BTS9000: The Most Cutting-edge equipment for Battery Material Research



BTS9000 is based on Neware 6th-generation testing system. It's designed for battery material research, high-precision tests, pulse charge/discharge tests, DCIR test, and cycle life test.

As the most cutting-edge equipment for battery material research, BTS9000 comes with extremely high accuracy(\pm 0.02% of FS), amazing hardware response speed(\leq 100 μ s), wide range of applications, high-speed testing data acquisition and many other industry-proven characteristics, it's your ultimate choice for battery material research!

Comes to the pulse tests, BTS9000 supports GSM(Global System for Mobile Communications), GPRS(General Packet Radio Service), CDMA-standby, CDMA-talk(Code Division Multiple Access), IDEN(Integrated Digital Enhanced Networks), etc. It characterized with a data acquisition frequency up to 1000Hz, an accuracy of 0.02% FS and a minimum pulse width of 400us (microsecond) which can be utilized for GSM or some other rapid pulse tests.

Features and Applications

- Extremely high accuracy($\pm 0.02\%$ of FS)
- Hardware Response Time: $\leq 100 \ \mu s$
- Min pulse width: 400 µ s
- Up to 1000Hz data record frequency
- Adaptable to a wide range of products: cells, super-capacitors and samll battery modules, etc.
- Wide range of applications : Charge, Discharge, High frequency pulse, DCIR, Cyce-life, C-Rate, HPPC, etc;
- Multi-current range available(4 ranges per channel), great for from low to high C-rate test on one machine.
- Every channel can be user programmed to operate in steps of CCC(Constant Current Charging), CVC(Constant Voltage Charging), CC&CVC(Constant Current & Constant Voltage Charging), CPC(Constant Power Charging), CCD(Constant Current Discharging), CPD(Constant Power Discharging), Pulse, DCIR, etc.

ISO9001:2008(Reg.

No.: 0409035)

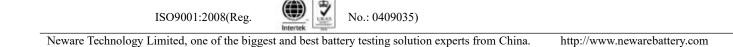
Neware Technology Limited, one of the biggest and best battery testing solution experts from China. http://www.newarebattery.com



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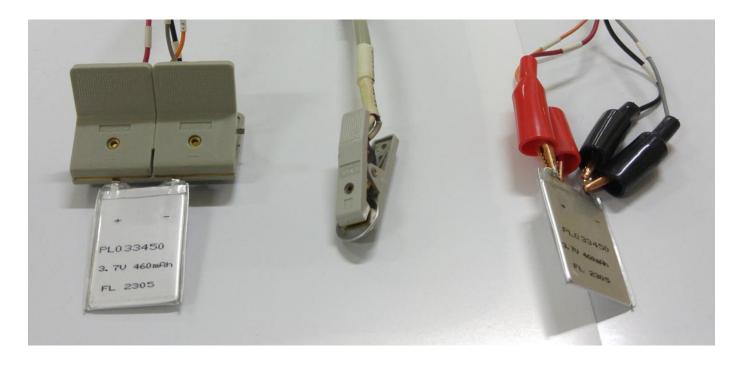
- Completely independent channels allow users to run multiple independent tests simultaneously without affecting other channels
- With the BTS client software, data is easily viewed both in plain text and plot/graph
- Diverse alligators and probe connection accessories for choose
- Modular design, testers can be easily stack/mount together
- Online support and upgrade support, just in case the software or hardware is out of working, Neware engineers can help customers to locate and fix the problem by remote desktop, and the firmware of BTS9000 can be upgraded by customers themselves whenever there's new version released.







Available Clamps/Jigs



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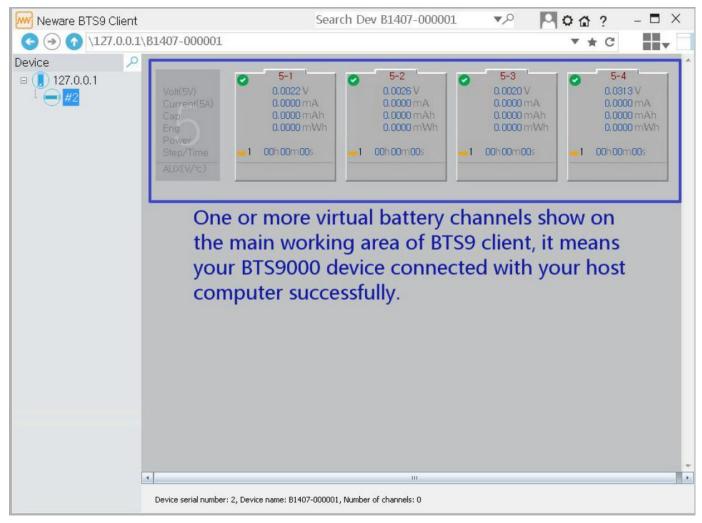
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Software UI and Settings



User friendly interface.

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Default Style 🖌					File Nam	e					•	
Neware \Steps \	#		Туре	Mode	Value	End Type	Op	Value	Goto	Main Chl Re	cord	
- D B	1		Rest			Time	>=	00:10:00.000	Next step	Time Inval	10	sec
									•	Volt Inval		V
Step file list	2		CCDChg	Current (mA)	20	Volt (V)	<=	2.65	Next step	Curr Inval Main Chl Pr		mA
-			Rest			Time	>=	00:10:00.000		Start_V Up		V
	3								Next step	Start_V Up		v
										Volt Upper	4.25	v
	▶ 4		CCCVChg	Current (mA)	20	Current (mA)	<=	2	Next step	Volt Lower	2.6	- v
				Volt (V)	4.2					Curr Upper	2	mA
	5		Cycle	Start Step	1	Cycles	-	100		Curr Lower		mA
			Cycle	Start Step	1	Cycles		100		Cap Prct		mAh
	6		End							Inspect Bia	5	V
										Delay Time		sec
										BFGS Rate	Protect	
										Det Time		sec
										Volt		V
										End Format	ion	-
										Cap Upper		mAh
										Cap Lower		mAh
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										Applys 3	• All CCCVCH	g Steps
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Users can create their own tests scripts, easy and intuitive.

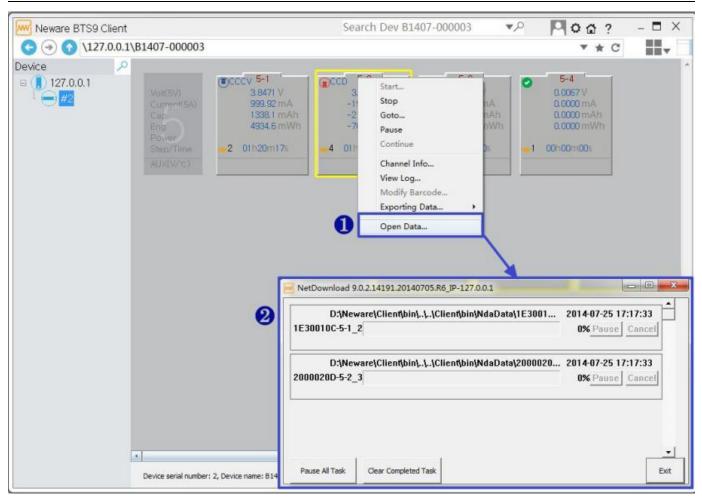
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During and after the test, you can always check the testing result.

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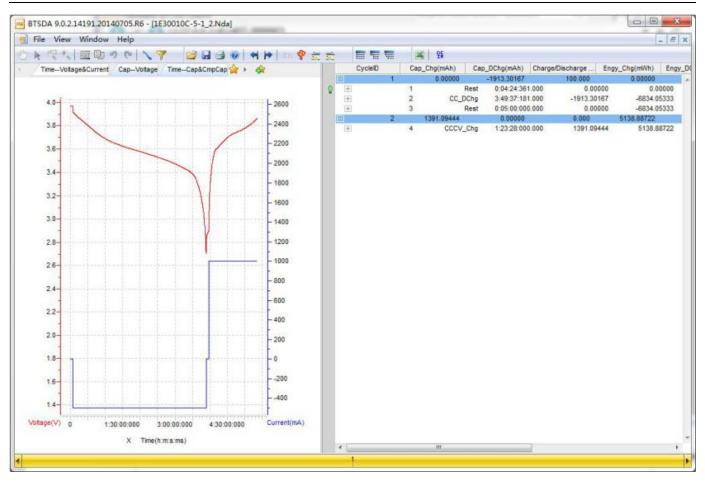
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Data shows both in plain text and graph.

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Typical Tests Results Overview

1. DCIR test

NO	Record ID	StepID	Time(h:m:s:ms)	Voltage(V)	Current(mA)	DCIR(mΩ)	Step DCIR
	27737	740 Test IR	7:17:40:165	3.84412	-399.8933		
740	27751	741 Rest	7:17:51:165	3.86572	0.0000	54.01	
	27751	741 Rest	7:17:51:165	3.86572	0.0000		Pulse DCIR
741	27812	742 Test IR	7:18:51:165	3.84371	-399.9754	55.02	
	27812	742 Test IR	7:18:51:165	3.84371	-399.9754		
742	27826	743 Rest	7:19:02:165	3.86531	0.0000	54.00	Copy Data
	27826	743 Rest	7:19:02:165	3.86531	0.0000		
743	27887	744 Test IR	7:20:02:165	3.84338	-399.8933	54.83	
	27887	744 Test IR	7:20:02:165	3.84338	-399.8933		
744	27901	745 Rest	7:20:13:165	3.86490	0.0000	53.81	
	27901	745 Rest	7:20:13:165	3.86490	0.0000		
745	27962	746 Test IR	7:21:13:165	3.84290	-400.0576	55.01	
	27962	746 Test IR	7:21:13:165	3.84290	-400.0576		
746	27976	747 Rest	7:21:24:165	3.86449	0.0000	53.99	
	77076	747 Dect	7-21-24-165	3 86440	0.000		▼ Report Setting
nΩ) 70-			**	Refresh	Delete	Delete All	Generate Report Max Resistance = 73.36 (m
65				چندینی این این این این این این این این این	the way of the second second	Museuman	Min Resistance=51.97 (mΩ Offset=21.38 (mΩ)
60							
55	Ministricture						

The DCIR test in BTS9000 is based on IEC standard. As the discharge process goes on, the DCIR of the cell increases gradually.

2. Cycle Life Test Result

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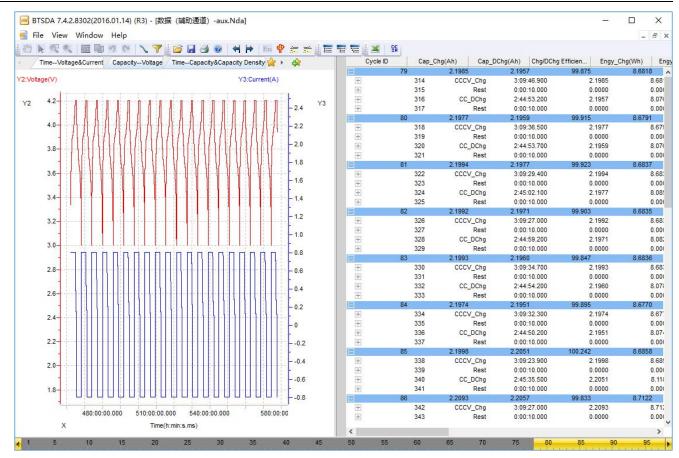
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📄 Fil	ile View Window Help							- 8 ×
		u 👍 💿 💘 🕨 🖦 🥊 🚝 🗮 🖿	1 × 1					
100			Cycle ID	Can	Chg(Ah) Cap_D	Chg(Ah) Chg/DChg	Efficien Enov (hg(Wh) Engy
* <u>L</u>	TimeVoltage&Current CapacityVoltage Time-	-Capacity&Capacity Density 🙀 🕨 🎲			2.1985	2.1957	99.875	8.6818
Y2:Volta	age(V)	Y3:Current(A)	Ŧ	314	CCCV_Chg	3:09:46.900	2.1985	8.68
		View Construction V	+	315	Rest	0:00:10.000	0.0000	0.001
Y2	4.2	1 1 1 1 1 1 1 1 T Y3	Ŧ	316	CC_DChg	2:44:53.200	2.1957	8.071
6.53		-2.4	Ŧ	317	Rest	0:00:10.000	0.0000	0.001
	4.0	Export	0	0	2.4077 X	2.1959	99.915	8.6791
	- <u> </u>	- export			^	3:09:36.500 0:00:10.000	2.1977	8.671
		Export Type				2:44:53.700	2.1959	8.07
	3.8	○Visible Report	Eormai	tion Report		0:00:10.000	0.0000	0.001
		O visible report O table report	Oronia	doin Report		2.1977	99.923	8.6837
	3.6	◯ General Report ◯ Custom Report	O Atl Sim	Report	1	3:09:29.400	2.1994	8.68;
					k	0:00:10.000	0.0000	0.001
	3.4	Export File			1	2:45:02.100	2.1977	8.08
		Export File			t	0:00:10.000	0.0000	0.001
						2.1971	99.903	8.6835
	3.2	Path C:\Users\neware\Desktop	~			3:09:27.000	2.1992	8.68
						2:44:59.200	2.1971	8.08;
	3.0	File Name	~			0:00:10.000	0.0000	0.001
						2.1960	99.847	8.6836
	2.8	File Format OTXT EXCEL		⊙ csv		3:09:34.700	2.1993	8.68:
					1	0:00:10.000	0.0000	0.001
		Export Way	O With EXCEL In:	stalled	1	2:44:54.200	2.1960	8.071
	2.6	Export setting Export Aux data			t	0:00:10.000	0.0000	0.001
						2.1951	99.895	8.6770
	2.4					3:09:32.300 0:00:10.000	2.1974	8.67
					Canaal	2:44:50.200	2.1951	0.001
	2.2-		Export		Cancel	0:00:10.000	0.0000	0.001
			8	5	2.1998	2.2051	100.242	8.6858
	2.0	0.4	Ŧ	338	CCCV_Chg	3:09:23.900	2.1998	8.68
	2.0-			339	Rest	0:00:10.000	0.0000	0.001
		0.6	Ŧ	340	CC_DChg	2:45:35.500	2.2051	8.11
	1.8		Ŧ	341	Rest	0:00:10.000	0.0000	0.001
			8	Sec.	2.2093	2.2057	99.833	8.7122
	480:00:00.000 510:00:00.000	540:00:00.000 580:00:00	±	342	CCCV_Chg	3:09:27.000	2.2093	8.71;
	X Time(h:min:s.	ms)	+	343	Rest	0:00:10.000	0.0000	0.001
	a international	ine)	<					>
1	5 10 15 20 2	5 30 35 40 45	50 55	60	65 70	75 80	85 90	95

Data can be export to xls/csv/txt format for further using.

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