wire = 15' + 85' + 220' + 100' + 190' + 30' = 640'
Length of Twisted Wire = 8' x 2 = 16'
Total Wire Required 656'

Figure 7

For the system to work properly, the wire must make a continuous loop. The signal is transmitted from one terminal of the transmitter through the wire and back to the other terminal. Twisting two adjacent sections of the wire loop cancels the signal along the twisted length. So, use the twisted wire from the transmitter out to the exterior loop as shown in Figure 8. This allows the dog to cross the area without receiving a correction. Use other lengths of twisted wire to connect smaller boundaries around plants, pools, and other pet restricted areas.

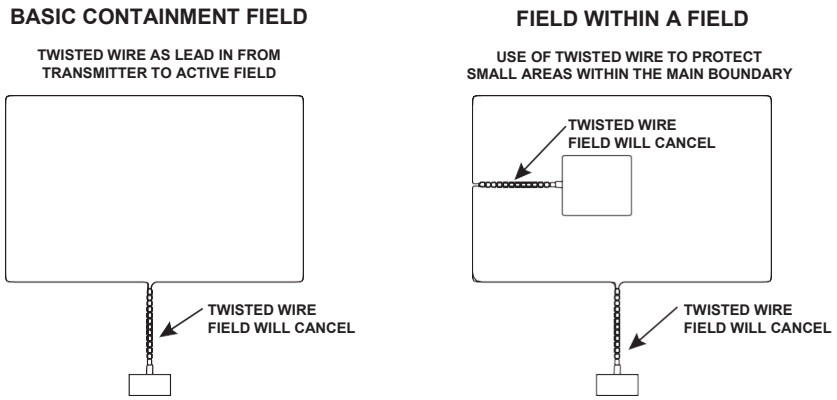


Figure 8

Single Loop Limitations

Note however that the basic single loop containment layouts shown in Figure 8, cannot have a gate or opening in the fence where the dog can walk or be transported out of the loop. To let the dog out of the basic containment field, you must turn off the base transmitter, or interrupt the electrical signal flowing through the wire by inserting a switch in the loop. Using a switch in the loop creates a break in the wire which will be detected by the base transmitter and will result in an audible alarm as long as the switch is open. However, it does work, and the dog will learn that the sound of the alarm means the containment field is off.

Adding a GATE

If you want a permanent opening or gate in the containment field, you must use what is commonly called a double loop, as shown in Figure 9. Carefully follow the current around the wiring and you will realize that this layout is still a single loop of wire that is folded back upon itself. If the gate is narrow, you may have to reduce the boundary field next to the gate. This can be done by triangulating or folding the wire back on itself for a short distance as shown

inside Figure 9. Do not bury the wire near the gate until after the entire system is working and adjusted for the proper field strength in all areas of the installation.

In double loop installations, it is very important to have the inside and outside

MAKING A CONTAINMENT FIELD WITH A GATE

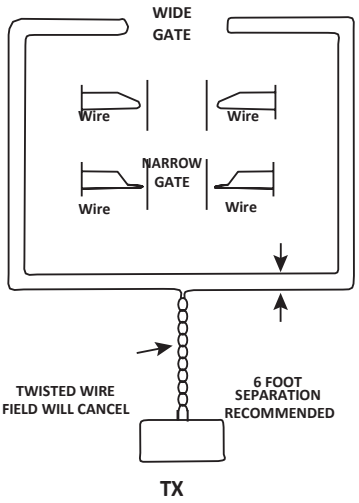


Figure 9

MAKING A CONTAINMENT FIELD WITH MULTIPLE GATES

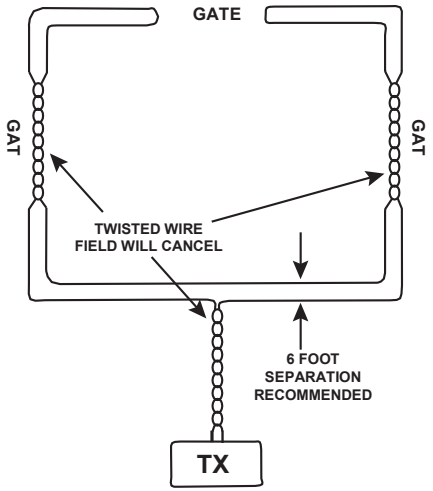


Figure 10

wires separated by at least 6 feet all around the containment area if you want a normal containment field width of 3 to 10 feet. Use 12. feet of wire separation if you desire a wider containment field width – up to 2.0 feet. Using less wire separation reduces the field strength and requires the dog to be closer to the wire before receiving a correction. Whatever wire separation you choose, maintain a consistent separation between the inside and outside wires if you want a consistent correction distance. Remember the double loop requires almost twice as much wire, and burying of that wire, as a single loop, so plan accordingly.

Once you have chosen to use the "double loop" layout, you can place as many other openings/gates in the boundary field as you wish by twisting the inner and outer wires together, or simply bringing the two wires together tightly. This concept, shown in Figure 10.

TIP: The amount of twist and the direction of the twist is of little importance, as long as the wires are touching each other along the entire “gate” section.

DO NOT DO THIS!

A common error is trying to replace a section of single loop wire with a piece of twisted wire to create a gate as shown in Figure 11. This will not work. In order to create a gate, you must run a double loop as shown in Figures 9 and 10 above.

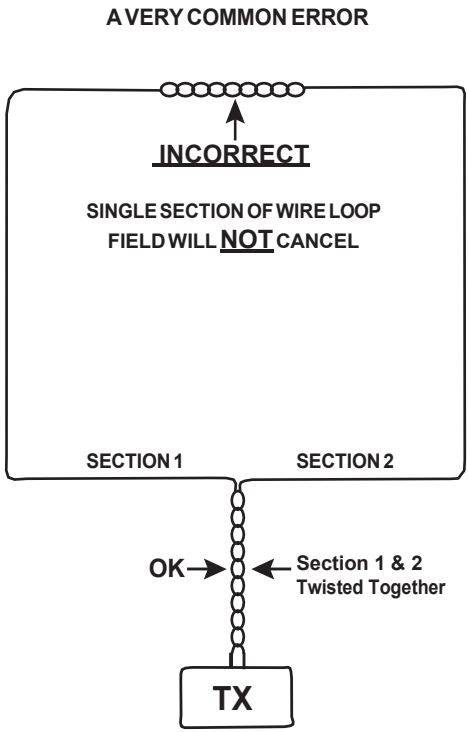


Figure 11

STEP 2: Assemble the Required Tools

Here is the list of tools you will need.

1. *Straight edge spade or power edger*
2. *Wire cutter/stripper*

STEP 3: Prepare Twisted Wire Lengths First

Prepare the twisted lengths of wire. From your system layout sketch, determine the length required for each twisted pair. Cut two equal lengths of wire for each required twisted pair. With the pair of wires side by side, put one end of each wire in a power drill and spin the wires until there is approximately one twist per inch of wire. Do not over-twist because this could damage the wire. Repeat for each required pair.

STEP 4: Layout the Boundary Wire Above Ground

Before burying your boundary wire, we recommend that you run the complete loop of wire, make all connections, and use the receiver collar to fully test the system with the wire above ground. Referring to the sketch you made of your system layout, run and connect the wire loop above ground, connect it to the Transmitter Base Station.

Installation Tip: Leave a little (about 15 inches) slack in the wire periodically along the perimeter and at the corners of the layout so you have a little extra wire when needed to repair a break in the loop. Wind the 15-inch slack into a 5 inch diameter coil and bury it with the wire.
Choose locations for the slack that are easily identified by a terrain feature and make a map of them.

Splicing the Boundary Wire: You may find the included improved waterproof wire splices useful in connecting individual lengths of wire or twisted wire. To use these connectors:

1. *Push the two ends of the wires into the outer two holes in the splice. View from the bottom to make sure the wires are fully inserted.*



2.. Using pliers squeeze the top black button down solidly until it bottoms out.



STEP 5: Test Your System

Switch the Base Station Transmitter ON. Take your Receiver Collar and walk the entire boundary ensuring that the collar continues to beep along the entire perimeter. Also check the lengths of twisted wire to make sure that the field is inactive in the areas where they are used. If the collar picks up a signal from the twisted length, the basic layout is probably incorrect -- review the discussion of single and double loop layouts. If you are using a single loop layout, twisted wire can only be used at the base station, or at the feed from the primary loop to another primary loop (example: small loop within a large loop).

STEP 6: Bury the Boundary Wire

You do not have to bury the wire for the Humane Contain System to operate however, for protection of the wire, we recommend that you bury it at least 2 inches, and no more than 4 inches deep. Using a flat spade or rotary blade power lawn edger, make a narrow trough around the path of the loop. Using gradual turns at the corners will produce a more consistent signal field.

Because of its advanced digital electronics, stray radio signals are unlikely to cause false activation of the collar. However, we recommend that you stay at least six feet away from electrical, telephone, cable TV and other buried wires. These can cause attenuation or dead spots in your field. Large metal objects may create reflected signals from the boundary wire itself. You should avoid running the wire near such structures. If your neighbor has an electronic dog fence you should bury the wire at least ten feet away.

Crossing a Driveway or Walk

When crossing a driveway or sidewalk, you may be able to find an expansion joint into which you can place the wire. Remove any calking material in the joint, place the wire and re-caulk. If an expansion joint is not available, you can make a ½ inch deep narrow slit across the drive or walk using a circular power saw and masonry blade. Place the wire in the slit and seal with outdoor silicone caulk of matching color. Use asphalt sealant for asphalt driveways. Another option is High Tech Pet's new optional Driveway Traverse Strip, which easily crosses driveways and walks with your electronic fence wire. This durable rubber slit attractively covers and protects the pet fence wire. You can drive over it, walk over it, even mow over it with no damage to the underlying boundary wire. Made of super durable elastomer, that will last years and years, it takes only minutes to install. To order, go to www. hightechpet.com and search "driveway traverse strip".

Crossing Gravel

When crossing gravel, run the wire through a hose or PVC pipe and then bury at least three inches deep.

Crossing Water

To cross a stream or body of water, run the wire through a hose or PVC pipe. Anchor each end using large rocks or other stationary objects.

STEP 7: Place the Boundary Flags

Boundary flags are provided so that your pet can easily see the boundary perimeter. This is especially important during training. Flags should be placed along the entire perimeter spaced no more than ten feet apart. Using a fully matching color. Use asphalt sealant for asphalt driveways.

TROUBLESHOOTING PROCEDURES

If any part of the system is not working use the following troubleshooting procedure to isolate the failed component. Then contact High Tech Pet Products Customer Support to get it repaired or replaced.

1) Test Base Station Transmitter

a) First disconnect the boundary wire loop from the base station transmitter by lifting the small door on the bottom of the transmitter and pressing the two wire connection buttons (one is black the other is red) while pulling gently on the wires.

b) Apply power to the transmitter and verify that the BREAK DETECTION circuit indicates a break. There will be an audible alarm and a message on the transmitter face. If a break is NOT indicated, the base station transmitter has failed – repair or replace.

c) Make a Test Loop Wire as follows: Strip 1/2. inch of insulation from the two ends of a 2.4-inch-long piece of spare insulated wire. You can use any gauge wire.

d) Attach the Test Loop Wire to the loop terminals (black and red) on the bottom of the transmitter. Apply power to the transmitter and verity the BREAK DETECTION circuit does NOT indicate a break. There should be no audible alarm and no Break message on the transmitter. If a break is detected the Base Station Transmitter has failed – repair or replace.

2) Test all Humane Contain Collar

e) With the TEST Loop Wire attached and the transmitter powered adjust the transmitter Boost Power switch to normal (NOR) and the Field Strength Control knob to maximum (fully clockwise). Now

bring one collar at a time close to the Test Wire Loop and verify the collar is triggering. If you hear a beeping tone and see a flashing *red light on the face of the collar the collar is working and the Base Station Transmitter is working, so go to step 3) to verify the loop.*

f) If you do not hear a beep and see a flashing light on the face of the collar then either the collar, or the transmitter, or both have failed. Let's try to isolate the problem down to a single component.

- If you have another collar, repeat step e) on that collar. If that collar passes the test then that collar and the Base Station Transmitter are OK, and only the first collar is failed – repair or replace just the first collar.
- If you have a friend who also owns a High Tech Pet, Humane Contain system that is working, test your collar(s) on their operating system by holding your collar next to their collar in the yard. As you move both collars toward the wire loop both collars should beep at about the same rate. If this is true, your collar(s) is working, and your Base Station Transmitter has failed – repair or replace.

g) If you cannot determine which component has failed, return both the collar(s) and the Base Station Transmitter to High Tech Pet Products for analysis and repair.

3) Test the Containment Loop

h) Once you have verified the components are working using steps 1) and 2.) above, disconnect the Test Loop Wire and re-connect the containment wire loop to the Base Station Transmitter. Place the working collar on the ground about five feet from the wire,
in a "clean" area of the yard. Clean means with the least amount of metal or concrete nearby (concrete may contain metal re-bar). This area should be free of underground pipes if possible.

i) Face the collar toward the wire. This makes the face almost parallel to the wire at that point.

j) Turn on the Base Station Transmitter, set the Boost Power switch to normal (NOR), and adjust the Field Strength Control Knob to maximum (fully clockwise). If the BREAK DETECTION indicates a break, then the loop is broken and needs repair. Go to step 4).

k) The collar should now be beeping and flashing a red light on the face of the collar. If not, the loop is intermittent and needs repair. Go to step 4).

l) Slowly adjust the Field Strength Control Knob on the transmitter counterclockwise until the collar stops beeping. If the collar is still beeping when the Knob is fully counterclockwise, the Base Station transmitter is faulty – repair or replace.

m) Slowly adjust the Knob clockwise and note the beeping starts at a rate of about one beep every half second. Continue slowly adjusting clockwise and note the beeping rate increases to two short beeps every half second. Continue slowly adjusting clockwise and note the collar beeping at an even higher rate that sounds like a string of beeps every half second. This means the loop and the entire

system are working properly. If not, the loop is intermittent. Go to step 4).

4) Repairing a Broken or Intermittent Containment Loop

There are many ways to approach repairing a faulty loop depending on the length of wire, the number of connections, the terrain, available equipment, etc. Please contact technical support at Techsupport@HighTechPet.com for a list of methods.

WARRANTY & CUSTOMER SUPPORT

Your Humane Contain Model HC-8000 is the best made electronic fence you can buy, and it's covered by the best warranty. If anything goes wrong with your product within one year of purchase, you may return it to us for a free replacement. For customer support, where you can get product information, warranty support, tech support and order accessories, visit:

www.hitecpet.com

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