

#### Cadex Electronics Inc.

22000 Fraserwood Way, Richmond, BC, Canada, V6W 1J6

Tel: 604 231-7777; 1-800 565-5228; Fax: 604 231-7755 Internet: info@cadex.com; Web: www.cadex.com September 2009 Revision 4 PSMAN0051



# Quick Reference Guide

## 1. Getting Started

#### For Cadex C7200-C, C7400-C and C7400ER-C

Battery Analyzers — Firmware Version 1.10 Connect the unit to the correct voltage and turn power on. The power switch is located on the back of the unit.

EMPTY	EMPTY	EMPTY	NO ADAPT
Auto	QuickTest	Prime	

Global start-up display shows status and selected programs. Insert battery only on **EMPTY**. (Display sample of 4-station unit)

## 2. Viewing and Changing Settings

To view settings, press station key in *EMPTY* mode. To return to global display, press *Esc* key or wait for 30 seconds.

s1	*C1	Pç	ym:	Auto	Target	:: 80% T
	Туре	e:	Li	Volts:	3.60	mAh: 600

Pressing station key shows program, Target Capacity and C-Code. QuickTest matrix is present (T).

Each Battery Adapter contains up to 10 individual battery settings (C-Codes).

To choose a C-Code, select station, scroll to desired location with the  $\blacktriangle \nabla$  *Direction keys* and press *Enter* twice. The star [\*] indicates the default setting. To choose another C-Code, press station key again, scroll to desired location and press *Enter* twice.

To select another program, press station key, press *Edit*, apply changes with  $\blacktriangle \nabla$  and press *Enter*.

To change the Target Capacity, press station key, then *Edit*. Go to Target with  $\blacktriangleright$ , make changes with  $\blacktriangle \triangledown$  or number keys and press *Enter*.

To create or modify C-Code, press station key, select C-Code to be modified with  $\blacktriangle \lor$  and press *Edit*. Go to lower line by pressing  $\blacktriangleright$  twice. Change settings with  $\blacktriangle \lor$ . Move to extended C-Code settings (if needed) using  $\blacktriangleleft \triangleright$ . Press *Enter* to save the changes.

To erase a C-Code, select C-Code to be erased and press Fn-0.

To reset extended C-Code to default setting, select C-Code and press Fn-1.

To erase QuickTest matrix, select C-Code and press Fn-2.

**Note:** Reprogramming a C-Code will erase the matrix. To protect against tampering, activate System Security with menu.

**Warning:** Always use the correct C-Code to service a battery. A wrong setting may cause damage to the battery, fire or explosion.

# 3. Servicing a Battery

Insert battery into Battery Adapter and press *Enter* to verify settings. If correct, press *Enter* again to start service.

To change settings, press *Edit*, apply changes and press *Enter*.

To change C-Code, go to correct location with  $\blacktriangle \nabla$  and press *Enter* twice.

S1 Discharg	Cap:98%			2 0	
3.10V/Cell	-600mA	120m $\Omega$	25°C	1:30	C fl

Sample of display during battery service; Cap % advances if flashing;  $m\Omega$  is taken during service.

# 4. Printing

To print, select station and press *Print* key, scroll to desired print option with  $\blacktriangle \nabla$  and press *Enter*. Select Port Device with menu (see 9. Menu, System Setup).

## 5. Programs

#### **Basic Programs**

Auto	Exercises battery and applies Recondition (nickel-based batteries only) if the Target Capacity cannot be reached.
Charge	Applies fast charge only; no capacity readings taken.

- **Prime** Prepares a new battery for field use by repeated cycling until maximum capacity is reached.
- QuickSort To rapidly sort Li-Ion, 3.6V, 500-1500mAh batteries.
- Advanced Press ► to enter Advanced Programs

#### Advanced Programs

- SelfDCH Tests battery self-discharge.
- LifeCycle Cycles battery continuously until capacity drops to target setting.
- **DCHOnly** Discharges battery, then stops.
- **ExtPrime** Applies 16h trickle charge, then *Prime*. Used for stored batteries.
- **OhmTest** Measures internal battery resistance.
- RunTime Provides 3 discharge levels, set in hours and minutes (5-5-90).
- Boost Wakes up dead batteries, applies 3 min slow charge. Pressing station key for 3 seconds starts *Boost*. Press *ESC* to cancel.
- Q-Learn Adds QuickTest matrix by scanning new battery (3-5 min).

Learn	Improves QuickTest matrix by scanning additional batteries (3-8h). Important: Run batteries in sequence from high to low capacity.
QuickTest	Checks battery state-of-health in 3 minutes. Applies brief charge or discharge if outside range. ( <i>16K adapters only</i> )
Custom	Allows four separate user-defined programs.
Basic	Press ► to return to <i>Basic Programs</i> .
<u>а</u> т	

# 6. Target Capacity

90-100%	Critical applications; fewer batteries will pass.		
80%	Recommended nominal setting.		
60-70%	Less stringent applications; more batteries will pass.		
Note:	The target setting does not affect the charge level; the batteries are always fully charged.		

## 7. Short Key Functions

Common functions can be set with the **Fn** or **Alt** with number key.

From Edit Display		From Globa	Blobal Display		
Fn-0	Deletes C-Code	Fn-5	Views Service Counter		
Fn-1	Resets extended C-Code to default settings	Fn-7	Views Firmware Version		
		Fn-8	Calibrates Adapter		
Fn-2	Erases QuickTest matrix	Fn-9	Toggles between stand		
Fn-3	Copies single C-Code		alone and BatteryShop mode		
Fn-6	Copies all C-Codes from one adapter to another	Stn Key	3 second key press starts Boost		
Fn-9	Matrix Protect	Alt-Stn Key	Restart Program		
Alt-Edit	Enters unique names for C-Codes				

## 8. Abbreviations

- **S1** = Station 1 selected.
- C1 = C-Code 1 selected. Each adapter holds 10 C-Codes.
  - Default C-Code setting.
- **SOH** = State-of-health indication in % on *QuickTest*.
- CG = Confidence Grade for QuickTest.
- T = QuickTest matrix present. Matrix added using *Q*-Learn or Learn.
- **S** = Charge/discharge rate scaled back due to excess current.
- L = C-Code locked for safety reasons.
- P = Matrix locked.