Firmware Release Notes

AeroPod Power and CdA Meter

FW 7.02—September 2018

- Minor bug fixes

FW 7.00—August 2018

- Different Out and Back Calibration procedure (compared to PowerPod):
  1. Out portion is same as PowerPod: watts rise to 50W
  2. Return portion is DIFFERENT from PowerPod: at return point, watts read 70W
  3. Calibration ride <u>continues for another 6 minutes beyond return point</u> (70W to 100W). STAY IN YOUR "NORMAL" RIDE POSITION AT ALL TIMES.
  4. After the 6 minute period has ended, AeroPod shows 100W, and goes to a "normal" ride
  5. "Default" CdA is measured in AeroPod

- CdA measurements supported in Profile 4 only

- ONLY IF heart rate strap is not paired to AeroPod, HR channel of ride file records live CdA measurements. To calculate CdA from HR channel multiply by 4, divide by 1000. So, in the ride file, a "heart rate" of 106 corresponds to a CdA of .424
    → If HR strap is paired to AeroPod, then HR data will be recorded in HR channel

- AeroPod reads speed data from PowerTap hub direct force power meter

- When AeroPod is paired to an SRM direct force power meter or other "crank-torque-frequency" power meter, the SRM is automatically calibrated ("PCAL") by AeroPod:
  1. Spin the crank to awaken the SRM
  2. Spin the wheel to awaken the speed sensor
  3. Let the bike crank sit motionless for 5 seconds
  4. Awaken AeroPod from sleep
  5. If a "crank-torque-frequency" power meter (i.e. SRM) is detected, the auto PCAL process is initiated
  6. During the PCAL process, AeroPod light flashes green
  7. When PCAL is successfully completed, AeroPod light turns solid green (assuming speed sensor is found), then turns off
  8. If PCAL is unsuccessful, light turns solid RED, then unit turns off (to rearm PP/AP for auto PCAL)

PowerPod Power Meter

FW 7.01—September 2018

- Fixed a minor bug affecting profile interaction with Isaac

FW 7.00—August 2018

- Compatible with new-generation PowerPod circuit boards.

FW 6.41—July 2018

- Whenever a sensor scan is performed (even to the same sensors) PowerPod is forced into a new, O&B calibration ride
- Fixed a bug causing Isaac error message to appear when using the Device/Reset Profile command

FW 6.40—June 2018 (6.33-6.39 not released)

- Improved, shortened (about 5 minutes) out-and-back calibration
- Out-and-back calibration is now standard for all PowerPod models
- Whenever a sensor pairing is performed, unit automatically goes in to out-and-back calibration mode
- Calibration ride files are no longer recorded in ride memory
- Improved ride startup process; automatic recalibration takes 90 seconds, vs. 8 minutes previously
- Adds support for PowerPod Lite power meter
  - No limit to number of profiles stored in Isaac
  - One profile stored on PowerPod Lite sensor
  - Records first 10 minutes of each ride
  - Upgradeable to PowerPod ANT/BLE with purchase of unlock key

FW 6.32 (FW 6.28-6.31 not released)

- Adds ANT+ battery level indicator to compatible bike computers such as Garmin, at five levels: "New" (battery 90% to 100%); "Good" (70% to 89%); "OK" (35% to 74%); "Low" (20% to 34%); "Critical" (less than 20%). Velocomp is "Manufacturer #8":

FW 6.27

- New "hot swap" Automatic Profile Selection feature. When PowerPod is moved from your "old" bike to your "new" bike, PowerPod automatically switches to the new bike profile, *even if PowerPod has not had 20 minutes to go to sleep after riding with your old bike*. Attach PowerPod to the new bike, then ride away from the old bike. Within 1 minute PowerPod automatically switches to the new bike profile. PS: you still need to manually switch your bike computer's profile; your bike computer isn't smart enough to change itself automatically... ☺

FW 6.26 (6.25 not released)

- Adds new, "turn off PowerPod manually" feature. To turn off PowerPod manually, click the PP button 5 times in a row. Status light will show solid green, then yellow, then red, then turn off. When the light turns off PowerPod is put to sleep and the ride file is reset.
- Corrects a problem with some PowerPods manufactured in mid-2017 where the "yellow" color of the status light appears reddish or amber. After applying this FW update, the yellow color is restored

FW 6.24 (6.23 not released)

- IF your PowerPod BLE serial number includes the number "93", FW 624 lets you select, create and update your PowerPod BLE profiles wirelessly, using the PowerHouse Bike 2.0 app.
- Early-generation PowerPod BLE units, including BLE Kickstarter units, that do not include "93" in the serial number, will not work with the wireless profile update.

FW 6.22

- Corrects an issue with TT bikes where reported watts might be too high
- Corrects an issue with Fat Bikes where rolling resistance might be too low

FW 6.21

- Adds the ability to view and analyze CdA data using Isaac software (requires purchase of optional PowerPod CdA key, <u>and</u> use of both-leg DFPM on bike)
- Adds "out-and-back" calibration ride option, enabled through Isaac software
- Adds compatibility for PowerPod ANT/BLE circuit board (firmware doesn't add BLE functionality to ANT-only PowerPod)

FW 6.13-6.20

- Non-released versions

FW 6.12

- Adds Dynamic Crr (DCRR) measurement, for improved accuracy on chip-seal and gravel roads

FW 6.11

- Improved power accuracy and consistency when using PowerPod on hill repeats
- Fixed a bug that causes incorrect power smoothing on ANT+ channel when user sets PowerPod to 0 second smoothing (factory default smoothing is Dynamic Power Smoothing, which is unaffected by this bug fix)
- If PowerPod has already been paired and calibrated to with a speed or speed/cadence sensor, then after a failed re-scan attempt to the same sensor, PowerPod status light now flashes green

FW 6.10

- Improved power accuracy and consistency when using PowerPod on hill repeats
- Fixed a bug that causes incorrect power smoothing on ANT+ channel when user sets PowerPod to 0 second smoothing (factory default smoothing is Dynamic Power Smoothing, which is unaffected by this bug fix)
- If PowerPod has already been paired and calibrated to with a speed or speed/cadence sensor, then after a failed re-scan attempt to the same sensor, PowerPod status light now flashes green

FW 6.09

- Non-released version.

FW 6.08

- Performance improvement: With 6.08, if PowerPod is set to indoor trainer mode, *prior to being calibrated outdoors*, then solid yellow light will go out after a few seconds. FW 6.07 left the solid light on continuously when in indoor trainer mode.

FW 6.07

- Corrects a zero-watts issue when a PowerPod is set up to run in indoor trainer mode prior to its being calibrated outdoors.
- Corrects an issue that causes ANT+ bike computers to become confused when the user selects the "calibrate power sensor" option on the bike computer. If the user selects the "calibrate power sensor" option, the PowerPod will return a calibration value of 0 (zero).
- Improves first-ride calibration user feedback. After PowerPod sensor pairing, (Solid green), light goes out. When ready to start calibration, click the button. **Yellow light remains on continuously, for up to 20 minutes, until calibration ride is begun.** When calibration ride has started, the yellow light flashes for 5 minutes, then goes out—calibration is complete. If solid yellow light goes out before calibration ride is begun, then PowerPod has gone to sleep. Click to rewaken when ready to perform calibration ride.
- Prevents a rare condition where, after calibration, watts could alternate between 0 and several thousand watts.

FW 6.05, FW 6.06

- Non-released versions.

FW 6.04

- Initial firmware release.

Firmware Release Notes

Newton Power Cycling Computer

OS Version 5.18 (versions 5.16 and 5.17 not released)

- Corrects an issue with TT bikes where reported watts might be too high
- Corrects an issue with Fat Bikes where rolling resistance might be too low
- Improved power filtering—reduces watts jumpiness

OS Version 5.15 (version 5.14 not released)

- Adds improved/more reliable ANT+ sensor "Scan" logic. No change to Scan procedure (press-hold up and down arrows simultaneously to initiate Scan)
- Improves "Check Calibration" operation when out-and-back ride is performed

OS Version 5.13 (see 5.00 notes for installation requirements)

- Adds Dynamic Crr (DCRR) measurement, for improved accuracy on chip-seal and gravel roads
- Improved power accuracy and consistency when using Newton on hill repeats

OS 5.10-5.12

- Non-released versions

OS Version 5.09 (see 5.00 notes for installation requirements)

- Adds Power Interval Training screen (average watts/act watts/lap time) to Tinkoff Edition Newtons and some upgraded models of regular Newtons. 2lick center button to select main power screen (speed/watts/cadence). To access Power Interval Training screen, press-hold center button. To increment lap, click the center button. To exit Power Interval Training screen, press-hold center button.

OS Version 5.08 (see 5.00 notes for installation requirements)

- Corrects a bug in Automatic Profile Selection operation

OS Version 5.07 (see 5.00 notes for installation requirements)

- Correctly configures feature sets for Newton 5 Pro and PowerStroke models

OS Version 5.05 (see 5.00 notes for installation requirements)

- Improves compatibility with non iBike speed sensors

OS Version 5.04-5.03 (see 5.00 notes for installation requirements)

- Internal builds for testing purposes

OS Version 5.02 (see 5.00 notes for installation requirements)

- Bug fix for "best accuracy" calibration mode
- Lap review time reduced from 15 seconds to 5 seconds

- Bug fix for ride files when Automatic Profile Selection is used

OS Version 5.01 (see 5.00 notes for installation requirements)

- Bug fixes for 5 and 10 minute cal rides
- Bug fix for GT operation
- Improved user interface for 5 minute cal ride
- Automatic Trip Reset after 5 minute Cal Ride has been completed

OS Version 5.00

Major overhaul of Newton FW for better performance and simplicity.

FW 5.x installation requirements

To install FW 5.x in "legacy" Newtons, serial numbers xx xx xx 08 01/02/03, requires purchase of optional FW 5 Upgrade Key, available here. Some FW 5.x features require Isaac 3.x.

- Adds user configurable main screens (use Isaac to configure)
- Adds Dynamic Power Smoothing^{TM} display on screens
- Adds Automatic Profile Selection
- Enables "GT" (send Newton power) option
- Adds good/better/best setup choices, including default "Just Ride" (no calibration or Isaac software required).
- Adds "bullseye" confirmation of ANT+ sensor pairing, sensor seeking, and sensor loss
- Allows most "setup" controls to be accessed through Isaac
- For serial number xx xx xx 08 01/02/03/06 units, simplifies "setup" menus (press-hold up arrow)
- Setup menus are not accessible for serial numbers xx xx xx 08 04/05.
- Moves Fit Test to Fit Train menu (press-hold right arrow). Fit Train screens not accessible from SN 04 units.
- Renames former Fit Train "user" workouts to "tt" workouts
- Renames former Fit Train "ib3" workouts to "User" workouts
- Allows displayed elevation to be updated to stored "home elevation" through Enviro/slope/wind/elevation screen; press hold center button
- Allows home elevation to be changed through Enviro/slope/wind/elevation screen; press-hold center button until "Alt" screen appears.
- Allows "cal wind" through "Hill-Wind/Wind". In an absolutely windless area, press-hold up arrow until Cal Wind appears; let number settle, then click center button to calibrate.
- Changed "Pin Found" to "dfP found" (direct force power sensor found)
- Adds scan-progress bar to "Scan" screen

OS Version 4.16

- Improves compatibility with non iBike speed sensors.

OS Version 4.15

- Internal release to better support the factory manufacturing process.

OS Version 4.14

- Modified the order of items in the Setup Menu. The wind cal screen will no longer be the first screen you see upon entering setup. Instead, the OS Ver screen will be displayed. The wind cal screen was moved to a position following the cal ride screen. This was done to help people avoid doing a wind cal in setup when they didn't want to
- Changed the Setup Menu to not display the wind cal screen if the bike is moving.
- Fixed a bug in the Set Prof setup screen that failed to switch ANT+ sensors along with the profile. Now, when you change profiles, the iBike Newton will immediately terminate connections to ANT+ sensors and search for the sensors that are defined in the newly selected profile.
- When GT Unlock key is installed, the Pout will be automatically enabled in profiles that do not have DFPM's paired. A sensor scan will no longer be required to enable the power output transmission.

OS Version 4.13

- Added an "auto PCAL" feature for SRM Power Meter users. This new feature will automatically do the PCAL procedure in the background when the Newton first connects to the SRM ("Pin Found" message) after the user wakes up the SRM by turning the crank and then stops turning the crank for 5 seconds. As soon as the PCAL has been completed, the Newton will display a new message: "PCAL DONE". This feature should make it easier for SRM users to calibrate their SRM Power Meters at the start of a ride and insure the Newton will display correct power data from the SRM Meter.
- Fixed a bug the Newton calculations for SRM Power Meter data that could cause power spikes whenever the rider transitioned from coasting to pedaling. It was an intermittent problem that has now been fixed.
- Fixed a problem where the internal settings for ZUUUM Meter mode and the DFPM Power Display configuration were overwriting each other. This would only affect ZUUUM meters that were running with DFPM power meters paired. Changing one setup value would affect the other. This conflict has been resolved. If you were using the "dFP DiSP" setup or "UUU Mode", please double check your settings after installing this firmware to insure they are set properly.

OS Version 4.12

- Fixed a bug that prevented Calibration Rides from being properly displayed in Isaac.
- Added code to disable Hi-Def data recording (Powerstroke Data) when ZUUUM mode was set for Clinic mode.

OS Version 4.11

- Added support for the ZUUUM Clinic mode.

OS Version 4.10

- In previous versions of firmware, if the user had paired the Newton with a DFPM, the power shown on the Newton would only be the power number from the DFPM. There was no way to see the power number being calculated by the Newton. In v4.10, a new User setting has been added which will permit the user to select which power number gets displayed on the Newton. The new setting screen has an ON/OFF in the top display, the text "dFP" in the middle display, and "diSP" in the bottom display. When the setting is "ON", the DFPM power will be shown. When set "OFF", the Newton Power will be shown.
- Reduced the maximum fitness number from 10 down to 7 in order to conserve bytes in the unit.

OS Version 4.09

- Fixed a problem that prevented the Auto-Hill mode from being enabled by default when the ZUUUM Power Meter mode was enabled.

OS Version 4.08

- Made some changes to the battery charge monitor code that would prevent the correct charge level from being displayed when the Newton was woken from sleep. In Version 4.07 and earlier, a hard-reset could be used to work-around the problem, but in version 4.08, the problem has been fixed.
- Fixed a problem that could prevent the press-hold of the center button when on the battery charge monitor screen from turning off the unit properly.

OS Version 4.07

- Improved the Newton's response time when the rider stopped. This helped improve ride time statistics and helped make the ride summary information reported on the Newton Display compare better with the numbers displayed by Isaac.
- Added code that would suppress some of the power-on/wakeup prompts displayed by the Newton if the Newton has not yet been calibrated.
- Fixed an issue that could cause incorrect battery charge value displayed.
- Changed the time period used to detect and signal a CAD LOST message from 30 seconds to 60 seconds.
- Added code to permit the display of power when the indoor trainer mode is enabled even if the profile being used has "factory default" values. We won't force an auto-calibration ride to begin if the indoor Trainer mode is enabled.

OS Version 4.06

- Never released to the public. This was an iBike internal release for testing.

Firmware Release Notes

OS Version 4.05

- Fixed a bug that could have caused a lock-up of the Newton when the battery reached 100% charge. The work-around was to simply disconnect the Newton from the USB cable and do a hard-reset.
- Made improvements to the way distance was accumulated in the Newton.

OS Version 4.03

- Fixed a bug that could cause the reported battery charge value to never reach the 100% mark
- Changed the "press-hold" of the center button when the elevation screen is visible to only permit setting of the elevation if the bike is not moving. Also, after the elevation is set, an automatic trip reset will be executed to insure the new elevation "takes effect" in a new ride file.

OS Version 4.02

- Added the ability for users to perform manual Tilt Calibrations again. The new Tilt Cal procedure may be accessed under the RACR menu.

OS Version 4.01

- Added code that fixed a bug where under certain rare conditions, the "Out Leg" of a calibration ride could last more than 5 minutes before the rider was instructed to turn around.
- Added code that compensates the Fric coefficient based on the ratio of total weight to calibration weight. This should provide better results if the user modified their weight after a calride was completed.
- Modified the battery charge indicator screen to alternate between the "Chrg" indication and the % number to give users a rough idea of how charged up the unit was.
- Added code to force the new factory default values into profiles that have old factory default values in them.

OS Version 4.00

- If the user has Fast Data Recording enabled, it will override the Rec Interval setting. In previous version of the firmware, if the user had set the Rec Interval to 5 seconds, it would prevent the fast data recording from turning on even though the user may have had it enabled.
- Implemented a simplified "Quick-Start" setup and calibration sequence. When the user starts riding with a factory default profile, the first ride will be an automatic or quick start "calibration ride". It will have the same ride type as a normal or hi-def ride. The auto calibration ride will take about 10 minutes and must start and stop at the same location. When the user starts a ride, after about 8 seconds of moving, the words "Cal Start" will appear in the middle and bottom displays. The user needs to press the center button to start the cal ride. If the user wants to abort the ride, he should press-hold the center button until the "Abrt Cal"

message appears. If the user starts the cal ride by pressing the center button, the middle display will alternate between the word "Cal" and the distance traveled. This is a reminder to the user that they are in a calibration ride. After about 5 minutes, the bottom will display the "go bac turn 180" message that we used to show during the cal ride. After this message is shown, the user needs to slow down to less than 9mph to turn around just like in the cal ride. Once he does this, the bottom display will simply show "bac" and the middle display will alternate between "Cal" and the distance remaining. The rider should then return to their starting point. When the user travels the required distance to return to his starting point, the bottom display will revert to the standard "time" or "cadence/hr/cal" display.

- Added the "Cst Fric" and "Cst AEro" screens to the Racr setup menu. In version 3.03, these items were removed from the "Totals" menu to simplify that user interface. As in the "totals" screen, the values are read-only.
- Removed the ability to do a manual tilt calibration in the setup menu. This should no longer be needed.
- The "Cal Ride" setup menu selection will now trigger the new cal ride procedure. The older Cal Ride procedure has been eliminated.

OS Version 3.03

- Added another User Menu setup screen that can be used to optionally disable the function introduced in the previous release that would cause the Enviro, Avg-Max, Total, and Hill-Wind menus to automatically revert back to the Bike Computer or Power Screens if the user doesn't push a button within 4 seconds. This new optional setup is called "Auto Disp" and can be set ON or OFF. By default, it will be ON which permits the automatic switch back if the user doesn't push a button in 4 seconds. If set to OFF, the automatic switch back will be disabled and the display will stay where the user left it.

OS Version 3.02

- Modified the main Enviro, Avg-Max, Total, and Hill-Wind menus to automatically to "wrap back" to the main Bike Computer or Power screens. In addition, if the user doesn't press any key for 4 seconds after entering one of those special menus, the screen will automatically revert to the Bike Computer or Power screen.
- Added a new "USER" menu setup that can be used to enable the Fitness Training Mode. The fitness training mode must be enabled in the USER menu now before the "Right Arrow Press-hold" function will trigger entry to the Fitness Training Menus.
- Added a new "USER" menu setup screen that will permit the user to introduce a temperature offset into the system. This is needed as it appears that the Wind sensor's temperature is no longer close enough to reality. This offset will affect ONLY displayed values and values logged to ride file. All the underlying temperature compensation values used for wind calculations will be using the

unadjusted temperature values to maintain compatibility with the existing compensation tables.

- Made changes to the way battery charging was shown. Now, when the Newton is plugged into the USB cable, the BATT screen will show a flashing "CHRG" in the bottom display until the unit reaches 100% charge. Once the 100% charge is reached, the bottom display will stop flashing and the number 100 will be displayed. Note that due to the way the Newton has to detect charging, it may take several seconds for the Newton to recognize the cable was connected or disconnected. Therefore, if the user disconnects the Newton before the unit is fully charged, the flashing "CHRG" indication may persist up to 10 or 15 seconds before it returns to the estimated percent charge in the battery.

- Fixed a problem where we could potentially lose one wheel rev each time we stopped and started riding. It was rare for this to happen, but the potential existed.

- Fixed a problem with the GT Key Power Output that was causing a large power spike in the receiving device whenever a trip reset occurred on the Newton. (i.e. between a Calibration Ride and the transition to a new ride file).

- Added the ability for Isaac to tell the Newton that the CDA/CRR values were being set through estimation instead of through a Coast Down ride.

- Modified the Calibration Ride procedure to automatically initiate a tilt calibration and/or a "Zero Wind Offset" procedure in the event that these required procedure had not be done by the user prior to attempting to start a Calibration Ride.

- Added support for Isaac to retrieve and manage internal error statistics. These error statistics will enable Isaac to provide more detailed information to the user to better diagnose problems.

- Modified the Calibration Ride to permit early termination of the ride in the event that the Firmware detects something is wrong with the data being collected. If a problem is detected, a message will be displayed with an error number in the top display and the middle/bottom displays will alternate the messages "Cal Error", "See Isaac".

- Modified the error reporting at the end of a Calibration Ride to provide more useful information to the user instead of just "Bad Cal". If a "Bad Cal" is detected, a message will be displayed with an error number in the top display and the middle/bottom displays will alternate the messages "Cal Error", "See Isaac".

OS Version 3.01

- The "PowerBar" display is now optional. The PowerBar is shown in the center window of the Power screen. By default, PowerBar is now set to Off. To turn PowerBar On, go to "Setup/Racr/Yes/Pbar On/Off" and select on.

OS Version 3.00

- Enables optional PowerStroke feature. (Requires PowerStroke key, purchased from iBike Store.) For more information, see the PowerStroke instructions under the Help/Help Documents menu of Isaac; also, visit the iBike Store www.store.ibikesports.com.

OS Version 2.18

- New Feature: When your rides start from the same location, now it is really easy to set the reference elevation. Here's how:
    - 1) For the first time only, use the normal method of setting reference elevation in the unit's Setup menu on the "Alt" screen.
    - 2) The reference elevation number you enter with Setup/Alt will be stored in the unit's memory.
    - 3) When subsequent rides begin at the same location, click the Enviro button (right arrow) twice to get to the Slope/Wind/Elevation screen. Even though you are starting your ride at the same location, it is likely that the displayed elevation will be different because barometric pressure changes from day to day.
    - 4) While you are on the Slope/Wind/Elevation screen you can set your elevation to value memorized in step 2 by pressing the center button and holding it down for 2 seconds. The displayed elevation should become the previously saved value.
- Improvement: when new firmware is loaded, it's no longer necessary to go through Fast Start and Tilt Cal procedures.
- Fixed a bug that can delay the starting elevation setting from taking effect for the first few seconds of a ride.
- Fixed a bug that can cause the Newton to "lock-up" when the Isaac attempts to communicate with the Newton while it is turned off and connected to the USB cable.
- Fixed a bug that causes "SPCD Fail" messages to appear when Newton is connected to Isaac.

OS Version 2.17

- Internal testing of upcoming features.

OS Version 2.16

- Internal testing of upcoming features.

OS Version 2.15

- Improvements to the Indoor Trainer feature. The Indoor Trainer feature is standard in the Newton+, and optional in the Newton.
- The Indoor Trainer feature is made active by the user (Setup/User Yes/trnr on). Whenever the indoor trainer feature is active, a notification ("trnr on") appears on the Newton screen each time the Newton is awakened from sleep, and each time a Trip Reset is performed.
- The "trnr on" notification remains on the screen until the center button is clicked. Clicking the center button causes the notification message to be dismissed. The Newton main screen appears and the indoor trainer ride can be started.
- Whenever the "trnr on" notification appears, the user also has the option to turn off the indoor trainer function. Press-hold the center button; the word "on" flashes. Use the up arrow to set the flashing word to "off". Click the center button to

accept. The word "done" flashes for a few seconds, and then the main screen appears. The Indoor Trainer feature is now turned off, and your Newton is set for outdoor riding.

- Also note that, with this change, it is no longer necessary to block the wind port when using the Newton indoors.

OS Version 2.14

- Addresses an issue where speed did not drop all the way to zero in ride files at places where you stopped. Note that this fix should help when synchronizing ride files when merging data.
- Improves the on-the-road estimation of Time Advantage when measuring realtime CdA. Note that the Time Advantage shown in the Isaac SW when is a more accurate numerical solution, so it might be a little different than what you see on the road.

OS Version 2.13

- Addresses a bug that causes Newton ride file readings to freeze very occasionally.

OS Version 2.12

- Improvements in the slope calculation. This change essentially makes no changes to the reported power, but improves the accuracy of slope.

OS Version 2.11

- OS 2.11 provides incredibly accurate wattage measurements, even during short intervals of 30 seconds or less. The Newton's accelerometer-based measurement responds more quickly than strain gauge products that average over pedal strokes, so with OS 2.11 you're going to get both very accurate and detailed information about sprints.
- We fixed a bug that sometimes causes Newton calibration measurements to differ from those determined by the Isaac software.
- If you own an SRM or Quarq Cinqo, might be aware of a problem unique to these products. Specifically, the instant the crank stops turning (cadence = 0) power instantly drops to zero as well. However, due to the way these two DFPMs are designed, their power readings can "hang" at many hundreds of watts for 3 seconds or more whenever you stop pedalling. This can cause accuracy issues in crits or group rides. See this link for more information: https://groups.google.com/forum/?fromgroups=#!topic/wattage/aqF2wJosI8c
- OS2.11 gets rid of the false watts issue for these DFPMs.
- The profile selection page and filter setting page in Newton setup now show the current setting in the top of the display so you can see it without having to actually edit the value.

Firmware Release Notes

OS Version 2.00

- OS2 makes revolutionary improvements to the Physics Engine that converts iBike sensor signals into cycling measurements including Power, Wind Speed, Hill Slope, and more.
- OS2 includes the following improvements:
    - 1) iBike sensor data is processed 50% faster in the iBike's microprocessor
    - 2) Sensor resolution is increased, resulting in higher measurement sensitivity
    - 3) Wind speed measurements are more accurate
    - 4) Power measurements are more accurate, consistent, and significantly smoother, even when filtering is not applied
    - 5) Short-interval power efforts (15 seconds or less) are more accurately measured and recorded in the ride file
    - 6) Snapshot CdA and Continuous CdA measurements (requires Newton+) are more accurate and consistent
    - 7) The second-to-second correlation factor R**2 between DFPM and OS2 ride files is comparable to DFPM/DFPM R**2 (i.e. two DFPMs installed on the same bike). In short, second-to-second iBike power measurements are much closer to those measured by DFPMs.
- OS2 is available for all iBike Newton products. OS2 is not available for iBike Gen I/II/III models.

OS Version 1.04

- Bug fix to properly show wattage bar-graph segments during fitness intervals.

OS Version 1.03

- Moved the battery screen to the first position in TOTALS menu. To turn the Newton off, while in the battery screen press-hold the center button.
- Fixed display problems with Coast Down screen and IF screen.
- Fixed a problem that prevented automatic ride resets if the Newton was asleep for more than 4 hours.
- Improved watts accuracy on hill repeats.

OS Version 1.02

- Added "Battery Percentage" (Batt %) screen in Totals (left button). This screen shows how much battery life remains in your Newton. Also, while displaying this screen, if you click the center button, the unit will turn off immediately.
- Added Power Filtering ("Set Filt") feature to smooth power numbers displayed on Newton screen. Filtering applies to on-screen display only; ride files are unaffected. Set Filt accessible through Setup (Press-hold up arrow). Once on the Set Filt screen, click the center button to select, change number with Up arrow, then click center button to accept selection:
    - 0: no extra filtering
    - 2: smoothing over 2 second period
    - 5: smoothing over 5 second period

- o 10: smoothing over 10 second period
- o 30: smoothing over 30 second period
- Total Odometer and Total Ride Time are now separate screens in Totals
- Total Odometer can now be displayed up to 199999 miles. Tenths of miles are not displayed.
- Fixed bugs related to odometer updating after ride completion
- Improved wattage measurement when drafting

OS Version 1.01

- Enables Pin functionality (Power in; the ability to receive DFPM power signals) for the Newton in addition to the Newton+ product.

OS Version 1.00

- Baseline FW for Newton and Newton+