

# Border Patrol TC1

- GPS Containment System
- Remote Trainer
- Short-Range Tracking Unit



## Owner's Manual

Please read this manual in its entirety before using this unit.



# INTRODUCTION

Thank you for choosing the **D.E. Systems Border Patrol™ TC1** for your dog training needs. This unit features a revolutionary GPS-Guided Fence system, remote training functions, and waypoint marking capabilities. Up to 5 collar units can be controlled by the handheld unit.

Utilizing GPS-guided technology, the **D.E. Systems Border Patrol TC1** features a portable, wireless, and easy to use electronic fence system.\* It creates a circular fence of up to an 800 yard radius that has a Safe Zone, Warning Zone, and Stim Zone. It also has our patented Welcome Home™ feature allowing a dog to re-enter the Fence area without a correction.

The **D.E. Systems Border Patrol TC1** also includes remote training features with up to a 2 mile range.\*\* 50 levels of Nick and Continuous stimulations are available at your fingertips, as well as Jump and Rise stimulations. The Vibration feature will Vibrate the collar unit. This unit also has the ability to mark up to 4 different waypoints. If a Fence is active, the Fence center is also automatically saved as a Waypoint.

The **D.E. Systems Border Patrol TC1** remote trainer is a safe and effective training tool when used properly. Be sure to read through this instruction manual and the training manuals to get the most out of your unit. We hope you enjoy using your new **D.E. Systems Border Patrol TC1** unit.

\*GPS signal required.

\*\*Maximum line of sight range.

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# 1

# Before You Begin

Please read this manual in its entirety before use.

# WARNINGS

The Dog Expedition Systems Border Patrol TC1 GPS Fence and Training system is a safe and effective training tool when used properly. This manual provides essential user information for the proper operation of this unit. **Please read the instruction manual and training manuals completely before using this product.**

## General Warnings

- Keep away from Children.
- Do not operate unit outside these temperatures: -2° F to 130° F.
- Do not recharge the unit outside these temperatures: 33° F to 105° F.
- Do not leave unit in or around a high temperature heat source. In particular, do not leave unit unattended in a vehicle on a hot day or exposed directly to sunlight for extended periods (see battery warnings).
- Do not operate in areas of high humidity for extended periods.
- Do not leave unit unattended.
- Do not leave unit in an area where a dog can reach and chew on it (see battery warnings).
- Do not use unit while operating a vehicle, gun, or dangerous tool.
- Keep unit watertight. Check that all covers and plugs are in good condition and properly seal the unit as water may seep in if not sealed.
- Check unit for proper tightness of screws, gaskets, and plugs before each use.
- Do not take apart or open the Border Patrol Unit, as this may void your warranty.



# WARNINGS

**Battery Warnings** - This unit uses volatile Lithium-Ion batteries and requires special care. Failure to follow the battery guidelines may result in fire, explosion, chemical burn, electrolyte leak, injury, and/or shortened battery life span.

- Make sure to observe the correct polarity when inserting batteries. Match the + and - labeled on the battery and in the battery compartment. Inserting batteries incorrectly may result in permanent damage to the unit.
- Keep batteries away from fire and do not leave batteries/units unattended in high temperature locations, under direct sunlight or in a hot vehicle.
- Keep batteries away from Children.
- Do not pierce, drop, or cause high impact to the battery as this may cause the battery to overheat, explode, or cause a fire.
- Use only an authorized D.E. Systems charger and wall adapter.
- Do not leave batteries unattended. In particular, do not leave in an area where an animal or dog may chew on the batteries.
- Although your unit will go into a trickle charge, it is recommended that the units are disconnected from the charger when charging is complete.
- Fully charge and test your unit about once a month when storing your unit for an extended period of time.
- Do not store your unit in extremely hot or cold conditions.
- Store your unit in a dry environment.
- Dispose of batteries properly by calling your local waste service.



## CAUTION

- Before training, your dog should be examined by a veterinarian to assure that your dog is in good health.
- Do not use with aggressive-tempered dogs.
- **Never leave your dog unattended with the unit on.** Since no electronic device is perfect, there is a possibility that your dog may receive an unintentional electric stimulation.
- Your Border Patrol training collar is a very valuable tool if used correctly. It is extremely important that you completely understand all the functions of the collar and how to properly train with it before placing it on your dog.
- **To prevent neck irritations, the collar should never be worn for more than 12 hours a day.** Changing the collar location on the dog's neck daily will also help prevent irritations. It is recommended to reposition the collar every 1-2 hours of use (*see fitting collar unit pg. 32*).
- It is important to keep the collar clean. Clean the electrodes regularly with a mild anti-bacterial soap.
- If an irritation is found, carefully wash the dog's neck with soap and water and then wipe the area with Hydrogen peroxide. Dry thoroughly and apply an antibiotic ointment. If condition persists beyond 48 hours, please see a veterinarian.

**CAUTION** - Be sure to test your unit before placing the collar unit on your dog(s). Always checking your collar system before use will help prevent possible interruptions and inconsistencies during training and field time.

2

# Getting to Know Your System

# PACKAGE CONTENTS

- Water-resistant Handheld Unit with antenna
- Waterproof Collar Unit with belt assembly
- Charger
- Test light
- Boundary flags
- Screen Cover
- Lanyard
- Carrying Case
- User manual
- Training manuals
- Warranty card

# FEATURES

- GPS Guided e-Fence, e-Collar Training Unit, and Short-Range Tracking Unit operating on 900 MHz radio frequency
- Rechargeable Li-Ion Batteries in both Handheld and Collar Units
- Water-resistant Handheld Unit and waterproof Collar Unit
- High resolution 2.4" TFT Color LCD
- Expandable up to 5 dogs with TC1 Add-On units (sold separately)
- GPS e-Fence Mode
  - Containment area: 15 yard to 800 yard radius from Center Point
  - Warning Zone Notifications: Vibration or Audible Beep
  - V+S or B+S: Vibration or Audible Beep with delayed stimulation
  - 50 levels of stimulation in Stimulation Zone
- Training Mode
  - 50 adjustable intensity levels of Momentary ("Nick") Stimulation and Continuous Stimulation
  - Positive Vibration, Jump Stimulation, Rise Stimulation
  - Training Range of up to 2 miles (line of sight)\*
- Short-Range Tracking and Status Updates when e-Fence is Active
  - Track Location up to 2 miles (line of sight)\*
  - Read status of collar: battery life, out of fence area, etc.
- Mark up to 4 Waypoints (plus automatically saved Fence Center)

\***NOTE** - Radio Communication between the handheld unit and the collar unit varies greatly according to factors such as: terrain, obstructions, weather, electromagnetic interferences, etc. Having an unobstructed line-of-sight between the handheld unit and the collar unit will produce the best communication signal between the units and the greatest range.

# HANDHELD UNIT

## Front View



# HANDHELD UNIT

**Color LCD Screen** - Displays Training, Fence, and Mark information.

**RF Antenna** - Aids in communication between handheld unit /collar unit.

**Nick Button** - Quick, split-second stimulation.

**Continuous Button** - Continued Stimulation while button is pressed (8 second safety shutoff).

**Jump Button** - User-programmed Jump stimulation level without changing default stimulation level (*see pg. 53*).

**Vibration Button** - Applies Vibration only.

**Rise Button** - Stimulation that gradually increases intensity level while button is pressed. (*see pg. 53*).

**Dog Selection Button** - Selects desired collar when multiple collars are programmed to the handheld unit (*see pg. 46*).

**Menu/Power Key** - Powers the handheld unit ON/OFF and accesses Menu. Also acts as BACK button in certain menus.

**Mark Key** - Accesses Mark menu to mark and find waypoints. Also acts as NEXT or END buttons in certain menus.

**Directional Keys** - Up/Down/Left/Right Keys navigate through menus.

**Up/Down Key** - Increases/decreases intensity level.

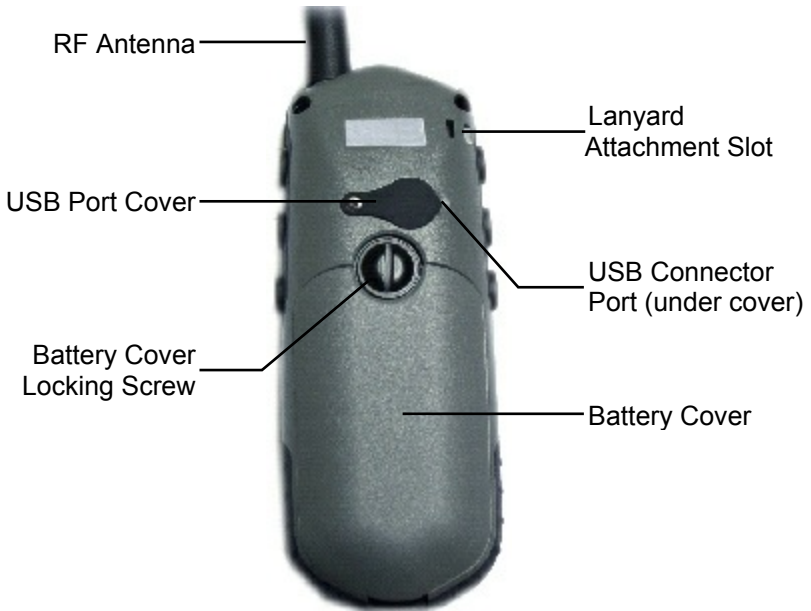
**Toggle Screen** - Toggles between Training and Fence or Mark screens.

**Ping Key** - Sends signal to collar unit for location and status updates.

**Enter Key** - Selects menu item.

# HANDHELD UNIT

## Back View





# HANDHELD UNIT

**RF Antenna** - Antenna for communication between handheld unit and collar unit.

**Lanyard Attachment Slot** - Attachment point for optional lanyard.

**USB Connector Port** - Connection point to charge handheld unit.

**USB Port Cover** - Cover protecting USB Port from dirt and debris.

**Battery Cover** - Cover enclosing the handheld unit's rechargeable batteries.

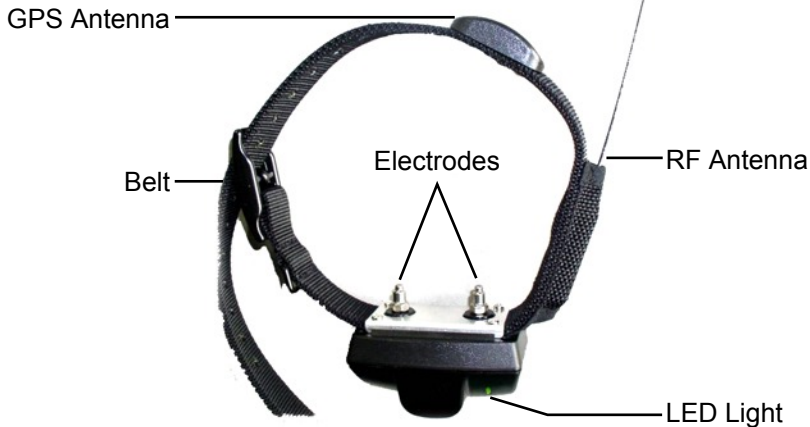
**Battery Cover Locking Screw** - Screw that locks down the Battery Cover keeping it weather tight. It can be loosened/tightened with a coin or large flathead screwdriver.

**NOTE** - Your Handheld Unit will come without the battery installed. To install the battery:

1. Unscrew the Locking Screw and remove the Battery Cover.
2. Insert the battery with the terminals pointing towards the top of the Handheld Unit and the positive terminal on the left.
3. Replace the Battery Cover and secure with the Locking Screw.

# COLLAR UNIT

## Front View



## Back View



# COLLAR UNIT

## FRONT VIEW

**GPS Antenna** - Antenna used to obtain GPS signal.

**RF Antenna** - Antenna for communication between handheld unit and collar unit.

**Belt** - Flexible nylon collar belt.

**Electrodes** - Makes contact with dog's skin for stimulation.

**LED Light** - Indicates status and errors of collar unit.

## BACK VIEW

**Power Button** - Turns collar unit ON/OFF.

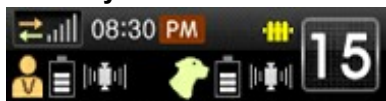
**Battery Charging Port** - Connection point to charge collar unit.

**Battery Charging Port Cover** - Cover protecting Charging Port from dirt and debris.

# LCD SCREEN ICON DEFINITIONS

The System Information Bar is located at the top of the LCD screen and provides information and status of the handheld unit and collar unit.

## System Information Bar



ICON	DEFINITION
	Current time (must establish GPS signal).
	Indicates that the handheld unit is active.
	Indicates that the collar unit is active. Color of collar unit currently being controlled is shown.
	Battery status of handheld unit and collar unit. (see pg. 26 for more information on Battery status).
	GPS signal status of handheld unit and collar unit (see pg. 29 for more information on GPS signals).
	RF signal strength between handheld unit and collar unit. Zero bars and gray icon indicates lost RF signal.
	Intensity level of selected collar unit.
	Fence status. Yellow icon indicates active Fence.

# LCD SCREEN ICON DEFINITIONS



Training Screen



Fence Screen



Mark Screen

ICON	DEFINITION
	Intensity level of selected collar unit in Training Screen.
	Indicates True North in Fence Screen.
	Handheld unit icon used to show location of handheld unit in Fence Screen.
	Collar unit icon used to show location and status of collar unit in Fence Screen (see pg. 45).
	Waypoint icon used to show location of waypoint in Mark Screen (see pg. 58).

# COLLAR LED LIGHT STATUS

CLASSIFICATION	ACTION	LED COLOR/ PATTERN
Turning ON/OFF	Powering ON	<b>Green</b> -Solid LED for approximately 2 seconds
	Powering OFF	<b>Green</b> - Solid LED for approximately 3 seconds
Collar Programming	New Collar Programming	<b>Green</b> - When holding Power Button, LED will blink for 8 seconds and then stay on solid.
	Successful Programming	<b>Green</b> - 3 sets of 3 rapid blinks, collar then powers OFF.
	Unsuccessful Programming	<b>RED</b> - 3 sets of 2 rapid blinks, collar then powers OFF.
Charging*	While Charging	<b>RED</b> - Solid LED light.
	Fully Charged	<b>Green</b> - Solid LED Light.
	Error Signal	<b>Orange</b> - Solid LED light after approximately 7 hours of charging. Try charging again. Repeated Error Signal may indicate need to replace battery.

**\*NOTE** - When charging, collar functions are inactive and collar will not respond to the handheld unit. When the charging cable is disconnected, collar unit will be OFF.

# COLLAR LED LIGHT STATUS

CLASSIFICATION	ACTION	LED COLOR/ PATTERN
Operation	Powered ON	<b>Green</b> -Flashes every 2 seconds.
	CONT, JUMP, RISE	<b>RED</b> - Flashes when emitting selected stimulation.
	NICK	<b>RED</b> - Flashes once quickly.
	VIB	<b>RED</b> - Solid LED while vibrating.
Warning	Low Battery	<b>Orange</b> - Flashes every 2 seconds when battery life is less than 50%.
		<b>RED</b> - Flashes every second when battery life is less than 10%.
	No GPS Signal	<b>Orange</b> - 3 rapid blinks every 2 seconds
	Not Paired to Handheld Unit	<b>Orange</b> → <b>RED</b> - LED cycles through <b>O/R</b> 6 times, then collar powers OFF.
	Searching for Paired Handheld Unit	<b>Green</b> → <b>RED</b> - Solid <b>G</b> and flashes <b>R</b> for 2 minutes, then collar powers OFF if handheld unit not found.
Communication Error	<b>Orange</b> → <b>RED</b> - Continuously alternates between <b>O/R</b> flashes.	





**3**

# Getting Started

# CHARGING THE SYSTEM

All D.E. Systems units are equipped with rechargeable Lithium-Ion batteries. Li-Ion batteries are not memory sensitive and do not require depletion before recharging. On average, the handheld unit will last approximately 6-12 hours and the collar unit will last approximately 12-24 hours depending on use, care, and condition of the batteries.

The batteries come partially charged from the factory. However, it is recommended that the batteries are given a full charge before initial use.

**WARNING** - Always keep batteries away from flammable substances (especially when charging). **DO NOT CHARGE WHILE THE UNIT IS WET.** See pg. 9 for more battery precautions and warnings.

**NOTE** - When storing the unit for long periods, remove the battery from the Handheld Unit. Give your system a full charge and test your system (see pg. 54) once every 4 to 6 weeks.

**The battery icon in the System Information Bar will indicate the current status of the battery for the transmitter and collar unit.**



Full battery level status when handheld unit is **plugged into charger** (handheld unit battery only).



Battery level status. Four bars indicates full charge. The bars will disappear as the battery depletes. Bars will fill during charge.



Battery level is low and will need to be charged.



Battery no longer has a sufficient charge and the unit will shut down.

# CHARGING THE SYSTEM

## Charging the Handheld unit

1. The handheld unit can be ON or OFF during charging.
2. Pull out the USB Port Cover to expose the USB Connector Port.
3. Plug the AC Adapter into a standard electrical outlet and connect the USB charging cable to the handheld unit. The battery icon in the Systems Information Bar (when powered ON) or a large battery icon on the LCD screen (when powered OFF) will begin to fill, indicating that the transmitter is charging.
4. Continue charging until the battery icon in the System Information Bar is full and green (when powered ON), or the large battery icon is full and “COMPLETE” shows on the screen (when powered OFF).
5. Disconnect the USB charger from the handheld unit and securely replace the USB Port Cover.

## Charging the Collar Unit

1. Pull out the Charging Port Cover to expose the Charging Port.
2. Plug the AC Adapter into a standard electrical outlet and connect the charger into the Charging Port. If the collar unit was ON, it will automatically shut off and go into the charging mode.
3. The LED Light on the collar unit will remain solid RED while charging.
4. Continue charging until the LED Light becomes solid GREEN, indicating that charging is complete.
5. Disconnect charger from collar unit and securely replace the Charging Port Cover.

**NOTE** - A solid ORANGE LED light after 7 hours of charging indicates an error in charging (see pg. 22). Try charging the collar unit again.

# TURNING THE SYSTEM ON/OFF

## Turning the Handheld unit ON

1. Press and hold the **MENU/PWR** button on the handheld unit until the D.E. Systems startup logo appears on the LCD screen.
2. Release the button to begin the startup sequence.

## Turning the Handheld unit OFF

1. Press and hold the **MENU/PWR** button on the handheld unit the screen goes blank.

## Turning the Collar Unit ON

1. Press and hold the Power Button on the collar unit. The green LED will light solid for approximately 3 seconds.
2. Release the Power Button when the green LED light begins to flash. The collar unit will vibrate, indicating the unit is now ON.

## Turning the Collar Unit OFF

1. Press and hold the Power Button on the collar unit. The green LED will light solid for approximately 3 seconds.
2. Release the Power Button after the Audible Beep and the green LED light turns off. Collar Unit is now OFF.

**NOTE** - When powering ON the collar unit, be sure to have the handheld unit powered ON. During the initial startup, if the collar unit does not establish communication with the handheld unit within 30 seconds, the collar unit will automatically shut down.

# ACQUIRING GPS SIGNAL

**NOTE** - GPS Acquisition Times and Signal Strength may vary according to factors such as trees, buildings, weather, overhead obstructions, and proximity to electromagnetic interferences. For best results, find an open area away from these factors. Wait at least two minutes AFTER GPS signals have been acquired. GPS Acquisition Times can take from **2 to 15 minutes** (see *H-Value* on pg. 66).

1. Go to an open area away from obstructions and a clear view of the sky and power units.
2. Make sure handheld unit and collar units are not closer than 1 ft (30 cm) from each other. Both units have electromagnetic activity that can interfere with each other.
3. Turn the units ON.
4. Wait for confirmation of GPS signal on the transmitter and collar unit.
5. Wait another two minutes after GPS signal has been acquired for the most accurate GPS coordinates.



- Good GPS Signal: Unit is ready for Fence use.



- Weak or no GPS Signal: Unit is not ready for Fence use.



- GPS Signal OFF: GPS Signal must be ON before Fence use.\*

\***NOTE** - Reception of GPS signals can be turned on and off (see pg. 65).

**CAUTION** - Do not place the collar unit on your dog until GPS signal has been acquired.

# COMPASS CALIBRATION

The D.E. Systems handheld unit utilizes a high performance electronic compass chip in order to get accurate fence and tracking data. This compass must be calibrated by the user. The compass should be the first time it is used, after storage periods, after new batteries are installed, and after long distance changes on the handheld's last known location.

**For best results, calibrate the compass each time the handheld unit is powered on.**

Always calibrate the compass outdoors and away from magnetic fields such as metals, cell phones, cars, buildings, electricity sources, trees, etc.

Calibrating the compass requires rotating the handheld unit along three different axes, the X, Y, and Z axes.

**NOTE** - Hold handheld unit horizontal and parallel to the ground with the screen facing the sky.

## **To Calibrate Compass:**

1. Begin the Calibration process by pressing **Menu** → **Setup** → **Compass Calibration**, and then follow the directions on screen.
2. Hold unit horizontally and parallel to the ground so that the screen is facing the sky.

# COMPASS CALIBRATION

- Roll:** As shown in *fig. 1* below, **roll** the unit twice at a speed that matches the indicator bar on screen.
- Rotate:** As shown in *fig. 2* below, **rotate** the unit twice at a speed that matches the indicator bar on screen.
- Flip:** As shown in *fig. 3* below, **flip** the unit twice at a speed that matches the indicator bar on screen.
- If “calibration successful” appears, press **OK**. If “calibration failed” appears, exit and repeat the process.

Fig. 1 Roll



Fig. 2 Rotate

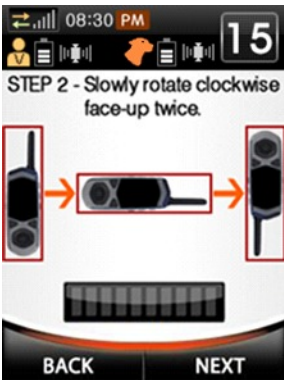


Fig. 3 Flip



# FITTING THE COLLAR

**CAUTION** - Do not fit the collar on your dog with the collar unit ON. Proper collar tightness and position are very important to ensure safe and consistent collar use.

All electronic collars need to be very snug around the dog's neck to work properly. They must be just tight enough to allow the "contacts" or electrodes to make good contact on your dog's skin. If the collar is too loose, the stimulation may not work properly because good/consistent skin contact is not being achieved. This can directly affect the performance of the collar unit and whether or not the dog will receive the stimulation. Always check for good contact to the skin if it appears that your dog is not responding to the stimulation. A loose collar can also result in skin irritations from moving or rubbing too much against the dog's neck while they are running or training. A proper fit will help prevent this from occurring.

1. Place the collar unit high and tight on your dog's neck with the collar receiver box centered below the neck.
2. The collar should be tight enough to fit two fingers between the collar belt and your dog's neck, but not so tight that it restricts your dog's breathing.

**NOTE** - The GPS Antenna on the collar unit must be pointing upwards with a clear, unobstructed view of the sky to ensure proper reception of the GPS signal.

**CAUTION** - Cutting the collar belt is not recommended. The collar belt may start to fray/unravel if cut.



# FINDING THE PROPER INTENSITY LEVEL

**WARNING** - Do not set the intensity until you have read this manual and have familiarized yourself with this unit.

It is very important to set the correct intensity level on your unit before beginning your training sessions to provide the proper level of stimulation and avoid over-stimulating your dog. The intensity level can be changed from the Training Screen by pressing Up on the directional keys to increase the level and Down on the directional keys to decrease the level.

## To Find the Proper Intensity Level:

1. Set the Intensity Level to the lowest level.
2. Turn the Collar unit ON and then fit it properly around your dog's neck (*see fitting collar on pg. 32*)
3. Press the Continuous button ('C') and check for a reaction. Indications of your dog feeling the stimulation include outward signs of discomfort or confusion on it's face, ears perking up, changes in tail movements, etc.
4. If there are no signs of your dog feeling the stimulation, increase the Intensity Level in increments of one until your dog reacts to the stimulation.

After your dog feels the stimulation, increase the Intensity Level by one or two levels. This should be your dog's ideal training level.

**NOTE** - Some dogs may require a higher or lower stimulation level depending upon their individual temperament and/or size.



# 4

# Fence

**NOTE:** Please read through the Fence Boundary Training Manual BEFORE using the Fence features of the Border Patrol Unit.

# FENCE OVERVIEW

The D.E. Systems “Border Patrol” GPS Fence creates a circular fence anywhere a GPS signal is available.

1. The fence radius can be as small as a 15 yard radius to as big as an 800 yard radius from a chosen center point using GPS technology.
2. The Warning Zone and Stimulation Zone are user-programmable.
3. Choose from 5 different Warning options (Vibration only, Beep only, Vibration + delayed Stim, Beep + delayed Stim, or none).
4. The Patented “Welcome Home™” safety feature prevents accidental stimulation upon re-entry should your dog leave the boundary area.
5. The automatic safety shut-off feature stop stimulation after 8 seconds to prevent accidental or prolonged stimulation and will begin again after 8 seconds.
6. “GPS SignalSafe™” prevents accidental stimulation if the GPS signal is weak or lost.
7. “ActiveFence™” allows the fence to be active even if the handheld unit is powered OFF.
8. On-Screen Alerts show when your dog is in the warning zone, stimulation zone, or out of the fenced area.
9. Min/Max Fence Settings
  - a) Zone – Each zone has a minimum of a 15 yard radius.
  - b) Min/Max Fence – The largest fence has an 800 yard radius to the end of the boundary. The smallest fence can emit a Warning at a 15 yard radius.

# FENCE OVERVIEW

## Tips on Using Fence Mode

- Read Fence Training Manual before using Fence mode.
- Always test your Fence settings before use (see pg. 47).
- The handheld unit and collar unit(s) must acquire a GPS Signal before using Fence mode (see pg. 29). If a GPS signal is not acquired, turn unit OFF and back ON.
- Do not set up a Fence where satellite signals may be obstructed or interrupted. GPS coordinates can be inaccurate. For the best results, avoid marking the center of the fence and boundary points close to buildings, trees, overhead obstructions, or anything that can cause electromagnetic interference. These interferences can cause miscalculations in GPS coordinates. Be sure to test the center point and boundary points after fence settings have been saved (see pg. 47).
- Lost GPS Signal Alert - An "X" will appear on the bottom left corner of the handheld unit when the collar unit's GPS signal is lost. The GPS signal icons will also turn red.
- The handheld unit and collar unit(s) must have Radio communication between each other in order for features to work properly.
- Find proper intensity level for each dog before use (see pg. 33).
- Keep handheld unit flat for accurate compass readings.
- All training functions are available in the Fence mode.
- Use the Left directional key to quickly switch between Fence View and Training View.

**WARNING** - Always Deactivate Fence when not in use.

# FENCE AREA TERMS

Please refer to *fig. 1* for these terms.

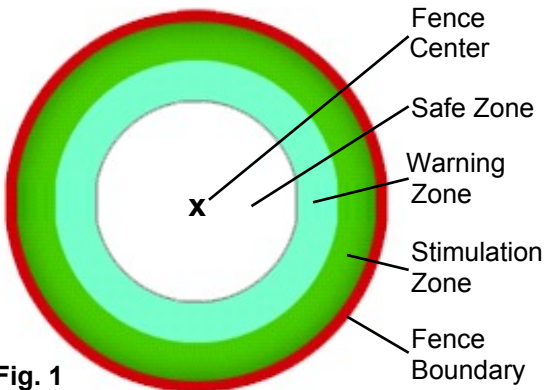
**Fence Center** - The center point of the fence. Distances are measured from the Center.

**Safe Zone** - The desired area where the dog can freely roam without correction.

**Warning Zone** - The area outside the Safe Zone where the dog will receive a warning as a reminder that he/she has left the Safe Zone. This warning can be a Vibration, Beep, Vibration with delayed Stimulation, Beep with delayed Stimulation, or the warning can be deactivated.

**Stimulation Zone** - The area outside of the Warning Zone where the dog will receive a stimulation.

**Fence Boundary** - The outer boundary of the Fence. If the dog crosses the boundary and exits the fence area, he/she will no longer receive a warning or stimulation. The Welcome Home feature will allow the dog to re-enter the Safe Zone without receiving a correction.



**Fig. 1**

# SETTING UP FENCE BOUNDARIES

**WARNING** - Do not put the collar on your dog until Fence boundaries have been physically tested. Boundary distances may vary according to GPS coordinate accuracy, which can be inaccurate +/- 10 yards. Both Fence Center and Zones can have inaccuracies. It is important to physically test boundaries (see pg. 47) to accurately mark boundary points.

**NOTE** - You will need to establish a clear GPS Signal for the Fence mode (see pg. 29).

1. Make sure both handheld transmitter and collar units are powered on and have good GPS signals and RF Signals (see fig. 1 below).
2. To set up boundaries, navigate to **MENU** → **Fence** → **New Settings** → **Enter**
3. Stand with the handheld transmitter unit in the location of the desired Center Point of the fence and click **NEXT** (see fig. 2 to right).

Fig. 1



Fig. 2



# SETTING UP FENCE BOUNDARIES

- Choose the distance from the Center Point to the beginning of the Warning Zone. This will be the Safe Zone.
  - Press **ENTER** in the highlighted box to change the distance (see *fig. 1 below*).
  - Using the navigation keys, enter the desired number and press **OK** when finished (see *fig. 2 below*).
- Choose the Warning Signal for the Warning Zone.
  - Highlight the Warning Signal Box and use the left or right Directional Key to select **Vibration**, **Beep**, **Vib with delayed Stim**, **Beep with delayed Stim**, or **None**. (see *fig. 3 below*).

Fig. 1



Fig. 2



Fig. 3





# SETTING UP FENCE BOUNDARIES

6. Choose **NEXT** to move on to **Stimulation Zone** settings.
7. Choose the distance from the Center Point to the beginning of the Stimulation Zone. This will be the Warning Zone.
  - a) Press **ENTER** in the highlighted **Stim Zone Starts @** box to change the distance.
  - b) Using the navigation keys, enter the desired number and press **OK** when finished.
8. Choose the Stimulation Level for the Stimulation Zone.
  - a) Press **ENTER** in the highlighted **Stim Option** box to change the Stimulation Level.
  - b) Using the navigation keys, enter the desired number and press **OK** when finished. Enter '0' if no stimulation is desired.
9. Choose **NEXT** to continue to **Stimulation Zone End** settings.
  - a) Press **ENTER** in the highlighted **Stim Zone Ends @** box change the distance.
  - b) Using the navigation keys, enter the desired number and press **OK** when finished.
11. Choose **NEXT** to save the new Fence settings. After settings are saved, the Fence Menu screen will be shown.

## To Edit Current Fence Settings With the Same Fence Center:

1. **MENU** → **Fence** → **Edit Settings** → **Enter**
2. Follow steps 4-11 in “**Setting Up Fence Boundaries**”.

**NOTE** - Only one Fence setting can be saved at a time. Changing the Fence settings will delete the previously saved Fence settings.

# ACTIVATING / DEACTIVATING FENCE

## To Activate Fence:

1. Press **MENU** → **Fence** → **ENTER**
2. Highlight **Activate** and press **ENTER**
3. The Fence is now active and the Fence View Screen will be shown (see fig. in next page).

## To Deactivate Fence:

1. Press **MENU** → **Fence** → **ENTER**
2. Highlight **Deactivate** and press **ENTER**
3. The Fence is now deactivated and the Training Screen will be shown.

**WARNING** - Deactivate Fence when not in use.

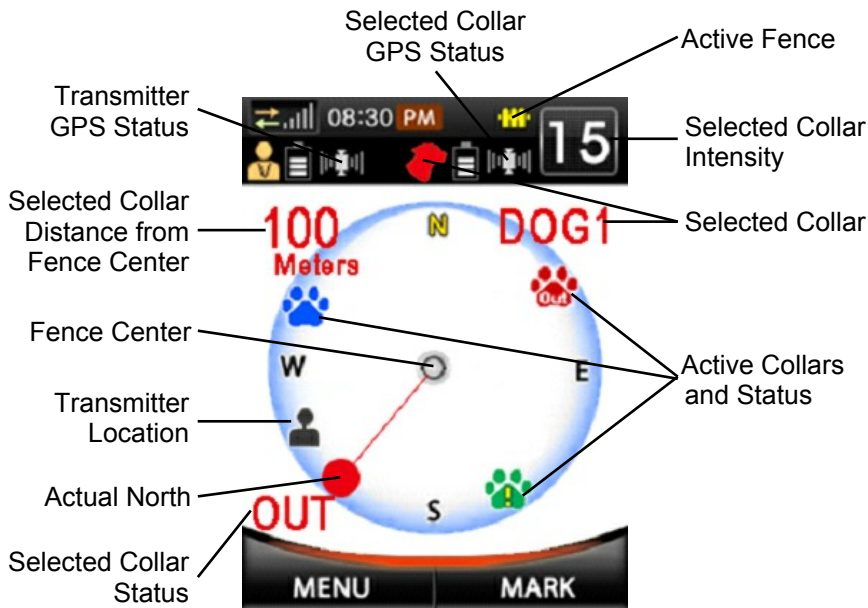
# CREATING VISIBLE FENCE

**NOTE** - GPS coordinates can be inaccurate +/- 10 yards. Both Fence Center and Fence Zones can have inaccuracies. It is important to create visible cues for your dog and fully test the boundaries.

## Creating a visible fence:

1. Activate Fence.
2. Holding the collar unit at your dog's neck level, walk towards the warning zone and place a flag or marker at the point where the collar unit gives its warning.
3. Walk back into the safe zone and repeat step 2 until a visible boundary is established. The distance between flags will vary on the size of the fence. 10 ft. intervals are suggested.

# FENCE VIEW SCREEN



# READING FENCE VIEW SCREEN

**CAUTION** - This device is not intended to be a tracking unit. Direction of icons may be inaccurate by +/- 20 degrees. Readings can be affected by electromagnetic interferences, obstructions, or loss of line of site.

**NOTE** - Be sure to hold the handheld unit parallel to the ground with the screen facing towards the sky to properly view direction.

Actual North and Onscreen North are differing values. The moving Red dot is Actual North while "N" at the top of the screen is Onscreen North. Matching Actual North with Onscreen North will show proper direction of units relative to Fence Center. To do this, hold the handheld unit parallel to the ground and rotate the handheld unit (and your body) until the Red Dot matches with "N" (see fig. 1 below).

The Paw Icon shows direction and distance of the collar unit. The Person Icon shows direction of handheld unit. Icons will show on the corner edges of the compass screen unless it is within 10 yards of the Fence center, in which case it will show in the center and read "Near."

To get direction and distance of collar unit relative to the handheld unit, stand at Fence Center. The center of the screen is always Fence Center, not the position of the handheld unit.

Fig. 1



# COLLAR STATUS

Collar information and status is displayed on the Fence screen. The top left corner shows distance from Fence Center. The top right corner shows which collar's information is being displayed. The bottom left corner shows the collar's status (an "X" loss of collar unit GPS Signal).



Collar is in Safe Zone (see fig. 1 below). No warnings or stimulation are being applied.



Collar is in Warning or Stim Zone (see fig. 2 below). Bottom left corner shows type of warning or stimulation being received.



Collar is outside Fence area (see fig. 3 below). Bottom left corner shows "OUT". No warnings or stimulation are applied.

Fig. 1



Fig. 2



Fig. 3



# SWITCHING BETWEEN COLLARS

If multiple collars are registered to the handheld unit, pressing the DOG button selects a different collar unit. The information onscreen will change color to match the chosen collar. Each time the DOG button is pressed, the handheld unit will cycle through the active collars (see fig. 1, 2, 3 below).

The collar unit currently being displayed and its intensity level will also appear in the System Information Bar. Remote training functions can be used while in Fence mode. The handheld unit stores each collar's respective stimulation levels and settings so they will not have to be changed each time a different collar is chosen.

Fig. 1



Fig. 2



Fig. 3



## “WELCOME HOME” FENCE FEATURE

The D.E. Systems Border Patrol’s “Welcome Home™” feature allows your dog to re-enter the fence area and Safe Zone without correction, preventing confusion to your dog and encouraging a safe return. If your dog crosses the outer fence boundary, he will NOT receive a correction upon re-entry. Similarly, if your dog crosses the Stim Zone, he will NOT receive a warning upon re-entry into the Warning Zone or Safe Zone.

**NOTE** - Welcome Home only applies if there is a zone breach. For example, if your dog enters the stimulation zone, a correction will not be applied when re-entering the warning zone. Welcome Home will be reset once collar unit is inside the safe zone.

## TESTING FENCE

**WARNING** - Test your Fence settings with the test light before placing the collar unit on your dog. Use your handheld unit to check distance and warning/stimulation being applied.

### To Test Fence Center:

1. Activate Fence and navigate to **Mark** → **Find Mark**. Highlight “Fence Center” and choose **Option** → **Goto** → **Enter**.
2. Walk approximately 10-20 yards away from assumed center and view direction and distance to fence center.
3. Repeat step 2 in the N, NW, W, SW, S, SE, E, NE sections of the fence to find the approximate fence center.

# TESTING FENCE

## To Test the Warning Zone:

1. Activate Fence and take collar slightly past the Warning Zone. The handheld unit can be used to gauge distance.
2. Check to see if the collar unit emits the desired warning. The handheld unit will also indicate that the collar is in the Warning Zone
3. Move back into the Safe Zone and repeat step 2 at different points of the Fence.

## To Test the Stim Zone:

1. Activate Fence and take collar slightly past the Stim Zone The handheld unit can be used to gauge distance.
2. Check the test light to see if the collar unit emits a correction. The handheld unit will also indicate the collar is in the Stim Zone.
3. Move back into the Warning Zone or Safe Zone and repeat step 2 at different points of the Fence.
4. Move outside of the Fence Boundary and check if the collar stops emitting stimulation.

**NOTE** - Keep transmitter and collar unit apart for more accurate readings.

**CAUTION** - Use Fence training manual before using this unit.

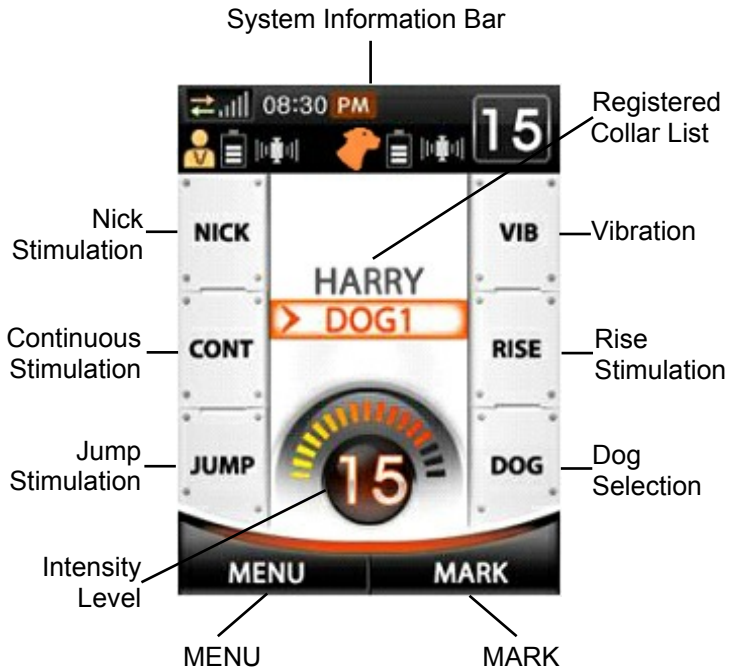
**WARNING** - Always deactivate the fence from the handheld unit when not in use to prevent accidental stimulation.



5

# Training

# TRAINING HOME SCREEN



# TRAINING FUNCTIONS

**Systems Information Bar:** Displays the status of the handheld unit and collar unit(s).

**Registered Collar List** - Displays all collars registered to the handheld unit. Registered collars that are ON show with assigned color. Current active collar will be highlighted with an arrow. Registered collars that are OFF will show gray.

**Nick Stimulation ('N')** - Quick, split-second stimulation.

**Continuous Stimulation ('C')**- Continued Stimulation while button is pressed (8 second safety shutoff).

**Jump Stimulation ('J')** - User-programmed Jump stimulation level without changing default stimulation level (*see pg. 53*).

**Vibration ('V')**- Applies Vibration only.

**Rise Stimulation ('R')** - Stimulation that gradually increases intensity level while button is pressed. (*see pg. 53*).

**Dog Selection Button ('D')** - Selects desired collar when multiple collars are programmed to the handheld unit (*see pg. 63*). The collar currently being controlled will be highlighted in the Registered Collar List. The settings for each respective collar will be saved in the handheld unit.

**Intensity Level** - Shows the current intensity level setting.

**MENU** - Shows a list that lets you choose “Fence”, “Training”, or “Setup”.

**MARK** - Shows a list of “Mark” options (*see pg. 55 for more on marking objects/locations*).

# GENERAL TRAINING MODE INFORMATION

The D.E. Systems Border Patrol TC1 remote trainer is a safe and effective tool that makes training sessions more efficient and productive when used properly.

## Training Features

- Up to 2 mile range (line of sight)
- 50 levels of stimulation
- 4 different stimulation types (Nick, Continuous, Jump, Rise)
- Vibration feature vibrates collar unit
- Training functions available in all modes (except when navigating through menus)
- Handheld unit can control up to 5 collar units
- Intensity levels and settings are stored for each collar unit

## Tips on Using Training Mode

- Read Basic Training Manual before training with this unit.
- Always test your unit before use (*see pg. 54*).
- Do not attach leash/lead to collar unit. Use a separate collar.
- The handheld unit and collar unit(s) must have Radio communication between each other. Check the RF communication bars in the System Information Bar to see the communication strength.
- Find proper intensity level for each dog before use (*see pg. 33*).
- Use the Left directional key to quickly switch between Training View and Fence view or Mark view.

**WARNING** - Never stimulate your dog out of anger or frustration.

# JUMP AND RISE STIMULATIONS

**Jump** stimulation is an ideal feature when regularly using two different stimulation levels in training. It is also a great safety tool for emergency situations when your dog gets excited and cannot feel or ignores the normal intensity level. Pressing the Jump button rather than increasing the intensity level manually will save precious time.

## To set the “Jump” level:

1. Press and hold the JUMP button.
2. While holding the JUMP button, set the desired intensity level by using the Up and Down directional keys.
3. Release the JUMP button. The Jump level is now programmed.

Changing the NICK/Continuous stimulation levels will not affect the Jump stimulation level. When the Jump button is released, the intensity level will return to the NICK/Continuous intensity level.

**WARNING** - To avoid accidentally stimulating your dog, please make sure that the collar is **NOT** on the dog *while setting the jump level*.

**Rise** stimulation will gradually increase the current intensity level up to the maximum intensity level (level 50) while the rise button is being pressed. The intensity level will return to its original setting when the button is released.

When the appropriate intensity level is difficult to determine, the trainer can hold the Rise button down until the dog gives a desired reaction.

**WARNING** - Do not press and hold unless your dog's actions and reactions are within view.

# TESTING TRAINING FUNCTIONS

**NOTE** - Before testing, make sure that all units are fully charged and the handheld unit and collar unit(s) are ON. If the collar unit being tested is not displayed on the handheld unit, the collar unit must be added to the handheld unit (see pg. 63). If the collar unit appears gray on the screen, the collar unit is OFF.

**WARNING** - Do not perform testing while your dog is wearing the collar unit. Use the Test Lamp for testing.

## To Test the Remote Training Functions:

1. Place the test lamp firmly on the contacts of the Collar Receiver.
2. Set the intensity level to 10 or greater (lower levels may not activate the lamp).
3. Press the Nick ('N'), Continuous ('C'), Jump ('J'), or Rise ('R') buttons. The test lamp will flash when stimulation is activated. (lamp will be brighter at higher intensity levels).
4. Press the Vibrate ('V') button. The collar unit should vibrate.

**NOTE** - If you have more than one collar unit programmed to your handheld unit, press Dog ('D') to switch collar units and repeat the procedure.

6

# Marking Waypoints

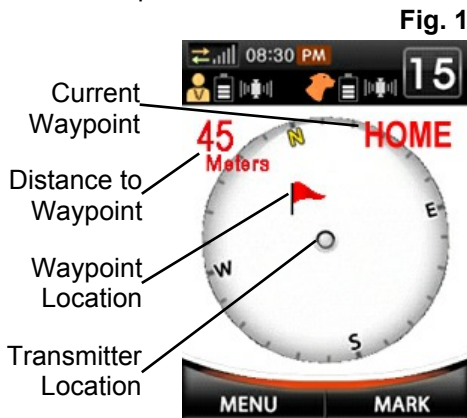
# MARK OVERVIEW

The D.E. Systems “Border Patrol” GPS Mark function allows a user to mark a GPS Waypoint and find that Waypoint at a later time. It can also help a user to find a marked Fence Center of the stored GPS Fence.

## Features:

1. Save up to 4 Waypoints (General, Car, Home, Other).
2. If the Fence is active, the Fence Center is automatically saved as a Waypoint.
3. Though not a true tracking device, Mark View provides tracking from your current location to the Waypoint (*see fig. 1 below*).
4. All training functions are available in the Mark mode.
5. Press Left directional key to quickly switch between Mark View and Training View, or go through the MENU options.

**NOTE** - Keep handheld unit parallel to the ground for accurate compass readings. GPS signal is required for this feature (*see pg. 29 for more information on acquiring a GPS signal*).





# MARK CURRENT LOCATION

## To Mark Current Location

1. Press the **MARK** button.
2. Select **General**, **Car**, **Home**, or **Other** and press the **ENTER** button (see fig. 1 below). Only one Waypoint per category can be stored.
3. A text window will pop up indicating the Waypoint has been saved. Press **ENTER**.
4. A list of saved Waypoints will appear along with the time and date they were saved. An active Fence Center is automatically on this list (see fig. 2 below).
5. Press **BACK** to go back to Training screen or select a Waypoint for further options (see pg. 58-59).

**CAUTION** - If a Waypoint already exists, it will be deleted and overwritten if a new Waypoint of the same type is saved (General, Car, etc.). Be careful not to lose important Waypoints when saving new ones.



# FIND PREVIOUSLY MARKED WAYPOINTS

## To Find Previously Marked Waypoint

1. Press the **MARK** button.
2. Select **Find Mark** and press the **ENTER** button.
3. Highlight the desired Waypoint and press **ENTER** or **OPTION** (see *fig. 1 below*).
4. Highlight **Goto** and press **ENTER** (see *fig. 2 below*).
5. The next screen will show the Waypoint with a flag. Direction and Distance from the transmitter will be shown on the screen (see *fig. 3 below*).
6. To cancel finding the Waypoint, press **MARK** and select **Stop Search**.

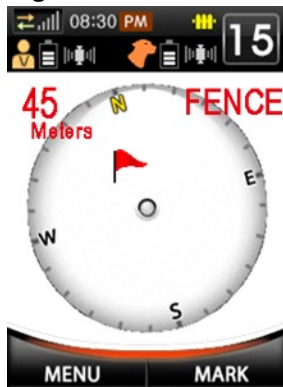
Fig. 1



Fig. 2



Fig. 3



# EDIT / DELETE MARKED WAYPOINTS

## To Edit Name of Previous Waypoints

1. Press the **MARK** button.
2. Select **Find Mark** and press the **ENTER** button.
3. Highlight the desired Waypoint to edit and press **ENTER** or **OPTION**.
4. Highlight **Edit Name** and press **ENTER**.
5. Edit the name with the keypad that appears and press **OK** (up to 6 characters max).

## To Delete Previous Waypoints

1. Press the **MARK** button.
2. Select **Find Mark** and press the **ENTER** button.
3. Highlight the desired Waypoint you wish to delete and press **ENTER** or **OPTION**.
4. Highlight **Delete** and press **ENTER**.
5. The Waypoint will be removed from the Waypoint list.



**7**

**Setup**

# SETUP OVERVIEW / SYSTEM

## To get to Setup:

1. Click on **MENU**.
2. Highlight **Setup** and press **ENTER**.

**Setup:** Customize handheld unit and collar settings (see *fig. 1 to right*).

**Collar:** Add, edit, and delete collar units.

**GPS/RF:** View and adjust GPS settings and RF channel settings.

**Compass Calibration:** calibrate the internal compass on the handheld unit (see *pg. 30*).

**Alerts:** Activate and deactivate alerts.

**Display:** Adjust Power Save, Units of Measure, Time & Date, Time Zone, and Screen Brightness.

**System:** Factory reset and Unit Information.



Fig. 1

## SYSTEM

**MENU** → **Setup** → **System**

**Factory Reset:** Restores all settings to factory default settings. **All user-saved information will be lost.**

**Information:** Displays model name, software version, and manufacturer information.

# ADDING A COLLAR UNIT

The D.E. Systems Border Patrol TC1 can support up to 5 collar units at a time. All collar units must be added and registered to the handheld unit.

1. Turn on the handheld unit.
2. On the collar unit, press and hold the power button for approximately 8 seconds until the Green LED is solid. It is now in the registering mode and will remain in the mode for about 8 seconds.
3. On the handheld unit, select **MENU** → **Setup** → **Collar**.
4. Then select **Options** → **Add** and press **ENTER**.
5. The handheld unit will search for the collar (see fig. 1 below).
  - If an error message appears, start the procedure over.
  - If a collar sync number appears, go to next step (see fig. 2 below).
6. Press **YES**, and enter the Collar Name.
7. The collar unit will power off when successfully added. Manually restart the collar unit.

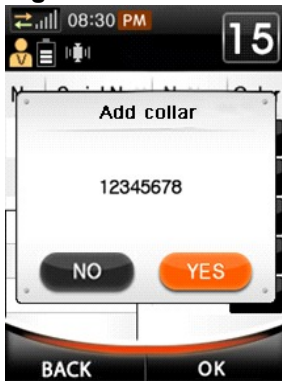
**NOTE** - Collar Color is automatically assigned. To edit Collar Name and Color, see pg. 64.

**WARNING** - Test all collar units before use (see pg. 54).

Fig. 1



Fig. 2



# EDIT NAME & COLOR / DELETE COLLAR

## To Edit Collar Name:

1. Navigate to **MENU** → **SETUP** → **COLLAR**.
2. Highlight desired collar from list, then select **OPTION** → **Edit Name**.
3. Key in desired name and select **OK** (see fig. 1 below).

## To Edit Collar Color:

1. Navigate to **MENU** → **SETUP** → **COLLAR**.
2. Highlight desired collar from list, then select **OPTION** → **Edit Color**.
3. Select desired color and press **OK** or **ENTER** (see fig. 2 below).
4. Press **BACK** to switch to Training View, where the collar name and color will appear. The collar will be gray if the unit is turned off.

## To Delete a Collar:

1. Press **MENU** → **SETUP** → **COLLAR**.
2. Highlight desired collar to delete from list, then select **OPTIONS** → **Delete**.
3. Press **ENTER**, and confirm deletion.

Fig. 1



Fig. 2





# GPS / RF

Your D.E. Systems Border Patrol TC1 unit requires a GPS signal to determine position and a Radio Frequency (RF) signal to communicate between the handheld unit and collar unit(s).

**MENU** → **Setup** → **GPS/RF** →

**GPS:** Activates/deactivates the reception of GPS signals in both the handheld unit and collar unit(s). GPS signal must be ON for Fence and Mark functions. Highlight the box and press Left or Right keys to cycle between **ON** or **OFF** (see fig. 1 below).

**NOTE** - The Training mode does not require a GPS signal. Turning GPS OFF will consume less battery power.

**Ping Rate:** The interval of time that passes before the handheld unit and collar unit communicate (“ping”) with each other to determine position. Highlight the box and press Left or Right key to cycle between **3, 5, 8, 10, 15, 30, or 60** seconds.

Manually “ping“ by pressing the Ping “PG” Key (Right Directional Key).

**NOTE** - A majority of battery consumption is used by the two units “pinging” one another. Conserve battery life by increasing the “ping” value.



# GPS / RF

MENU → Setup → GPS/RF →

**RF channel:** The radio frequency channel used between the handheld unit and the collar unit for GPS communications and sending/receiving Training functions. Highlight the box and press Left or Right key to cycle between channels **1** through **6**.

**NOTE** - If there is interference from outside sources or if the signal is not clear, the RF channel may need to be changed. This setting rarely needs to be changed and should only be considered if there is outside interference.

**Satellite:** Allows user to view available satellites and reception of specific satellite signals. It also shows the current Latitude, Longitude, and Altitude of the handheld unit (see fig. 1 to right).

**NOTE** - H-value measures the GPS signal strength that the handheld unit is receiving. The lower the H-value, the stronger the signal. An H-value of 2.0 or less is recommended. A higher value may give less accurate GPS-related information.

Fig. 1

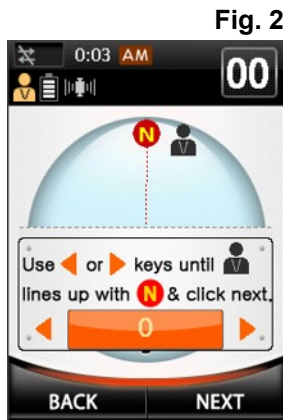


# GPS / RF

MENU → Setup → GPS/RF →

**Geo-Mag. Compensation:** Allows the user to adjust the compass readings for magnetism according to location for more accurate tracking. GPS technology utilizes compasses in order to track direction. However, Actual North is a constant, calculated direction while Magnetic north varies according to different variables such as location, magnetism, etc. Adjusting for these geo-magnetic variables gives a more accurate representation of the direction when tracking.

1. Stand in an open area where you can travel at least 40 yards north.
2. Highlight **Geo-Mag. Compensation** and press **ENTER**.
3. Set your position as the Center Point and press **ENTER**.
4. Turn until the Red Circle (Actual North) lines with 'N' on the compass and walk 40 yards north (see fig. 1 to right). Press **NEXT**.
5. Use Left and Right keys to line up the "Man" icon with the Actual North line (see fig. 2 to right). Press **NEXT**.
6. Press **OK** to save.



# ALERTS

Your handheld unit can give alerts on the collar unit's status (see pg. 45 for Fence). These alerts can be turned ON or OFF by highlighting and toggling these options in the box next to the alert (see fig. 1 below).

## MENU → Setup → Alerts

**Warning Zone:** Alerts when the collar unit enters the Warning Zone of the Fence.

**Stim Zone:** Alerts when the collar unit enters the Stim Zone of the Fence.

**Fence Breach:** Alerts when the collar unit has left the Fence area.

**Lost GPS Signal:** Alerts you when the collar unit has lost its GPS signal. Warnings and Stimulations will be deactivated if GPS signal is low or lost.

**NOTE** - Once selections have been completed, press **BACK** to go back to the **Setup** menu or **END** to return to the Training/Fence/Mark home screen.



Fig. 1

# DISPLAY

**MENU** → **Setup** → **Display** →

**Power Save:** The amount of idle time (in sec.) before the screen turns off to conserve power. Highlight the Power Save box and press Left or Right keys to cycle between **5**, **10**, **30**, **60**, or **NEVER** (see fig. 1 below).

**Unit:** Choose **Yards** or **Meters** as the default unit of measure. Highlight the Unit box and press Left or Right keys to select Yards or Meters.

**Time Zone** (GPS Signal required): Choose appropriate Time Zone. Set the **Time Zone** before setting **Date & Time**, otherwise date & time will be re-adjusted according to the time zone.

**Date & Time** (GPS Signal required): Date will be determined by GPS. However, if time need to be adjusted due to daylight savings, it may be adjusted accordingly.

**Backlight Brightness:** Highlight the box and press the Left key to decrease screen brightness or the Right key to increase screen brightness. Lower brightness will consume less power.

**NOTE** - Once selections have been completed, press **BACK** to go back to the **Setup** menu or **END** to return to the Training/Fence/Mark home screen.

**Fig. 1**





# 8

# Troubleshooting, FAQ, Maintenance, Warranty & Repair

# TROUBLESHOOTING

<b>Problem</b>	<b>Action</b>
<b>Unit is not turning on.</b>	<ol style="list-style-type: none"><li>1. Check to make sure the battery is properly seated in handheld unit (<i>pg. 76</i>).</li><li>2. Recharge handheld &amp; collar units (<i>pg. 26</i>).</li><li>3. Check to see if rechargeable battery needs replacement (<i>pg. 22</i>).</li></ol>
<b>Handheld Unit shows full battery but is not charging and does not turn on.</b>	<ol style="list-style-type: none"><li>1. Remove the battery, plug the charger into Handheld Unit, then reinstall the battery while the charger is still plugged into the Handheld Unit.</li></ol>
<b>Experiencing outside interference.</b>	<ol style="list-style-type: none"><li>1. Avoid Obstructions and Magnetic Interference (<i>pg. 66</i>).</li><li>2. Refer to changing channel (<i>pg. 66</i>).</li></ol>
<b>Dog is not responding to Stimulation.</b>	<ol style="list-style-type: none"><li>1. Check to see that both units are powered on and battery has full charge (<i>pg. 28</i>).</li><li>2. Test both units at differing ranges (<i>pg. 54</i>).</li><li>3. Check for properly fitted collar (<i>pg. 32</i>).</li><li>4. Increase stimulation level (<i>pg. 33</i>).</li></ol>
<b>Unit(s) will not pick up GPS signal.</b>	<ol style="list-style-type: none"><li>1. Avoid Obstructions and Magnetic Interference (<i>pg. 29</i>).</li><li>2. Restart Handheld Unit AND Collar Unit and wait 5 minutes. Restart 3-4 times until signal acquired.</li></ol>



# TROUBLESHOOTING

Problem	Action
<b>Fence Boundaries are not accurate.</b>	<ol style="list-style-type: none"><li data-bbox="388 184 968 313">1. Fence Center and Boundaries should Avoid Obstructions &amp; Magnetic Interference as these cause an increased inaccuracy of GPS points (<i>pg. 29</i>).</li><li data-bbox="388 313 968 381">2. Acquire a better GPS Signal, making sure the H-value is below 2.0 (<i>pg. 66</i>).</li><li data-bbox="388 381 968 474">3. Test Fence Center and Boundary, making sure to mark off physical boundaries (<i>pg. 47</i>).</li></ol>
<b>Tracking is not accurate.</b>	<ol style="list-style-type: none"><li data-bbox="388 500 968 531">1. Please Calibrate the Compass (<i>pg. 30</i>).</li><li data-bbox="388 531 968 562">2. Align Actual North (<i>pg. 44</i>).</li><li data-bbox="388 562 968 629">3. Avoid obstructions and Magnetic Interference (<i>pg. 29</i>).</li><li data-bbox="388 629 968 692">4. Perform Geomagnetic Compensation (<i>pg. 67</i>).</li></ol>
<b>The range seems diminished.</b>	<ol style="list-style-type: none"><li data-bbox="388 712 968 774">1. Make sure the handheld unit RF antenna is securely in place.</li><li data-bbox="388 774 968 837">2. Make sure the collar unit RF antenna is not bent or broken.</li><li data-bbox="388 837 968 904">3. Avoid obstructions/electrical interference and/or change RF channel (<i>pg. 66</i>).</li><li data-bbox="388 904 968 971">4. Make sure the batteries are fully charged (<i>pg. 26</i>).</li></ol>

# FAQ

Question	Answer
<b>How long do I need to charge unit?</b>	It takes about 7 hours to fully charge your unit. The handheld unit and collar unit will indicate when charging is complete (see pg. 26). Though your unit will go into a trickle charge, we recommend you take your unit off the charger as soon as when recharging is complete.
<b>How long does a full charge last?</b>	On average, the handheld unit will last approximately 6-12 hours and the collar unit will last approximately 12-24 hours depending on use, care, and condition of the batteries.
<b>How long is the usable life of the batteries?</b>	The rechargeable batteries in your system will last about 2 to 5 years depending on use and care.
<b>What is the range?</b>	The Training functions have a maximum range of 2 miles, line of sight with no obstructions or interference. The Fence has a Maximum radius of 800 yards from Center.
<b>Is the system waterproof &amp; salt-waterproof?</b>	The collar unit is waterproof. The handheld unit is water-resistant (not waterproof). Always rinse collar with fresh water and allow to dry after use in water, especially saltwater which can cause premature corrosion.

# FAQ

Question	Answer
<b>Does the handheld unit have to be powered ON?</b>	The handheld unit will need to be powered ON to create your Fence Boundary, to train, and to mark/find Waypoints. However, the Fence is still active if the handheld unit is powered OFF and the Fence was not deactivated. Once the collar units have been powered OFF, the fence will deactivate for that specific collar.
<b>Why is my dog's skin Irritated under the contact points?</b>	Placing the collar unit in the same place for extended periods of time may cause sores/caluses where the contact points are rubbing on the skin. Do not place the collar unit in the same exact place every time. Do not leave the collar unit on your dog more than 12 hours at a time.
<b>When should I calibrate the compass?</b>	Calibrate the compass any time you power ON handheld unit again or arrive at new location to get the most accurate readings.
<b>Can I use the collar unit and a leash together?</b>	Do not use collar unit together with a leash to prevent damage to the collar unit.

# MAINTENANCE

Periodically clean your **Border Patrol TC1** system for maximum performance. Regular cleaning will also lengthen the life of your unit.

1. Clean the **Border Patrol TC1** collar box, belt and buckle with lukewarm water and a mild anti-bacterial soap.
2. Thoroughly clean the space between the electrodes and the belt.
3. Always allow the unit to completely dry before using.

**NOTE** - It is recommended that the collar unit be rinsed with fresh, clean water after use in wet conditions, especially in salt water.

## Storing Your System for Extended Periods

Remove battery from the Handheld Unit. Give your system a full charge and test your system (see pg. 54) once every 4 to 6 weeks.

## Battery Replacement for Handheld Unit

The Li-Ion batteries will last about 2-5 years depending on use and care.

1. Unscrew Battery Cover Locking Screw and remove Battery Cover.
2. Remove old battery and insert new battery with terminals pointing towards the top of the Handheld Unit and the positive terminal on left.

**CAUTION** - We recommend sending the Collar Unit in for battery replacement. Opening your collar unit will void your warranty.

## Micro SD Card

There is a Micro SD Card slot underneath the handheld unit battery. It is for factory use only. DO NOT USE THE MICRO SD CARD SLOT AS THIS MAY VOID YOUR WARRANTY.

## WARRANTY & REPAIR

All **D.E. Systems Border Patrol TC1** systems have a one year parts and labor warranty effective from the original date of purchase. A copy of the original sales receipt is required to validate the date of purchase. The **Border Patrol TC1** has been made with State of the Art equipment. Any fine adjustment should be performed only by D.E. Systems' technicians.

**NOTE** - Warranty covers manufacturer's defects only. It does not cover damage caused by misuse or abuse.

Should any problems occur with your unit, please contact the D.E. Systems Customer Service center for troubleshooting before returning your unit.

**Call Mon-Fri 9 a.m.-5 p.m. CST:**

888-588-8364 or 214-350-9446

**Email 24/7:**

*customerservice@dogexpeditionssystem.com*

If your unit needs to be returned to D.E. Systems for any maintenance or repairs please send it to:

**D.E. Systems**  
**2872 Walnut Hill Lane**  
**Dallas, TX 75229**

Please include your entire unit and a note that has your name, address, daytime phone number, email, and a description of your problem. Include a copy of a dated receipt for warranty repairs.

# TERMS OF USE & LIABILITY LIMITATIONS

1. **Terms of Use** - Use of this product assumes acceptance by the user of all terms, conditions and notices contained within this manual. D.E. Systems also reserves the right to change these terms, conditions and notices at any time.
2. **Proper Use** - This product was designed for dog containment and training only. Do not use this product for anything other than its intended purposes. It is the user's responsibility to determine whether or not it is safe and appropriate to use with his or her dog. Please read this manual and the training manuals in their entirety for correct operation of this product.
3. **Unlawful Use is Prohibited** - This product is intended for use with dogs only as a wireless containment system and remote training system. Using this product in any way other than its intended purpose could result in a violation of local, State and/or Federal laws.
4. **Usage Agreement** - Usage of product implies agreement that product may anonymously collect, use, and store location data.
5. **Software Agreement** - Usage of product implies agreement that you are granted a limited license to use software embedded in this device. Ownership rights, Title, and intellectual property rights to the software belong to D.E. Systems. You acknowledge that this product's software is a valuable trade secret and agree not to decompile, modify, disassemble, reverse engineer, or create derivative works of this software.
6. **Liability Limitations** - D.E. Systems will not be held liable for any damages, injury, death or any other undesired result of using this product, whether used properly or improperly. The user of this product assumes all risks and liability of using this product.

# FCC & IC COMPLIANCE

Your **D.E. Systems Border Patrol TC1** has been manufactured under complete compliance with Part 15 of the Federal Communication Commission (FCC) rules and Industry Canada (IC) Standard RSS-310. The complex internal structure of each product has been designed to operate within specific regulations of FCC specifications. Any changes or modifications not expressly approved by the manufacturer is a violation of these specifications and could void the user's authority to operate the equipment.

*This device complies with Part 15 of the FCC rules subject to the following two conditions:*

- 1. This device may not cause harmful interference.*
- 2. This device must accept all interference received, including interference that may cause undesired operation.*

*Note: 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 Category II radiocommunication device complies with Industry Canada Standard RSS-310. (902-928 Mhz)*

*Ce dispositif de radiocommunication de catégorie II respecte la norme CNR-310 d'Industrie Canada. (902-928 Mhz)*



*D.E. Systems  
2872 Walnut Hill Lane  
Dallas, Texas 75229  
888-588-8364 or 214-350-9446*

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