



STAR TRAC®

Star Trac Group Cycling Computer Owner's Manual and Installation Guide



700-0008



NOTE: When printing this manual from a PDF file, print using “booklet” style printing to print a folded, 5.5” x 8.5” manual on 8.5” x 11” sheets.



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Certifications

Federal Communication Commission Interference Statement

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Changes or modifications not expressly approved by Star Trac could void the user's authority to operate the equipment

FCC ID: QSWASPDSCS

EU Declaration of Conformity

This device complies with the essential requirements of the R&TTE Directive 1999/5/EC.

This computer is ANT+ certified.



NOTE: The users' device must be ANT+ compatible and capable of receiving the data files broadcast by the ANT+ chip. Users should consult with the documentation for their device, or check the ANT+ website at www.thisisant.com for compatibility.





Specifications

Features:

- ANT+ 2.4 Ghz and 5.4 Khz analogue wireless heart rate receiver technology
- Low power consumption for long battery life
- Coded memory during battery replacement
- On-screen data display:
 - Cadence
 - Heart rate, average heart rate, % of maximum heart rate
 - Session time, KCALS, and distance
 - Low battery indicator
- Scan function to scan between session time, KCALS, and distance
- Advanced energy expenditure algorithm for personalized KCALS (Calories)
- Bright LED screen backlight

General:

- ANT+ cadence sensor data profile
- Batteries Required
 - Console: (3) AAA batteries
 - Cadence sensor receiver: (1) CR2032 lithium coin cell battery
- FCC ID: QSWASPDSCS
- CE Compliant
- ANT+ Certified
- RoHS Compliant

**Group Cycling Computer Kit Contents****Table 1**

Item	Description	Qty
1	Group Cycling Computer	1
2	AAA batteries	3
3	M5 x 10mm screws, computer mount	3
4	Rubber computer mount pad	1
5	M5 x 10mm screws, back plate mount	4
6	Flat computer mount bracket	1
7	Flat computer mount back plate	1
8	M5 x 30mm screws, back plate mount	4
9	Spacers, back plate mount	4
10	Double-loop mount bracket	1
11	Single-loop mount bracket	1
12	M5 x 25mm screws, single-loop and double-loop mounts	2
13	Rubber pads, single-loop and double-loop mounts	4



14	Cadence sensor	1
15	Foam cadence sensor mount	1
16	Cadence sensor mount adhesive	1
17	Magnet mount	1
18	10mm x 5mm cadence sensor magnet	1
19	12.5mm x 3mm cadence sensor magnet	1

Tools Needed for Assembly (Not Included in the kit):

1. Philips head screwdriver
2. 3mm hex key



Group Cycling Computer Bracket Mount Compatibility

The Star Trac Group Cycling Computer is compatible with all Star Trac Studio series group cycling bikes, as well as older model bikes previously manufactured by Star Trac as indicated in the table below.

Table 2

Model Number	Model Name	Compatible Bracket Components
7280	Studio5	
7290	Studio7	
7170	NXT	
7230	NXT Black Belt	
7190	Blade	
7240	Blade Belt	
7160	Pro+	
7270	Studio3	
7150	Velo	
7270	Studio3	



Model Number	Model Name	Compatible Bracket Components
7090	NXT	
7000	NXT	
7070	Pro	
7080	Elite	



Computer Mounting Instructions

1. Locate the computer and cadence sensor transmitter (see Figure 1). Prior to installing the batteries, note the pairing code on the back of the computer and sensor. Use this number to check for proper pairing beginning in Step 2.



Figure 1

2. With cap removed - install TWO of the AAA batteries inside the computer (see Figure 2).

NOTE: Before installing the third battery, follow the instructions on page 19 for pairing the sensor to the computer.



Figure 2



3. After completing the steps to pair the sensor to the computer, install the third battery and close the battery bay cap (see Figure 3).



Figure 3

4. Place the rubber gasket on the back of the computer (see Figure 4).



Figure 4

5. Select the mount configuration from Table 2 that is appropriate for the model bike that the computer is being installed on, and attach the mount assembly to the back of the computer using four (4) M5 x 10mm hex head screws (See the examples below in Figure 5). When using the single-loop and double loop mounts, the rubber strips may be used inside the loops to make up for differences in handlebar tube diameter and loop diameter (See Figure 6 for an example).



Clamp Mount



Double-Loop Mount



Single-Loop Mount

Figure 5**Figure 6**

- Using the hardware listed in Table 1 that is appropriate for the specific mount being used, mount the computer to the handlebars of the bike. The following images show the computer mounted to the Star Trac Studio 3, Studio 5, and Studio 7. These mounting methods apply to all older models of Star Trac bikes as detailed in Table 2. Once the computer is securely mounted, proceed to the next section, “Cadence Sensor Installation” for instructions on mounting the cadence sensor and sensor magnet.



Star Trac Studio 3

Mounting the computer using the double-loop mount:

Note: The computer may be mounted on either of the two cross-bars on the Studio 3.



Figure 7

Star Trac Studio 5 and Studio 7

Mounting the computer using the clamp mount:



Figure 8



Cadence Sensor Mounting Instructions

Depending on the model of the bike on which the cadence sensor is being mounted, the sensor may be installed externally (on the bottom of the chain/belt guard), or internally (inside the chain/belt guard). Refer to Table 3 to determine if the sensor should be mounted externally or internally.

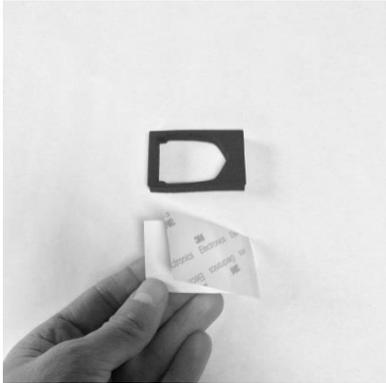
Table 3

External or Internal Mounting	Model #	Model
External	7270	Studio 3
	7170	NXT
	7230	NXT Black Belt
	7190	Blade
	7240	Blade Belt
	7160	Pro+
	7150	Velo
	7090	NXT
	7000	NXT
	7070	Pro
	7080	Elite
Internal	7280	Studio 5
	7290	Studio 7

External Cadence Sensor Mounting

Note: All steps for mounting the cadence sensor externally are shown on the Studio 3. The mounting steps are the same for older models that require external mounting as indicated in Table 3.

1. Carefully remove the adhesive tape backing and place the adhesive tape on the foam sensor mount block (see Figure 9).

**Figure 9**

2. Place the cadence sensor in the foam block with the battery cover facing upwards (See Figure 10).

**Figure 10**

3. If mounting the sensor magnet to the Studio 3 crank, or on an older model with narrow crank arms, trim the magnet holder to fit as shown in Figure 11.

**Figure 11**

4. Mount the magnet on the crank arm approximately where shown in Figure 12. Do not secure the magnet in place yet at this point with the magnet holder. Only secure the magnet in place once the magnet and sensor positions have been set in close enough proximity to verify that the computer is displaying an RPM reading.

Note: There are two sizes of magnets included in the kit. One is 5mm thick and one is 3mm thick. Depending on the model of bike, the amount of clearance between the crank arm and chain/belt guard may require the use of the thinner magnet.

**Figure 12**

5. Once the magnet has been placed, next stick the sensor assembly to the bottom of the chain guard as shown in Figure 13. The sensor and magnet must be in close proximity as shown in order for the sensor to detect the magnet. Once the sensor is in place, the magnet position can be adjusted slightly to pick up the magnet



signal. Verify on the computer that it is detecting the RPM signal by rotating the cranks while the computer is powered ON. Once the signal is verified on the computer, the magnet may be secured in place.



Figure 13

Internal Cadence Sensor Mounting on the Studio 5 and Studio 7

1. Carefully remove the adhesive tape backing and place the adhesive tape on the foam sensor mount block (see Figure 9).
2. Place the cadence sensor in the foam block with the battery cover facing upwards (See Figure 10).
3. Mount the magnet on the crank arm approximately where shown in Figure 14. Do not secure the magnet in place yet at this point with the magnet holder. Only secure the magnet in place once the magnet and sensor positions have been set in close enough proximity to verify that the computer is displaying an RPM reading.

Note: There are two sizes of magnets included in the kit. One is 5mm thick and one is 3mm thick. Depending on the model of bike, the amount of clearance between the crank arm and chain/belt guard may require the use of the thinner magnet.

**Figure 14**

4. Once the magnet's approximate position has been determined, open the inner (left side) belt guard on the bike by removing the four screws holding the belt guard in place (See Figure 15).

**Figure 15**

5. Stick the magnet sensor on the inner belt guard as shown for the Studio 5 (Figure 16) and Studio 7 (Figure 17).



Figure 16. Studio 5 Cadence Sensor Mounting



Figure 17. Studio 7 Cadence Sensor Mounting

6. The sensor and magnet must be in close proximity as shown in order for the sensor to detect the magnet. Once the sensor is in place, the magnet position can be adjusted slightly to pick up the magnet signal. Verify on the computer that it is detecting the RPM signal by rotating the cranks while the computer is powered ON. Once the signal is verified on the computer, the magnet may be secured in place.
7. Replace belt guard.



Pairing the Computer to the Cadence Sensor

1. Begin with one battery removed from the computer.
2. Insert the battery while pressing and holding any of the four buttons on the front of the computer. The display will now show the maintenance screen.
3. Press the Set button (*) which will show CAD in the middle display and E01 in the top display (see Figure 18).
4. Press the Set button (*) again, which will show CAD in the middle display, 0 in the top RPM display and 0000 in the bottom RPM display (see Figure 19).

NOTE: The bottom display may already show the pairing code, but this procedure should still be completed.

5. To pair automatically press the Mode button (≡). The 4-digit alpha-numeric code should match the code on the side of the cadence transmitter and the back of the computer (see Figure 20).



Figure 18

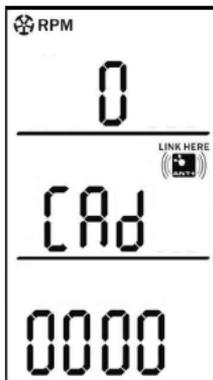


Figure 19

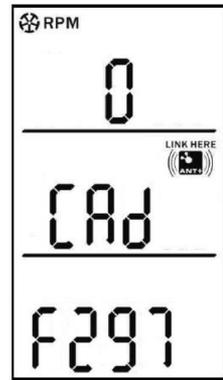


Figure 20

6. If needed, a manual pairing can be done by pressing and holding the Mode button (≡). The first digits of the 4 digit code (0000) should be flashing. Adjust the digit using the up (↗) or down (↘) button.
7. Press the Set button (*) after each digit has been paired to the transmitter.



8. Press the Set button (*) and select distance in kilometers (KM) or miles (Mile) by using the up (↗) or down (↘) button (see Figure 21).

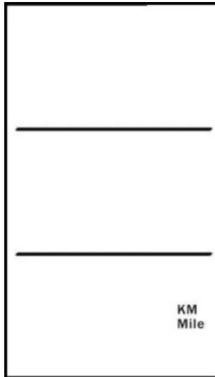


Figure 21

9. Press the Set button (*) to finish and begin exercise.

NOTE: Once the pairing has been completed, the code is stored in the onboard memory so that the code is retained during a battery change, avoiding the need to re-pair.



Pairing a Heart Rate Transmitter and Setting Personal Settings

1. Power up the computer by pressing any button.
2. Press and hold the Set button (*). This will display the heart rate and ANT+ symbol (See Figure 22).
3. For automatic pairing, press the Mode button (≈). This will display a four digit code below the heart rate (see Figure 23). In order to pair the heart rate monitor to the computer, you must be wearing the monitor, and be within 12 in. (30 cm) of the ANT+ symbol on the computer. ANT+ straps will display a four digit alphanumeric code. Analogue 5.3 KHz straps will display four numeric digits.

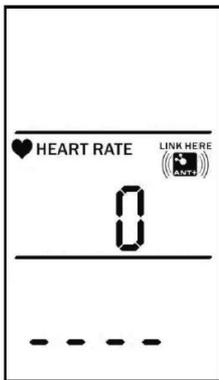


Figure 22

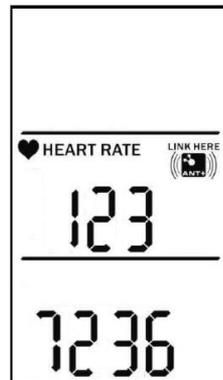
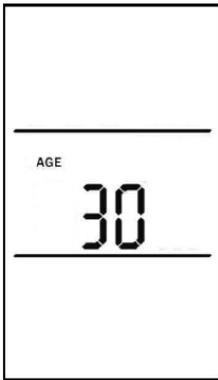
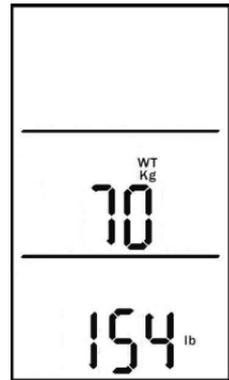


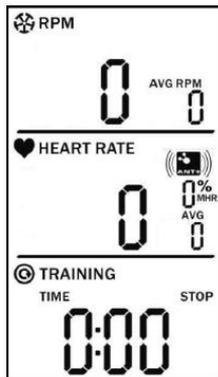
Figure 23

4. Once the heart rate monitor has been paired to the computer, press the Set button (*) to input personal data settings. The computer comes with the following three settings set to the following defaults:
 - a. Age (AGE): 30 (see Figure 24)
 - b. Ambient heart rate* (AHR): 70 bpm (see Figure 25)
 - c. Weight (WT): 70 kg / 154 lbs (see Figure 26)

*Ambient heart rate is your normal heart rate during the day when going about day-to-day activities, but not exercising.

**Figure 24****Figure 25****Figure 26**

5. In the age screen use the Up (↶) or Down (↷) button to set age. When complete, press the Mode (≡) button to move to the ambient heart rate screen.
6. In the ambient heart rate screen use the Up (↶) or Down (↷) button to set ambient heart rate. When complete, press the Mode (≡) button to move to the weight screen.
7. In the weight screen use the Up (↶) or Down (↷) button to set weight. The weight values in both units will adjust simultaneously. When complete, press the Mode (≡) button to move to the main screen (see Figure 27).

**Figure 27**



The personal data will be stored in the computer memory for as long as the computer is powered up. The data can be changed at any time during the exercise session by pressing and holding the Set button (*).

The heart rate transmitter must be paired to the computer whenever the computer is powered on and before the exercise session in order to achieve accurate data for the session.

The computer will shut off after five minutes of non-activity. When the computer shuts off, the personal data values return to their default values. The values must be set prior to the start of each new exercise session if the computer has been shut off.



Instructions on Using the Group Cycling Computer

The computer's main screen is divided into three sections (see Figure 27):

- RPM (top)
- HEART RATE (middle)
- TRAINING (bottom)

RPM

The RPM display shows the following data (see Figure 28):

- RPM: Cadence (rotational speed) of the crank
- AVG RPM: Average RPM of the training session
- Low battery indicator



Figure 28

HEART RATE

The HEART RATE display shows the following data (see Figure 29):

- Heart Rate in beats per minute
- %MHR: Percent of maximum heart rate, calculated using the formula $220 - \text{AGE}$ to estimate maximum heart rate
- AVG: Average heart rate for the training session



Figure 29

TRAINING

The training display shows the following data (see Figure 30):

- Training session time
- Training session KCAL (Calories)



- Training session distance traveled. Distance is calculated based upon the revolutions of the flywheel, and is calculated from the RPMs.



Figure 30

1. To start a training session, press the Start () button. This will start the timer. The timer must be running in order to measure KCAL and distance.
2. To pause a training session press the pause () button.
3. To reset the training session timer, press and hold the Mode () button.
4. To cycle through the data display, press the Mode () button.
5. To activate the scan feature, press the Mode () button three times. When the scan feature is activated, the display will cycle through the data at three second intervals.
6. To deactivate the scan feature press the Mode () button.
7. To illuminate the backlight press the Light button. The light button will illuminate for five seconds then turn off. This setting cannot be changed.

When powered on, the computer will remain on for five minutes with no activity.



Maintenance

Star Trac strongly recommends performing the regular daily, weekly, and monthly preventative maintenance actions outlined below in Table 4. If any items need replacement, contact Core Health & Fitness Customer Support at 800-503-1221 for North America, or go to support.startrac.com to find contact information for locations outside North America.

D = Daily, W = Weekly, M = Monthly

D	W	M	Action
✓			Wipe computer with a soft, non-abrasive cloth to remove all sweat after each use.
✓			Using a soft, non-abrasive cloth and mild spray cleanser, clean computer. Never use abrasive cleaning liquids, cleaning liquids with an oil base, ammonia, or alcohol when cleaning the computer.
	✓		Inspect each computer for loose parts or fasteners. Adjust as necessary
	✓		Remove and replace any computers that are damaged or deemed unsafe.
		✓	Inspect all components for any damaged pieces that need to be replaced.
		✓	Replace batteries when low-battery icon appears in the top section of the screen. Always use high-quality AAA alkaline batteries.
		✓	Inspect the cadence sensor transmitter and magnet to ensure they are in place and working properly.

NOTE: Depending on the amount of use, some actions may need to be performed more frequently.



Frequently Asked Questions

1. How do I turn off the computer?

The computer does not have a button to turn it off. The computer shuts itself off after five minutes of inactivity.

2. What are the personal data settings?

See page 21 through 23 for a description of the personal data setting and how to set them.

NOTE: Using the computer's default settings may not accurately represent your own caloric expenditure.

3. What are the computer's default personal data settings?

See page 21 for a description of the default settings

4. What if I do not want other riders to know my personal data settings?

Inputting your personal data is the most accurate method for calculating an estimate of caloric expenditure. This information will NOT be stored, and the computer will revert back to the default settings when it turns off. The computer will turn off five minutes after the riding session or when not in use for five minutes.

5. What is ambient heart rate (AHR)?

Ambient heart rate (AHR) is your normal heart rate during the day when you are going about your day-to-day activities, but not engaged in exercise or other physical activities that would cause your heart rate to rise. You can measure your ambient heart rate while you are sitting and reading a book, watching TV, working on the computer, etc. Take your ambient heart rate measurement three times over three days to determine your average ambient heart rate. Ambient heart rate for the general population is between 70 and 80 beats per minute, and for highly trained athletes can be as low as 40 to 60 beats per minute.

6. How does ambient heart rate (AHR) differ from resting heart rate (RHR)?

Resting heart rate (RHR) is your heart rate when you are in a complete state of rest. It is usually taken in the morning after waking and before arising from bed. Whereas ambient heart rate (AHR) is your normal heart rate during the day as you are going about your normal day-to-day activities.

7. In the Heart Rate display, what is %MHR?



The computer will automatically determine your estimated maximal heart rate (MHR) when you input your personal data during the setup. The %MHR display indicates exercise intensity using the formula $220 - \text{age}$ to represent maximum heart rate, and then current heart rate as a percentage of the maximum.

8. What do I do if the computer is not picking up my heart rate?

- Make sure the heart rate strap is fitted snugly at the bottom of your ribcage and that the sensors are slightly moistened.
- Follow the instructions on page 21 to pair your heart rate strap to the computer.
- Try changing the battery in your heart rate strap.
- Check the distance between your heart rate strap and the computer when pairing. You must be within 12 in. (30 cm) in order to pair.

9. Which heart rate monitors are compatible with the computer?

- 2.4 GHz ANT+ heart rate monitors. To see if your brand heart rate monitor is compatible, go to the product directory <https://www.thisisant.com/directory/star-trac-group-cycling-computer/> and check to verify that your monitor is compatible.
- 5.3 KHz uncoded heart rate straps (e.g. Polar®)

10. Why am I picking up another users heart rate on my computer?

When bikes and riders are too close together while wearing analog straps, it is possible to get crosstalk between the straps, where the signal from rider shows up on the computer for another rider nearby. Moving the bikes further apart should eliminate crosstalk. Using an ANT+ heart rate trap will also prevent crosstalk.

11. Why is the computer not scanning between time, KCAL, and distance?

The SCAN feature must be activated by pressing the Mode () button three times. When the feature is activated, SCAN will appear on the screen, and the computer will cycle through the data at three second intervals.

12. Why is the computer timer not working?

You must press the Start () button to start the timer. The timer may be in PAUSE mode if the timer has stopped. Press the Start button to return to timing.

13. What is the life of the batteries, and what factors affect the life of the batteries?



Battery life varies widely depending on use and will depend on frequency of use. Excessive use of the backlight will decrease battery life.

14. What batteries do the computer and cadence sensor transmitter use?

The computer requires three AAA alkaline batteries. The cadence sensor transmitter requires one CR2032 coin cell battery.

15. Can I display the data from the computer on an external leaderboard system?

Only the cadence transmitter can broadcast RPM data to external systems. The computer is not capable of transmitting data.





Contact Information

CORE HEALTH & FITNESS
4400 NE 77th Avenue, Suite 300
Vancouver, WA 98662
Telephone: (888) 678-2476
<http://www.stairmaster.com>

Customer Support

Contact your local distributor, or Core Health & Fitness directly at:

1-800-503-1221
Support@corehandf.com

Please supply the serial number of your machine and the date of purchase when you call. Use the space in the boxes below to write down this information. To find the serial number on your machine, refer to the Safety Warning Label information page.

Please record the following information for future reference.

Serial Number
Date of Purchase