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## PIONEER DUAL-LEG POWER METER, CRANKSET AND HEAD UNIT

Pioneer, a Japanese electronics titan, entered the cycling power meter market last year, more-or-less under the radar. Two cycling enthusiasts, who work in the company's R&D department, set out to create a new system and tested the waters with their first generation product. They struck up a deal with the Belkin WorldTour squad to help them fine-tune their product

as well as add some legitimacy to it. In 2014, Pioneer launched their second-generation system and invited us to check out their latest developments near their US headquarters in Dana Point, California.

These days, most serious racers train with power, and as training becomes more in-depth and advanced, these athletes look for all possible ways of effectively using this information. Pioneer introduces a product that goes beyond just having a power meter attached to the bike. They call it a *pedaling monitor system*. With this system, the rider can view their actual left and right pedaling rotation efficiency in real-time. The head unit (SGX-CA500) displays a graph of the pedaling stroke for each leg and its power while riding, indicating how even your left/right balance is and how efficiently you're using power. In addition to this impressive feature, ►



data every 30-degrees of rotation and transmits this wirelessly to the head unit. Currently, it is only available as a Shimano Dura Ace or Ultegra system. It holds a +/- 2-percent accuracy, is highly water resistant and the batteries are user replaceable. The Dura Ace model weighs 700 grams, which is less than both SRM and Quarq units.

Riding the new Pioneer system reveals an impressive training enhancement. The information displayed during a ride is intriguing, and shows how to improve left/right pedal strokes to ride more efficiently. Everything appears to transmit nicely from the power unit to the computer, and the power numbers seem to read smoothly and consistently. The touchscreen is a nice feature but is a little clunky and took a little time to adjust to. All of the information that can be displayed will certainly take time to understand and utilize, but it's cool to know that it's all there and in real-time. There are a lot of great features that Pioneer has *pioneered* with their pedaling monitor system and the Cyclo-Sphere is a great resource if you don't already use TrainingPeaks. So far, it has been a very impressive system, and it's awesome to sit on your bike and watch exactly what both of your legs are doing during a ride. **R**

[pioneer-cyclesports.com](http://pioneer-cyclesports.com),  
\$1,850 (Dura Ace),  
\$1,550 (Ultegra),  
\$300 (SGX-CA500)

the computer also displays the standard power data for precision training. The SGX-CA500 also has cadence and GPS positioning, which provides all of the other important ride information like speed and elevation. It's compact and light enough to not be obnoxious and features touchscreen capabilities. If you're committed to a different ANT+ compatible computer (like a Garmin), the power meter can be switched to work with those, though you won't get all of their exclusive real-time info.

Pioneer also has their own online interface called the *Cyclo-Sphere* where users can upload, manage and analyze all of their power and ride information. This can be accessed online ([www.cyclo-sphere.com](http://www.cyclo-sphere.com)), and data can be uploaded over WiFi or direct via USB from the head unit. It's a highly informative website that lets you analyze and compare numerous graphs (more than 200 performance metrics). It's a free service and also logs ride maps and routes. Additionally, Cyclo-Sphere allows users to export a .fit file that can then be uploaded to TrainingPeaks or Strava. The company plans to offer direct uploads to these services in the future.

The cranks are where the magic happens thanks to Pioneer's proprietary technology that analyzes the pedal stroke with six independent sensors and three on each crankarm. During each pedal stroke, the design captures



Pioneer's David Bales calibrates one of the head units prior to a group ride with the Bike Religion staff.