

User's Manual

BCP-7000 Data Collector



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1. Introduction

BCP-7000 is a battery-operated, hand-held, and portable data collector. The device is equipped with high quality laser engine making reading a barcode is easy and accurate. The great shape LCD display and tactile keypad (21 key) furnish convenient operations of scanning barcode, data key-in, editing and navigation. In addition, a very user friendly job generator utility offers user to design job applications without writing the program source code resulting the once incomprehensible development process become distinct and effortlessly. It is an ideal device for various data collecting applications such as warehouse management, shop floor management, asset tracking...etc.

1.1. Features

- . Job Generator offers users to design their own application effortlessly.
- . High quality laser engine equipped makes aggressively barcode reading.
- . The big capacity reachable battery endures long working time.
- . An innovational interface design offers communication and charge via RS-232 or USB cables.
- . A tactile 21 keys keypad provides barcode scan, data key-in, editing and navigation comfortably.
- . Great shape LCD with backlight furnishes clear and pleasant viewing.
- . A capacious memory furnishes a large amount of data storage.

1.2. Unpack

Standard Package

- . BCP unit x 1
- . USB interface (charge/communication) cable x 1
- . CD disk is content with BCP-7000 User's Manual, BCP-7000 Job Generator Utility Operation Manual and example Job Application file x 1

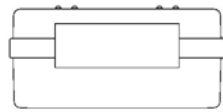
Options

- . RS-232 interface (charge/communication) cable x 1
- . Power adaptor 110V or 220V
- . PS/2 power retrieving cable

Note:

- . The contents may vary with different options.
- . If there's any physical damage or missing parts, please contact your supplier immediately.
- . Please keep all packing material as it should be used when you need to ship back terminal for service.

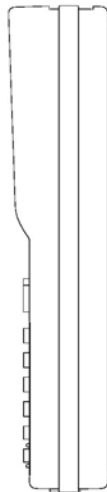
1.3. Overview



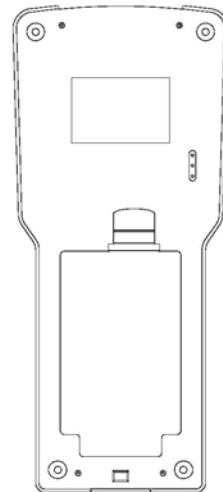
FRONT VIEW



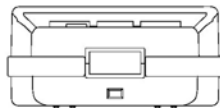
TOP VIEW



SIDE VIEW



BOTTOM VIEW



REAR VIEW

2. Keypad

The terminal equips with 21 rubber keys. All the keys' details/functions are described at sections of 2.1., 2.2. and 2.3..

2.1. Function Keys

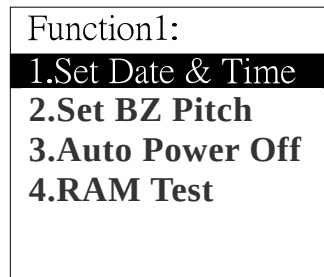
	Scan key	:	Press to scan a barcode.
	Down	:	Press to cursor down.
	Up	:	Press to cursor up.

	Alpha	:	The toggle key to shift between Alphabet and Numeric modes.
	Back Space	:	The back space key.
	Space	:	The space key.
	Enter	:	This key is for data enter confirmation or execution command.
	Power	:	The toggle key to shift between power on or power off. To avoid an accidental press, it requires pressing it for over 1.5 sec. to activate the terminal to power on or off.
	Function	:	The key has to associate with another numeric key to activate the functions. More details are described at 1.3.1.2. Section.
	Escape	:	Close the current operation and back to previous operation.

2.2. FN Key + Numeric Keys

2.2.1. FN + 0: At any operation mode, press “FN” key then press “0” key; it would turn on (when backlight off) or turn off (when backlight on) the LCD backlight.

2.2.2. FN + 1: At Main Menu Window, press “FN” key then “1” key; the following figure will be shown at the display.



2.2.2. Figure

Press any numeric key 1~4 or press “up” and “down” key to travel between items to select the wanted settings. The item would be covered by the black mark when the item is traveled by the press “up” or “down” key or press by the designated number keys 1~4. Once the item is selected and “enter” key is pressed, one of following figures (2.2.2.1.~2.2.2.4.) will be shown on the display.

Figure 2.2.2.1.; this figure is reacted to when the item 1. set Date & Time is executed (main menu\FN + 1\set date & time\enter).

Date:2009/01/01	→BCP7000's date
20█/__/__	→Input setting date
Time: 17:28:38	→BCP7000's time
__:__:__	→Input setting time

2.2.2.1. Figure

This setting allows user to key-in the real time clock data of the terminal.

Figure 2.2.2.2.: this figure is reacted to when the item 2. Set BZ Pitch is executed (main menu\FN + 1\set bz pitch\enter).

Pitch:000~255	→Input setting value
█ _ _	

2.2.2.2. Figure

This setting allows user to set the buzzer pitch value of the terminal.

Note: it requires the value key in must be complied with the format, three characters and a "0" has to be filled with if the value is less than 100. For example, 099 represents value of 99.

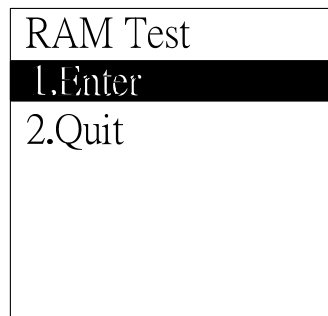
Figure 2.2.2.3.: this figure is reacted to when the item 3. Auto Power Off is executed (main menu\FN + 1\auto power off\enter).

Time:01~60 min
█ _

2.2.2.3. Figure

This setting allows user to set the terminal works at auto power off mode. It's minute count. The maximum time of the setting is 60 minutes.

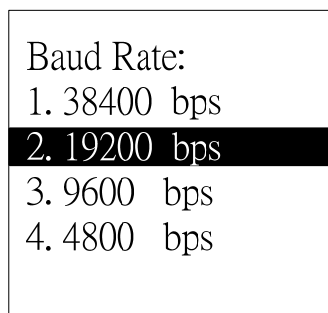
Figure 2.2.2.4.: this figure is reacted to when the setting of 4. RAM Test is executed (main menu\FN + 1\RAM test\enter).



2.2.2.4. Figure

This setting allows user to carry out the RAM test. It would take around 3 minutes to complete the whole test process. **However, if there are any data in the RAM, the function is disabled.**

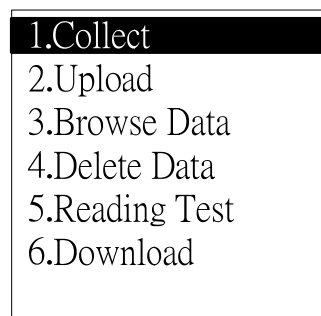
2.2.3. FN + 2: At main menu, press "FN" key then "2" key; the following figure will be shown at the display.



2.2.3. Figure

At the figure, the baud rate item which is covered by the black mark indicating the baud rate is set to the terminal. Press any numeric key 1~4 or press "up" and "down" key to travel between items to select the wanted baud rate settings. Once the item is selected and "enter" key is pressed, the baud rate setting process is done. The Main Menu Window will be shown on the display.

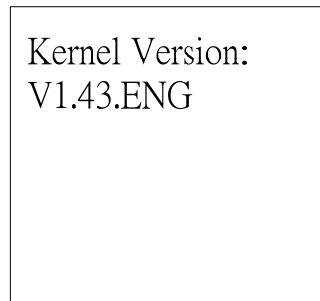
Main menu :



Main Menu Figure

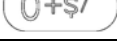
2.2.4. FN+9:

At main menu, press “FN” key then “9” key; the LCM will show the core version of the firmware. For example, referring to Figure 2.2.4,” Kernel Version: V1.43.ENG”. Return to the main menu by pressing “Esc.”



2.2.4. Figure

2.3. Numeric and Alphabetic Keys

	1 ABC	Numeric 1 and Alpha A, B and C
	2 DEF	Numeric 2 and Alpha D, E and F
	3 GHI	Numeric 3 and Alpha G, H and I
	4 JKL	Numeric 4 and Alpha J, K and L
	5 MNO	Numeric 5 and Alpha M,N and O
	6 PQR	Numeric 6 and Alpha P, Q and R
	7 STU	Numeric 7 and Alpha S, T and U
	8 VWX	Numeric 8 and Alpha V, W and X
	9 YZ*	Numeric 9 and Alpha Y, Z and Symbol *
	• -%:	Symbol • , - , % and :
	0+\$/	Numeric 0 and Symbol +, \$ and /

3. Battery Care

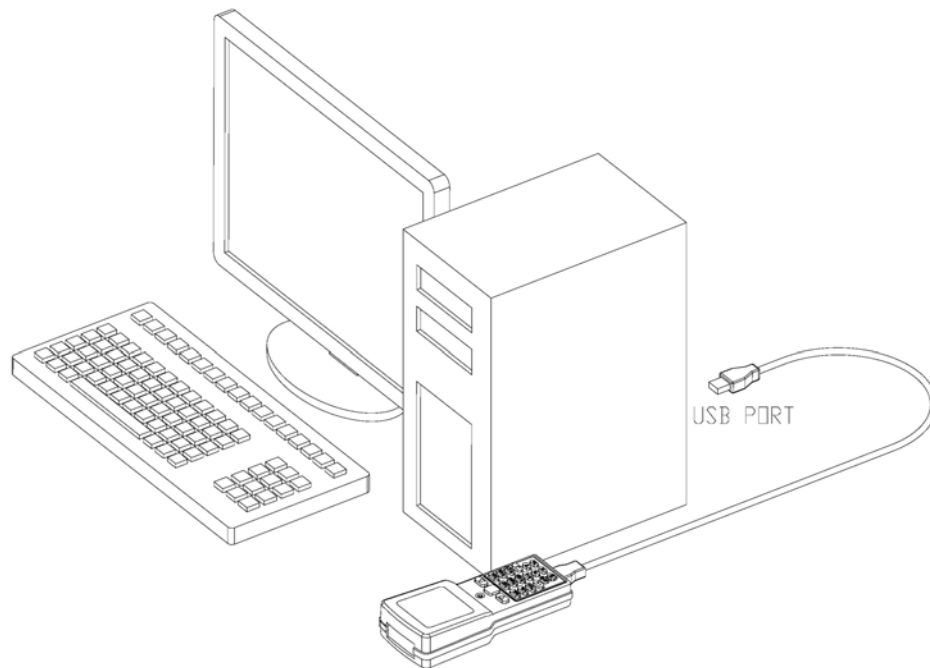
Each terminal unit has been charged at the factory, but getting the battery fully charged before the first use is strongly recommended. The terminal can work as usual in charging mode.

3.1. Recharge

The terminal can be charged via USB and RS-232 cables. Please follow the steps accordingly.

3.1.1. Via USB Cable

- . Plug the male connector of the cable into the connector port of the terminal unit, and connect the USB A type connector of the cable to PC USB port.
- . When the terminal's LED turns to steady RED , it indicates that the terminal is being recharged.
- . When the terminal's LED turns off, it indicates that the recharge process is finished. The whole process of the recharge would take around 4 to 6 hours from low power state to full charged state.



3.1.1. Figure Charged via USB Cable

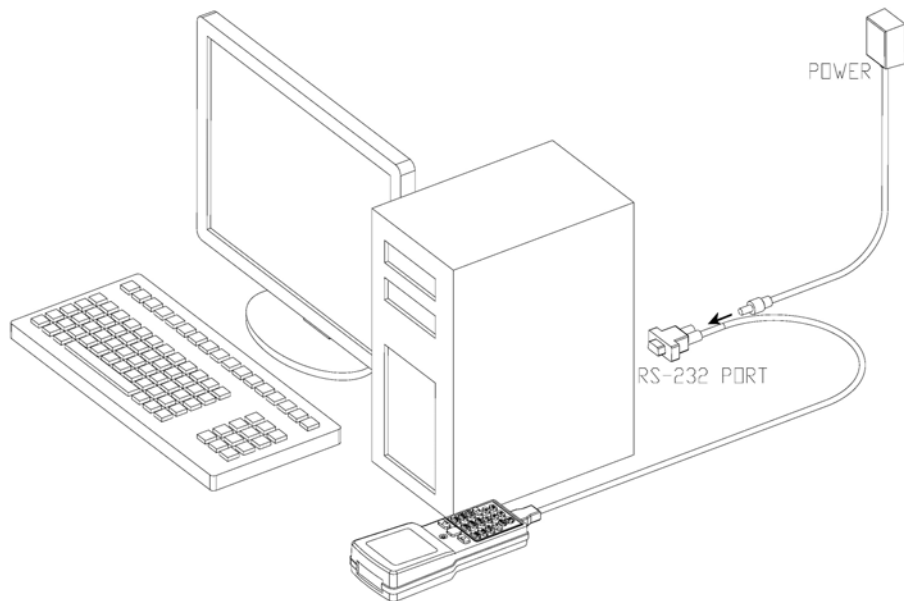
Note: there is a phenomenon, according to our finding, that the USB ports located in front of PC panel might provide less DC power supply than those located at rear I/O panel of the PC. Thus, it is strongly suggested that connect the USB port at rear I/O panel for charging the terminal.

3.1.2. Via RS-232 Cable

- . Turn off the computer.
- . Plug the male connector of the cable into the connector port of terminal and connect the DB9 connector

of the cable to PC RS-232 port.

- . Connect the DC plug of external power adapter or PS/2 power retrieving cable to the DC jack located at the DB9 connector of the cable.
- . Turn on the computer. (for PS/2 power retrieving cable only)
- . When the terminal's LED turns to steady RED which indicates the terminal is being recharged.
- . When the terminal's LED turns off which indicates the recharge process is finished. The whole process of the recharge would take around 4 to 6 hours from low power state to full charged state.



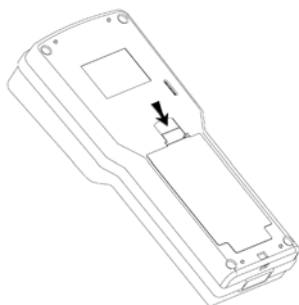
3.1.2. Figure Charged via RS-232 cable with power adapter

3.2. Low Battery Warning

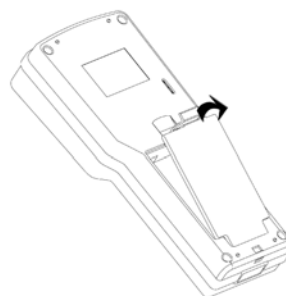
When the battery power drops low, a flashing battery icon will be shown at the right bottom corner of the display. There are about 500 scans can be made after the warning occurred. Get the terminal charged as soon as possible after the warning appears.

3.3. Replace Battery

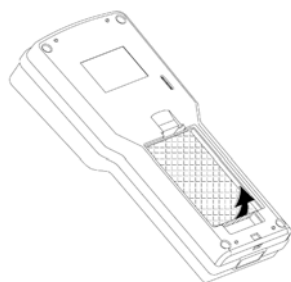
In case you need to replace the battery on your own, follow the steps below.



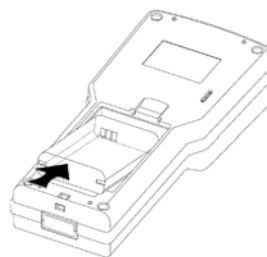
Step 1



Step 2



Step 3



Step 4

4. Get Started

4.1. Turn On

Press and hold the power key for over 1.5 second to turn on the terminal. The main menu (for the first time usage) or the previous window before turn the terminal off will be shown on the display and emits a beep and the red LED will be turned on.

4.2. Turn Off

Press and hold the power key for over 1.5 second to turn off the terminal.

4.3. Scan Data

Press the scan button, a red scan light will be emitted **(for the safety reason, please do not stare at aperture where the light comes from directly)**. Aim the red scan light at the barcode to scan. A beep with a flashing green LED indicates a successful scan. If the scan button is pressed for 2 seconds without a successful reading, the red scan light will turn off to save power consumption. Press the scan key and aim at a barcode to scan again.

5. Memory

5.1. The terminal is equipped with 1MB SRAM for data retention. The limitation of each menu or form is 400 digits. Each record can contain up to 10 forms or menus. However, the limitation for a record should be less than 1KB. When the content of a record is less than 100 digits, the record will be saved as 100 digits. Due to the design, it is capable to store up to 9,999 piece of record. If every record exceeds 100 digits, the terminal would store less than 9,999 pieces of record.

5.2. The terminal is equipped with an auxiliary rechargeable battery to furnish the power supply to SRAM. The auxiliary battery can work up at least one month since when the main battery removed from the terminal or the main battery stores no power.

5.3. Memory Near Full warning: when the terminal's memory capacity reaches to less than 5% of 1 mega byte storage; a warning of "Memory Near Full" Window would show on the display, as 5.3. Figure. To accentuate the user aware of memory status, it is designed blocking any actions of the terminal without removing the warning.

5.4. Memory Full warning: when the terminal's memory capacity reaches 1 mega byte storage; a warning of "Memory Full" prompt would be shown on the display and emits 5 beeps for every record save command is executed. No more record can be saved.

6. Communication/Utility

6.1. Installing Terminal

To download an application, updated firmware or settings to the terminal or upload data from the terminal, follow the steps below to connect the terminal to your PC. Once the terminal is connected to the PC, the Main Menu Window or the previous window before turning off the terminal will be shown on the display and emits a beep and the red LED will be on.

6.1.1. Via USB Cable

- . Turn off your PC.
- . Connect the 12 full pin telecom mail connector end of the USB cable to terminal.
- . Connect the USB-A male end of the cable to a free USB port on your PC.
- . Turn on your PC.

6.1.2. Via RS-232 Cable

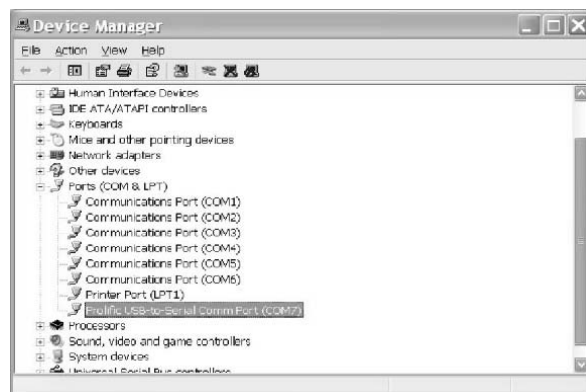
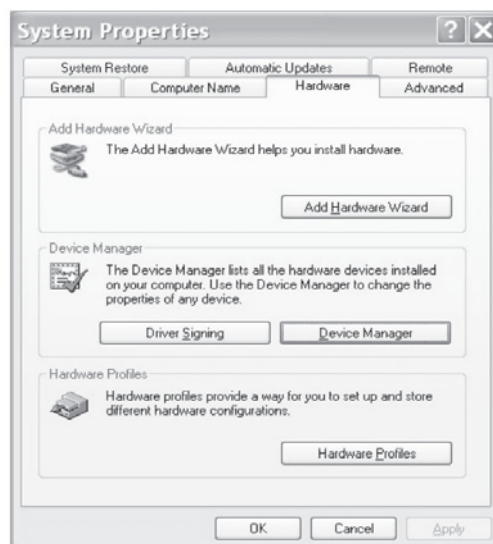
- . Turn off your PC.
- . Connect the 12 full pin telecom mail connector of the RS-232 cable to the terminal.
- . Connect the DB9F end of the cable to a free serial port on your PC. Plug the A/C adapter into the power jack and an electrical outlet.
- . Turn on your PC.

6.2. USB Driver

Insert the bundled Utility/driver CD into an available CDROM on your PC. Windows will prompt you to install a device driver for the newly detected hardware when you plug in the USB interface cable to your host PC for the first time. Specify the path to the USB Driver folder and Windows will complete the driver installation in a few seconds. You only need to install the device once.

6.3. Login

USB driver assigns a virtual serial port for communications. Execute **Start > Control Panel > System > Hardware > Device Manager > Ports (Com & LPT)** will lead you to identify the port number.



Select the Com Port accordingly and enter your password. On the first access simply press OK to log in since no default password is set.

7. Example Job Application

The terminal is equipped with a Job Application which simulates a data collecting task at warehouses by gathering user ID, location (warehouse), item no. and quantity and its sequences are meet following two ones:

. User ID -> Location -> Item No -> Qty -> Location -> Item No -> Qty -> Location”ESC” -> ”ESC” -> main menu.

Or

. User ID -> Location -> Item No -> Qty -> Location -> Item No -> Qty -> Location”ESC” -> User ID -> Location -> Item No -> Qty -> Location”ESC” -> User ID ->

“

“

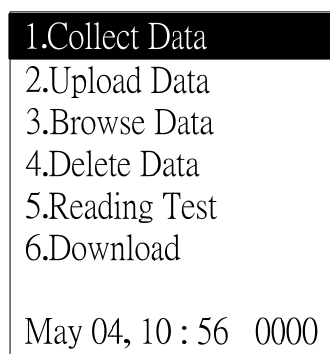
”ESC” -> ”ESC” -> main menu.

Please refer to below sections to know how the job is done.

7.1. Main Menu Window

The following three conditions/ways are able to obtain the Main Menu Window at terminal.

- . For the first time use; the Main Menu Window will be shown on the display after powering on the terminal.
- . The Main Menu Window was the operational window before powering off.
- . Press ”ESC” key continuously to obtain the Main Menu Window.

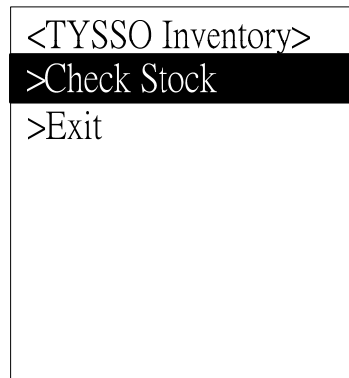


Main Menu Figure

Press any numeric key 1~6 or press ”up” and ”down” key to travel between items to select the wanted setting. The item would be covered by the black mark when the item is traveled by the press ”up” or ”down” key or press by the designated number keys 1~6. Once the item is selected and ”enter” key is

pressed, one of following figures (7.1.1.~7.1.6.) will be shown on the display.

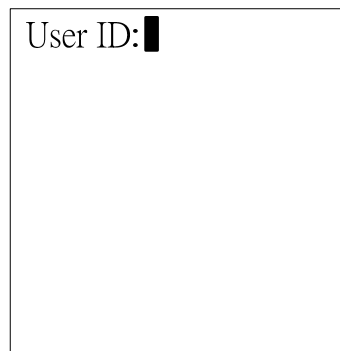
Figure 7.1.1.: this figure is reacted to when the setting is 1. Collect Data is executed (main menu\collect data\enter).



The image shows a rectangular display area with a black border. Inside, the text is arranged vertically. At the top is "<TYSSO Inventory>". Below it is ">Check Stock", which is highlighted with a solid black background. At the bottom is ">Exit".

7.1.1. Figure Tysso Inventory

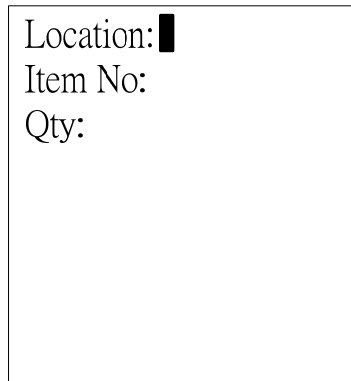
User can select the "Check Stock" or the "Exit" items by pressing "up" or "down" key to travel between them. Once the item is traveled to, it would be covered by the black mark. Press "enter" key to execute the selected setting. If the "exit" setting is executed, then the Main Menu Window will pop up. If the "Check Stock" setting is executed, the following figure will be shown on the display.



The image shows a rectangular display area with a black border. Inside, the text "User ID:" is at the top left. To the right of the text is a solid black vertical bar, indicating a cursor for text input.

7.1.1.1. Figure User ID

User is requested to key in any number of alphanumeric characters not longer than 50 digits in this field to represent user's ID code. It is predefined to accept the data inputted by keypad or by scanning a barcode. It is necessary to press "enter" key after imputing the data by keypad while the "enter" key will be automatically executed if the data is imputed by scanning a barcode. Following figure will be shown on the display after finished User ID key-in.



Location: █
Item No:
Qty:

7.1.1.2 Figure Location

. Location: User is requested to key in any number of alphanumeric characters not be longer than 50 digits in this field to represent warehouse. It is predefined to accept the data input by keypad or by scanning a barcode. It is necessary to press “enter” key after key-in the data by keypad while the “enter” key will be automatically executed if the data is key-in by scanning a barcode.

After data key-in process is made at the location filed, the cursor would travel to Item No. field.

. Item No: User is requested to key in any number of alphanumeric character not longer than 50 digits in this field to represent article no.. It is predefined to accept the data input by keypad or by scanning a barcode. It is necessary to press “enter” key after key-in the data by keypad while the “enter” key will be automatically executed if the data is key-in by scanning a barcode. **After data key-in process is made at the Item No filed, the cursor would travel to Qty field.**

. Qty: User is requested to key in any number of alphanumeric characters not bigger than 50 digits in this field. It is predefined to accept the data input by keypad only. Don't forget to press “enter” key after data key-in. **After data key-in process is made at the Qty filed, the cursor would travel to Location field and save the record.**

If user wants to proceed to the operation, then follow up the loop again and again or press “ESC” key to stop the operation, the 7.1.1.1. Figure (User ID) will be shown at the display. Following two conditions are possible options.

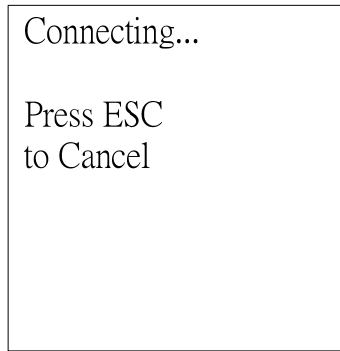
. Press “ESC” key one more time, the display would show the Main Menu Window.

Or

. Key in another user ID number allowing another user to proceed to the collecting data job.

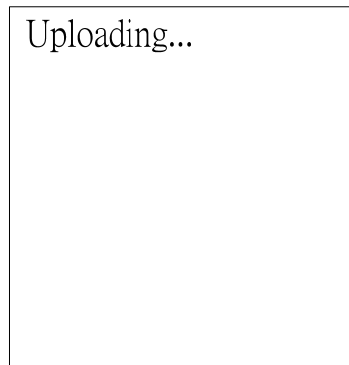
Note: User can stop the operation at any point of the loop. The unfinished loop data won't be saved to the terminal.

Figure 7.1.2.: the figure is reacted to when the setting of 2. Upload Data is executed (main menu\upload data\enter).



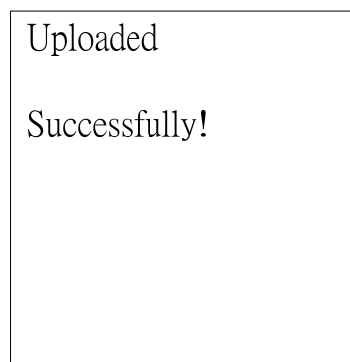
7.1.2. Figure Connecting

At this window shows the terminal is in the process of communication with PC. If user wants to cancel the uploading task (sending the collected data to PC), press “ESC” key and the Main Menu Window will be shown on the display. When the uploading task is being worked on, the following figure will be shown on the display.



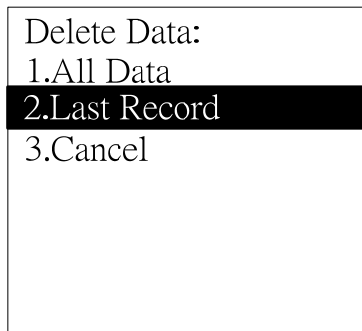
7.1.2.1.. Figure Uploading Figure

When the uploading task is finished, the following figure will be shown on the display.



7.1.2.2.. Figure Uploaded Figure

The 7.1.2.2. figure will be staying on the display for some seconds and it will be replaced by following figure.



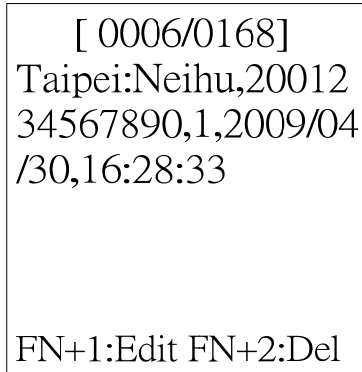
7.1.2.3. Figure Delete Data Figure

This setting provides options to save or to delete the data on the terminal after the collected data uploaded to PC.

- . 1. All Data: all the data would be deleted.
- . 2. Last Record: last record would be deleted.
- . 3. Cancel: all the data would be saved and escape to Main Menu Window.

Note: It needs to connect with Job Generator utility via the path of main setting window\receive data\enter while running this task.

Figure 7.1.3.: The figure is reacted to when the setting of 3. Browse Data is executed (main menu\browse data\enter).



7.1.3. Figure Browse Data

Its content at the figure is explained as below:

- . [0006/0168] : the record shown on the display is the 6th record (ranked by the data key-in time, the more earlier key-in time, ranks more prior on the list) among the total 168 records which saved in the terminal.

The record consists of following datum:

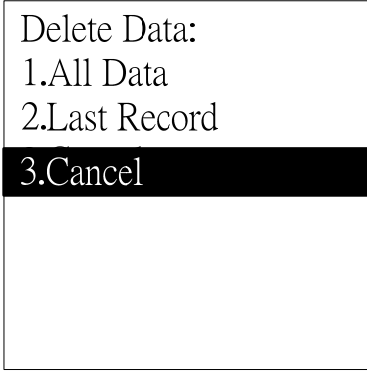
- . Taipei:Neihu: represents "Location"
- . 200123456890: represents "Item No"
- . 1: represents "Qty"
- . 2009/04/30: represents "Date stamp"
- . 16:28:33: represents "Time stamp"

- . FN+1: EDIT: means press “FN” key then press “1” key, it would allow user to edit the record.
- . FN+2: DEL: means press “FN” key then press “2” key, it would allow user to delete the record.

Note: Press “ESC” key to shift to Main Menu Window.

Note: User can press “up” and “down” keys to browse the record.

Figure 7.1.4.: the figure is reacted to when the setting of 4. Delete Data is executed (main menu\delete data\enter).



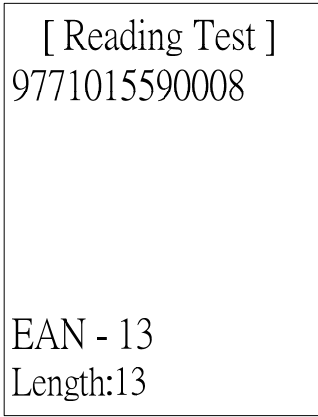
Delete Data:
1.All Data
2.Last Record
3.Cancel

7.1.4. Figure Delete Data

This setting provides options to save or to delete the data on the terminal.

- . 1. All Data: all the data would be deleted.
- . 2. Last Record: last record would be deleted.
- . 3. Cancel: all the data would be saved and escape to Main Menu Window.

Figure 7.1.5.: the figure is reacted to when the setting of 5. Reading Test is executed (main menu\reading test\enter).



[Reading Test]
9771015590008

EAN - 13
Length:13

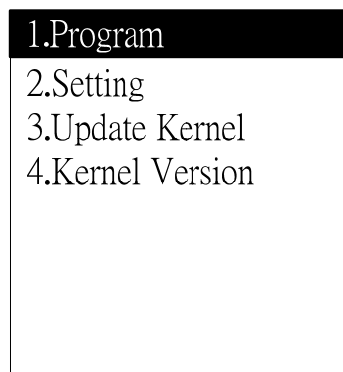
7.1.5. Figure Reading Test

The information on the display is read as below:

- . 977101559008: represents barcode data
- . EAN-13: represents barcode type
- . Length: 13: represents the length of the barcode data.

Note: the barcode was scanned at the factory while made the job application. Press “ESC” key to shift terminal to Main Menu Window.

Figure 7.1.6.: the figure is reacted to when the setting of 6. Program is executed (main menu\program\enter).



7.1.6. Figure Program

This window contents options of downloading files from PC.

- . 1. Program: This item is for downloading program file of job application which developed under Job Generator utility.
- . 2. Setting: This item provides downloading program file of the terminal settings: Buzzer Pitch, LCD backlight, Auto Power Off and Set RTC, under Job Generator utility.
- . 3. Update Kernel: This item provides firmware update (ISP) function.
- . 4. Kernel Version: This item provides firmware version reading function.

Note: It needs to connect with Job Generator utility via the path of main setting window\download\program while running this task.