



Blue Bamboo

CT100 Contactless Terminal User Guide

CT100



BLUE BAMBOO

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BLUE BAMBOO

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Certifications:

The production has been approved by CE, FCC and CCC

The Li-ion battery has been approved by UN.DOT and CE

The power adapter has been approved by CCC, TUV GS, UL, CE and FCC


SAR statement:

CT100 terminal which this declaration relates is conformity with the article C95.1-1999 of essential requirements and other relevant requirements of the ANSI.

Caution:

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

FCC statement:

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This  device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates uses and can radiate radio frequency energy and, if not in-stalled and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures: —Reorient or relocate the receiving antenna.

—Increase the separation between the equipment and receiver.

—Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.

—Consult the dealer or an experienced radio/ TV technician for help.

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Introduction

This guide describes how to set up and install a CT100 Contactless terminal. It also includes information on how to

- Protect the terminal from adverse environmental conditions
- Install and maintain the battery
- Establish communications connections through an USB dongle

1 Operating Environment and Safety

This section provides tips on using and protecting your terminal.

The CT100 Contactless Terminal is a portable terminal for performing transactions remotely. Since it is a portable unit, location is not a factor. However, follow the rules established in the environment and safety sections.

Environment

- Do not leave the terminal in a non-climate-controlled vehicle. The CT100 Contactless terminal is highly sensitive to temperature extremes. Subjecting the terminal to temperatures outside the stated operating range can void your warranty
- Do not use the CT100 Contactless terminal where there is moisture or high humidity, chemicals or oils, or excessive heat or dust
- Avoid electrical appliances or other devices that emit excessive voltage fluctuations or electrical noise (for example, air conditioners, electric motors, neon signs, high-frequency or magnetic security devices, or computer equipment)
- Keep the CT100 Contactless terminal away from anything that radiates heat, such as a stove or motor
- Damage to the unit from exposure to sun, rain, or dust may void your warranty
- Do not use the CT100 Contactless terminal near water, including bathtubs, basins, kitchen sinks or laundry tubs, in a wet basement, or near swimming pools.

Safety Concerns

The following guidelines help to ensure your safety and the safety of others:

- Do not connect the power and phone cables across a walkway or high traffic area
- Avoid using the CT100 Contactless terminal during electrical storms.
- If using the CT100 Contactless terminal while charging the battery, ensure that the unit is placed close enough to a power outlet so that the power adapter readily reaches the unit.
- Don't disassemble the CT100 Contactless terminal, or the AC adapter. Only qualified technicians may service these devices.
- Do not plug the power pack into an outdoor outlet.
- Do not short-circuit, disassemble, crush, or puncture the battery.
- Do not expose the battery, AC adaptors or CT100 Contactless terminals to fire or water.

2 CT100 Contactless Terminal Operation

2.1 Unpack the Unit Carton

Open the unit carton and carefully inspect the contents for possible tampering or unit damage. The carton contents include:



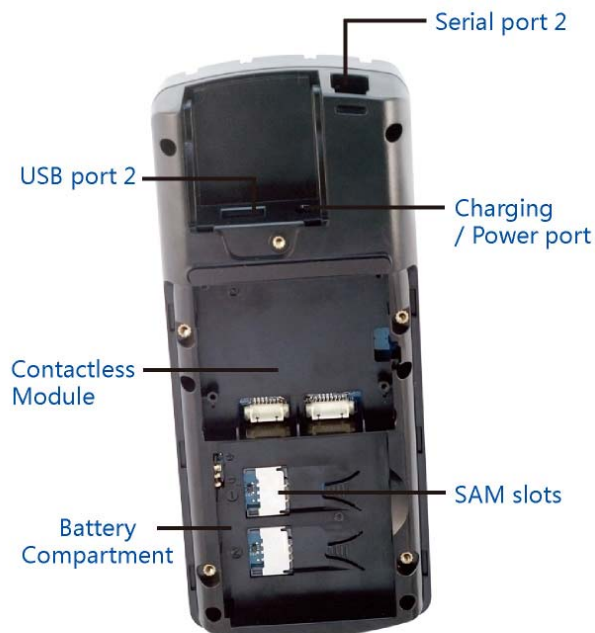
(Figure 1) CT100 Contactless Terminal Unit Carton Components

2.2 Terminal Features

Features of the CT100 Contactless terminal are shown as in Figure 2 and Figure 3:



(Figure 2) CT100 Contactless Terminal Front



(Figure 3) CT100 Contactless Terminal Back

- **The Status LED Indicators** – These Indicators are placed above the display. From left to right, They are tri-color, yellow, green, red Indicators

Functions:

- a. Tri-color LED (Left most LED)

When the terminal is powered by the AC Power supply directly without battery, the Tri-color LED will indicate red all the time. When the terminal is powered by the battery, or the battery is charging, the Tri-color LED will indicate as below:

Tri-Color LED status description (Left most LED)	
Charging	Green
Charge Error	Red
Charge Done	Blue
Power On	
Note: The charge status takes the first priority, this LED will indicate charge status first even when the terminal is on. The LED will be blue to indicate power on status and the charge done status. There is "charge done" information showed on LCD when it's power on.	

- b. Yellow Color Indicator
- c. Green Color Indicator
- d. Red Color Indicator

- **2-navigation key** – These are the navigation key to help the user select the correct menu option.



- **Menu Key**– Displays the main menu for that application.



- **Alphanumeric keys are in Telco style**

	<ul style="list-style-type: none"> - 1 qz - 2 abc - 3 def - 4 ghi - 5 jkl - 6 mno - 7 prs - 8 tuv - 9 wxy - 0 -sp - * , ' " - #
--	---

(Figure 4) Keypad Placement

- **The LCD Display**
- **Power/Shift Button**



- **Three Color-coded-function keys**
 - Enter – This is the green key with a round label.



- Clear – This is the yellow key with a triangle label.



- Cancel – This is the red key with an “X” label.



- **Docking Port** – The terminal can be connected with Docking Station via this port

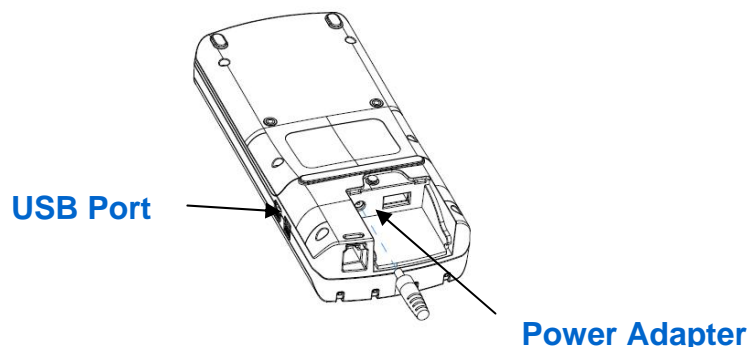
2.3 Power the Terminal

2.3.1 By Using an AC Power Adapter

- Plug the Power Adapter into the wall outlet, and then connect the power adapter to the unit via Charging/Power port.
- After connecting with the power supply, Tri-color LED on the terminal will indicate red.

2.3.2 By Using an USB Cable

- Plug the USB cable into the USB port on the left side of the terminal, and then connect the other side of the cable to the PC.
- After connecting with the PC, Tri-color LED on the terminal will indicate red.



(Figure 5) Plug in CT100 Terminal Adapter Cable/USB Cable

2.4 Battery

The CT100 Contactless terminal can also be powered by a Li-ion battery. The internal logic of the battery prevents both overcharging and undercharging (a fault condition in which the battery level goes well below the minimum acceptable charge and the battery becomes unusable).

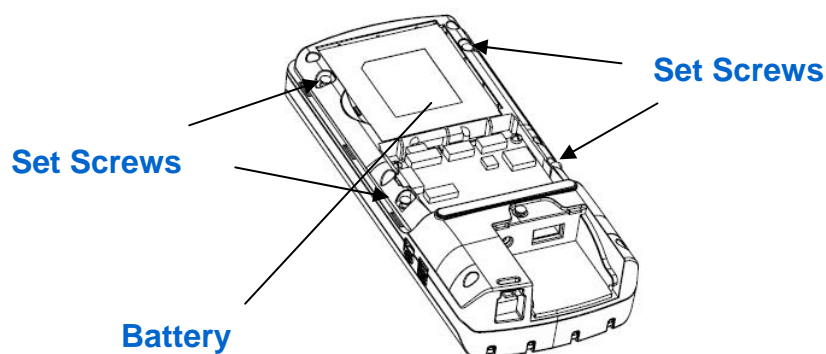
Note:

Conserve battery power by turning the CT100 Contactless terminal off when not in use. If the terminal will not be used for several days, remove the battery from the terminal, as it continues to discharge even when the terminal is turned off.

2.4.1 Installation

The battery will be shipped with the terminal together inside the unit carton. The battery can be installed in a slot on the back of the terminal, as shown in Figure 6.

- a. Remove terminal and battery from unit carton
- b. Turn the terminal over
- c. Remove the set screws and the cover
- d. Install the battery into the slot and tighten the screws



(Figure 6) Install the battery

2.4.2 Charging the Battery

There are two methods to charge the battery by using a CT100 terminal.

2.4.2.1 By Using an AC Power Adapter

- Plug the Power Adapter into the wall outlet, and then connect the power adapter to the unit.
- After connecting with the power supply, Tri-Color LED will turn green to indicate that the unit is charging. The battery can be fully charged about **3** hours. Then the Tri-color LED will turn blue.

2.4.2.2 By Using an USB Cable

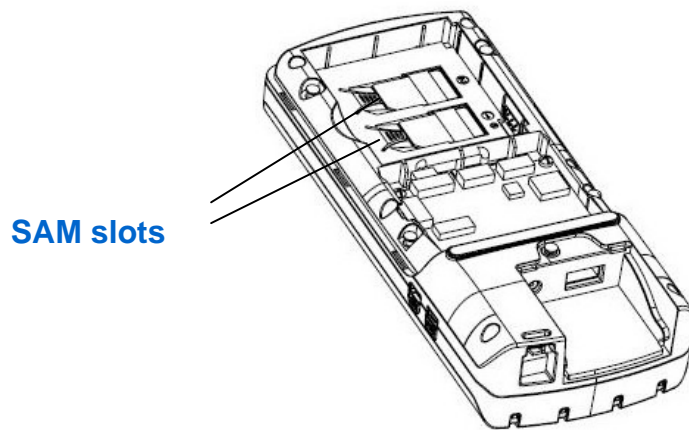
- Plug the USB cable into the USB port on the left side of the terminal, and then connect the other side of the cable to the PC.
- After connecting with PC, Tri-Color LED will turn green to indicate that the unit is charging. The battery

can be fully charged about **5** hours. Then the Tri-color LED will turn blue.

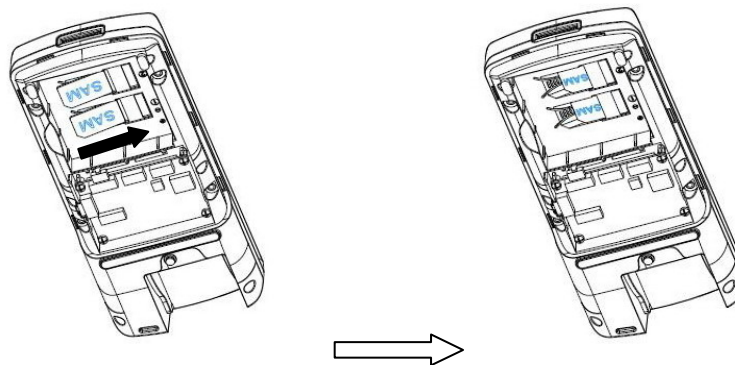
2.5 SAM Card Installation

When you first receive the CT100 terminal, you may need to install a Secure Access Module (SAM) card. The following procedure describes SAM card installation:

- a. Turn the terminal over. Remove the set screws and the cover. The SAM slot is located beneath the battery, as seen in Figure 7
- b. Insert the SAM card in the slots with the electronic chip facing down and the cut-out corner on the bottom. (Figure 8)
- c. Place the cover and insert the set screws



(Figure 7)



(Figure 8) Insert SAM card



CAUTION:

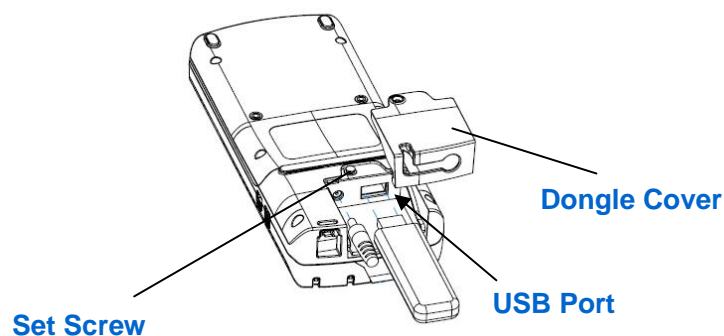
Observe standard precautions for handling electrostatic sensitive devices.

Electrostatic discharges can damage this equipment. Wearing an anti-static wrist strap grounded to a metal surface is recommended.

2.6 USB Dongle Installation

CT100 can use an USB dongle to communicate with other devices through a wireless connection. Use the following procedure to install or change the USB dongle in the CT100 terminal:

- a. Turn the terminal over so that you are facing the back of the terminal
- b. Remove the set screw and the dongle cover
- c. Insert the communication dongle into the terminal's USB port. (Figure 9)
- d. Insert the dongle cover into the slot.
- e. Use the screws to lock the dongle cover into place.



(Figure 9) Install USB Dongle

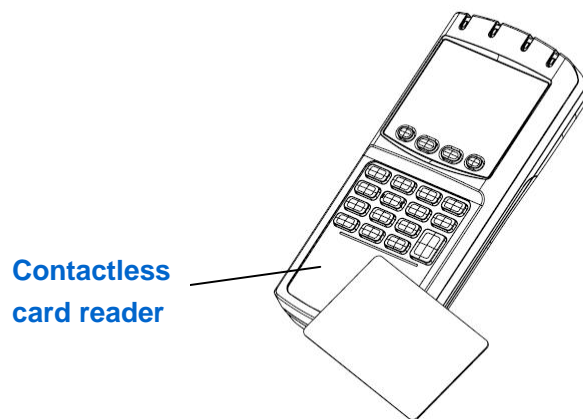
Note:

Blue Bamboo does not provide USB dongle as an accessory with the CT100 Contactless terminal, but the user can integrate certain types of certified USB dongle (such as GPRS, Bluetooth, etc) provided by other manufacturers with the terminal to transmit the data with other devices through wireless connection.

2.7 Contactless Card Reader Transactions

To conduct a contactless card reader transaction:

- a. Position the contactless card and ensure the card face towards the card reader within 3 centimeters. Tap the card above the card reader for several seconds.
- b. Remove the card when the buzzer beeps, the transaction information will be displayed on the screen. Premature removal voids the transaction.



(Figure 10) Tap card

3 Maintenance

3.1 Terminal

- For normal dirt, use a clean cloth slightly dampened with water and a drop or two of mild soap. For stubborn stains, use alcohol or an alcohol-based cleaner
- Never use thinner, acetone, trichloroethylene, or key tone-based solvents — these chemicals can deteriorate plastic or rubber parts
- Do not spray cleaners or other solutions directly onto the keypad or display

3.2 Card Readers

- The contactless card readers require no regular maintenance. For card reader service, contact your distributor or service provider.



CAUTION: Do not attempt to clean the card readers. Doing so may void your warranty.

4 Troubleshooting

Blue Bamboo follows stringent quality control standards in the manufacturing of CT100 terminals. Each unit that leaves the factory receives numerous tests to ensure quality and reliable operation. However, if you encounter a problem in operation, read this section for possible causes and solutions. If the problem persists or if it is not described below, contact your local Blue Bamboo representative for assistance.



CAUTION: Do not, under any circumstance, attempt to disassemble the terminal. If a terminal has been disassembled it will void the warranty.

4.1 Terminal Does Not Start

- When the terminal is powered by the AC power directly without battery, please ensure that the Adapter

or the USB cable is correctly connected.

- When the terminal is powered by the battery, please ensure that the battery charge state is not below the critically low level
- Recharge or replace the battery
- Make sure that you press the power on/off key for approximately 2 seconds, until the unit lights up

4.2 Terminal Display Does Not Show Correct or Readable Information

- Shut off and restart the terminal
- Recharge or replace the battery
- If the problem persists, contact your local Blue Bamboo representative for assistance

4.3 Battery Will Not Charge

- The battery must initially receive a full charge and then full discharge to calibrate its full charge capacity. This operation is performed at manufacture.
- Conserve battery power by turning the CT100 terminal off when not in use. If the terminal is not to be used for several days, remove the battery from the terminal as it continues to discharge even when the terminal is turned off
- The CT100 terminal will notify the user when the battery charge is sufficiently low and may automatically shut off if the battery reaches a critically low state. If the battery is used until it is completely dead, it may take several recharge attempts to reset the safety circuit when charging. To check that the safety circuit has been reset, simply turn on the terminal. If it turns on, it was reset, or if it does not turn on reconnect the power adapter and begin charging again

4.4 Terminal Does Not Process Transactions

There are several possible reasons why the CT100 terminal may not be processing transactions. Use the following steps to troubleshoot failures:

- **Check the contactless card reader**

- Perform a test transaction using several different contactless cards to ensure the problem is not a defective card
- Ensure that you are taping cards properly. The chip on the card should be above and face toward the card reader within 3 cm.

- **Check the signal strength on-screen**

- Indicator displays at least one bar to indicate connectivity to radio network
- Check antenna connection and orientation
- Ensure that the radio has been activated by your service provider

- **Check the telephone line**

- Connect to a working telephone and check for a dial tone. If there is no dial tone, replace the telephone cable
- If the problem appears to be with the telephone line, check with the party you are trying to call to see if their system is operational. If they are not experiencing difficulties with their line, contact the telephone company and have your line checked
- If the telephone line works, contact your local Blue bamboo representative for assistance

4.5 Keypad Does Not Respond

- Check the display panel. If it displays the wrong characters or nothing at all when you press a key, follow the steps outlined in section 4.2
- If pressing a function key does not perform the expected action, refer to the user documentation for that application to ensure you are entering data correctly.
- If the problem persists, contact your local Blue Bamboo representative for assistance

5 Service and Support

- For the CT100 terminal, contact your local Blue Bamboo representative or service provider.
- Visit the CT100 online store at www.bluebamboo.com

6 Specifications

This section provides information on the power requirements and environmental conditions to which the units can be subjected, as well as the unit dimensions.

6.1 Power Requirements

The external AC/DC power adapter has the following requirements:

- **Construction:** adapter with a power cord to the outlet that can be country specific for the plug and a DC power cord to the CT100
- **Input voltage:** 100 – 240VAC, 50/60 Hz
- **Output voltage:** 9V DC
- **Output current:** 1000 mA
- **Safety:** certifications by country

6.2 Environmental

Temperature:

- Storage: -20C° to 70C°
- Operating: With Battery: 0C° to 45 C° ; Without Battery: -20C° to 60C°

Humidity:

- **Storage 10% to 90% RH, non-condensing**
- Operating: 5% to 95% RH, non-condensing

6.3 CT100 Terminal Dimensions and Weight

	Weight (kg)	Dimension
CT100 Terminal	0.318 (with battery)	80mm (L)x179mm(W)x36mm(H)
CT100 Unit Carton		

7 Accessories and Documentation

This section lists accessories and documentation available for the CT100 terminal.

7.1 Accessories

Support for 2 SAM cards

SDK (Software Development Kit)

Docking Station

Carrying case

Dongle Cover