Astro 220

DC 20

Dog Harness with DC 20 installed
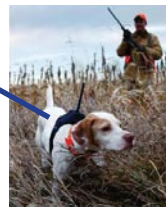
Contents of Your Astro Dog Tracking System Package

- Astro 220 GPS receiver and radio receiver
- DC 20 GPS receiver and radio transmitter
- DC 20 dog harness
- DC 20 collar attachment plate
- DC 20 vehicle DC charging assembly
- DC 20 AC charging assembly
- Astro 220 wrist strap
- Astro 220 belt clip
- Astro 220 antenna base cover (when the Astro 220 is used without the VHF antenna)
- USB cable (for data transfer to and from the Astro 220 and a computer)
- Garmin Trip and Waypoint Manager CD
- Owner's manual (stored under the case foam padding)
- Setup guide with quick reference (stored under the case foam padding)
- Carrying case
- Items you must provide: (2) AA batteries (required to power the Astro 220), dog training e-collar and small Phillips screwdriver (if installing the DC 20 as a collar mounted device)

NOTE: If you have purchased a separate DC 20 for tracking an additional dog, that unit is supplied with a vehicle DC charging assembly, AC charging assembly, collar attachment plate, and dog harness.

This guide takes you through the basic steps for starting up and using your Astro System for the first time. The *Astro 220 Owner's Manual* provides detailed instructions for using your Astro System in the field.

VHF antenna

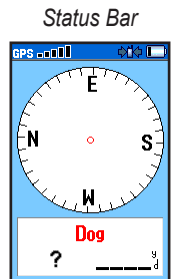## ❶ Install batteries in the Astro 220

1. Remove the battery compartment cover from the back of the Astro 220 and insert two AA batteries into the compartment, observing polarity markings in the compartment.
2. Be certain the VHF antenna is attached and snug.

❷ Turn on the Astro 220 and DC 20 to allow them to initialize

1. Take both units outdoors to get an unobstructed view of overhead GPS satellites to determine their locations.
2. Press down and hold the Astro 220 **POWER** key, located between the two antennas on the top of the unit, until the unit turns on.
3. Press and hold the **POWER** key on the end of the DC 20 until the red LED illuminates.

4. The Dog Tracker page with a status bar at the top appears. When three or more GPS signal strength bars are filled, the units determine its location. This should take no more than two minutes the first time you initialize the unit. After this, it should take seconds.

Status Bar

Dog Tracker Page

❸ Calibrate the Compass

Before tracking your dog, it is important to calibrate the Astro 220 internal compass to ensure accuracy. Do this outdoors and away from large metal objects, such as automobiles and buildings.

1. Press **DOG** to open the Dog Tracker page.
2. Press **MENU**, use the **Arrow** (**ROCKER)** key to select **Calibrate Compass** and press **ENT** (**ENTER)** to show the Compass Calibration page.
3. Follow the calibration Wizard instructions for calibrating the compass by slowly rotating it in a level position. Press **ENTER** to start calibration and **ENTER** again when calibration is completed. It is recommended that you calibrate the compass after periods of storage, battery change, or temperature changes exceeding 20° F.
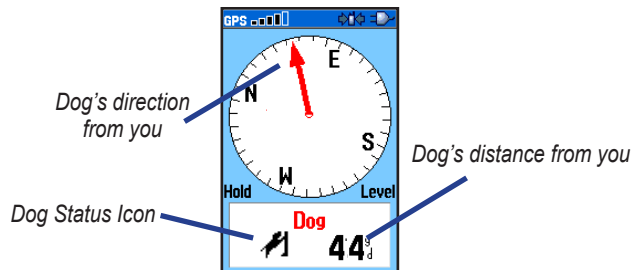
Hold the unit level and turn slowly.

➍ Allow the DC 20 to communicate with the Astro 220

The DC 20 is shipped from the factory already added to your Astro 220 Dog List and the battery is charged to approximately 50% of full capacity, so you can use it immediately. Make certain the VHF antenna is attached and snug.

1. Observe the blinking red LED, indicating power is on. After the DC 20 has initialized (determined its GPS location) the LED then double blinks.

2. The Dog Tracker page compass pointer points in the direction of the dog and titles it "Dog". The location updates every 5 seconds.

LED blinks red when power is on.

DC 20 power key

Dog's direction from you

Dog's distance from you

Dog Status Icon

3. To check for communication and good GPS signal reception, while on the Dog Tracker page, press the **ENTER** key on the Astro 220 to view the Dog Info page. This page contains information about the dog such as: name, state of activity (running, on point, treed, sitting, and "unknown?" if no status can be determined), distance from your location, distance traveled, and average speed. It also provides data about the DC 20 transmission update rate, unit ID, battery capacity, communication signal strength, and strength of the GPS signal being received by the DC 20. Red bars indicate a weak signal while green bars indicate a strong signal.

4. Buttons at the bottom of the page allow you to route to the dog's last location, view that location on the Map page, and reset distance traveled and average speed data for your dog.

NOTE: If you have purchased additional DC 20 Dog Units, they may be added to the Astro 220 Handheld Unit dog list to allow multiple dog tracking as explained in the Astro 220 Owner's Manual.
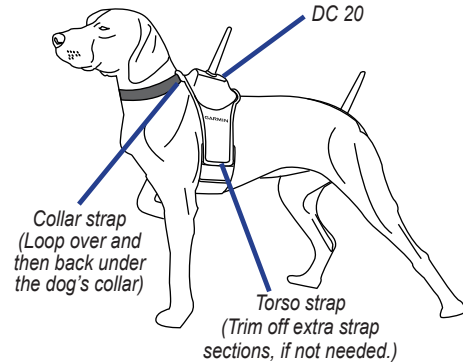
❺ Attach the DC 20 to Your Dog

Initially, use only one DC 20 and dog to learn how to use the Astro Dog Tracking System before taking it into the field. Before using it in an actual hunt, it is recommended that you fully charge the DC 20. (See the Owner's Manual.) Do not operate the DC 20 without the antenna attached, as damage can occur.

Using the DC 20 with the Dog Harness

1. Remove the collar attachment plate, if already attached, from the base of the DC 20. Make certain the DC 20 is on and is communicating with the Astro 220.
2. Lay out the dog harness upside-down and separate the hook and loop closure revealing the pocket for the DC 20.
3. Insert the DC 20, antenna first. Orient the DC 20 so that it will be in line with the dog's spine when the harness is attached and the Power key and LED are visible through the opening in the harness.

4. Open the collar strap and extend it out. Facing the dog, slide the end of the strap under the collar.
5. Fip the harness over onto the dog's back and fasten the strap in place under the harness.

DC 20

Collar strap (Loop over and then back under the dog's collar)

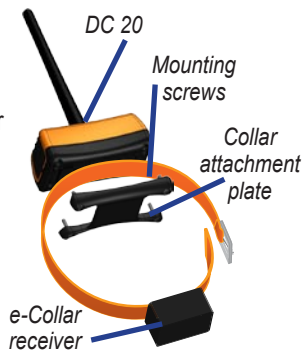*Torso strap (Trim off extra strap sections, if not needed.)*

6. Position the harness just behind the dog's shoulders with the collar strap extended from the dog's collar. Then wrap the torso straps under the dog's chest and connect the hook and loop portions until snug enough to prevent shifting.

7. Check the fit of the harness for proper position (the DC 20 must have its antenna vertical, on top of the dog, otherwise communication and GPS signal performance may be compromised). Readjust as necessary.

Using the DC 20 with a Training Collar

If you plan to use a training collar with your dog, the DC 20 is designed to mount on a one inch collar strap. It uses the collar mounting plate and uses the collar receiver as a counter-balance for positioning the unit at the top of the collar. Collar mounting without a counter-balance can hinder the dog's movements and result in poor transmission reception.

1. Loosely attach the collar attachment plate on the base of the DC 20.
2. Thread the open end of the collar strap between the DC 20 and Collar Attachment Plate.
3. Position the DC 20 180° from the collar receiver which serves as counter-weight.
4. Tighten the four screws on the attachment plate until the DC 20 is held securely on the collar.
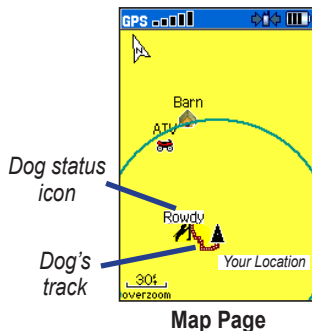

DC 20

Mounting screws

Collar attachment plate

e-Collar receiver

5. Attach the collar to the dog and position the DC 20 on the top of the neck. Make sure it is snug to avoid slippage.

❻ **Begin Tracking Your Dog**

Now that you have the DC 20 attached to your dog and have established communication, you can begin tracking. The large **ROCKER** key on the front of the unit allows you to move the on-screen cursor from field to field. Press **ENTER** to confirm a selection.

1. With the Astro 220 turned on, and a GPS location established, press the **DOG** key to view the Dog Tracker page. This page shows a status bar with icons for GPS signal strength, receiving communication, and battery capacity icons; it also has a compass with pointer that indicates the direction of each dog being tracked from your current location; a list of dogs with a status icon and the distance away from you. When your dog is within 30 feet, the Dog Tracker page shows a NEAR message. Hold the Astro 220 level while tracking to ensure accurate direction indication.
2. To view detailed information about your dog, press **ENTER** to open its Dog Info page.

3. To view the dog's location on the Map page, use the **ROCKER** key to highlight the **MAP** button on the bottom of the Dog Info page and press **ENTER**. The map shows the last reported location of the dog (which constantly updates as the dog moves), and a "track" of the dog's movements. Adjust the map scale using the **IN** and **OUT** keys. A map scale appears in the lower-left side of the page. If the dog is near you, your location is represented by a black pointer icon and a colored line shows your movements. Hold the Astro 220 level while viewing this page.

Dog status icon

Dog's track

Map Page

4. To pause or resume tracking, press **DOG** to open the Dog Tracker page. Press **MENU** to view the options list. Select **Pause All Tracking**, and then press **ENTER**. To resume tracking, highlight **Resume** and press **ENTER**.

Now that you have learned the basics of tracking a dog with the Astro System, read the owner's manual and discover how to:

• Add more dogs to the tracking list.
• Customize each dog's tracking characteristics.
• Use the GPS navigation features of the Astro 220.
• Load detailed map data on the Astro 220.
• Use accessory features like Hunting Almanac and Sunrise/Sunset.
• Set up Astro 220 features to your personal preferences.
• Show and save tracks of both you and your dog's movements.
• Use navigation utilities like the compass, altimeter, trip computer, highway page, proximity alarms, routes, and the satellite page.
• Use the Find feature to locate saved waypoints, cities, street addresses, restaurants, fuel services and more. Use Garmin MapSource detailed mapping data, downloaded to a microSD card that you can purchase and install in the Astro 220.

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