Quick Guide



Easy Installation and Advanced Functionality Fast Facts:

- Pioneer Power Meter Cranksets ship pre-set in the ANT+ Format
 - Simply install the crank on your bike and pair it to your ANT+ Cycle Computer as you would any other ANT+ device
 - When used with other ANT+ Cycle Computers as a Power Meter, Magnets are optional but will provide precision cadence if used.
- Dual Leg Units ship in a Dual Leg ANT+ Mode and will provide all ANT+ Power Metrics.
 - Confirming dual leg ANT+ Mode can be done by removing and replacing the batteries, you should see a solid orange light on each arm for 10 seconds.
 - Dual Leg units can be switched to independent Single Leg Mode if needed. ie. Left Arm on one bike, Right Drive Side on another bike. (page 6)
- Single Leg units ship in a Single Leg ANT+ Mode and will provide all ANT+ Power Metrics.
 - Confirming single leg ANT+ Mode can be done by removing and replacing the batteries, you should see a blinking orange light on the arm for 10 seconds. (page 6)
 - Single leg units can be switched to Dual Leg Mode when you upgrade to a dual leg system.
- Pioneer's real-time and post ride "Pedaling Monitor" graphics and data are only available when using a Pioneer Cycle Computer and uploaded to Pioneer Cyclo-Sphere cloud analysis site.
 - A Pioneer Cycle Computer is required to switch the "Power Meter" in and out of the "Pedaling Monitor Mode" (page's 3 -5 in the SGY-PM910H2 users manual)
 - Confirming Pioneer Pedaling Monitor Mode can be done by removing and replacing the batteries, you should see a solid green light on each arm for 10 seconds.
 - Supplied magnets are required for the Pedaling Monitor configuration and must be magnet calibrated for proper data display (page 5)
- Zero Calibration is required to maintain maximum accuracy (page x
 - Each power sensor "learns" up to 6 temperature ranges separated by 4 degree's Celsius / 7 degree's Fahrenheit
 - First year owners should calibrate before each ride to capture changing temperature conditions and ensure precision accuracy
- The SGX-CA500 Cycle Computer is unique in that it is both a multi-format receiver and a transmitter
 - Can receive ANT+ and Pioneer Pedaling Monitor Signals
 - Can transmit ANT+ Power Data to other ANT+ devices ie. ANT+ Computer, Zwift
 - Can transmit via ANT+ and update Pioneer Power Meter Firmware
 - · Can upload ride data via wifi
 - Can update it's own firmware via wifi



Easy Installation Power Meter Cranksets SGY-PM90 and SGY-PM68 with Non-Pioneer ANT+ Cycle Computer

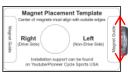
1.) Magnet Placement (Optional)

- Measuring from the center of the bottom bracket out, temporarily tape the magnet so that the center line of the magnet is:
 - Right Drive Side 42mm
 - Left Side 53mm
- Use the supplied Magnet Placement Template to help locate the optimum locations for magnet placement on the frame.
- Position the magnets so the sensor line and magnet center line are parallel when the sensor passes over.





Magnet Range 1.5mm – 10.7mm



Magnet Template card



Center hole on bottom bracket and use supplied double sided tape to temporarily secure while locating optimum magnet location

2.) Confirm Magnet Placement

- Remove and replace both Left and Right batteries. Orange light will appear for 10 seconds.
- Rotate the crank slowly (30rpm). Check that the LED on each sensor lights green once for each revolution.
- Once confirmed, secure magnets for final placement.





LED's light green

If no **Green** LED, check and adjust magnet placement

3.) Pair to your ANT+ Computer

Spin the crank 3 – 4 rotations to activate the Power Meter



See your ANT+ Cycle Computer Instructions for Power Meter Pairing and Zero Calibration procedures.

Left Sensor Arm



For additional Installation Instructions visit the following on-line support locations

www.pioneerelectronics.com/PUSA/Cycle+Sports/Products/Power+Meters www.Youtube/Pioneer Cycle Sports USA

Please refer to the owners manual for detailed installation instructions. Visit https://cyclo-sphere.com/ for the latest firmware and updates. Customer Support – 1-800-421-1624

E-Mail: cycle-sports@pioneer-usa.com



Easy Installation Power Meter Cranksets SGY-PM90 and SGY-PM68 with Pioneer Cycle Computer





Magnet Placement

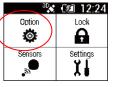
- 1. Measuring from the center of the bottom bracket out, temporarily tape the magnet so that the center line of the magnet is:
 - Right Drive Side 42mm
 - Left Side 53mm
- 2. Use the supplied Magnet Placement Template to help locate the optimum locations for magnet placement on the frame.
- Position the magnets so the sensor line and magnet center line are parallel when the sensor passes over.

Mode Selection & Pairing to the Pioneer Computer

- 1. Spin the crank 3 4 rotations to activate the Power Meter
- 2. Pressing **Pedaling Monitor** will search sensor ID or local crank.



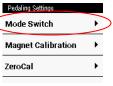
Press Menu



Press Option



Press Pedaling Settings



Press Mode Switch



Check Left & Right, Enter ANT+ ID, Press Pedaling Monitor

Left Sensor Arm



Sensor



Magnet Range 1.5mm -10.7mm







Center Magnet Placement Template hole on bottom bracket and use supplied double sided tape to temporarily secure while locating optimum magnet location.



SGX-CA500 firmware must be 20150501.02.43 or higher.

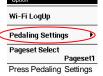
Magnet Calibration



Press Menu

a Press Option





Spin the crank FORWARD slowly (30 rpm) until both left

and right sensors detect magnets at least 5 times for each



Press Magnet Calibration

Spin Crank Slowly Forward R 12 5/5 5/5 Start Calibration

Confirm 5 x per side

Press Save

Start Calibration

Press Start calibration

12

R 12



Start Calibration

Press OK

• Zero Calibration - Position Left or Right crank arm to the 6 o'clock position

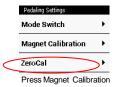


Press Menu

E-Mail: cycle-sports@pioneer-usa.com









Press OK

Left

For additional Installation Instructions visit the following on-line support locations www.pioneerelectronics.com/PUSA/Cycle+Sports/Products/Power+Meters www.Youtube/Pioneer Cycle Sports USA Please refer to the owners manual for detailed installation instructions. Visit https://cyclo-sphere.com/ for the latest firmware and updates. Customer Support - 1-800-421-1624



Secure magnets for final placement.

side and press Save.

Mode Switching – Non-Pioneer Computer Users Single Leg and Dual Leg ANT+ Modes

Switching Left and Right Sensors FROM Dual Leg to Single Leg Mode

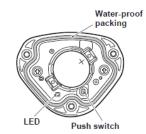
Notes

- This method is for users who wish to separate a dual leg system and use single leg crank arms . le. 2 different bikes.
- The following method is for ANT+ Cycle Computer users who do NOT have a Pioneer Cycle Computer – See slide 5 for Mode Switching with a Pioneer Computer
- Dual Leg Ultegra SGY68-Series, DuraAce SGY90-Series completed cranksets and SGY-PM9100C "Kits" ship pre-set in the Dual ANT+ Mode.
- To confirm Dual Leg ANT+ Mode, remove and replace the batteries, you should see a **SOLID Orange** light on both the Left and Right Sensors.

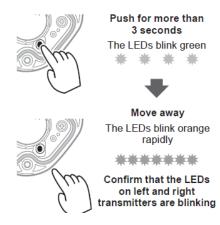
Switching to Single Leg Mode

- 1. Spin the crank 3 4 rotations to activate the Power Meter
- 2. Press the push switch for 3 seconds and release
- 3. Both sensors should blink orange for 10 seconds

Switch the sensor mode.



 Before switching the mode, confirm that there is no other pedaling monitor near by. If this is not done at a sufficient distance away from other sensors, the other sensors are likely to malfunction



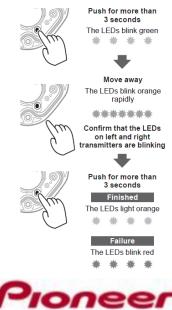
Switching Left and Right Sensors FROM Single Leg to Dual Leg Mode

Notes

- This method is for users who are upgrading from a single leg sensor with a second Left or Right leg sensor.
- The following method is for ANT+ Cycle Computer users who do NOT have a Pioneer Cycle Computer See slide 5 for Pioneer Mode Switching with a Pioneer Computer
- •Single Leg Ultegra SGYLT68-Series, DuraAce SGY-LT90-Series, and SGY-PMRTC "Kits" ship pre-set in the Single Leg ANT+ Mode.
- To confirm Single Leg ANT+ Mode, remove and replace the battery, you should see a **BLINKING Orange** light.

Switching to Dual Leg ANT+ Mode

- 1. Spin the crank 3 4 rotations to activate the Sensors
- 2. Press the Push Switch for 3 seconds and release
- 3. Confirm both sensors are blinking
- 4. While blinking, press and hold the push switch for 3 more seconds and release
- 5. To confirm you have switched to Dual Leg, remove the batteries and replace, you should see a solid orange light on both sensors



Power Meter Firmware Update using the SGX-CA500

Note: Firmware updates may take up to 2 hours. (It depends on the surrounding WiFi and Broadband level of interference) If the update process is interrupted, you may need to move to a less cluttered radio location and restart the update.

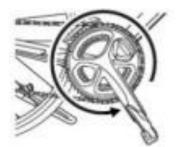
Preparation:

- Update your SGX-CA500's firmware to the latest version. 4.023 or higher
- Be sure your SGX-CA500 is fully charged.
- Sensors must be in Pedaling Monitor Mode Use your SGX-CA500 to put the sensors in Pedaling Monitor Mode
 - [MENU]-[Option]-[Pedaling Settings]-[Mode Switch]-[Pedaling Monitor]
 - If the sensors were purchased before Jun. 2015, use the push button on the right side transmitter to switch the mode to Pedaling Monitor Mode.
- Both Sensor batteries must have at least 2.9v
 - Battery Check [MENU]-[Sensors]--[Pedaling Monitor L]--[Battery] [MENU]-[Sensors]--[Pedaling Monitor R]--[Battery]

Update Procedure:

- 1. Rotate the crank slowly three or more times to wake up the sensors
- 2. From the SGX-CA500 [MENU]-[Option]-[Pedaling Settings]-[Firmware Update







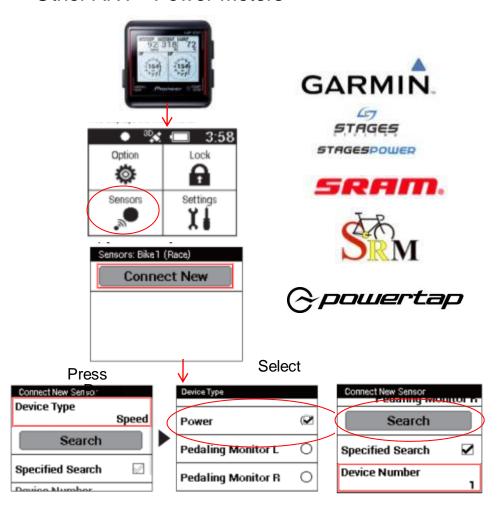


3. Place the SGX-CA500 within 10 inches from the sensor(s).

SGX-CA500 Pairing with a Pioneer "Pedaling Monitor" or Other "Power Meter"

Pioneer "Pedaling Monitor" – 1st time pairing, see Mode Switching slide 5 Pioneer Crankset must be in Pedaling Monitor Mode onnect New Sensor Option Lock Search a **©** Specified Search Settings Sensors Device Number Press Sensors: Bike1 (Race) Connect New Or Enter device number listed on side of left transmitter Device Type Connect New Sensor Connect New Sensor Device Type Device Number Speed Power Search 40879 Search Manufacturer Number Pedaling Monitor L ~ Specified Search 13 Specified Search Error Rate Device Number Pedaling Monitor R OK

Other ANT+ Power Meters

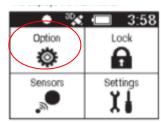




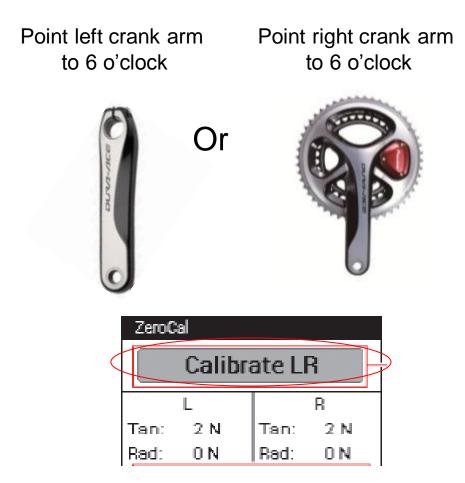
SGX-CA500 Zero Calibration

Zero Calibration is required to adjust for changes in crank deflection at different temperatures. Pioneer power meters provide 6 temperature memories loaded each time temperature varies 4 degree's centigrade.



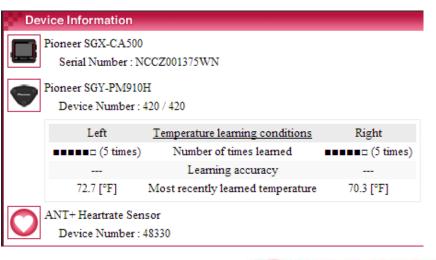


Select ZeroCal



You can check zero calibration status on Cyclo-Sphere in individual ride analysis under Device Information

- # of times zero calibrated
- Temperatures in memory





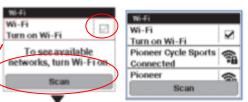
SGX-CA500 Wifi Ride Upload

1.) Connect to your WiFi Network









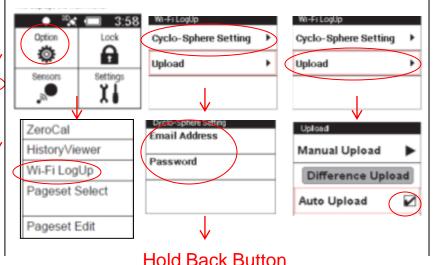
You can enter multiple wifi spots ie., your home, Starbucks...

2.) Create a Cyclo-Sphere Account With an E-mail and Password



https://cyclo-sphere.com/

3.) Provide your Cycle Computer with your Cyclo-Sphere E-mail and Password for Auto Upload



to return to the upload section

4.) Charge your Computer before every ride...



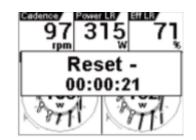
Start



Train n Race Ride data will auto-upload to Cyclo-Sphere when in range of your wifi networks.









SGX-CA500 Training Menu

Cyclo-Sphere Mobile Viewer

• The SGX-CA500 Training Menu has 3 Powerful Training Tools

1. Training Assist – Beginner to Advanced Cyclist

- A free interactive self coaching tool found on the Cyclo-Sphere Mobile Viewer Not available on the PC site
- Training Assist has 28 unique training modules for riders of all skill levels and experience
- Training Assist was designed to help riders best utilize cycling technology on the bike from heart rate, speed and cadence sensors, to power meters and Pioneer exclusive Pedaling Monitor Technology.
- Riders 3 month power data is auto loaded to the SGX-CA500 via Cyclo-Sphere for clearly defined benchmarks and target goals
- New power achievements are auto uploaded back to Cyclo-Sphere
- After Ride Results offers charts, graphs and troubleshooting
- See Slide 11 for Training Assist Process

2. Interval Timer – Intermediate to Advanced Cyclist

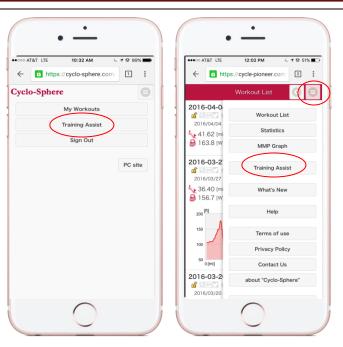
- SGX-CA500 only, no mobile device required.
- Create custom Interval Programs
- Includes Duration, Warm-Up, Power Target, Power Escalation, Set Count
- Create, Save and Edit
- · Easily Select an Interval Training Program while on the road

3. Threshold Training – Intermediate to Advanced Cyclist

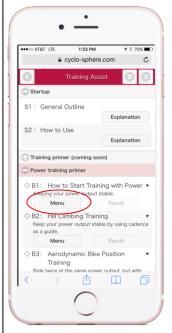
- SGX-CA500 only, no mobile device required
- Utilizes last 3 month power data from Cyclo-Sphere to provide easy on the road "Challenges" of maximum time intervals for 1, 3, 5, 10, and 20 min. MMP (Mean Maximum Power) records as well as 20 and 60 minute FTP Tests
- Uploads achievements over 100% as new benchmarks to Cyclo-Sphere
- Auto configures Targets for each Time Segment
- Includes warm-up and cool down.
- Auto logs finished Challenges as Laps for easy post ride analysis



SGX-CA500 Training Assist Process



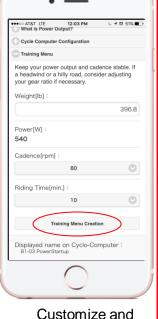
Select Training Assist from Cyclo-Sphere Mobile



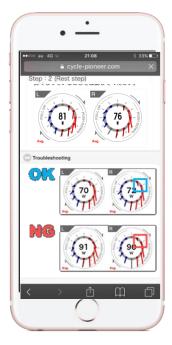
Select a Lesson



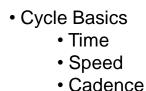
Learn Lesson Details and Goals



Customize and Upload Lesson to Cyclo-Sphere



Results Troubleshooting



- Heart rate
- Intervals
- Intervals
- Climbing
- Power Training
 - Power
 - Aerodynamics
 - MMP
 - FTP
- Pedaling Techniques
 - 3 O'Clock
 - 6 O'Clock
 - Upstroke
 - High Cadence
 - Efficiency



Press Menu Select Training



Select Training

Assist



Download Trainings via WiFi from Cyclo-Sphere



Select and Start the Training



Instruction



Training Countdown Starts – RIDE

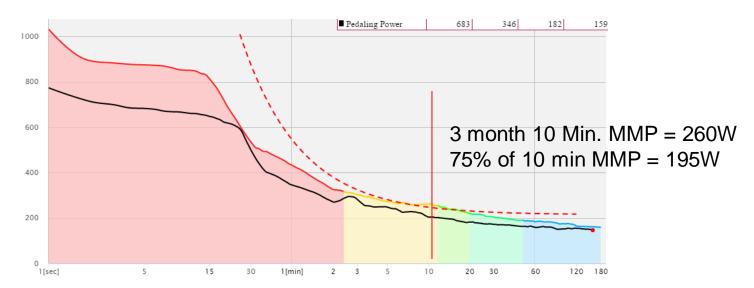


Training Complete



SGX-CA500 Real-Time Interval Intensity – Pioneer Exclusive!

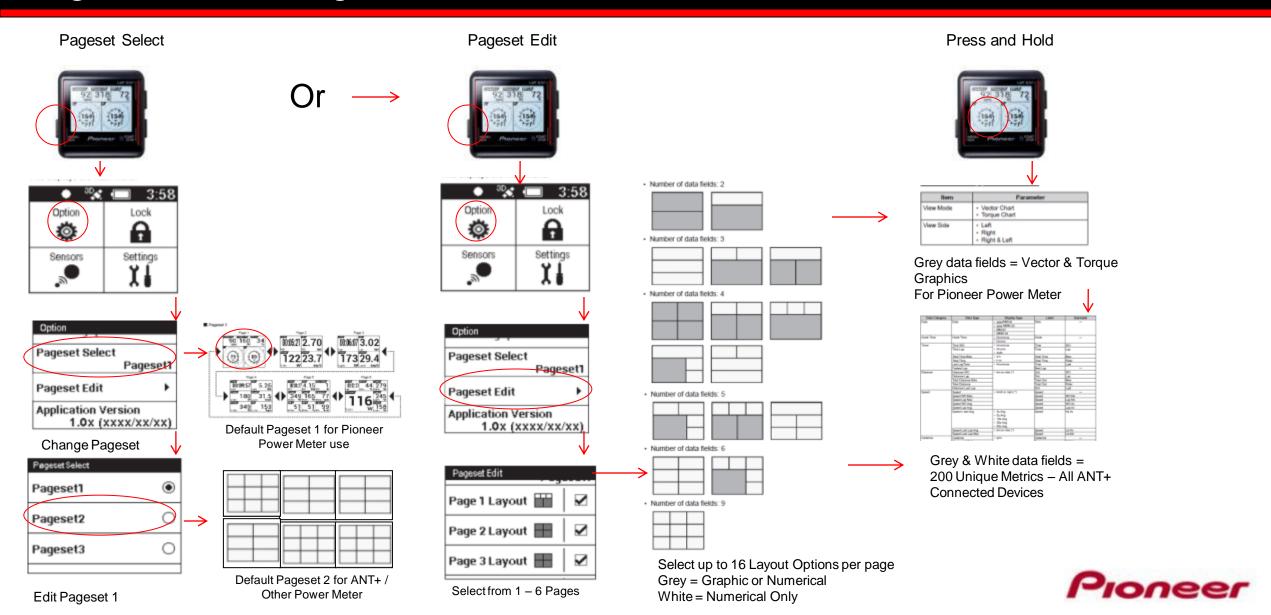
- Data Field Power Training / Data Type Real-Time Interval Intensity
- Interval Intensity is a percentage based on a riders average power over time divided by the riders historical MMP for the same duration of time.
 - Ex: For a rider with a 30 minutes MMP Power Value of 250W, a 200W average for 30 minutes would be 80% of that riders MMP.
- Provides a real-time Interval Intensity percentage of a riders MMP for continuous intervals of time, from start of ride to end.
- Based on riders 3 month MMP Chart from Cyclo-Sphere
- Holding a continuous 70% 80% Interval Intensity is a good recommended range for most riders wishing to maximize their ride effort
- Automatically uploads and benchmarks new MMP records over 100%
- Requires Firmware ver. 20160706







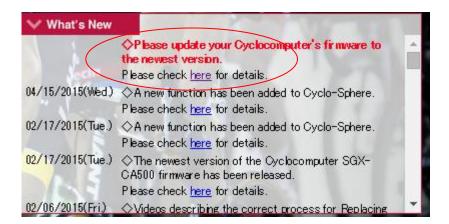
SGX-CA500 Pageset Select / Pageset Edit

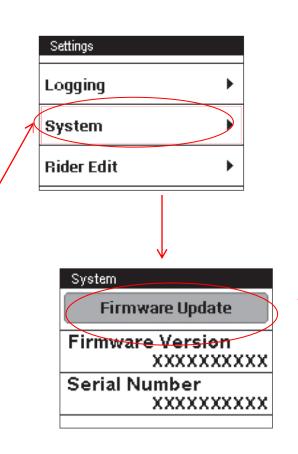


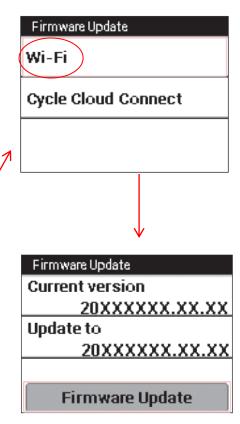
SGX-CA500 Firmware Update

Update Firmware via Wi-Fi









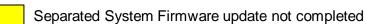
Cyclo-Sphere will announce new firmware and provide details of the updates.



Mode Switch & FW Update Conditions

Right LED	Left LED	Right Side Push Button	SGX-CA500	FW Updater tool	
L, R or L&R Green Pedaling Mode		N/A Sensors are in Pedaling Mode Push Button has no function	Mode Switch L, R, or L&R to Single or Dual ANT+ Will Update Sensors to Latest firmware	N/A Sensors must be in ANT+ Mode	
Solid Orange Dual ANT+ Factory	Solid Orange Dual ANT+ Factory	Puts Dual L&R into Single ANT+ Modes Use on 2 bikes / cranks Pull Batteries and Replace, Spin Crank, Hold push button for 3 Sec then release – pg. 23 OM	Mode Switch L, R, or L&R to Single ANT+ or Pedaling Monitor	Enter Ant ID's into L & R	
Blinking Orange Single ANT+ Factory	Blinking Orange Single ANT+ Factory	Puts Single L& Single R into Dual ANT+ Mode Kit Upgrade from Single to Dual Pull Batteries and Replace, Spin Crank, Hold push button for 3 Sec. release, right blinks green then fast flashing orange, Press 3 Sec again while flashing fast orange then release – pg. 19 OM	Mode Switch L, R, or L&R to Dual ANT+ or Pedaling Monitor	Enter Ant ID's into L, R or L & R	
Solid Orange Dual ANT+	Blinking Orange Single ANT+	N/A Rare, Required a SGX-CA500 to switch the Left Leg to Single when right side was not in range or battery out leaving Right in Dual	Mode Switch Both L&R to Dual or Single ANT+ To Re-Sink Pair	Both must be in same ANT+ Mode	
Blinking Orange Single ANT+	Solid Orange Dual ANT+	N/A Rare, Required a SGX-CA500 to switch Right Leg to Single while left leg was out of range or battery out leaving Left In Dual	Right side is in ANT+ Single but must Mode switch right into ANT+ Single again to erase last dual Pairing. Then Mode switch both to desired Mode	N/A Both must be in same ANT+ Mode	
Blinking Green		N/A	Sensor(s) are in Update Mode. Must complete FW Update Move away from Wifi Interference		
Blinking Red		N/A Right Side, Left Side Sensor in unknown Dual Mode	N/A	N/A	
Solid Red		N/A Damaged, Send for Service	N/A	N/A	

^{*} Before Mode Switching, the ANT+ Transmit feature must be off - Menu / Settings / Device





Cyclo-Sphere



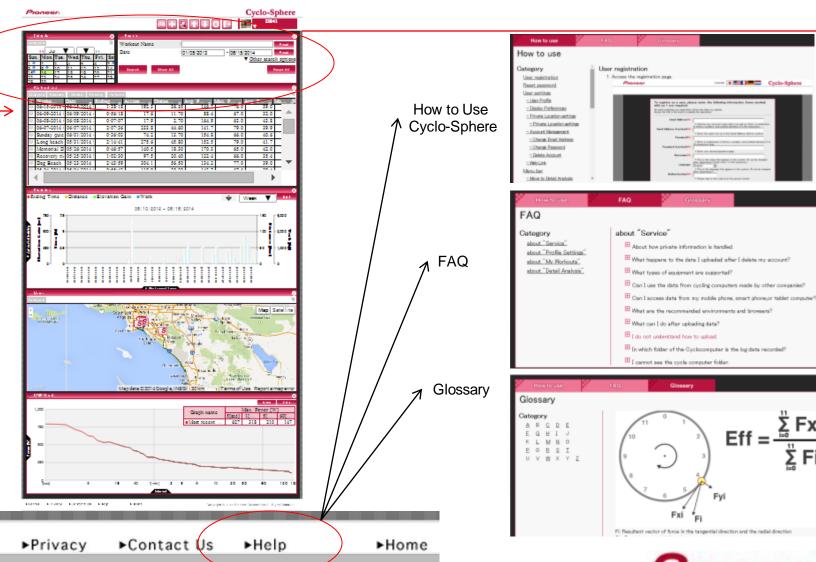
https://cyclo-sphere.com



Basic E-Mail and Password User name... You're In!

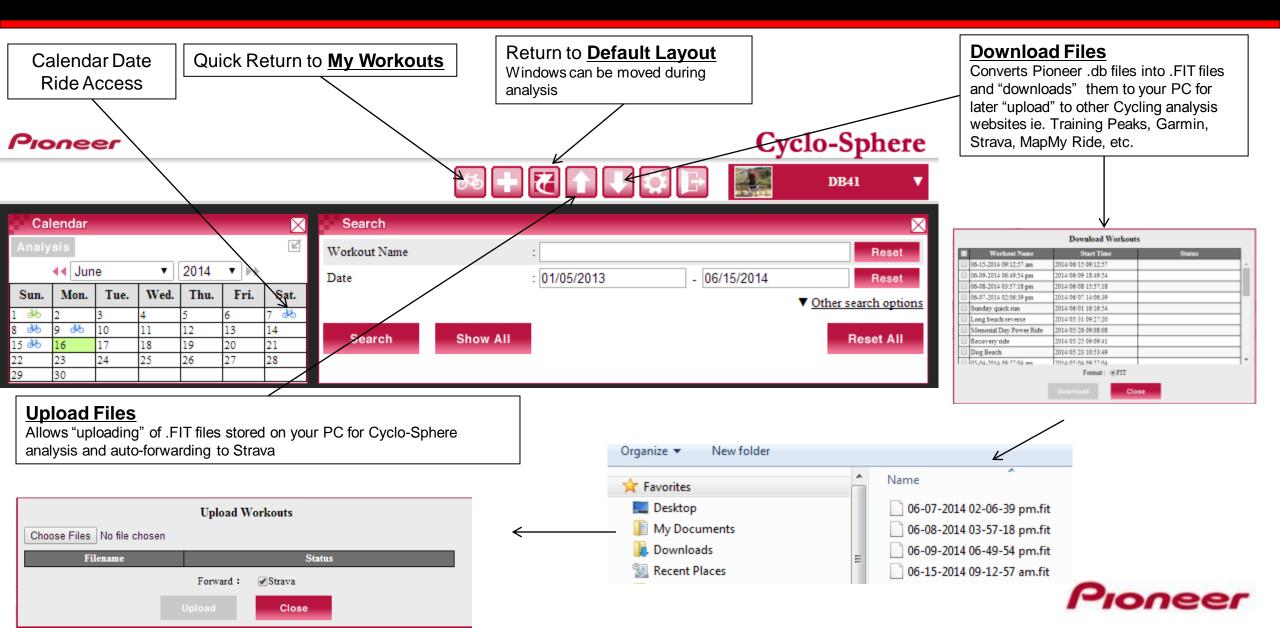
▶Terms

* Cyclo-Sphere is optimized for Pioneer Cycle-Sports computers and Power Meters but works great with any ANT+ Cycle Computers, Power Meters, Cadence / Speed, and Heart Rate Sensors.

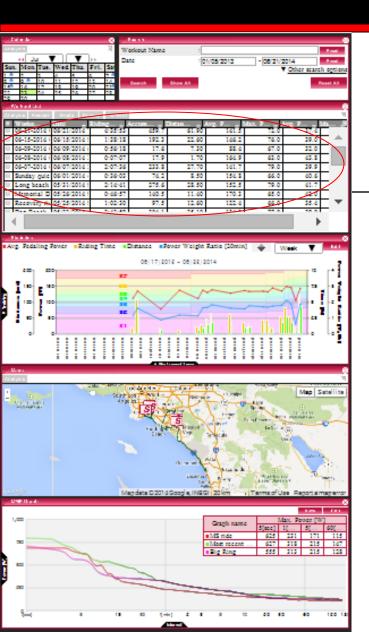


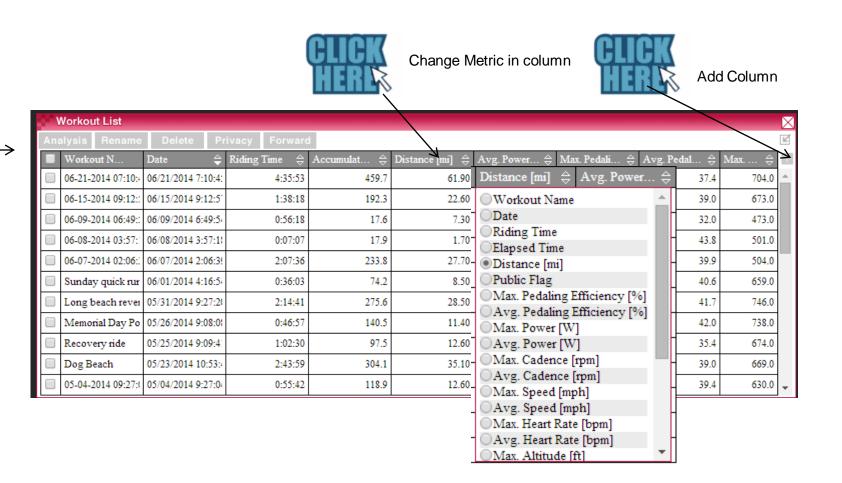


Search / Files



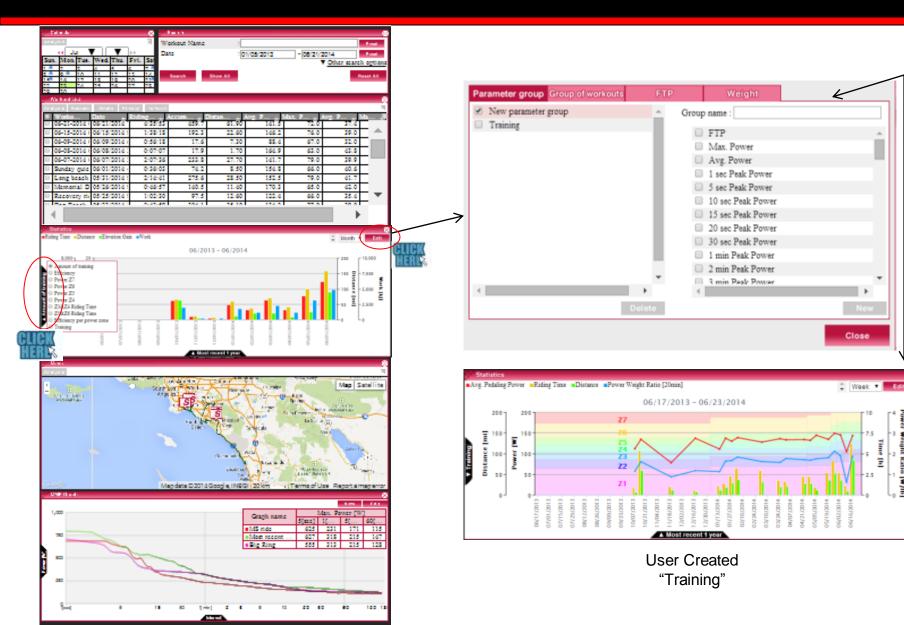
Workout List







Statistics – Ride Group Charts & Graphs



Create New Parameter Group Chart

Edit Groups

Manual FTP Entry

Manual Weight Entry

Color Coded Power Zones

Z1 / Z2 / Z3 / Z4 / Z5 / Z6 / Z7 Level of power.

Categorized according to comparison with FTP values.

Z1 : - 55%

Z2:56% - 75%

Z3:76% - 90%

Z4:91% - 105%

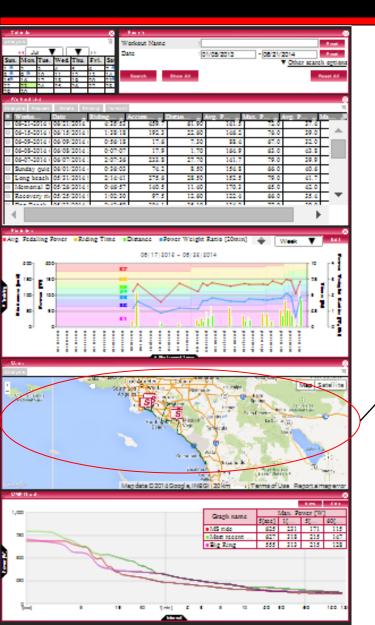
Z5 : 106% - 120%

Z6 : 121% - 150%

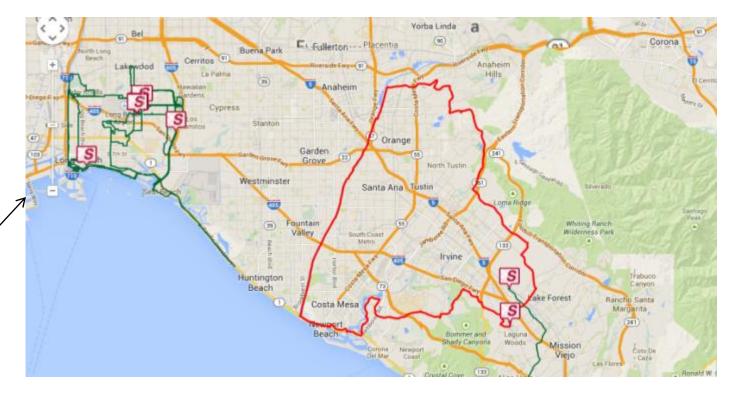
Z7 : 151% -



GPS – Maps & Route History



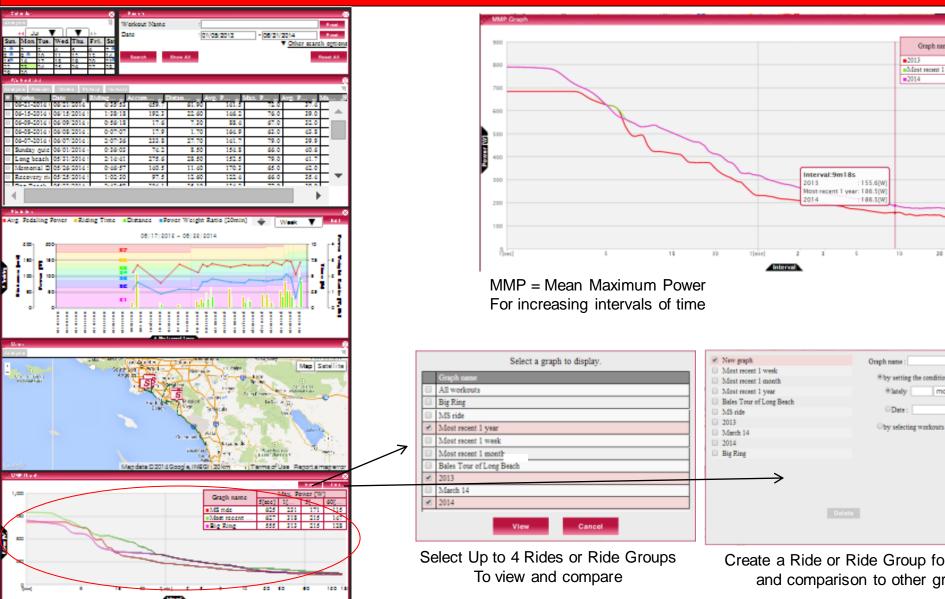
Green = All Rides



Red = Selected Ride



MMP – Mean Maximum Power





FTP = Max Power Avg. over 1 hour

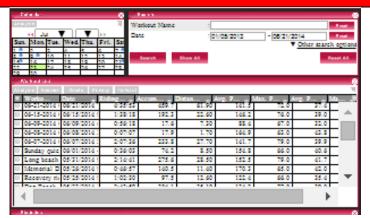
Create a Ride or Ride Group for Analysis and comparison to other groups

Graph name «Most recent 1 year

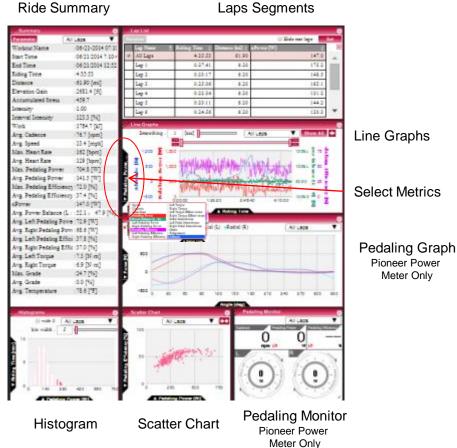
month(s) *

318

Individual Ride Analysis



Workout List											
Ana	alysis	Rename	Delete	Pr	ivacy	Forw	ard				
	Work	ut N	Date	\$	Riding	Time					
•	06-21	-2014 07:10	06/21/2014	7:10:		4:35:	53				
	06-15	-2014 09:12	06/15/2014	9:12:		1:38:	18				
	06-09-	-2014 06:49	06/09/2014	6:49:		0:56:	18				
	06-08-	-2014 03:5	06/08/2014	3:57:		0:07:	07				
	06-07-	-2014 02:0	06/07/2014	2:06:		2:07:	36				
	Sunday	y quick rur	06/01/2014	4:16:		0:36:	03				
	Long b	each reven	05/31/2014	9:27:		2:14:	41				
	Memo	rial Day P	05/26/2014	9:08:		0:46:	57				
	Recov	ery ride	05/25/2014	9:09:		1:02:	30				
	Dog B	each	05/23/2014	10:53		2:43:	59				
	05 04	2014-00-21	05/04/2014	n-27-i		0.55-	42				





Ride MMP Vs. Other

GPS Route

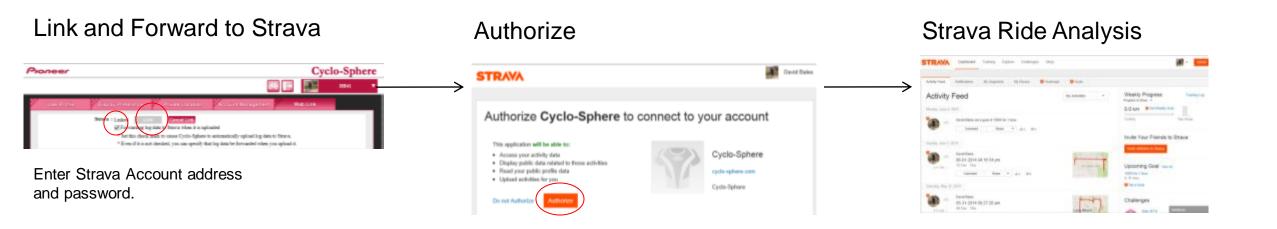


Satellite View



Auto "Forward" to STRAVA, Training Peaks, Facebook & Twitter









Post Ride Analysis to STRAVA, Training Peaks, Facebook & Twitter

Post a single event



Auto-Forward

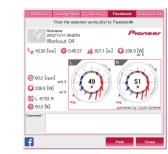
My Workouts



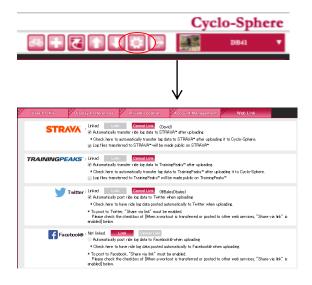
Web Link



Twitter and Facebook



Profile Settings



- Select Auto Forward
- Select Private or Public





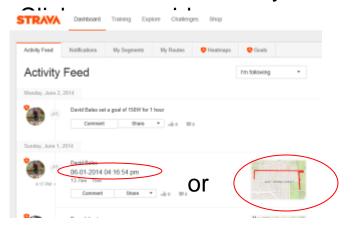




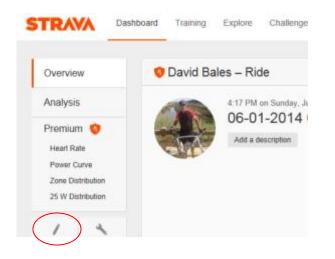


Make STRAVA Public

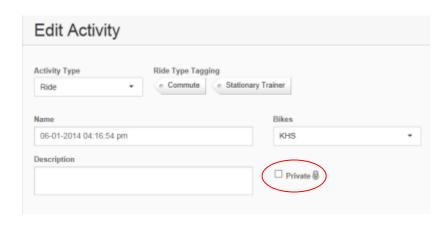
Laptop / PC: Go to Dashboard Activity Feed



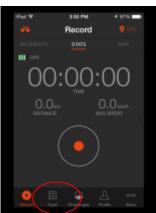
Click on the "Edit this Activity" pen



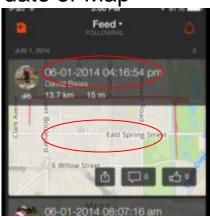
Un-Click Private



Strava App: Click Feed



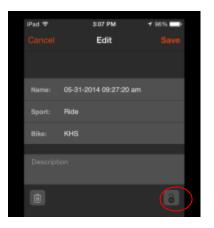
Click the date or Map



Click on the "Edit this Activity" pen



Click on the lock icon





Resources



N. America Site www.pioneerelectronics.com/PUSA/ www.powerisking.com



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Global Site: http://pioneer-cyclesports.com/us-en/



Magnet Calibration Installation Video http://www.youtube.com/watch?v=w4k F4Zx1bqk&feature=youtu.be

Comments and Questions, E-Mail to: cycle-sports@pioneer-usa.com

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