



SCHWINN

Core Health & Fitness

MPower™ Echelon2 Console

OWNER'S MANUAL



TABLE OF CONTENTS



INTRODUCTION	3
SAFETY INSTRUCTIONS	4
Compliance and Certifications	5
Important Label Locations	6
SUPPORT AND SERVICE	7
INSTALLATION	7
CONSOLE INSTALLATION	8
CONSOLE FEATURES AND METRICS	9
Console Operation	11
Detailed Description of Ride Metrics	15
Expectations for average Power, Calories, and Distance	17
SERVICE MENU	18
TROUBLESHOOTING	23
PREVENTATIVE MAINTENANCE	26

INTRODUCTION



Congratulations on your purchase of the Schwinn MPower™ Echelon2 console! The Echelon2 console will add measurements to your Schwinn AC bike for an enhanced riding and training experience. The console and optional power upgrade is compatible with all Schwinn A.C.™ models of bikes.

Key features of the Echelon2 console:

Ease of use

- Press the ON/OFF button to activate the console and start riding with no minimum RPM requirements, or need to do rider calibration.

Improved Accuracy and Reliability of Power Measurements

- The optional power sensor gives the Echelon2 accuracy within a +/-5% margin of error.
- The 4iii Powermeter gives the Echelon2 accuracy within a $\pm 1.5\%$ margin of error.
- Easy calibration process.
- Calibration is not affected by bike position or movement.

Data-rich Display¹

- Numerous ride metrics that are all displayed on one screen with no need to scroll between multiple screens.
- Large, easy-to-read numbers.
- Multiple backlight and metric display options.

Connectivity

- Broadcasts the ANT+ FIT profile.
- Compatible with ANT+ 2.4 GHz and un-coded analog 5.4 KHz heart rate monitors.
- Broadcasts metrics from the console to external group cycling display systems, and compatible watches via the ANT+ protocols.
- USB port that allows riders to insert a USB stick (must be formatted to FAT32) and record ride data in Excel format.
- USB port also allows for easy uploading of new firmware.

Battery Life²

- Battery life with no backlight usage: 1,400 hours
- Battery life with 25% backlight usage: 1,100 hours (approximate)
- Battery life with 50% backlight usage: 800 hours (approximate)
- Battery life with 100% backlight usage: 240 hours (approximate)

¹ **NOTE:** Power, Calories, and distance are only displayed when the optional Echelon2 power sensor is installed.

² **NOTE:** Frequent backlight usage will dramatically affect battery life. Battery life may also be affected by the quality of the battery. Battery life tests were conducted using Energizer alkaline batteries, which are provided with every console kit. Battery life may be extended by using rechargeable NiMH C-size batteries.

SAFETY INSTRUCTIONS



This symbol indicates a potentially hazardous situation, which, if not avoided, could result in death or serious injury.

Before using this equipment, obey the following warnings:

- Children must not be allowed on or near a machine using this equipment. Moving parts and other features can be dangerous to children.
- Consult a physician before you start an exercise program. Stop exercising if you feel pain or tightness in your chest, become short of breath, or feel faint. Contact your doctor before you use the machine again. Use the value calculated or measured by the console for reference purposes only.
- If you have a pacemaker or other implanted electronic device, consult your physician before using a wireless chest strap or other telemetric heart rate monitor.
- Do not use or put the device into service until it has been fully assembled and inspected for correct performance in accordance with the Owner's Manual and Installation Guide.



Read and understand the complete Owner's Manual supplied with the device before using the device. Keep the Owner's Manual for future reference.



There is risk of explosion if the battery is replaced with an incorrect type. Dispose of used batteries according to the manufacturer's instructions.

Compliance and Certifications

FCC Compliance

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 a 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.

Note: That changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

FCC ID: 06RFIT1

DO NOT dispose of this product as refuse. This product is to be recycled. For information on the proper method of disposal, contact a Customer Service representative. For contact information see page 7. For additional information, please visit: www.SchwinnEquipment.com.

- This console is for indoor use only.
- This device conforms to European safety standards
- This console 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.

Patent Information: This product may be covered by US and foreign patents and patents pending.

Important Label Locations

FCC Warnings





The Schwinn Support website provides a wealth of resources to help you get the best experience from your Echelon2. It is important to check the website periodically for firmware updates, updated video content, Owner's Manual and Installation Instructions, Service Bulletins, and other information. The resources include:

- Contact number and email for Schwinn Technical Support.
Go to <https://support.corehandf.com/> for support information and information on all Schwinn products.
- Console firmware updates. <https://support.corehandf.com/Software/>
- Updated Owner's Manual, Installation Instructions, Service Bulletins, Instructional Videos, and other information. <https://support.corehandf.com/Echelon2>
- On Facebook join the Schwinn Indoor Cycling Official Site for product and event updates.

Contact Information	
CORE HEALTH & FITNESS 4400 NE 77th Avenue, Suite 300 Vancouver, WA 98662 Telephone: (888) 678-2476 http://www.corehandf.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 Echelon2 console and the date of purchase when you call. Use the space in the boxes below to write down this information. The serial number can be found on the FCC warning label on the back of the console.

Serial Number
Date of Purchase

You may download the latest version of the Installation Guide, as well as view instructional videos, by visiting the Schwinn Equipment Support website at:

<https://support.corehandf.com/Echelon2>

CONSOLE INSTALLATION

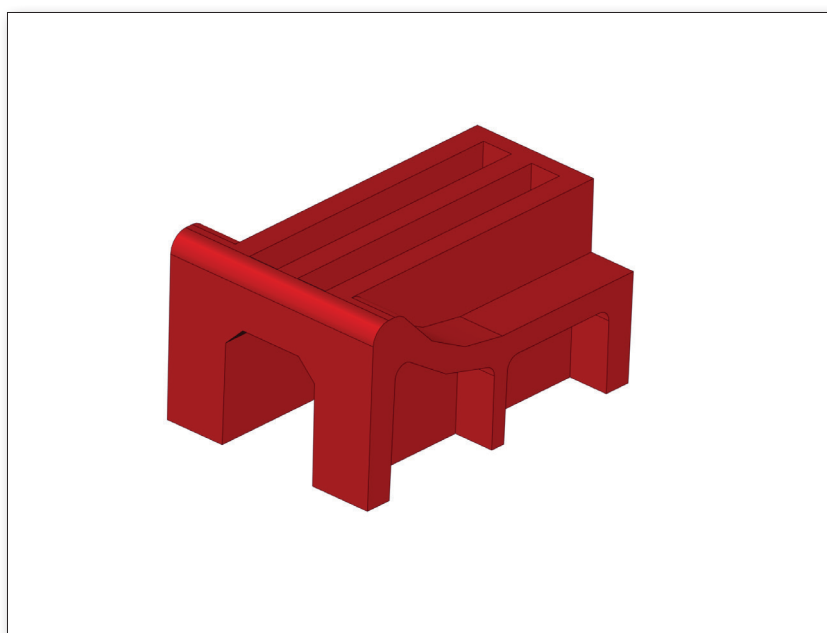


If you are upgrading to the Echelon2 from a previous version of console, refer to the Schwinn MPower Echelon2 Installation. This page does not apply if using 4iiii power input, please refer to the 4iiii installation Instructions on our support site at <https://support.corehandf.com/620-8543>

You may download the latest version of the Installation Guide, as well as view instructional videos, by visiting the Schwinn Equipment Support website at <https://support.corehandf.com/Echelon2>

If you are purchasing new bikes with consoles pre-installed, you may refer to the Installation Guide for setup instructions, or refer to the “Service Menu Navigation and Operation” section of this guide for descriptions of and instructions for each of the console settings, and how to calibrate the power sensor and check power sensor calibration.

NOTE: Each Echelon2 power sensor kit comes with a small, red, plastic calibration tool that resembles a Lego® toy:



Calibration Tool

It is very important to keep these tools, because the power sensor cannot be calibrated without it. If you are purchasing bikes with the consoles pre-installed, then the installer is required to leave the tools with you. If not, please contact the dealer/installer responsible for installing the consoles and request these tools. You may also contact Schwinn Support to request calibration tools. Go to support.schwinnequipment.com for contact details.

CONSOLE FEATURES AND METRICS



Below is a brief description of the console features and metrics. More details on each are provided in the CONSOLE OPERATION section of this guide. **NOTE: The metrics below are shown when the console is used with the optional power sensor installed.**

Buttons and Features	Description	Function
	A ON/OFF Button	Used to turn the console on and off, and to re-initiate heart rate pairing.
	B STAGE Button 	- In RIDE mode, used to start and stop the stage timer. - In SERVICE mode, used to scroll backwards through menus.
	C LIGHT Button 	- In RIDE mode used to operate the backlight. - In SERVICE mode, used as the ENTER button to select menu options.
	D AVG/MAX Button	- In RIDE mode used to display average and maximum values of ride metrics. - In SERVICE mode used to scroll forward through menus.
	E ANT+ Link	Pairing zone used to link ANT+ compatible heart rate monitors and sport watches.
	F USB Port Indicator	Points to the location of the USB port.
	G Battery Bay	Located in the back of the console, this is where 2 C-Cell batteries are inserted
	H USB Port Location	Located on the top of the console behind the sweat barrier, this is where a FAT32 formatted, USB 2.0 stick or later is inserted to record ride data or upload new console firmware.

Buttons and Features		Description	Function
	1	Power	Rider's instantaneous power measured in watts.
	2	RPM	Rider's instantaneous RPM (aka. cadence), or rotations per minute of the crank arm.
	3	Heart Rate	Rider's heart rate in beats per minute (BPM) when paired with a compatible heart rate monitor.
	4	Calories	- Optional Calorie display that can be turned off in Service menu. - Based only on power and not estimated from heart rate.
	5	Gear Display	Optional "Gear" or level of resistance the rider is riding at—can be turned off in the Service menu.
	6	Battery Level Indicator	Battery level that is shown for 30 seconds when the console is first powered on.
	7	Stage Timer	Stage timer that is activated with the  button.
	8	Stage distance	Distance traveled in a stage in miles or kilometers (set in Service menu).
	9	Stage AVG/MAX Power	Average power for the stage only —MAX power can be seen by pressing the AVG/MAX button twice.
	10	Total Ride Timer	Timer starts timing the ride as soon as the rider begins pedaling, and will continue timing until console enters SUMMARY mode.
	11	Total Ride Distance	Distance traveled in the ride in miles or kilometers (set in Service menu).
	12	Total Ride Average Power	Average power for the ride —MAX power can be seen by pressing the AVG/MAX button twice.

Console Operation

Before Beginning a Ride

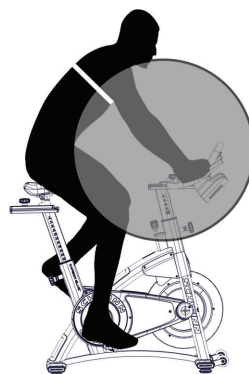
- If you want to record ride data onto a USB stick, insert a FAT32 formatted USB 2.0 or later stick into the USB drive before powering up the console.
NOTE: If the USB stick is not 2.0 or later and formatted with the FAT32 format, it may not record data.
- If you want to connect a compatible heart rate monitor to the console, ensure that your heart rate monitor has good batteries and is snugly in place before powering on the console.
- Heart rate electrodes must be moistened in order to make contact.
- Most 2.4 GHz Ant+ enable heart rate straps (e.g. Garmin heart rate straps) and un-coded 5 KHz analog heart rate straps (e.g. Polar H7) are compatible.
- Check the product directory at www.thisisant.com to verify if your heart rate monitor is compatible with the Echelon2 console.
- If you want to connect a compatible sport watch to record ride data, ensure the watch is turned on and is in pairing mode.
- Each watch is different so consult the instructions of the watch manufacturer to properly place the watch in pairing mode.
- Check the product directory at www.thisisant.com to verify if your device is compatible with the Echelon2 console.

Beginning a Ride

- To start a ride, press and release the ON/OFF button. The console will power up.
- Begin pedaling and the ride will begin in RIDE mode.
- Once you begin pedaling, the ride timer will start timing—there are no minimum RPM requirements to activate the console measurement.

Pairing a Compatible Heart Rate Monitor

- When the ride begins, the console will automatically begin searching for a compatible heart rate monitor. This will be indicated by the flashing heart rate symbol in the third line of the console at the far left.
- To connect a heart rate monitor, you must be within 31 in (80 cm) of the ANT+ symbol on the console to establish the connection. See the figure below.
- The console will search for a signal for 30 seconds and then stop searching, indicated by the heart rate icon disappearing from the console.
- In this event, in order to reinitiate the pairing process, lean closer to the console, and press and release the ON/OFF button. This will reinitiate the pairing process.
- Once paired, your heart rate will display.
- Heart rate monitors must be 2.4 GHz ANT+ or 5.3 KHz non-coded analog (e.g. Polar H7).
- To determine if your ANT+ heart rate monitor is compatible, check the product directory at <https://www.thisisant.com/directory/mpower-Echelon2-console/>.



Pairing Heart Rate Monitor.

Pairing a Compatible Sport Watch

- Some versions of sport watches can be paired to the Echelon2 console to record and store data.
- To determine if your device is compatible, check the product directory at <https://www.thisisant.com/directory/mpower-Echelon2-console/> to verify your device is compatible.
- Consult the instructions from the manufacturer of your device to determine how to activate pairing mode.
- To pair your compatible watch or other device, you must hold the device near the ANT+ symbol on the console to establish the pairing (See figure below).
- Once the connection is established, you may assume a normal riding position.



Pairing ANT+ device.

Riding in RIDE Mode

- When you begin a ride, the console will be in what's known as RIDE mode.
- In RIDE mode, with the optional power sensor installed, the console will display the following metrics:
 - Power (measured in watts)
 - RPM
 - Heart rate (If the console is paired with a compatible heart rate monitor)
 - Calories (If Calories are turned on in the service menu)
 - Gear (If gear is turned on in the service menu)
 - Total ride time

- Total ride distance (Can be set to miles or kilometers)
- Total ride average power
- Max power, RPM, and heart rate can also be displayed by pressing the AVG/MAX button twice
- In RIDE mode, without the optional power sensor installed, the console will display the following metrics:
 - RPM
 - Heart rate (If the console is paired with a compatible heart rate monitor)
 - Total ride time
 - Max RPM and heart rate can also be displayed by pressing the AVG/MAX button twice
- The console will remain in RIDE mode as long as you continue pedaling.
- If you stop pedaling, the RIDE mode will continue for 10 seconds, at which point it will go into PAUSE MODE.
- You will know the console is in PAUSE mode when the numbers start flashing on the screen.

Using the Stage Timer

- While in RIDE mode, you may use the Stage timer at any point to do timed stages (a.k.a. intervals).
- To activate the Stage timer, press and release the  button.
- When the Stage timer is activated it will do the following:
 - Measure the stage time
 - Measure the stage distance (with optional power sensor installed)
 - Measure the stage average power (with the optional power sensor installed)
- To stop timing a stage, press and release the  button.
- At this point the stage timer will stop timing and the stage metrics will be displayed until a new stage is started.
- To clear the metrics for the previous stage and begin a new stage, press and release the  button again to begin a new stage.

Using the Light Button

- During a ride, the rider can activate the light by pressing and releasing the  button.
- The light will stay on for 10 seconds, which is the default setting.
- There are multiple optional settings for the backlight that can be set in the Service menu (see the section on Service menu operation for details):
 - Stay on for 10 seconds
 - Stay on for 15 seconds
 - Stay on for 20 seconds
 - Stay on for the entire ride
 - Stay on indefinitely by pressing and holding the  button for 3-5 seconds. The light will remain on until the rider presses and holds the  button again for 3-5 seconds.
 - Light can be turned off so that riders cannot turn on the light. This is a good feature for studios that have good illumination or that do not want riders using the backlight.

Going into PAUSE Mode

- If during the ride, you stop pedaling, and/or get off the bike, the following will happen:
- The console will enter PAUSE mode after 10 seconds.
- The numbers on the screen will flash.
- The timers will continue timing—including the Total and Stage timers—for 5 minutes. Schwinn added this functionality to allow instructors to get off the bike and coach off the bike while trusting their timers will remain in sync with all the riders in the room. It also allows a rider to stop for a brief point of time and begin riding again without losing sync with the class. GOOD NEWS: While your timers continue timing, your average power calculation will pause while you are not pedaling so that you will not get penalized for brief moments of not pedaling.
- To exit PAUSE mode and return to RIDE mode, just begin pedaling before 5 minutes have elapsed.

Going into SUMMARY Mode

- SUMMARY mode signals the end of the ride. There are a couple ways to enter SUMMARY mode:
- Stop pedaling and enter PAUSE mode.
- After 5 minutes have elapsed without you pedaling, the console will enter SUMMARY mode.
- After the console enters PAUSE mode, press and hold the AVG/MAX button for 3-5 seconds and the console will enter summary mode.
- Once the console enters SUMMARY you cannot return to RIDE mode. When in SUMMARY mode, the console will do the following:
- Display your AVERAGE and MAXIMUM ride metrics.
- Upload data form the console to your USB drive¹.
- You will know the console is transferring data because a USB symbol will flash next to the RPM display on the console.
- Once the USB symbol stops flashing, your data upload has been completed and you may remove your USB drive.
- The console will display SUMMARY mode for 2 minutes, and the console will power off.

Ending a Ride

- There are 2 ways to end a ride and power off the console:
- Stop pedaling, and allow the console to go into PAUSE MODE.
- From here you may allow to the console to power itself off—it will power off in 7 minutes if you do nothing else.
- While in either PAUSE mode or SUMMARY mode, press and hold the ON/OFF button for 3-5 seconds to shut off the console.

Uploading data to the USB drive

- The ride data file is a great tool for people to track their rides and see their progress.
- At the end of the ride, once the console goes into PAUSE mode, press and hold the AVG/MAX button for 3-5 seconds to end the ride and go into SUMMARY mode.
- Once in SUMMARY mode the console will upload the data.
- The console will display the USB symbol to the left of the RPM label while the data is uploading—do not remove the USB stick until the USB symbol stops flashing.
- Once the data upload is complete, the stick may be removed.
- To retrieve the data from the USB stick, plug the stick into a USB drive on a computer, then open the USB folder.
- There will be a file called "MPowerQ.csv".
- Double click the file to open the file in Excel.
- Save the file in Excel format.
- A snapshot of the ride file is shown below with total ride and stage summary data.
- The ride data file will display the following:
 - Summary data for the entire ride
 - Summary data for each stage
 - Total ride data recorded every three seconds

RIDE SUMMARY		
Total Time	55.4	Minutes
Total Distance	16.4	MI
AVG Power	221	
MAX Power	446	
AVG RPM	69	
MAX RPM	95	
AVG HR	126	
MAX HR	173	
CAL	744	
STAGE_1_SUMMARY		
Stage Time	0.3	Minutes
Total Distance	0.08	MI
AVG Power	154	
MAX Power	155	
AVG HR	112	
MAX HR	116	
STAGE_2_SUMMARY		
Stage Time	4	Minutes
Total Distance	1.7	MI
AVG Power	301	
MAX Power	353	
AVG HR	145	
MAX HR	158	
STAGE_3_SUMMARY		
Stage Time	5	Minutes
Total Distance	2.17	MI
AVG Power	325	
MAX Power	379	
AVG HR	154	
MAX HR	167	

Sample ride file

¹ If the USB stick is not 2.0 or later and formatted with the FAT32 format, it may not record data.

Detailed Description of Ride Metrics

Power

- Power is the energy per second that the rider produces. It is measured in watts just as on outdoor bike power meters.
- Power can be displayed in up to 4 digits.
- Given the differences between outdoor and indoor bikes, and differences in riding conditions, it is common for a rider to have a different power output on an indoor bike than on an outdoor bike.

For use with the Echelon2 sensor type:

- Power is determined by measuring the position of the resistance mechanism, then a highly refined calculates power.
- Schwinn validated the power accuracy using an in-house, calibrated dynamometer; margin of error is generally $\pm 5\%$.
- Proper calibration of the power sensor is crucial to achieving a high level of accuracy.
- Magnet gap is set at the factory, but Schwinn recommends checking magnet gap to ensure it is properly set.
- Instructions for checking magnet gap and calibration the power sensor can be found on the Schwinn Equipment support website at <http://support.corehandf.com/637-4458>
- Schwinn does not validate the accuracy of the Echelon2 against commercial road bike power meters since all power meters measure power differently. Therefore, it is possible that the power reported by the Echelon2 will not match the power reported by commercial power meters for road bikes.
- Proper calibration of the power sensor is crucial to achieving a high level of accuracy.
- The accuracy of power output and consistency of power between bikes can be adjusted using a feature in the CALIBRATION menu called POWER ADJUST.
- The POWER ADJUST feature can also be used in cases where a studio wants to match the reported power of the Echelon2 to any specific outdoor power meter.

For use with the 4iiii sensor type:

- Power is a direct measurement from the 4iiii Powermeter via crank strain
- 4iiii validated the power accuracy in-house; margin of error is generally $\pm 1.5\%$.
- Proper calibration of the powermeter via 4iiii app is crucial to achieving a high level of accuracy.
- If upgrading from Echelon2 sensor type to 4iiii sensor type, you will see a slight reduction of power based on the improved accuracy of direct strain gauge measurement from the crank that also considers biomechanical pedaling technique and inefficiencies.

RPM

- RPM measures the rotations per minute of the crank arm and is either measured by the RPM sensor if using Echelon2 sensor type, or transmitted from the 4iiii Powermeter
- There is no minimum RPM requirement for starting the ride timer.

Gear

- Expresses level of resistance. The gear number increases as the resistance knob is turned clockwise.
- Gears cover a range of POWER values.
- Gear display can be turned off in the settings menu if desired.

Calories (CAL)

- Calories on the Echelon2 are calculated directly from the power assuming the rider has an average fitness level. Calories are a measure of energy expended while on the bike.

- The Echelon2 Calories do not take into account any biological factors such as age, weight, and gender.
- The Echelon2 Calories also do not take into account Calories burned due to a person's normal metabolic rate.
- Heart rate monitors use heart rate, age, gender, and weight to estimate how many calories a person burns.
- Since there is not a direct correlation between heart rate and Caloric burn, heart rate monitors do not as accurately estimate Caloric burn compared to the Echelon2.
- Heart rate monitor manufacturers use their own algorithms to estimate heart rate, and so the Caloric burn will vary from brand to brand. Heart rate monitors that measure heart rate at the wrist do not measure heart rate as accurately or consistently as heart rate chest straps.
- Tests done using different heart rate monitors (i.e. MYZONE, Polar A360, Polar H7 and Garmin) have shown some estimate Calories higher than the Echelon2, and some estimated Calories lower than the Echelon2.
- The CAL display can be turned OFF in the Service Menu if desired.

Heart Rate

- Heart rate will only display when the rider is wearing a compatible heart rate strap and follows the instructions in the section above titled "Pairing a compatible heart rate monitor."

Total Ride Time, Distance, and Average Power

- The total ride timer will start timing once the rider turns on the console and begins pedaling.
- The timer will continue timing in Pause mode.
- The timer will stop timing once the console goes into Summary mode.
- Total ride distance can be set to display miles or kilometers. See the section below on Echelon2 Service Menu Navigation and Operation.
- Distance is calculated using an algorithm that is based on power and not based on revolutions of the flywheel.
- The user must use resistance and actually put power into the pedals.
- Starting with firmware version 1.7, the algorithm is based upon a 165 lb rider riding a 20 lb bike on a flat rode with no head wind and tail wind. Typical values for wind resistance and rolling resistance are incorporated into the algorithm, so distance will not increase linearly with an increase in power.
- Since distance in the Echelon2 console accounts for only one typical case of outdoor riding, it should be used solely as a performance indicator for an indoor workout.
- Total average ride power is the average power the rider rides at for the entire ride.
- Average power is updated every second.
- At any point if the rider wants to see the maximum power she/he has reached during the ride she/he can press the AVG/MAX button twice to see their maximum ride power.

Stage Ride Time, Distance, and Average Power

- The stage ride timer will start timing once the rider hits the STAGE button.
- The timer will continue timing in Pause mode.
- The timer will stop timing once the rider hits the STAGE button a second time.
- Stage ride distance can be set to display miles or kilometers. See the section below on Echelon2 Service Menu Navigation and Operation.
- Distance is calculated for the stage only using the same algorithm that is used for total ride distance.
- Stage average ride power is the average power the rider rides at for that stage.
- Average power is updated every second.
- At any point if the rider wants to see the maximum power she/he can press the AVG/MAX button twice to see their maximum ride power

Expectations for average Power, Calories, and Distance

- Indoor cycling participants have a wide range of experience and abilities; therefore, values for AVERAGE POWER achieved, Calories accrued, and distance accrued in a class will vary widely among participants.
- Riding an indoor cycling bike with a fixed gear and no outside environmental influences is not the same as riding a bicycle outdoors that moves under the rider. Therefore, values for AVERAGE POWER and distance should not be compared to outdoor riding; rather they should be used as standalone performance parameters for training on a Schwinn indoor bike equipped with an Echelon2 console and power sensor.
- Calories accrued on the Echelon2 are an accurate measure of the amount of the total energy a participant puts into the cranks during an indoor cycling class, regardless of their gender, height, weight, resting metabolic rate (RMR), and level of fitness. The Echelon2 Calorie tally is not the same as the Calorie tally obtained from a heart rate monitor because the Echelon2 only reports work done on the bike.
- Indoor cycling participants that want to track the Calories they burn during a workout on the bike are encouraged to use a reputable, commercial heart rate monitor with a watch and/or smart phone app to determine and track Caloric expenditure. Most top brands of heart rate monitors and smart phone apps allow users to enter personal data that enables the heart rate monitor to more accurately estimate their Calories burned.
- Participants that are interested in using the Echelon2 for serious cycling training are encouraged to establish their functional threshold power (FTP) with the Echelon2, and establish training zones based on their Echelon2 FTP, just as outdoor riders would establish their FTP and training zones for different power meters. Indoor training zones with the Echelon2 will typically be different than outdoor training zones in terms of ranges of power; however, the adaptations of training in the indoor training zones will be the same as training outdoors in outdoor training zones.
- POWER ADJUST can be used to boost the amount of power displayed on the console by the percentage entered into the POWER ADJUST settings.
- While the Echelon2's metrics are most accurate at 0%, there may cases where studios wish to boost the amount of power their riders see.
- POWER ADJUST settings will also boost the Calorie and distance accrued by the same percentage as power.
- It is normal that a level of power that is very difficult for some participants to maintain is very easy for other participants.
- Calories and distance on the Echelon2 are calculated from power, and since it is normal to have a widely varying range of average power values in a class, it is also normal that values for Calories and distance accrued will also vary widely.

SERVICE MENU



In the Service menu, the following actions can be performed:

- The following system settings can be changed:
 - CARBON BLUE¹: ON/OFF
 - UNITS: MI/KM
 - GEAR: ON/OFF
 - OPEN ANT: ON/OFF²
 - BACKLIGHT: Multiple options
 - CALORIES: ON/OFF
 - PASSCODE: ON/OFF
 - SENSOR TYPE: 4 IIII/Echelon2
- Power sensor can be calibrated
- Power levels can be adjusted up or down
- External battery level can be checked
- New firmware can be loaded
- Console ID can be checked or changed
- Console can be reset

NOTE: Only club maintenance staff and other club staff that are properly trained on how to navigate the Service menu, change settings, and calibrate the sensor should ever be allowed to enter the Service Menu and make any changes.

Detailed instructions on changing settings and performing actions in the Service menu appear below.

To access and navigate the Service menu:

1. The console must be in either power up mode (just after power up and before pedaling) or Pause mode in order to enter the service menu.
2. In power up or Pause mode, press and hold the  and AVG/MAX buttons together for 3 to 5 seconds.
3. If the passcode is set, enter the passcode to access. The passcode is a 3-digit number assigned by Schwinn and cannot be changed. Contact Schwinn support to obtain the passcode. To enter the passcode, use the  or AVG/MAX buttons to scroll to the desired number, then press the  button to accept the number and advance to the next number. After the third number has been entered the service menu will open.
4. The first menu option that will appear is CARBON BLUE. See the diagram below for all top-level menus options.
5. To scroll through the menus, use the AVG/MAX button to scroll forward and the  button to scroll backwards.
6. To select a menu option press the  button to enter the menu. For system settings, use the AVG/MAX or  buttons to select the desired option and exit the menu. Diagrams for each menu are illustrated below.
7. To exit the Service menu, get to the top menu level, scroll to EXIT and press the  button.

¹ Does not affect power calculations on Schwinn Power bikes.

² Must be turned on when console is used to broadcast to an external leaderboard system.

The menu maps shown below apply to firmware version 1.7 or later. If your console has an older version of firmware, Schwinn recommends upgrading to the latest version of firmware. The latest version can be downloaded from the Schwinn Support website at

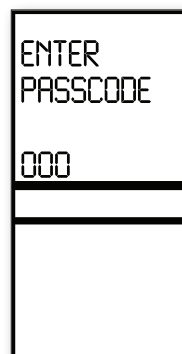
<https://support.corehandf.com/Software/>

Instructions for updating firmware are shown below or can be viewed on Schwinn's YouTube video at <https://www.youtube.com/watch?v=7w2LlexQgAQ>.

Top Level Service Menu

Default values are **bold**:

- Carbon Blue: **ON** / OFF
- Units: **MI** / KM
- Gear: ON / **OFF**
- Open ANT: ON / **OFF**
- Backlight *(See menu below)*
- Calories: **ON** / OFF
- Passcode: ON / **OFF**
Select to set
- Sensor Type **Echelon2** / 4iiii
(see [Pairing, p. 21](#))
- Calibrate *(see menus below)*
- Batteries
- System *(see menus below)*
- Exit



Passcode Screen if Set

Backlight Menu

Default values are **bold**:

- Timer Set: 10 / 15 / 20
- Backlight Hold: ON / **OFF**



Calibration Menu - Echelon2

- Set Zero Point: 1.0
 - Set tool on wheel then push 
 - Knob right to stop
 - Push  to set
- Power Adjust: 0%

CALIBRATE
ECHOLON2

Calibration Menu - 4iiii

- Zero Reset: 1.0
 - Spin crank then push 
 - Left crank to 6 O'Clock
 - Push  to set
- Power Adjust: 0%

CALIBRATE
41111

System Menu

- System Summary
 - Software Revision
 - Hours
- System Reset
- System Load FW
- System Serial Number

SYSTEM

Pairing and Calibrating the 4iiii Powermeter:

1. Press and hold STAGE  and "AVG/MAX" for 3-5 seconds to access the service menu.
2. Use AVG/MAX to scroll until SENSOR TYPE is displayed then push the back-light button  to access the sensor menu. Ensure that "4iiii" is displayed as the sensor type.
3. If the sensor type is set to "Echelon 2" press the back-light button  to select the sensor type, use the AVG/MAX button to select "4iiii" then press the back-light button  again.
4. Once "4iiii" is selected the console will enter the pairing process, check the side of the power sensor for a 4 OR³ 5-digit ANT+ ID code. Enter this code on the "ENTER ANT ID" screen using AVG/MAX to scroll and the back-light button  to enter the ANT+ ID.
5. Once the ANT+ ID has been entered, pedal the bike, then select "PAIRING SPIN CRANK" but pushing the back-light button . If pairing does not pass, check to ensure the ANT+ ID is correct and try the pairing process again. It may take 2-3 attempts to pair successfully.
6. After successfully pairing the 4iiii crank, the power sensor must be calibrated BEFORE riding the bike. Press and hold STAGE  and AVG/MAX for 3-5 seconds to access the service menu then use AVG/MAX to scroll until "CALIBRATE" is displayed and push the back-light button . "ZERO RESET" will be displayed, press the back-light button  once more and ensure that the left crank arm is in the 6 o'clock position, follow the on-screen directions to calibrate the sensor.

3 Please note that the ANT+ ID could be either a 4-digit OR 5-digit number. If the 4-digit code is present, the first number of the ANT+ ID Code is zero (0).



Example of 4 digit number



Example of 5 digit number

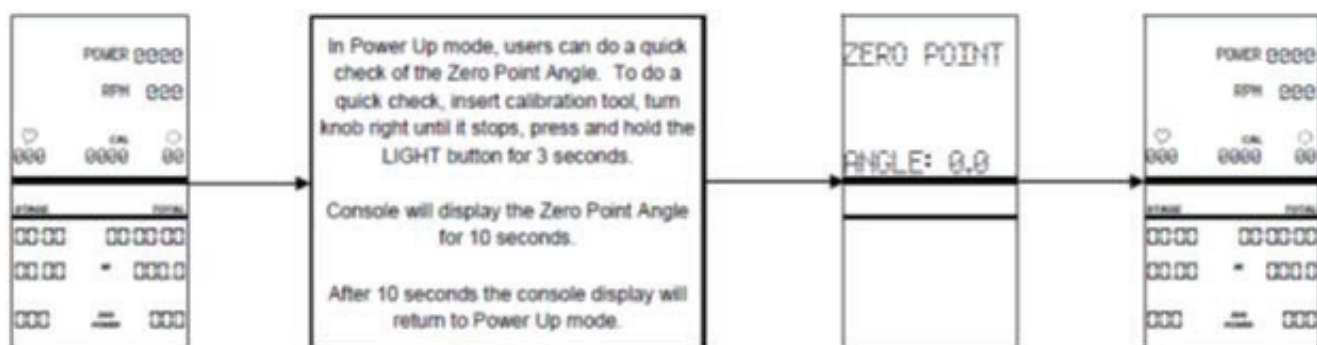
Zeropoint Current Angle Quick Check (Echelon2 Sensor Type Only)

Software V1.7 adds a new feature that allows users to quickly check the current angle of the Zero-point Calibration from the main Ride menu. This enables riders to quickly check to verify the sensor is still calibrated without having to navigate through the service menu.

To do the quick check:

1. Place the calibration tool on the flywheel.
2. Turn the brake knob clockwise until the brake stops.
3. From the main Ride menu, hold the LIGHT button for 3 seconds.

The console will display the Zeropoint angle for 10 seconds, after the 10 seconds the console will return to the main Ride menu.

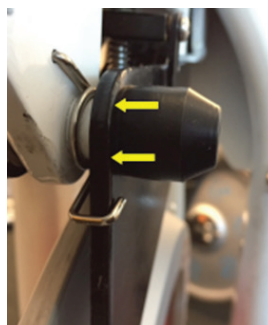
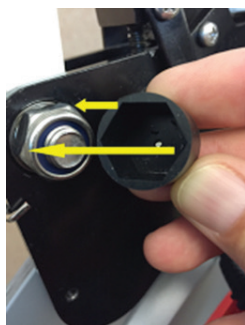


Why am I getting erratic RPM and power numbers?

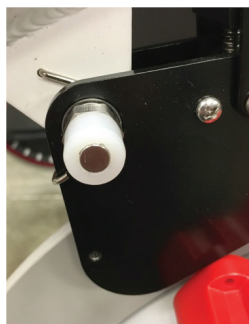
- In most cases, erratic RPM numbers are caused the RPM sensor not being properly positioned relative to the magnet on the flywheel.
- Erratic RPM readings will cause erratic power readings because power is calculated from RPMs.
- The first step in diagnosing erratic RPM readings is to check the RPM sensor position.
- Refer to the Echelon2 Installation Guide for details on how to properly position the RPM sensor
- Also check cables and connectors to ensure there is no damage.
- If none of these measures correct the issue, contact Schwinn customer support.

Why am I getting abnormally low or power readings even at high resistance?

- In rare cases, the Echelon2 power sensor may lose its zero set point calibration
- Follow the instructions to check the current angle and do a zero point calibration of the sensor if needed.
- In some cases the nut that the sensor magnet attaches to will come loose cause the magnet to move.
- If the nut is loose, it will cause erratic power readings and not allow the sensor to calibrate.
- In other cases the sensor magnet may not have been properly installed. See the pictures below for details.



- Newer models of bikes manufactured starting in the fall of 2016 have the sensor magnet pre-installed at the factory and do not require the rubber boot with the sensor magnet that comes with the sensor kit. See the picture below for details.



- In the event that a sensor cannot be calibrated and the console is giving erratic power readings, make sure the bolt is tight, the boot is fully and properly installed, and if the new magnet assembly is installed that the rubber boot is not installed.

Why are certain bikes giving higher or lower power than other bikes?

- Bikes that give higher or lower power readings (i.e. feel easier or harder) than other bikes may not have been properly calibrated.

- Follow the instructions on how to do a zero set point calibration.
- Also follow the instructions above to troubleshoot abnormal power readings.

What heart rate monitors and fitness watches are compatible with the Echelon2?

- The Echelon2 is compatible with 5.3 KHz analog heart rate straps, and compatible 2.4 Ghz ANT+ heart rate straps and devices.
- For a list of compatible devices, check the ANT+ website product directory at <http://www.thisisant.com/directory/>
- Note that not all ANT+ enabled devices are compatible with the Echelon2.

Why won't my heart rate strap to pair with the Echelon2?

- You must be wearing a 5.3 KHz analog or compatible 2.4 GHz ANT+ heart rate strap.
- When you first power on the console, the heart rate icon on the left side of the top half of the screen will flash for 30 seconds while it searches for a signal from the strap.
- You must be within 31 inches in order for the strap to establish a connection with the console.
- If after 30 seconds the strap does not pair with the console, you may reinitiate the pairing process by tapping the ON/OFF button.
- Once the strap and console pair, the heart rate will display on the console.
- If you are unable to establish a connection using a compatible heart rate strap, then the battery may be dead.
- Most heart rate straps recommend removing the transmitter from the strap when not in use in order to preserve battery life.
- Batteries will go dead if left connected to the heart rate strap and not frequently used.

How do I get my ANT+ fitness watch to pair with the Echelon2?

- Check the ANT+ website product directory at <http://www.thisisant.com/directory/> to make sure your watch or device is compatible with the Echelon2.
- Check the instructions for the watch to make sure it is in pairing mode.
- While trying to pair, hold the watch right above the ANT+ logo on the console until a connection is established.

Can the Echelon2 pair with my smartphone and be used with fitness apps?

- The Echelon2 is only ANT+.
- The Echelon2 can be paired with certain smartphones and apps via separate hardware plug in devices (e.g. Wahoo ANT+ key for iPhones, and Garmin ANT+ stick with USB OTG cable for Android phones) that are capable of picking up the signal from the Echelon2.
- In order for apps to be able to read the signal from the Echelon2 console, they must be configured to read the signal.

How do I get my consoles to connect to my leaderboard system?

- There is a setting in the service menu that must be turned on in order to connect with an external leaderboard system.
- Enter the service menu and scroll to the OPEN ANT CHANNEL menu.
- Turn the setting to ON. The setting is set to OFF by default to conserve battery life in consoles that are not connected to an external leaderboard system.

The console display has frozen and the buttons will not function. How do I get to unfreeze?

- In the rare case of a console display freezing, simply remove and reinstall the batteries—in most cases this solves the problem
- Refer to the instructions on removing batteries.
- If the problem persists, contact Schwinn customer support.

Help!!! I read all the troubleshooting information but still have questions or issues. How can I get additional help or answers?

- Go to <https://support.corehandf.com/Echelon2> where we have all of our contact information, and customer resources for all of our products, including Owner's Manuals and Installation Guides, Service bulletins, and firmware updates

Preventive maintenance (PM) is a schedule of planned maintenance actions aimed at the prevention of failures. PM is the best way to preserve and enhance equipment reliability by keeping key components clean and free of debris. PM activities may include cleaning, vacuuming, visual inspections of key components, lubrication, etc. The better your PM program is, the more dramatically you can increase the life of your product and significantly reduce equipment failures.

To keep it in top condition, perform regular daily, weekly, and monthly preventative maintenance routines outlined below. It is the sole responsibility of the owner of this equipment to ensure that regular maintenance is performed. Worn or damaged parts must be replaced immediately, or the equipment removed from service until the repair is made.

Maintenance Schedule

Some types of PM need to be performed more often than others. The frequency of PM depends a great deal on the use and environment of the unit. Core has a baseline of procedures that should be performed at pre-determined intervals as shown below, but it is imperative to understand that this is a baseline and PM schedules should be adapted to the environment and usage that the unit receives.

	Daily	Weekly	Monthly	Bi-Annually
General Maintenance				
Inspect each console, sensor, and cables for loose parts or damage. Adjust or replace as necessary.		X		
Remove and replace any components that are damaged or deemed unsafe.		X		
Calibration				
Check sensor is properly calibrated, recalibrate as needed.			X	
Cleaning				
Clean Console ¹	X			

1 - Wipe console with a soft, non-abrasive cloth to remove all sweat after each use. Use a soft, non-abrasive cloth and mild spray cleanser to clean the console. Never use abrasive cleaning liquids, cleaning liquids with an oil base, ammonia, or alcohol.

Preventive Maintenance Cautions

- While maintaining equipment you will want to avoid spraying any liquids directly onto any surface of the unit. Always spray cleaning solutions onto a clean towel first then wipe the unit.
- Do not use glass cleaners or any other household cleaners on the console. The console should be cleaned with a damp cloth and dried on a daily basis. Cleaning solutions can be made of a 5:1 dilution ratio, where 5 parts water are mixed with 1 part of Simple Green®, Fantastik®, or 409®. Do not spray water, or cleaner directly onto console surfaces.

Changing the batteries

To change the batteries in the Echelon2 console, you will need the following tools:

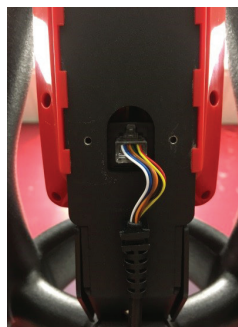
- 2.5 mm hex (allen) wrench
- Philips screwdriver

To change the batteries, do the following:

1. Remove the two hex head screws that hold the connector protective cap in place and remove the cap.



2. Unplug the connector.



3. Remove the Philips screw holding the console to the bracket.



4. Slide the console off the bracket to access the batteries.





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