

# CipherLab Reference Manual

8500 Series Mobile Computer

Keypad Replacement SOP Guide

Version 0.09



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# IMPORTANT NOTICES

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## KEYPAD REPLACEMENT NOTICE

- ▶ Before changing the keypad, please read the user manual thoroughly to avoid unexpected damages to the mobile computer.
- ▶ Before you start to replace the keypad, make sure the power of your mobile computer is turned off or the battery is removed.
- ▶ Do not throw, knock or shake the components after you disassemble the mobile computer. It may do damage to the case or components.
- ▶ Do not disassemble the mobile computer in a dusty or dirty area, those exquisite components inside the mobile computer may be damaged in such environment.
- ▶ Keep your mobile computer and components away from fire.
- ▶ Do not disassemble your mobile computer or change the keypad under extreme temperatures or soaked wet environment. It may be damaged.

# RELEASE NOTES

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Version	Date	Notes
0.09	Nov. 7, 2008	First Draft

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## REPLACING THE KEYPAD

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The 8500 Series Mobile Computer can be equipped with three different kinds of keypads. One is a keypad of 24 keys and the other two kinds of keypads are 44 keys for system setup, user entry and so on. To meet different requirements, it's allowed to change the keypads on your own.

This manual serves to guide you through how to remove and change the keypads. To avoid any improper disposal or operation, please read the manual thoroughly before you start to change the keypads.

### 1.1 KEYPAD REPLACING SOP

#### 1.1.1 TOOLS NEEDED FOR REPLACING THE KEYPAD

Electronic Screwdriver

1 pcs

#### 1.1.2 REPLACING THE KEYPAD

Replace the keypads by following these steps:

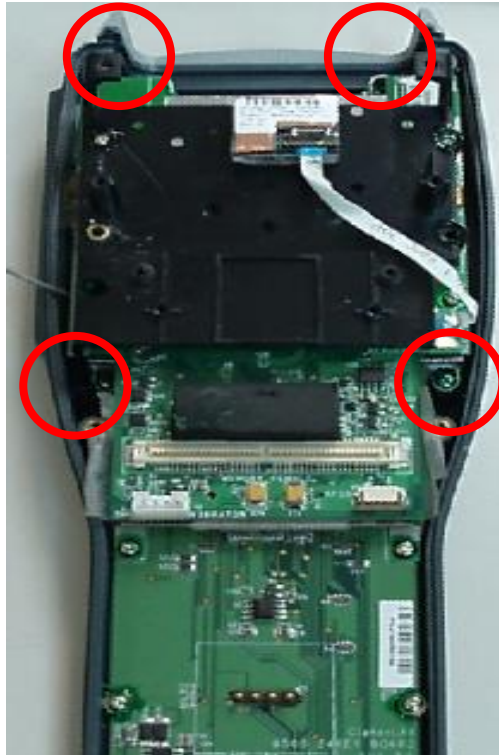
- 1) Unscrew these six screws (type: M2.5X18) as the graphic shows.



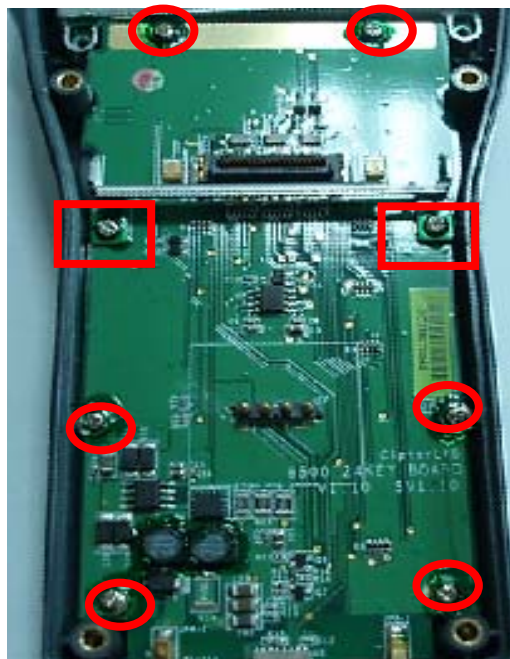
- 2) Remove the J2 jumper from its socket on the mainboard of lower case.



- 3) Unscrew these four screws (two 2.3 x 10mm type and two 2.3 x 6mm type) as the following graphic shows. Then remove the LCD module.



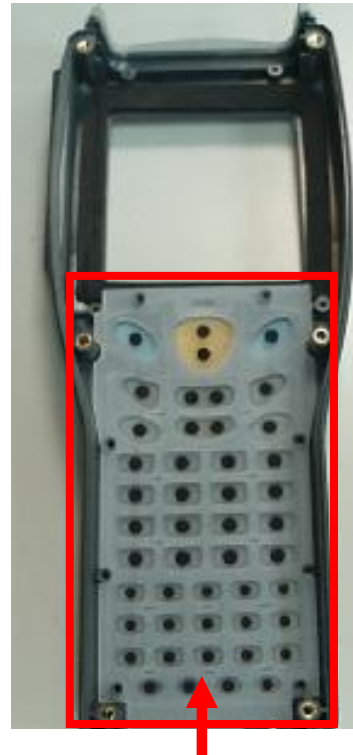
- 4) Continue to unscrew these eight screws as illustrated below. These screws are six 2 x 4mm-WASHER screws (shows in red circle) and two 2 x 5mm screws (shows in red square frame). After finishing the unscrewing, please remove the keyboard from the case.



- 5) Replace the original Keypad Label and Rubberkey with new ones.

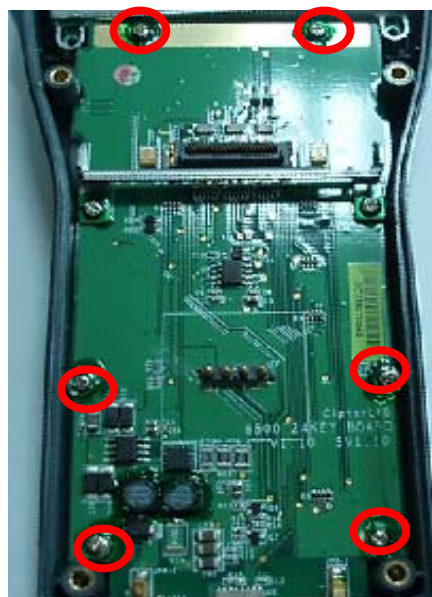


*Keypad Label*



*Rubberkey*

- 6) After finishing the keypad replacement, install the key board and screw it with six 2 x 4mm WASHER screws. (The position is shown in red circle in the below graphic). Then glue the screws with green glue (screw fixative). Please note that the part number of these six screws is MST08SA000501.



- 7) Configure the iron brace as illustrated below and screw it with two 2 x 5mm screws. (The position is shown in red square frame in the below graphic). Then glue the screws with green glue (screw fixative). Please note that the part number of these two screws is MST08CA000509.

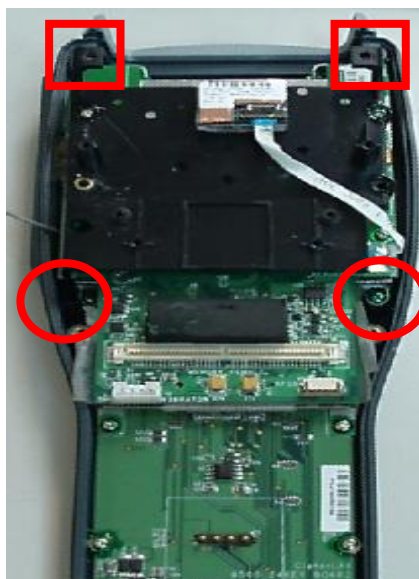


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Note: Please set the torque value of your electronic screwdriver to 2 Kg-cm.

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- 8) Install the LCD module to the front of the upper case as illustrated below, then put two brass clamp rings on the screw holders and screw the front part of the LCD module with two 2.3 x 10mm screws. (The position is shown in red square frame in the below graphic). After finishing the above procedure, screw the back part of the LCD module with two 2.3 x 6mm screws. (The position is shown in red circle in the below graphic).



- 9) Connect the J2 jumper on the VIBRATOR board of the lower case to the J2 socket on the mainboard of the upper case.



- 10) After finishing the above procedures, the final step is to put the upper case and lower case together. When putting the lower case into the upper case, please note that the lower case must be put inside the rubber side strip. After putting the lower case and upper case firmly together, screw them with six M2.5X18 screws (part number: MSM15SUS01508).



*Rubber Side Strip*



KEYPAD SETTING AND TESTING

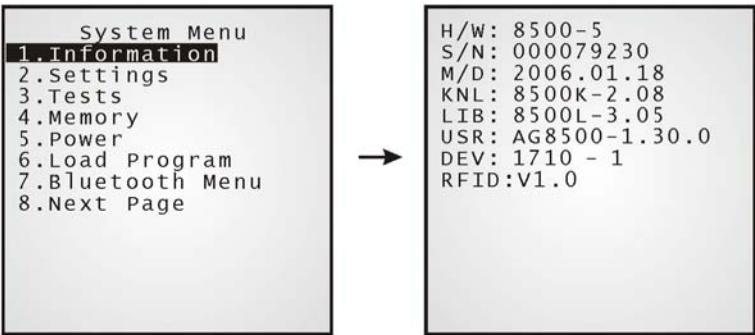
In order to start using the replaced keypad, you have to make sure the new keypad function normally. This chapter explains the keypad setting and testing illustrations that allow you to set and test the keypad by yourself.

2.1 KEYPAD SETTING AND TESTING SOP

2.1.1 TOOLS NEEDED FOR KEYPAD SETTING AND TESTING

8500 (L/C/2D)	1 pcs
Li-ion Battery	1 pcs

- Note:
1. Press [7]+[9]+[POWER] to enter the System Menu while the power of your mobile computer is turned off and check the Kernel version and the Library version as illustrated below.
  2. Press the [UP] and [DOWN] keys to move the highlight bar and select "1. Information", then press [ENTER] to view the system information.
  3. Make sure that the Kernel version of your mobile computer system is later than 8500K-2.08 and also the Library version is later than 8500L-3.05.

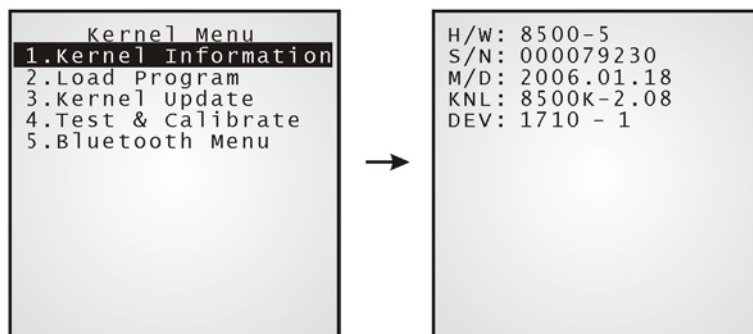


4. If the kernel version of your mobile computer system is not the latest, please update your kernel version. For details of the kernel update procedures, please refer to the section [4.2.3 Kernel Update](#) of the 8500 Reference Manual. Also, if the Library version of your mobile computer user program is not the latest, please update your user program with library version later than 8500L-3.05, e.g.: User Program version later than AG8500-1.20.1.

## 2.1.2 SETTING PROCEDURES

Set the activation code by following these steps:

- 1) Press [1] + [7] + [POWER] to enter the **Kernel Menu** while the power of your mobile computer is turned off.
- 2) Press the [UP] and [DOWN] keys to move the highlight bar and select "1. Kernel Information", then press [ENTER] to access this item.



- 3) Before configuring your Device ID, please confirm it with the following table:  
Device ID is a 5-digit code for optional hardware configurations.

Device Code	Modular Component	Types
1st digit	Reader module	0= none 1= CCD scan engine 2= Laser scan engine 3= 2D scan engine 4= Long Range Laser scan engine 5= Extra Long Range Laser scan engine
2nd digit	Wireless module	0= none 3= Bluetooth + GSM/GPRS (8580) 4= Bluetooth + 802.11b/g (8570) 5= Bluetooth only (8500) 7= Bluetooth + GSM/GPRS + 802.11b/g (8590)
3rd digit	RFID module	0= none 1= RFID reader
4th digit	Reserved	0
5th digit	Keypad module	0= 24-key    2= 44-TE Key 1= 44-key

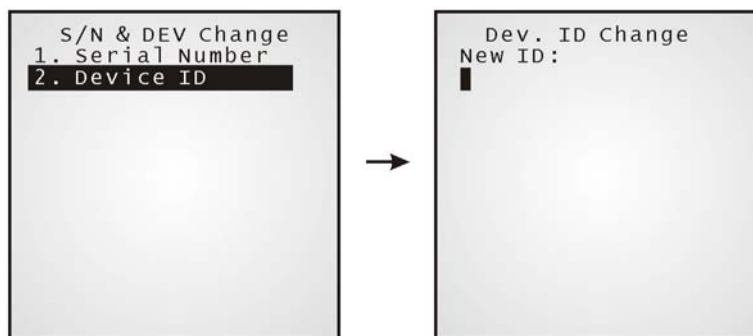
For example: 8500 Laser + WLAN and BT module + 44-TE key

→ Device Code = 2400-2

- 4) Long press the [1] + [7] key until the following frame appears on the screen. This frame means you have entered the set up mode. Enter the set up password and then press the [ENTER] key.



- 5) After entering the correct password, the following frame will appear on the screen, move the highlight bar and select "2. Device ID", then press [ENTER] to access this item. Enter the first four numbers of your Device ID for the "New ID" item.



- 6) After entering the first four numbers of your Device ID, press the [ENTER] key and the system will prompt you to enter the new keypad type as the following graphic shows.



- 7) Enter the Keypad Type number with the corresponding value. For example, if your mobile computer is equipped with a 44-TE Keypad, please enter "2" and press the [ENTER] key. The system will prompt you with two options as the following graphic shows. Press the [ENTER] key to continue and then press the

[F9] key to restart the mobile computer.



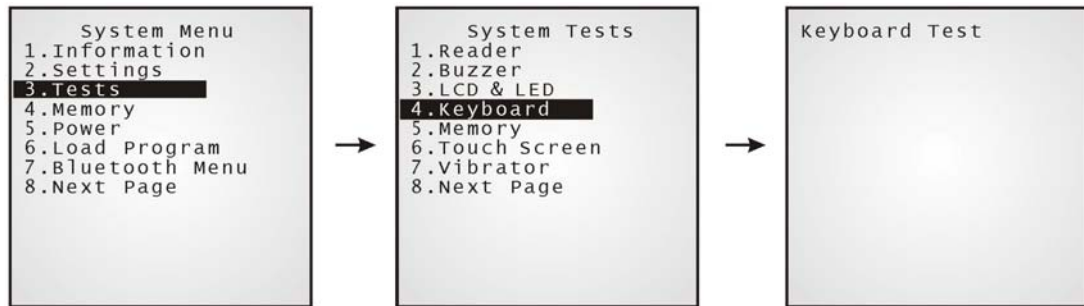
- 8) Press [1]+[7]+[POWER] to enter the **Kernel Menu** while the power of your mobile computer is turned off. Press the [UP] and [DOWN] keys to move the highlight bar and select "1. Kernel Information", then press [ENTER] to access this item. Then check if the Device ID and keypad type have been set to the correct values.

```
H/W: 8500-5  
S/N: 000079230  
M/D: 2006.01.18  
KNL: 8500K-2.08  
DEV: 2400 - 2
```

### 2.1.3 TESTING PROCEDURES

Launch the keyboard test by following these steps:

- 1) Press [7]+[9]+[POWER] to enter the **System Menu** while the power of your mobile computer is turned off.
- 2) Press the [UP] and [DOWN] keys to move the highlight bar and select "3. Tests", then press [ENTER] to access the test mode. Continue to press the [UP] and [DOWN] keys to move the highlight bar and select "4. Keyboard", then press [ENTER] to perform the keyboard test.



- 3) While performing the keyboard test, please make sure to press every key on the keyboard and see if every key function normally. After finishing the keyboard test, press the [ESC] key to return to the System Test menu.