

## Part 2 – Getting Started using a Power Meter and using CyclingPeaks WKO+ software

As I mentioned in the first part of this series, I highly suggest the CyclingPeaks WKO+ software if you are using a power meter. This part of the series will discuss how to get started using your power meter, how to use your power meter to test yourself and with the help of CyclingPeaks WKO+, how you can establish your Power levels or Zones. I will, in detail, go over how to use this software and in the process I am sure you will see why I recommend CyclingPeaks WKO+ instead of other software available.

Let's start with the tests. Establishing your power zones or levels, as Andy Coggan likes to call them, is an important step in using the power meter effectively. Even with just a basic understanding of physiology most riders understand the importance of identifying and spending time in the recovery, endurance, tempo, lactate threshold and VO2max levels. The tests and WKO+ will help you establish these zones for yourself.

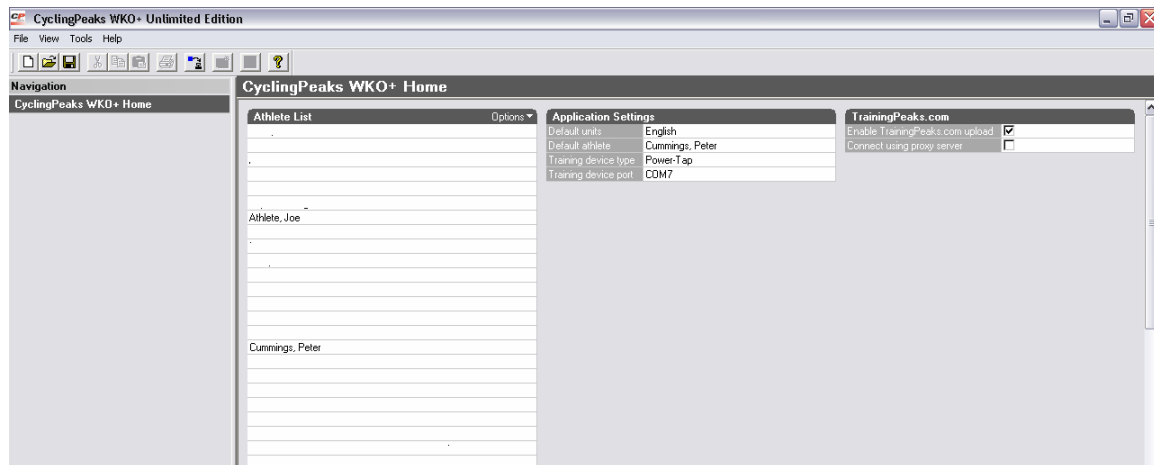
So, you have a power meter and want to start using it. As we get started, let me remind you that intensity is one of the most important variables of training. To establish your power zones or levels, which will determine your training intensities, you need to know a few things first. Knowing your lactate threshold heart rate (LT HR) is the first thing you will need. If you have done a 20km Time trial and know your average HR for that race use it. If you don't, establishing this number will help you get started. Let's start by defining LT HR. I have heard quite a few different definitions so this is what I am talking about, the HR you can maintain for a 20km time trial. Some call this the Onset of Blood Lactate Accumulation level, or OBLA. I am NOT talking about a blood lactate level of 4mmol. If you know your LT HR a simple 20 min Tempo Time Trial at 10 beats under LT HR is what you need to do to establish your power levels. I will discuss this in a bit. If you don't know your LT HR you need to test for it first. A short effective test you can do is to perform two – 8 minute time trials at your maximum **sustainable** intensity. You need your power meter and more importantly at this phase your HR monitor. You want to do these two time trials on relatively flat ground or on your trainer. If using your trainer, use lots of fans and stay hydrated. Warm up for at least 20 mins and no more than 40. Then rip into it. Remember, this is going to be two, eight mins efforts don't blow yourself up in the first 3 mins. After the first 8 minute effort rest and recovery spin for ONLY about 3-5 mins and then do it again. What we are looking for is your maximum sustainable HR. If your first effort was too hard your second test might not match up well. If the average HR for the two tests varies by more than 5 beats use the lower average number as your LT HR number. If the two average HR numbers are within 5 beats you can use average of the two for your LT HR number.

With LT HR established (you can also set your HR zones using that number) it is time to do the tempo test to establish your Power zones or levels. To establish your Tempo Time Trial HR Goal subtract 10 from your newly established LT HR number. This is your HR goal for the tempo test. This is another test using your HR monitor. I have found that this level of intensity (10 beats under LT) correlates highly with 90-93% of your Functional Threshold, CP60 or your Hour of Power. Functional Threshold is what most

coaches that use power to program athletes are using for a baseline. So, for the Tempo Time Trial test warm up well, 20-40 minutes nice and easy and then GRADUALLY raise your HR up to that 10 beats below LT number and hold it. Once you reach your HR goal start a timer and ride 20 mins at that HR exactly, ignoring your power output for now. That means if the HR drifts upward you need to back off the power. When done correctly this 20 min test should produce an average HR of exactly 10 beats under LT HR. Be sure to cool down. It is now time to open up CyclingPeaks.

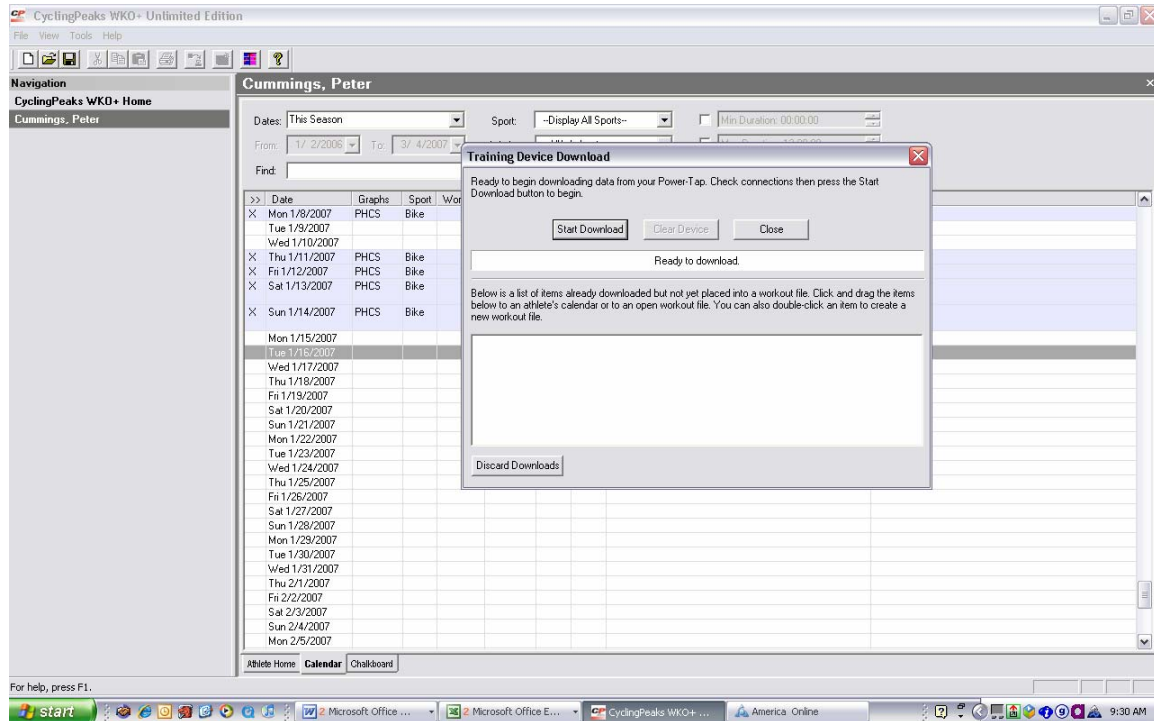
CyclingPeaks is the best power analysis software by far. I really don't have any use for the others as of yet. Andy and Hunter have the goods. The creation of TSS (training stress score), Normalized Power (NP) and IF (intensity factor) as well as FT (functional threshold) has given coaches like myself the ability to monitor and manipulate training variables to produce great results for athletes.

When you open the CP software the first page that opens is the CP home page. That is until you establish yourself as the default athlete. Then your personal Home Page will open when you open the software. So, open the software and the first thing to do is "create a new athlete", you will find this option under "file". A pop up box will open and you will need to fill in the blanks.



Above is a look at what your WKO+ Home page will look like after you install yourself. It isn't exact. All the blank white slots are where I erased my athlete's names. You will have Joe Athlete and your name listed. Note - It doesn't matter what you put in for "Threshold Power" at this time. It is VERY IMPORTANT to get this number correct once you start using the software, however. So, input your personal info and click 'OK' and you will now see your name under the athlete list. Click on your name and your "Athlete Home Page" will open. After you start accumulating your power files this is where you will find much of the "big picture" of what is going on with your training. Right now it will be a bunch of blank windows but in a few weeks you will find some very interesting trends and numbers to explore. Go back to the CP home page and look for the "application settings" box. Make sure your type of power meter is selected (CP software supports almost every power meter, HR monitor and GPS device on the market today) and set the Com Port to the proper port number. Hint, plug in your adapter and

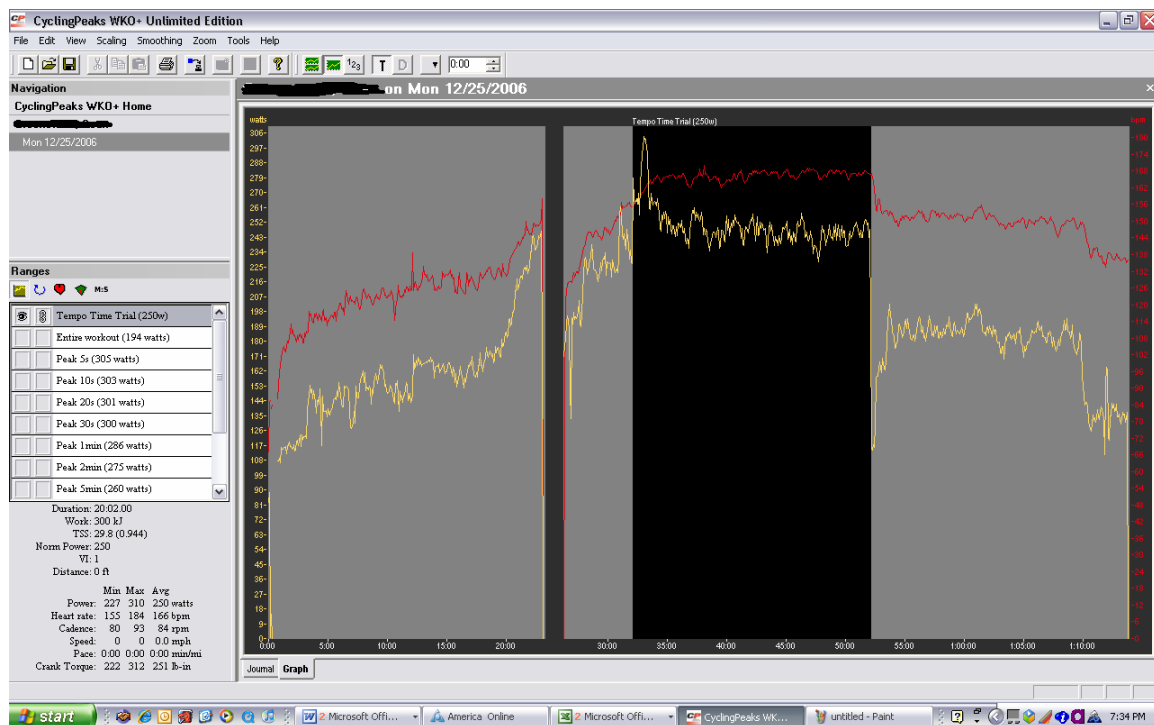
click on the “training device port” window. You will be able to see the adapter listed. After you have your meter connected, download the file by using the “training device download” option under “file” or use the icon that looks like a blue box and arrow pointing to a computer to open this feature. A “training device download” window will open and just click “Start Download”. The file should only take a minute or so to download.



Re-open your athlete home page and on the bottom of the screen you will see three tabs. Click on the “calendar” tab. Then just drag and drop your file from the “training device download” window to the correct date. Above is a view of your calendar page (see the highlighted tab at bottom) and the “training device download” box ready to download a device’s file. If the date of your tests can’t be seen check your athlete home page, top left corner under “athlete settings” and make sure you have the “season starts and ends” dates correct. With that fixed you can now see the date and then drag and drop your workout files from the “training download” window into the proper date and they will open right up.

If you have never seen a power file, one of the first things you will notice is that the power graph or numbers are very erratic or up and down. This variability is normal. HR graphs and numbers are relatively steady but Power is not like HR, it is an instantaneous measurement picking up the slightest changes in cadence and force. Heart Rate has at least a 30 second lag time in its response to these variables. The yellow line you are looking at is the power graph. When looking at the graph, whether you did the LT tests or the Tempo test, your test efforts should be very apparent.

What we need to do is look closely at the test effort parts of the files to get the details we need to establish your Functional Threshold and power zones or levels. Take your computer pointer to the point where you see the power start to surge for the 20 min effort. Left click your mouse and drag it to highlight this effort. Once it is highlighted, (it will show in blue), we need to mark it. While it is highlighted in blue, press your “Control” and “R” buttons at the same time. You will see the section turn black, the words “new Range” appear over the section and in the left side of the screen (if you have the “Ranges bar” on) you will notice a New Range box appear. You can now just start typing “tempo time trial” or “Lactate Threshold Test” into this box and then click “enter”. You have now created this range and saved it. Go to “view” in the upper left corner and click on “heart rate” and let’s take a look at what you have.



In this example above, you can see the power graph (the yellow line), the HR graph (the red line), the highlighted tempo time trial and all the associated numbers for that range (the Test) in the lower left side of the screen. It shows that this athlete held 250 watts for 20:02 at an average HR of 166 bpm which is 10 beats below their LT HR. So, as I mentioned earlier, at Tempo effort like this represents an effort of about 90-93% of the individuals Functional Threshold and that is the number we are looking for. So, if you divide 250 by .9 and .93 you will get a prediction of this athletes FT of about 268-277 watts.

Now that we have a predicted FT we can set up your power zones and really start to get more out of the CP software. First thing you need to do is go back to your athlete’s home page and enter you FT number. You can find this right in the center of the home page in the Power Training Zones box. There will be some numbers in there already since you had to put a number in when you created your slot. Now it is time to fix that. In that

center box called “Power Training Zones” Click on “options” and then “new zones”. You will now need to go into the area with the date and chose the day of your test. After that you should click on the “Threshold Watts” box and type in your predicted FT. I would recommend being on the conservative side. So with athlete above with a predicted FT of 268-277 watts, I would enter 270. I like to use round numbers (I have a good reason but it isn’t important for this discussion). After you input the number and hit enter, click “options” again and then “calculate zones”. (I would suggest choosing “Coggan Power Levels”.) You can now see your personal power training levels listed in the Power Training Zones box. It is **VERY important to remember** that anytime you predict your FT has gone up that you redo this Zone Creating process, or in other words updating your zones for further training sessions.

In the next part of this series I will explain Training Stress Scores, Intensity Factors and the Performance Manager Chart and how to set up your WKO+ Athlete Home Page. All of which are a huge benefit of this software and using a power meter.



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