Smart Battery Test (SBTest) software is designed to test, exercise, and log Smart Battery System (SBS) Smart Battery communications. This software can write data to, and read data from, an SBS Smart Battery using a supported MCC I²C Bus Host Adapter.

This document contains information on the MCC SBS Smart Battery Tester Software including equipment setup and usage.
System Requirements:

1. One of the following MCC I²C Bus Host Adapters:
   - i2cStick (#MIIC-207)
   - iPort/USB (#MIIC-204)
   - iPort/AFM (#MIIC-203)
   - iPort/AI (#MIIC-202)
   - iPort (# MIIC-201)
   - iPort DLL/USB (#MIIC-201D/U)
2. SBS Smart Battery with interfacing cable.
3. Windows XP (x86), Vista (x86/x64), or 7 (x86/x64).
4. One USB or RS-232 communications port.

Reference Specifications:

System Management Bus Specification Revision 1.1

Smart Battery Data Specification Revision 1.1

For additional information see: www.sbs-forum.org

Software Installation (CD):

1. Administrative Privilege May Be Required.
2. Insert the installation CD.
3. If AutoRum does not start, double-click Setup.exe of CD.
4. Follow instructions on screen.

Software Installation (Download):

1. Administrative Privilege May Be Required.
2. Follow web page instructions to download and install.
Equipment Setup:

1. Follow the installation instruction for MCC Adapter.

2. Connect the MCC Adapter to target SBS Smart Battery. (See suggested setup below).

Note:

When connected to an SBS Smart Battery, the Pull-Up switch on the iPort Host Adapter should be OFF, and external Pull-Up resistors (approximately 15K Ohm) should be applied to the I²C Bus Clock and Data lines.
To Start Program:

Click Start | Programs | Smart Battery Tester 3.0 | Smart Battery Tester.

To communicate with an SBS Smart Battery:

1. Select the I²C Bus Adapter type.
2. Select the ComPort connected to the selected I²C Bus Adapter.
3. Select "Read Battery Data", or "Write Battery Data".
4. Select the Smart Battery parameters to be accessed.
5. Select the communication conditions to monitor.
6. If "Write Battery Data" is selected, enter or edit Smart Battery parameters to be written to battery.
7. Click the "Read Data" or Write Data" button to access Smart Battery Data.
Program Controls:

Configuration Controls:

I²C Bus Adapter/ComPort Select

Select the adapter type and port of adapter connected to the SBS Smart Battery.

SBS Smart Battery Address

Select the Smart Battery slave address. This is usually 0x16, the default selection.
Communication Monitor Controls:

**NACK**

Select Mark, Beep, Retry, or Stop on Smart Battery Negative Acknowledgment of it’s slave address.

**Error Signal**

Select Mark, Beep, Status, Retry, or Stop on Smart Battery Error Signal detect (Negative Acknowledgment on data byte).

**Alarm**

Select Mark, Beep, or Stop on Smart Battery Battery Status Alarm detect.

**Error Code**

Select Mark, Beep, or Stop on Smart Battery Battery Status Error Code detect.

**PEC**

Select Mark, Beep, Retry, or Stop on Packet Error Check (PEC) Error detect. Any selection will cause SBTest to generate a PEC byte on Write operations and check the PEC byte on Read operations.

**Misc**

Select Beep on any Communication Monitor Stop condition.
Battery Data Read/Write Controls:

Select/Deselect All Button

Select or Deselect all SBS Smart Battery parameters. Only selected parameters will be read or written.

Read/Write Data Button

Initiates reading or writing of selected Smart Battery parameters.

Auto Repeat Check Box

Controls auto repeat reading or writing of Smart Battery parameters. When checked, Read or Write operations will repeat at the currently selected repeat rate (See Menu Controls for Optional Repeat Rates).

Status Text Box

Displays Smart Battery communications status information.

Menu Controls:

File|Open Log File

Opens a comma delimited ASCII text log file for recording date, time, and value of Smart Battery parameters access during read operations. This file can be read into most spreadsheet programs for display and plotting of Smart Battery Data over time.

File|Close Log File

Close the current log file.
File|Exit

Exit the program.

Options|Show Hints

Enables/Disables display of Smart Battery parameter information.

Options|Auto Repeat Continuous
Options|Auto Repeat every 10 Seconds
Options|Auto Repeat every Minute
Options|Auto Repeat every 5 Minutes
Options|Auto Repeat every 10 Minutes
Options|Auto Repeat every Hour

Controls auto repeat reading and writing of Smart Battery parameter data.
View/Enter/Edit Smart Battery Data

Smart Battery Data parameters can be viewed, entered, and edited on-screen. The following parameters can also be viewed and edited by clicking on the pop-up button next to the parameter display:
Battery Status

Specification Info

Manufacture Date
Manufacturer Data

Optional Mfg Function 5
## Revision Report:

<table>
<thead>
<tr>
<th>Date</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>16-APR-12</td>
<td>Release 3. New Features:</td>
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<tr>
<td></td>
<td>- PEC Error Mark, Beep, Retry, and Stop.</td>
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<tr>
<td></td>
<td>- BatteryStatus Error Code Mark, Beep, and Stop.</td>
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<tr>
<td></td>
<td>- BatteryStatus Alarm Mark, Beep, and Stop.</td>
</tr>
<tr>
<td></td>
<td>- Battery Error Signal Mark, Beep, and Stop.</td>
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<tr>
<td></td>
<td>- Battery NACK Mark, Beep, Retry, and Stops.</td>
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<tr>
<td></td>
<td>- Packet Error Check (PEC) Generate/Test support.</td>
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<tr>
<td></td>
<td>- Smart Battery System v1.1 support.</td>
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<tr>
<td></td>
<td>- Parameter Access Flash indicator.</td>
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<tr>
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<td>- MCC ASCII Interface (AI) adapter support.</td>
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<tr>
<td>10-NOV-06</td>
<td>Release SBTEST V2.0.0</td>
</tr>
<tr>
<td>10-NOV-06</td>
<td>Add ComPort discovery.</td>
</tr>
<tr>
<td>10-NOV-06</td>
<td>Convert to Win32 to support USB-based adapters.</td>
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<tr>
<td>01-AUG-03</td>
<td>Release SBTEST V1.30</td>
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<tr>
<td>01-AUG-03</td>
<td>Correct log file processing on:</td>
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<tr>
<td></td>
<td>a. Battery not acknowledging address.</td>
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<tr>
<td></td>
<td>b. iPort bus arbitration loss.</td>
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<tr>
<td></td>
<td>c. iPort bus error detection.</td>
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<tr>
<td></td>
<td>Log 0, or &quot;&quot; if battery not responding.</td>
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<tr>
<td>18-FEB-99</td>
<td>Release SBTEST V1.30</td>
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<tr>
<td>18-FEB-99</td>
<td>Add 5 and 10 minute repeat rate.</td>
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<tr>
<td>29-SEP-98</td>
<td>Release SBTEST V1.20</td>
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<tr>
<td>29-SEP-98</td>
<td>Add Y2K Compliance.</td>
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<tr>
<td></td>
<td>SBTEST Log File now includes a 4 digit year field.</td>
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Direct Comments/Feedback to:

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