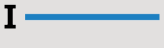
Computerised Battery Analyser Modes

Test Mode	About this Test	Why use this test?	Standard Software	Extended Software	Operation
Mission Profile	This is a simplified discharge test. There is an option to run a test until it meets the requirements of the application (Pass) or run until the battery is depleted. If the battery is depleted before the minimum time is reached, the test fails.	• Defined Pass and Fail parameters • Operated without detailed knowledge of the test	✓	✓	
Discharge	Using a constant current discharge, the battery voltage lowers until the cutoff voltage is reached and the test stops.	• Measuring and analyzing battery capacity	✓	✓	
Dynamic	Similar to a discharge test, but the software GUI (graphical user interface) allows the user to change current draw without having to stop and start a new test.	• See how a battery or supply responds to different loads • No need to stop or edit the test that is running	✓	✓	
Charge Monitor	Using this test, the CBA will strictly be used to monitor the voltage; the CBA will not draw any load from the battery.	• Graphs voltage versus time • Log and graph a battery or supply • Log voltage of the battery as it is charged	✓	✓	
Power Profile	This test continuously increases the load by the Current Increment while the voltage is graphed versus current or versus power. Using a voltage versus power graph, the peak power output of a battery or power supply can be accurately measured.	• Characterizing different power supplies and solar cells • Determine the maximum power they can provide	✓	✓	
Charge / Discharge	The CBA discharges the battery, and the CBA Charge Controller activates a charger to recharge the battery. The software can repeat this process for a specified number of cycles. The voltage during the charge/discharge cycle are measured, the capacity during the discharge cycle is measured, and optionally the current of the charge cycle is measured. NOTE: This test requires the West Mountain Radio CBA Charge Controller (purchased separately)	• Perform life cycle test of the battery (see how its capacity reacts after user specified number of discharge/ charge cycles)	✓	✓	
Duty Cycle	The CBA draws a load for a set duration, then stops drawing a load for a set duration, and then repeats until the cutoff voltage is reached. The load can be configured to be a constant current, constant power or constant resistance.	• Evaluate the performance of a battery in an application which typically involves a cyclic or variable duty cycle		✓	
Constant Power	The CBA draws constant power from the supply or battery under test. As the battery voltage decreases during discharge, the load resistance is decreased, thus increasing the load current to maintain constant power per Ohm's law: P=V*	• Test batteries that are used in systems which require consistent power		✓	
Multiple Discharge	CBA tests the battery or supply given user defined programming profile. Each step of the profile can be configured for load amount and duration, and the load amount can be configured as constant current or constant power. The profile can also be imported from other analysis tools.	• Test battery applications that experience a variety of different current loads		✓	
Constant Resistance	The CBA acts as a constant resistance to draw a load from the supply or battery under test. As the battery voltage decreases during discharge and the load resistance is held constant the load current will decrease per Ohm's law; R=V/I	• Simulate a constant resistance load on a battery		✓	
Timed Discharge	This test will discharge the battery until the user specified duration has expired, and then stop the test. This differs from the normal Discharge test, which would discharge a battery until the cutoff voltage has been used.	• Discharge the battery to a certain capacity (i.e. a Lithium battery that needs to be at 30% charge before shipping)		✓