



Velocomp Announces FREE Firmware Update with New Features for iBike® GEN III Owners

Boca Raton, FL (March 10, 2009) – Velocomp announced today the release of iBike® Firmware 3.08 for all iBike GEN III owners. The firmware update is available free of charge to all iBike GEN III owners. Not only have the accuracy of the iBike in drafting situations and wind measurement performance have been improved but riders will enjoy several exciting new features and enhancements, including:

- Programmable intervals for the iPro®. Send fully customized intervals from coach to rider! (programmable intervals already exist in the iAero®).
- Pre-programmed workouts for the iAero. iAero owners now benefit from iBike's pre-programmed fitness test and the fitness-level customized strength, cardio and weight-loss intervals. (Pre-programmed intervals already exist in the iPro).
- A “Usr” (user) interval screen has been added to all iBike models. The user interval screen shows average watts in the top window, actual watts in the middle, and elapsed time in the bottom window. This is the perfect screen to use in TT events!
- In the cycling computer screen (speed/distance/time) the center window now alternates between distance readings and power readings.
- Normalized Power™ (NP™), Intensity Factor™ (IF™) and Total Training Stress™ (TSS™) measurements have been added to the iPro and iAero. iBike is now the only power meter in production that can display this information on the road.

Since the introduction of the GEN I iBike Pro, Velocomp has released over 15 firmware updates free of charge to their customers. “We constantly monitor our forums and solicit customer feedback for wish list items,” notes Velocomp CEO John Hamann, “any time we can deliver them free of charge we do! These are exactly the enhancements that power meter users have been asking for.”

The release of Firmware 3.08 also allows iBike to uphold its commitment to a continuous migration path. iBike owners have never been presented with “dead end” technology. Velocomp has always provided an upgrade path both from a technological standpoint (GEN I to GEN III) as well as from a feature/functionality path (entry level iSport to top-of-the-line iAero). The iBike can be upgraded right from the owner's computer; there is no need to mail the iPro or iAero to a factory for updates.

With the release of Firmware 3.08, Sport owners as well as iPro owners may now upgrade to the iAero with the purchase of an upgrade package and firmware key.

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About NP™, TSS™, AND IF™: What Are They, And How Do I Benefit From Them?

Generation III iBikes with firmware 3.08 and above now have Normalized Power™ (NP), Training Stress Score™ (TSS), and Intensity Factor™ (IF) measurements. If you are a seasoned veteran of power training, you realize how important this information can be, and how great it is that iBike is now the only power meter in production that can display this information on the road.

TSS, IF, and NP were developed by well-known exercise physiologist Dr. Andrew R. Coggan. These three measurements use the “raw” power data from your iBike, along with sophisticated mathematical formulas, to provide more detailed information about the intensity and quality of your workouts. If you have never heard of these three useful factors, then keep reading to find out what they are and how they can help you get the most out of your workouts and your fitness improvement goals.



By looking at your TSS, IF and NP numbers after each ride you can track your workouts based on data from your own personal FTP number. Furthermore, these three metrics can be used to diagnose workouts and even prescribe rest days. If you can normally ride two hours at an IF of .9, but today you really struggled, it might be time for a couple of easy recovery rides (IF of under .7). Using this information can make your iBike power data even more personalized, and help you maximize the effectiveness of your training.

Getting Started: Determining Your Functional Threshold Power (FTP)

Before you can obtain TSS, IF and NP measurements you need to have a “baseline” that characterizes your current level of fitness. This reference point is called your “Functional Threshold Power”, or FTP.

One way to determine your FTP is to do a one hour Time Trial. Your average watts for that one hour period is your FTP. Another way to estimate your FTP is by using the iBike’s 20 minute fitness test. The iBike 20 minute fitness test is similar to a time trial, just shorter in time.

Once you have determined your FTP number from either method, you must enter that value into the iBike. If you’re training regularly you’ll want to check your FTP about once a month.

Normalized Power (NP)

Have you ever participated in a group ride where your watts are never steady? Group rides can be very difficult, but afterwards looking at your average watts might not reflect how difficult the ride was. The disparity between measured and perceived effort is due to coasting, surging, using brakes, and soft pedaling. In fact, your average watts will be lower than your perceived effort suggests. This is where Normalized Power (NP) comes in. NP takes your “raw” power data and gives you a related power measurement number (reported in watts) that better represents the “tax” on your body for the ride, especially when you’re varying your power output considerably from moment to moment. For example, in a criterium, the NP number will be much higher than the average power because the NP measurement does a better job of accounting for the effects of coasting and large power surges. The NP number will be more representative your effort for the ride. In events such as a time trial or climbing hills where the wattage holds very steady, NP and average power will be very close to each other because you pedal almost all the time.

Using Intensity Factor (IF) to gauge the difficulty of your Workout

If you do cycling workouts regularly you know that some of your workouts are more intense than others. Average power and NP alone won’t quantify the intensity of your workout, because the intensity of a workout is not based on power output alone but *also* the time length of your workout *and* how hard you work during each moment of your workout. Normalized Power (NP) and Functional Threshold Power (FTP) can be used *together* to quantify the overall intensity of each of your workouts. The Intensity Factor (IF) is very simple to calculate: divide your NP by your FTP. The number IF represents the intensity of your workout as compared to the effort you expend in a one hour Time Trial. So, an IF of 1.0 represents a time trial effort and in theory can only be maintained for an hour.

One of the great things about an IF measurement is that you can manage your training schedule to make sure you’re training hard, but not training too hard. Here are some values for IF and the kind of rides they represent:

- Less than 0.75 - recovery rides
- 0.75-0.85 - endurance-paced training rides
- 0.85-0.95 - tempo rides, aerobic and anaerobic interval workouts (work and rest periods combined), longer (>2.5 h) road races
- 0.95-1.05 - lactate threshold intervals (work period only), shorter (<2.5 h) road races, criteriums, circuit races, longer (e.g., 40 km) TTs
- 1.05-1.15 - shorter (e.g., 15 km) TTs, 10 minute hill climb
- Greater than 1.15 - prologue TT, track pursuit, 5 minute hill climb



One more way to gauge your workouts: Training Stress Score

We now know the true tax on our body (NP), and how intense each workout is (IF) compared to a reference one hour TT, but there is still one more thing to think about. For example, what is the comparative stress on the body from riding at 50% of our FTP for two hours, compared to a 100% FTP effort for one hour? A simple number called Training Stress Score (TSS) allows you to quantify and compare your different workouts, even when they are considerably different in time length and power intensity. TSS is designed to give you a numeric value for each ride that tells you how much training load was on your body for that day's ride. A TSS of 100 equals an hour at an IF of 1.0. So, if you were out for a fairly easy four hour ride, and accumulated 200 TSS points, it's the same training load as doing two hours at time trial pace.

Importantly, TSS also quantifies how tired you can expect to be after a workout and how long the residual fatigue might last.

- Less than 150 - low (recovery generally complete by following day)
- 150-300 - medium (some residual fatigue may be present the next day, but gone by 2nd day)
- 300-450 - high (some residual fatigue may be present even after 2 days)
- Greater than 450 - very high (residual fatigue lasting several days likely)

For more detailed explanations of NP, IF, and TSS, see the TrainingPeaks article at:

<http://home.trainingpeaks.com/articles/cycling/normalized-power-intensity-factortraining-stress-score.aspx>

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About Velocomp, LLP

Velocomp, LLP is a sports technology company based in Boca Raton, Florida. The first in the bicycle industry to deliver advanced power measurement at a mainstream price, Velocomp is dedicated to product breakthroughs in the areas of performance, measurement, design and value. Launched in June 2006, thousands of iBike Pro power meters are being enjoyed worldwide. www.iBikeSports.com.