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Application Note on Entering and Setting a Custom Program For the Laerdal 780800 Battery
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ABSTRACT
The Laerdal battery (PN# 780800) is a NiMH battery designed for a SLA device, because of this, the battery has a built in charge controller that regulates the charging current going into the battery pack. At the end of charge, the charge control may trip a false "Soft" battery warning.

This application note will provide detailed steps on the setup of the custom program, on a stand-alone C-Series battery analyzer. Implementation of the program will be done via Cadex adapter PN# 07-110-1981.

Users with BatteryShop, can download and import the custom program from our website www.cadex.com. Calibration can only be done on the C-Series analyzers. Older version analyzers will not be compatible. Identification of a C-Series analyzer can be done via the serial number (the first four characters will start with C72C0#, C74C0#, C7EC0#).

A. Custom Program

Capacity Test Program

1. On the battery analyzer, navigate to the Custom Programs option (Menu -> Program Settings -> Custom Programs).

2. Select one of the four custom programmable slots (by default the system will show the first slot "Custom1").

3. Each custom program is divided into 6 phases, with the 6th phase being the DONE phase. Using the right and left arrow keys, navigate between the different categories. You can adjust the value/settings by using the up and down key. Adjust the settings to the following:

> PHASE 1
>> CYCLE 1, Charge for 0h, 0m, 0s @ 100%
>> CYCLE 2, Discharge for 0h, 0m, 0s @ 100%
>> TEST IF Target Capacity Not Met
>> TRUE THEN goto Next Phase
>> FLASE ELSE goto Phase 5

> PHASE 2
>> CYCLE 1, Recondition for 0h, 0m, 0s
>> CYCLE 2, Skip Cycle
>> TEST Skip test
>> TRUE THEN goto Next Phase
>> FLASE ELSE goto Next Phase

PHASE 3

    CYCLE 1, Charge for 0h, 0m, 0s @ 100%

    CYCLE 2, Discharge for 0h, 0m, 0s @ 100%

    TEST IF Target Capacity Not Met

    TRUE THEN goto Next Phase

    FLASE ELSE goto Phase 5

PHASE 4

    CYCLE 1, Charge for 0h, 0m, 0s @ 100%

    CYCLE 2, Skip Cycle

    TEST Skip test

    TRUE THEN FAIL

    FLASE ELSE FAIL

PHASE 5

    CYCLE 1, Charge for 0h, 0m, 0s @ 100%

    CYCLE 2, Skip Cycle

    TEST Skip test

    TRUE THEN goto Next Phase

    FLASE ELSE goto Next Phase

PHASE DONE

    CYCLE 1, Ready – No Charge

4. Once programming is done, press Enter. The system will ask for a custom program name. Adjust the values to show "LSU Auto" and press Enter.

5. The saved custom program will now be listed under the Advanced tests.

Charge Program

1. Similar to the previous program, with the following settings:

PHASE 1

    CYCLE 1, Charge for 0h, 0m, 0s @ 100%

    CYCLE 2, Discharge for 0h, 0m, 0s @ 100%

    TEST IF Target Capacity Not Met

    TRUE THEN goto DONE

    FLASE ELSE goto DONE

PHASE DONE

    CYCLE 1, Ready – No Charge

2. Once programming is done, press Enter. The system will ask for a custom program name. Adjust the values to show "LSU Charge" and press Enter.

B. Programming the Laerdal Adapter (PN# 07-110-1981)

The Laerdal adapter (PN# 07-110-1981) comes pre-programmed with C1 set to Discharge. To set C2 to test the 780800 battery, enter in the following program and C-Code:

Test Program (Pgm): LSU Auto

Chemistry   : NiMH
Cell   : 10 (12.0V)
mAh   : 2000
Charge   : 0.4C
Discharge   : 0.4C
Trickle Charge   : 2%
Recondition   : 12%
Cap. Offset   : 0%
Temp. Sensor   : 0°C - 45°C
End of Discharge   : 1.00V/Cell
Negative Slope   : 8mV/Cell
Charge Method   : DC Charge
C-Code Name   : 780800

It is import to have both the custom program and C-Code programmed correctly to properly test the Laerdal 780800 battery. Please contact Cadex at service@cadex.com or at 1-800-565-5228, regarding any questions.

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