ZEBEX
ZEBEX INDUSTRIES INC.

Portable Data Collector
Z-2121 series
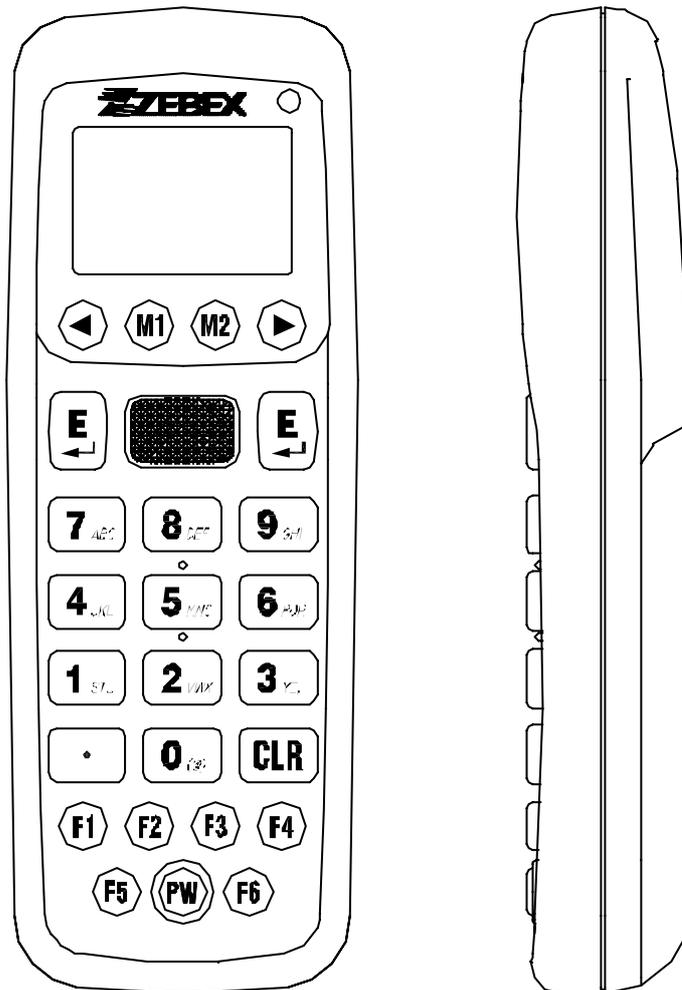(Version 1.00)

User's Manual

Editorial Record

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Preface

About This Manual

Thank you for your purchase of the ZEBEX Z-2121 Portable Data Collector. ZEBEX Z-2121 product is at the forefront of data collector technology, and this manual will provide the necessary information on the many and varied options available to you.

The Z-2121 product is a compact, ergonomic, modular and durable data collector. It is designed for easy upgrade with an integrated BT communication, 1D barcode scanner and vibration. The design is ideal for the mobile worker as it simple and easy to use anywhere along a supply chain.

Symbols used in this manual

	A triangular shape indicates you should exercise caution.
	A circle shape indicates something you should not to do.
	A black circle indicates something you must to do.
	A note symbol indicates you the information that is important and you should be observed.

Copyright

Safety Information

Your safety is of the utmost importance so please observe and follow the following guidelines that allow you to use the scanner in a safe and responsible way.

Laser Safety

The Z-2121 series Portable Data Collector complies with safety standard IEC825-1(1993) for a Class 2 laser product. It also complies with U.S.21CFR1040 as applicable to a Class II laser product. Avoid staring at direct laser light as the laser beam may hurt your eyes.

LASER BEAM

●

Never look directly into the laser beam.
Doing so can cause serious eye damage.

Safety Operation

WARNING

Disassembly and Modification

Never try to disassemble or modify the device in any way. All servicing should be carried out be qualified Zebex personnel or Zebex-approved engineers.

Interior Parts and Components

Never touch interior high voltage parts or components. Doing so creates the danger of electrical shock.

Drop and Knock the Device

Be careful when using the device; do not drop or knock the device as irreversible damage to the unit may occur.

Extreme temperature

Do not operate the device under extreme temperature.

Battery and Charger

The use of third-party battery or charger may either damage the device or shorten the life of the device.

CAUTION

Dropping and Damage

Should the drop the device and damage it, immediately turn off the power and contact your original dealer or an authorized ZEBEX service provider. Continued use creates the danger of fire and electrical shock.

Abnormal Conditions

Should the device become hot or start to emit smoke or an original dealer or an authorized ZEBEX service provider. Continued use creates the danger of fire and electrical shock.

Foreign Objects

Should any foreign matter ever get into the device, immediately turn off the power and contact your original dealer or an authorized ZEBEX service provider. Continued use creates the danger of fire and electrical shock.

Moisture

Keep the device away from vases, planters, cups, glasses and other containers of liquid. Also keep it away from metal. Water and metal getting into the device creates the danger of fire and electrical shock.

Federal Communication Commission (FCC) Statement

15.21

You are cautioned that changes or modifications not expressly approved by the part responsible for compliance could void the user's authority to operate the equipment.

15.105(b)

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 installed and used in the 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.

Operation is subject to the following two conditions: This device may not cause interference;
This device must accept any interference, including interference that may cause undesired operation of the device.

FCC RF Radiation Exposure Statement

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. End users must follow the specific operating instructions for satisfying RF exposure compliance. This transmitter must not be co-located or operated in conjunction with any other antenna or transmitter.
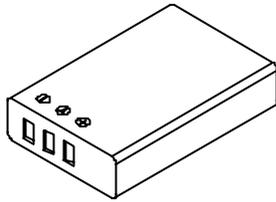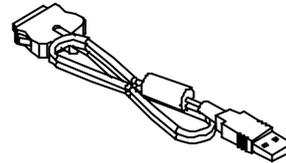
Unpacking

Package Contents

Z-2121 series

Portable Data Terminal
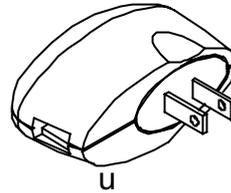
Travel charger
selection Type: North America/Japan/
Taiwan/Europe

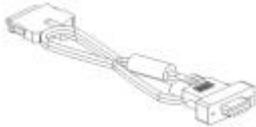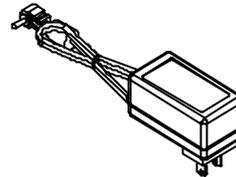Battery Pack

USB cable
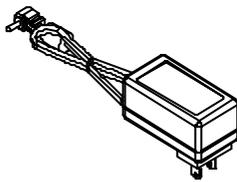(Terminal connect to PC USB port)

OR

RS-232 DB9 (F) Cable

AC Adapter

Optional Parts

Cradle package

AC Adapter

Purchaseable accessories
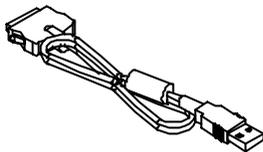
USB Cable
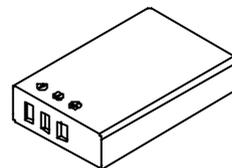
Main Battery
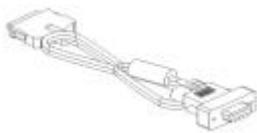
RS-232 DB9 (F) Cable
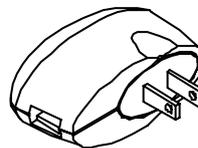
USB AC Adapter
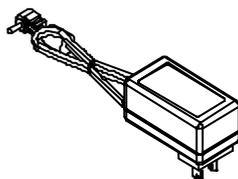
AC Adapter

General Guide
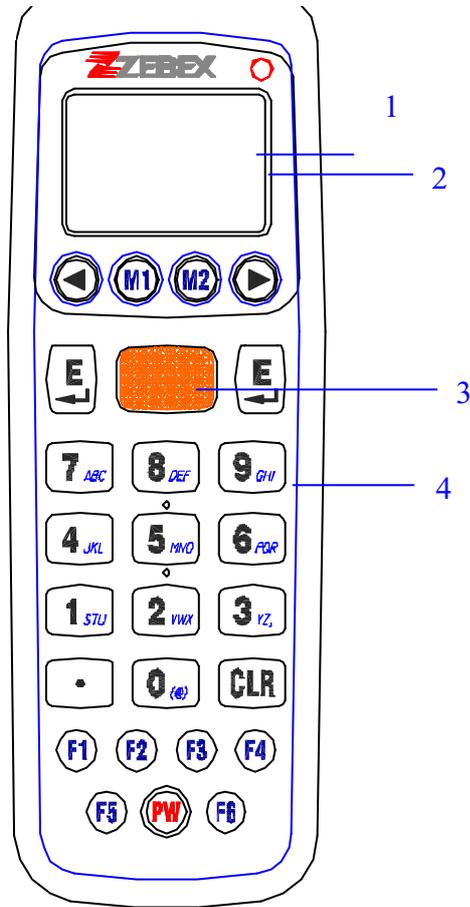
1	LED indicator (Right)	Indicates the status of battery charge : Red for battery just on charging and Green for full.
2	LCD screen	Display various data when a program is being run.
3	Scan button	The trigger of Barcode reading.
4	Keypad	A total of 26 keys are provided to the power and other function keys.
5	Scan windows	Emits a laser for bar code reading.
6	Battery	Main battery
7	Communication port	Communication with PC or charge by USB port

Getting Started
Inserting the Battery

When inserting the battery for the first time, follow these directions:

1-3. Push the top lock to pick up the battery pack.

5-4. Insert the battery as shown.

6-7. Put the battery cover back.
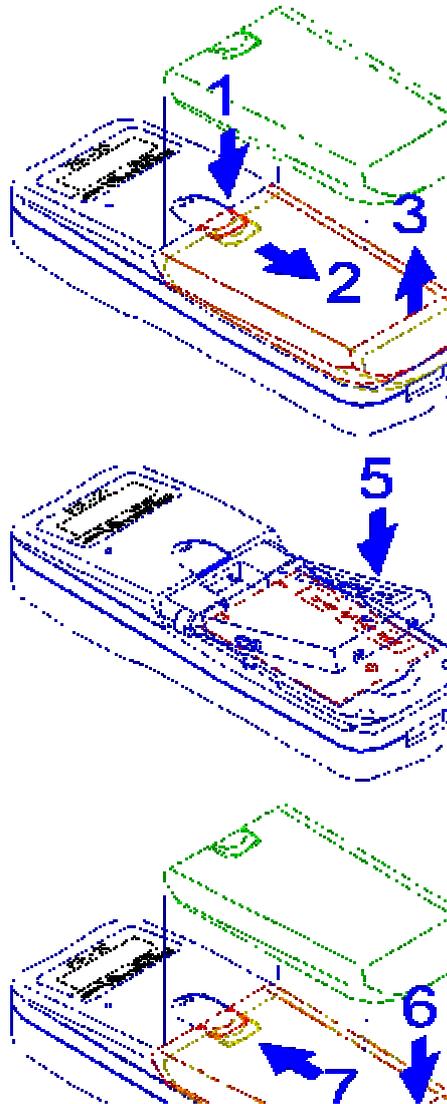
Remove the Battery

1. Turn the power off.

2. Remove the back cover.

3. Press the battery against the **Z-2121** terminal, and lift it up and away from the compartment.

4. Put the cover back.
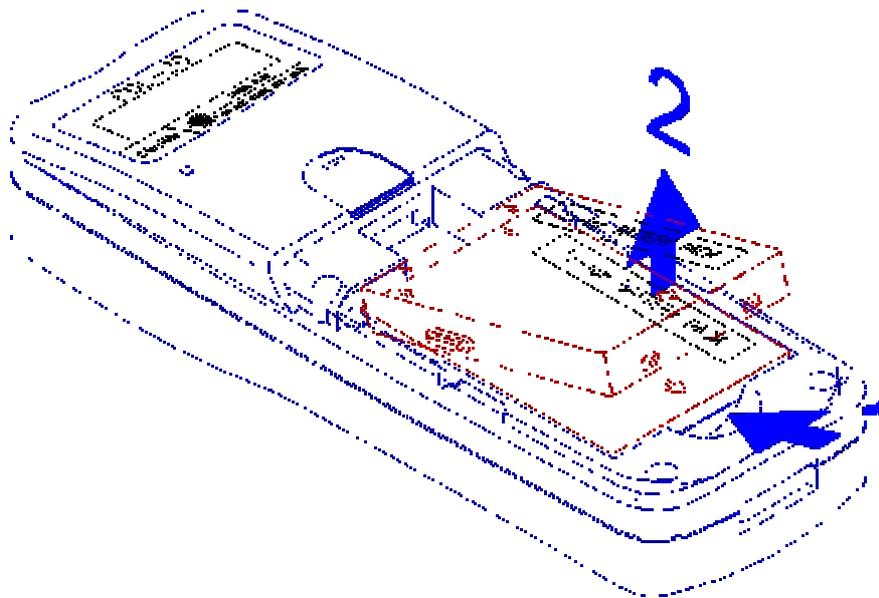
Charging the Battery

The Li-ion rechargeable battery can be charged while inserted in the device itself or independently via the recharging slot at the back of the cradle.

Charging by cable

Connect the charging cable and USB AC adaptor as shown.
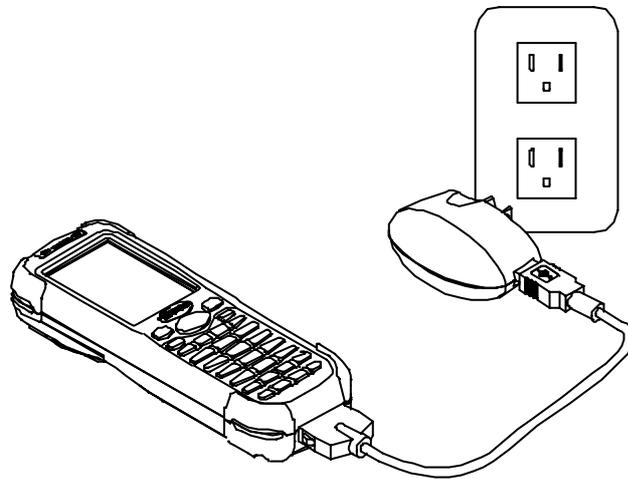
Charging by cradle

1. Put the **Z-2121** on the cradle as shown in figure 2.
2. Connect the power adapter to the DB-9 (female) connector
3. Insert the power adapter to the wall socket.

Note 1:

1. The cradle can be connected both to the power adaptor for battery charging and to the host computer for data uploading as well as downloading at the same time.
2. To charge the battery, connect the power plug of the power supply into the power jack on the **DB-9** female connector.
3. The **DB-9** (female) connector is used for battery charging and/or communication with the PC.

4. Battery charging and data exchange can be done at the same time or respectively. The **Z-2121** Data Collector, however, is unable to communicate with the host computer when placed on the cradle without the battery attached to it.

5. The battery is always charged via the cradle. There are two ways to charge the battery. First, take the battery out from the **Z-2121**, and insert it in the back slot of the cradle for fast charging, as shown in Fig 3, which takes about 3 hours before it is fully charged; second, put the battery in the **Z-2121**, and place it on the cradle, with the **Z-2121** either on or off, for slow charging, as shown in Fig 2. This will need approximately 6 hours. To maximize the battery's life span, it is recommended that slow charging be adopted unless there is a need for fast charging.

6. While the battery is being charged within the **Z-2121** on the cradle, data can still be exchanged between the PC and the **Z-2121** via the DB-9 connector and the RS-232 port.

7. The battery should stay on the cradle (either with the terminal or independently) for at least 12 hours before being used the first time or after months of idleness.

Charging the Battery separately in the cradle

Insert the battery into the compartment at the rear of the cradle.

Connect the power jack to the cradle and plug AC adapter into the socket.

	NOTES
⚠	When charging the battery for the first time, charge for at least 12 hours prior to use.

PC System Requirements

Windows XP Operating System
64 MB RAM
50 MB free HDD space
USB ports communication Interface
WLAN transmitter (optional)
Bluetooth transmitter/receiver (optional)

Connecting To PC

In order to use the software supplied with the Terminal, the mobile data terminal must be connected to a PC.

Connecting via USB Cradle

The cradle must also be connected via one of your PC's USB ports. Attach one end of the cable to the USB interface on the cradle and the other to your PC.

Connecting the Z-2121 directly via USB cable

You can connect the Z-2121 directly to your PC, without the need for the cradle, using the Mini USB cable, attaching it to the port on the left hand side of the device.

About The Product

The Z-2121 is a compact, ergonomic and durable portable data collector. It is designed with an integrated Bluetooth communication and 1D laser barcode scanner and 26-keys keypad. The design is ideal for the mobile worker as it simple and easy to use anywhere along a supply chain.

The Z-2121 features a 32-bit C-MOS Microprocessor. This combination delivers high performance, low power consumption and the diversity of a Bluetooth communication. Compared with other systems currently available on the market, Z-2121 is the most cost-effective to offering optimum performance.

Features

Hardware features

a. Compact size, lightweight, elegant, and easy to carry on the waist strap by means of a tab mounted on the back of the unit and a clip attached to the user's waist strap.

b. Ergonomic design, operated with one hand, easy to capture data.

c. Low power consumption. Good for 48-hour operation after a full charge.

d. Auto shut-off function reduces power consumption and extends battery life.

e. Built-in **FREETASK** allows the **PDL-20** to be used for data collecting without outside supports.

f. Programmable functions support WinTask Gen. for special data collection.

g. Built-in Laser scanner as input device.

h. Built-in Real Time Clock for time-stamp.

i. Tone controllable buzzer.

j. A lithium back-up battery for memory protection.

k. Low-battery detecting circuit and low-power warning device.

l. RS-232C communication port.

Note:

a. The **FREETASK** is a built-in simple Data Base system with which you can define your own storage structure for data collection operation.

b. Win Task Gen. is a Windows based utility program with which you can design the procedure for specified tasks and

execute designed tasks on the data terminal.

Firmware features

a. Supports most of the popular barcode symbols.

b. Ability to discriminate among barcodes

c. Programmable auto-power-off time

d. The uploading or downloading can be fully controlled by the computer.

e. Easy user-defined **FREETASK**, able to assign as many as 16 fields

f. Ability to execute as many as 8 TASK

Development Software features

a. Windows 95/98/NT based WinTask Gen.

b. Able to remotely program all functions as long as the terminal (including the decoder) is connected to PC via the cradle.

c. Ability to upload data to PC

d. The **FREETASK** may be downloaded (from PC) to the terminal

e. In addition to the **FREETASK**, as many as 8 TASKs may be downloaded to the terminal

f. Ability to edit TASK to execute specified data collecting tasks.

Fig 6

Prerequisites

Skills Required

The following skills are required by developers aiming to develop application software for the ZEBEX Z-2121 series.

? Good knowledge of one or more of the following:
  * C language

Specifications

SYSTEM	
Processor	*ST* 32-bit processor with Flash Area 256/512KB
Memory	SRAM - 2MB F-ROM – 8MB (S-FLASH)
LCD Display	FSTN 96x49 dot (6Lx16C) , with Backlight LCD
Keypad	26 Keys without backlight
Audio	1 X Mono Buzzer
POWER	
Main battery	PDL20,Sanyo-UF653048P 830mAh (V3688 Lithium-ion)
Backup battery	(3.0V, 25mAH Li-ion rechargeable battery) 2 weeks – data and RTC define by remove main battery keep time
Input Device	
Barcode scanner	Motolora SE-955 1D barcode Laser scanne engine
Indicator	
Power & Charging	1 X LED Two color , Red for charging Green Good Read
Bluetooth	None Indicator
Vibration	Yes
Interface	
Radio	
Bluetooth	Bluetooth 2.0 compliance , CLASS I , DISTANCE=10~100M
Physical	
Dimensions	134.9(L) x 23.6(W) x 48(H) mm
Weight	125g
Color	Dark Gray
Environmental	
Rugged	(Resistance to fall impact : 1.0M in height)
Operating temperature	0℃ ~ 50℃
Storage temperature	-10℃ ~ 60℃
Humidity	95% non-condensing
Regulatory	
Safety regulation	FCC, CE, CE RF , RoHS, FCC RF , LVD

Start to operate the Z-2121

Take out the terminal, install in a set of fully charged battery.

1. Press the "**Power"** key. After the display appears, press "**M2**" key to enter the System Menu.

2. Then Press "**1**" to enter the "**Run Task**" menu. Then press "**1**" again to execute the "**FREETASK**".

3. Press "**SCAN**" to do barcode scanning and data collecting.

Firmware Operation Quick Start Guide

Insert battery into the Z-2121, and the display will be shown in Fig 1.

```
User Reset



Any Key to Start
```

Fig 1

After display is shown in Fig 1, the vibration will shake and then show to press any key to Fig 3 or can press ◄ ► key into Fig 2.

```
User Reset !
   WARNING !
Clear ALL Data
M2 sel Y/N ?  N
```

Fig 2

In Fig 2 is asked for clean the data or not, press **M2** to select Y or N, after confirmed

to press E into Fig 4

```
Z-2121 VER. 092
 Memory 2048KB
 Free    2016KB
   Wait Remote
M2 to Sel Func.
 11/02 09:25:45
```

```
< SYSTEM  MENU >
1. Run Task
2. Task Utility
3. Parameter Set
M1=esc,M2=select
```

Fig 3   Fig 4

In Fig 3 is shown of Z-2121 standard Firmware, press **M2** can enter into System Menu as Fig 4, and also can press **M1** back to Fig 3

The following is the description of each function:

1. Press 1 enter into Run Task function test.
2. Press 2 enter into Task Utility function test.
3. Press 3 enter into Parameter Set function test.

Run Task Function Test

```
Rec    l Field l

Ml:Exit F6:Edit
F3:Ins. F4:Del
```

Fig 5

In Fig 5 is shown in barcode scan, press **SCAN** to read barcode data, and the vibration will shake once when press **SCAN** key.

If want to revise the barcode data, please press **F6** to show on the data and key in the number, or can press **F4** to delete the data or number. And then press **F1** back Fig 5.

Task Utility Function Test
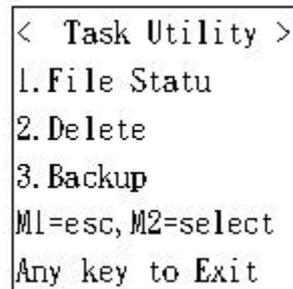
```
< Task Utility >
l.File Statu
2.Delete
3.Backup
Ml=esc,M2=select
Any key to Exit
```

Fig 6

In Fig 6 is shown for Task Utility function, the following is the description of each function:

2-1.Press 1 enter into File Status function test.
2-2.Press 2 enter into Delete Data function test.
2-3.Press 3 enter into Backup function test.

File Status Function Test

```
< File Status >
FREETASK
Records:    23


M1 to exit
```

Fig 7

In Fig 7 is shown in the data amount, press **M1** can leave the screen.

Delete Data Function Test

```
< Delete Menu >
1. Delete Data
2. Delete Task


M1=esc, M2=select
Any key to Exit
```

Fig 8

In Fig 8 is shown for Delete Menu function, the following is the description of each function:

2-2-1. Press 1 enter into Delete Data function test.
2-2-2. Press 2 enter into Delete Task function test.

Delete Data Function

```
< Delete date >
FREETASK<Y/N>?N


M2  to Select
ENT to Confirm
```

Fig 9

In Fig 9 is asked for all the data delete or not, press **M2** is YES, press again is NO, after confirmed press E to leave the screen.

Delete Task Function

```
< Delete task >
FREETASK. DAT?N


M2   to Select
ENT to Confirm
```

Fig 10

In Fig 10 is asked for deleting the data download from the PC or not, press **M2** is YES, press again is NO, after confirmed press E to leave the screen.

Back Function

```
< Backup Menu >
1. Backup
2. Restrore


M1=esc, M2=select
```

Fig 11

In Fig 11 is shown for Backup function, the following is the description of each function:

2-3-1.Press 1 enter into Backup function test.
2-3-2.Press 2 enter into Restore function test.

Delete Data Function

```
< Backup Menu >
1. Backup
2. Restrore
Backup(K): 2048
```

```
< Backup Menu >
1. Backup
2. Restrore
Backup(K): 2048
Backup OK
Any key to Exit
```

Fig 12   Fig 13

In Fig 12 is shown in Backup function, and will make auto-storage in the memory of 2048(K), after finish the storage will shown in Fig 13, and press E to leave the screen.

Restore Function

```
< Backup Menu >
1. Backup
2. Restrore
Restore(K): 2048
```

```
< Backup Menu >
1. Backup
2. Restrore
Restore(K): 2048
Restore OK
Any key to Exit
```

Fig 14   Fig 15

In Fig 14 is shown in Restore function, and will make auto-storage in the memory of 2048(K), after finish the storage will shown in Fig 15, and press E to leave the screen.

Parameter Set Function Test


```
<  Setup MENU  >
1. Basic Setup
2. System Setup
3. BarSetup
M1=esc, M2=select
```

Fig 16

In Fig 16 is shown for Parameter function, the following is the description of each function:

3-1.Press 1 enter into Basic Setup function test.
3-2.Press 2 enter into System Setup function test.
3-3.Press 3 enter into BarSetup function test.

Basic Setup Function


```
1. BackLit
2. LCD Contrast
3. Beep Volume
4. Auto Power Off
M1=esc, M2=select
```

Fig 17

In Fig 17 is shown for Backup function, the following is the description of each function:

3-1-1.Press 1 enter into Back Light function test.
3-1-2.Press 2 enter into LCD Contrast function test.
3-1-3.Press 3 enter into Beep Volume function test.
3-1-4.Press 4 enter into Auto Power Off function test.

Back Light Function

```
Back light
 On


<>=Select,M1=Esc
ENT=set
```

Fig 18

In Fig 18 is shown to select LCD back light, press ◀ or ▶ to switch ON or OFF, after confirmed press E to leave the screen.

LCD Contrast Function

```
LCD Contrast
 45


<>=Adjust,M1=Esc
M2=set
```

Fig 19

In Fig 19 is shown to select LCD contrast, the default is 45, press ◀ or ▶ to adjust the contrast, after confirmed press E to leave the screen.

Beep Volume Function

```
Beep Volume
Loud


<>=Select
M2=set,M1=Exit
```

Fig 20

In Fig 20 is shown to select Beep Volume, the default is Lound, press ◄or► to adjust Quite, Low or Medium, after confirmed press E to leave the screen.

Auto Power Off Function

```
Auto Power Off
 10 mins


<>=Select,M1=Esc
ENT=set
```

Fig 21

In Fig 21 is shown to set Auto Power Off, the default is 10mins, press ◄or► to adjust 15mins, 20mins, 30mins or Disable, after confirmed press E to leave the screen.

System Setup Function Test

```
< System Setup >
1.Communication
2.System Timer
3.ID/PW/DateMode
M1=esc,M2=select
```

Fig 22

In Fig 22 is shown for System Setup function, the following is the description of each function:

3-2-1.Press 1 enter into Communication function test.
3-2-2.Press 2 enter into System Timer function test.
3-2-3.Press 3 enter into ID/PW/Data Mode function test.

Communication Function

```
<COMM.  Setting >
1.Comm. Device
2.Fld. Delimiter
3.REC. Delimiter
M1=esc,M2=select
```

Fig 23

In Fig 23 is shown for System Setup function, the following is the description of each function:

3-2-1-1.Press 1 enter into Comm. Device function test.
3-2-1-2.Press 2 enter into Fld. Delimiter function test.
3-2-1-3.Press 3 enter into REC. Delimiter function test.

Comm. Device Function

```
Comm. Device
 RS232


<>=Select,M1=Esc
ENT=set
```

```
Baud Rate
 115200


<>=Select,M1=Esc
ENT=set
```

```
Parity Check
 none


<>=Select,M1=Esc
ENT=set
```

Fig 24   Fig 25   Fig 26

```
Bits
 8


<>=Select,M1=Esc
ENT=set
```

```
Stop Bit
 1


<>=Select,M1=Esc
ENT=set
```

Fig 27   Fig 28

In Fig 24 is shown to set up the interface, the default is RS-232, press , ◄ or ► to adjust BT or USB, after confirmed press E to enter into Fig 25.

In Fig 25 is shown to set up the speed, press , ◀ or ▶ to adjust 576000, 38400, 19200, 9600, 4800, 2400 or 8, after confirmed press $\boxed{\text{E}}$ to enter into Fig 26.

In Fig 26 is shown to set up the parity, press , ◀ or ▶ to adjust even, odd, mark or space, after confirmed press $\boxed{\text{E}}$ to enter into Fig 27.

In Fig 27 is shown to set up the data bit, after confirmed press $\boxed{\text{E}}$ to enter into Fig 28.

In Fig 28 is shown to stop the data bit, after confirmed press $\boxed{\text{E}}$ to enter into Fig 23.

Fld. Delimiter Function

```
Field Delimiter
 ,

<>=Select,Ml=Esc
ENT=set
```

Fig 29

In Fig 29 is shown to set up Fleld Demlimiter, the default is (,), press , ◀ or ▶ to adjust ;, Space or None, after confirmed press $\boxed{\text{E}}$ to leave the screen.

REC. Delimiter Function

```
Record Delimiter
 CRLF

<>=Select,Ml=Esc
ENT=set
```

Fig 30

In Fig 30 is shown to set up the interface, the default CRLF, press , ◄ or ► to adjust CR, LF or None, after confirmed press E to leave the screen.

System Timer Function

```
<SET DATE/TIME >
DATE: 02/01/1970
TIME: 00:22:28
Form: MM/DD/YYYY
```

```
<SET DATE/TIME >
DATE: 02/01/1970
TIME: 00:22:28
Form: hh:mm:ss
```

Fig 31   Fig 32

In Fig 31 is shown to set up the date, press number t key to adjust the number, after confirmed press E to enter into Fig 32.

In Fig 32 is shown to set up the time, press number t key to adjust the number, after confirmed press E to leave the screen.

ID/PW/Date Mode Function

```
< ID/password >
1. Device ID
2. password
3. Date Mode
M1=esc, M2=select
```

Fig 33

In Fig 33is shown for System Setup function, the following is the description of each function:

3-2-3-1.Press 1 enter into Device ID function test.
3-2-3-2.Press 2 enter into Password function test.
3-2-3-3.Press 3 enter into Date Mode function test.

Device ID Function

```
Device ID:

Press Enter key
To change
```
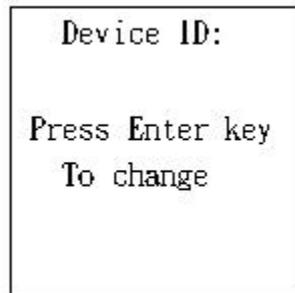
```
ID Setting


Max. 8 Digits
```

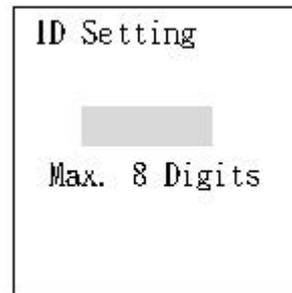Fig 34   Fig 35

In Fig 34 is shown to set up the Device ID , after confirmed press E to enter into Fig 35, and press the number, after confirmed press E to leave the screen.
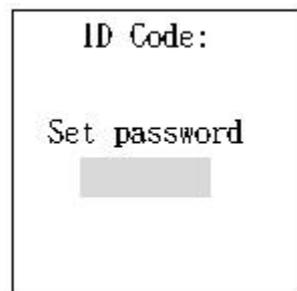
Password Function

```
ID Code:

Set password

```

```
NO CHANGE!
USE ORIGINAL
   Password !!
```

Fig 36   Fig 37

In Fig 36 is shown to set up password, after setup press E to leave the screen, If there is no setting will enter into Fig 37 automatically, please press E to leave the screen.

Data Mode Function

```
Set Date Mode
  MM/DD/YYYY


<>=Select,M1=Esc
ENT=Set
```

Fig 38

In Fig 38 is shown to set up Month, Date and Year, after setup press E to leave the screen.

BarSetup Function

```
< BarSetup>
1.Basic Set
2.Advance Set
3.Pre/Postamble
M1=Esc,M2=Select
```

Fig 39

In Fig 39 is shown for BarSetup function, the following is the description of each function:

3-3-1.Press 1 enter into Basic Set function test.
3-3-1.Press 2 enter into Advance Set function test.
3-3-1.Press 3 enter into Pre/Postamble function test.

Basic Set Function

```
EAN/UPC
 On      M2=more


<>=Select,M1=Esc
ENT=Set
```

Fig 40

In Fig 40 is shown for Basic Set function, can adjust the barcode type like Code 39, F ASCII 39, Codabar, ITF25, Code 128 and Code 93, after confirmed press $\boxed{E}$ to leave the screen.

Advance Set Function

```
CPC 25
 Off


<>=Select,M1=Esc
ENT=Set
```

Fig 41

In Fig 41 is shown for Advance Set function, can adjust EAN to ISBN/ISSN, EAN-13 digits, EAN-8 digits, IATA code or Codabare ST/SP, after confirmed press $\boxed{E}$ to leave the screen.

Pre/Postamble Function
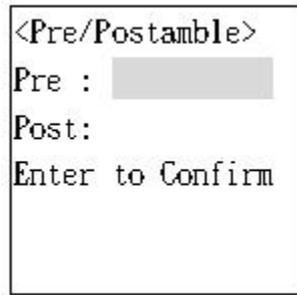
```
<Pre/Postamble>          <Pre/Postamble>
Pre :    [    ]          Pre :    [    ]
Post:                    Post:    [    ]
Enter to Confirm         Enter to Confirm
```
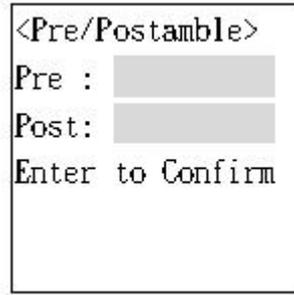
Fig 42   Fig 43

In Fig 42 is shown for Pre/Postamble function, after setup please enter into Fig 43 to make sure the password has been setup, after confirmed press E to leave the screen.
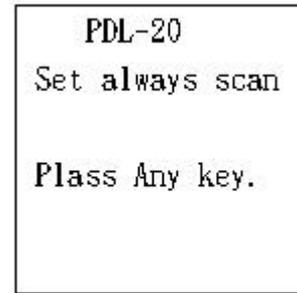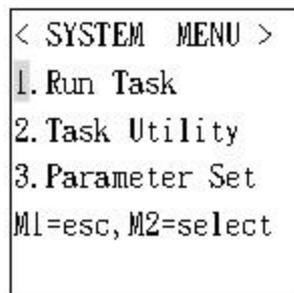
Auto Scan Operation Process

```
                        User Reset !            PDL-20
User Reset               WARNING !          Set always scan
                        Clear ALL Data
                        M2 sel Y/N ?  N      Plass Any key.
Any Key to Start
```

Fig 1   Fig 2   Fig 3

```
Z-2121 VER. 0.92     < SYSTEM  MENU >     Rec     | Field |
 Memory 2048 KB       1.Run Task
 Free   2016 KB       2.Task Utility
    Wait Remote       3.Parameter Set     M1:Exit F6:Edit
M2 to Sel Func.       M1=esc,M2=select     F3:Ins. F4:Del
 11/02 09:25:45
```

Fig 4   Fig 5   Fig 6
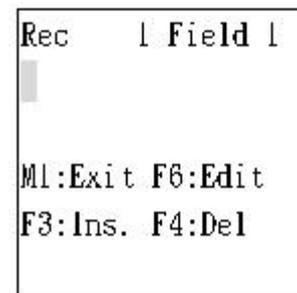
In Fig 1 is shown on the screen of first time turn on the Z-2121 and then enter into Fig 2, or also can press ◄ ► key into Fig 2 and then press E after 2 seconds and press F5+F6 at the same time, the display will show as Fig 4 and enter into Fig 4. Press M 2 key to enter Fig 5 and press 1 entering into Auto Scan mode.

Bootload Function Quick Start Guide

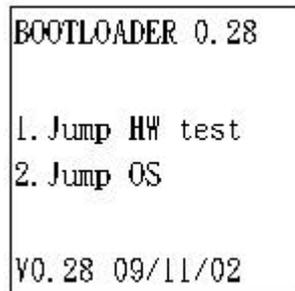Insert battery into the Z-2121, and the display will be shown in Fig 1.


```
   User Reset



Any Key to Start
```

```
BOOTLOADER 0.28

1.Jump HW test
2.Jump OS

V0.28 09/11/02
```

Fig 1   Fig 2

In Fig 1 is shown on the display after Z-2121 power on, press F 5 + F 6 will show in Fig 2 for the Bootload function.

The following is the description of each function:

1. Press 1 enter into Jump HW function test.
2. Press 2 enter into Jump OS function test.

Jump HW Function Test

LCD display and Backlight Function Test

Fig 3

In Fig 3 is shown for LCD display and Backlight function test. To test the LCD is turned on completely and the backlight is turned on or not, after confirmed press E to leave the screen.

Buzzer and Vibrator Function Test

```
2. VBT TEST




Scankey To Test
```
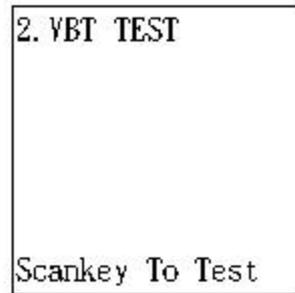
Fig 4

In Fig 4 is shown for Buzzer and Vibrator function test. To test the sound of buzzer is normal and the vibrator is shake or not, after confirmed press E to leave the screen.
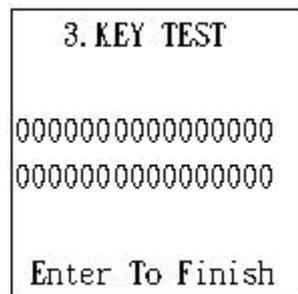
Keypad Function Test

```
3. KEY TEST

0000000000000000
0000000000000000

Enter To Finish
```

Fig 5

In Fig 5 is shown for Keypad function test. To test all the keys are working normal. If one of keys can't be worked or miss one of the keys , the display can't enter to the next screen, after confirmed press E to leave the screen.

USB Function Test

```
4. USB TEST

USB Data:

Scankey To Send
 Enter To Exit
```

Fig 6

In Fig 6 is shown for USB function test. Please install USB driver named vcpdriver_v1.1_setup first, plug USB cable with PC; open Device Manager in the PC and click Com and LPT will be shown on STM Viratual COM Port （COM3）, and then set the COM PORT in COM 3 for the Hyper Terminal.
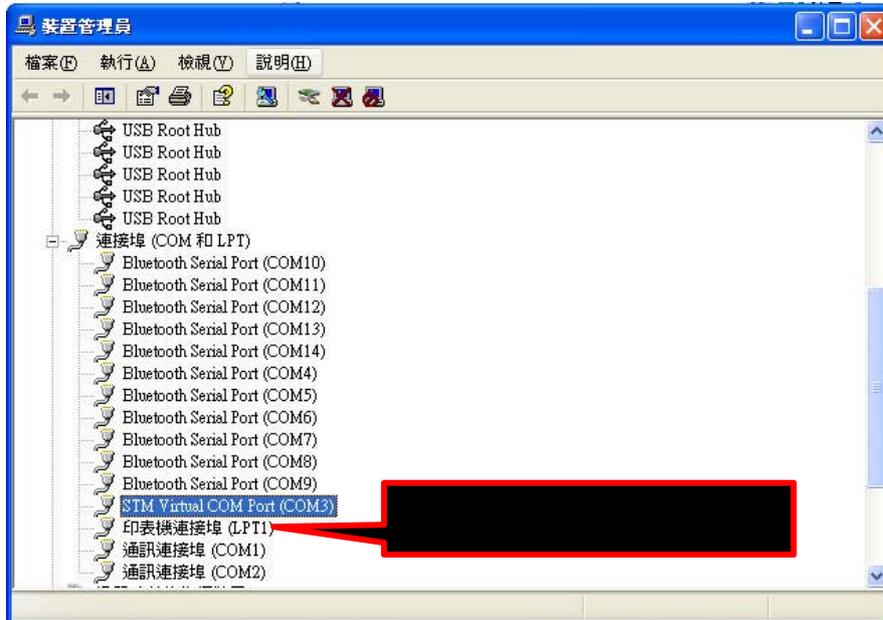

Fig 7
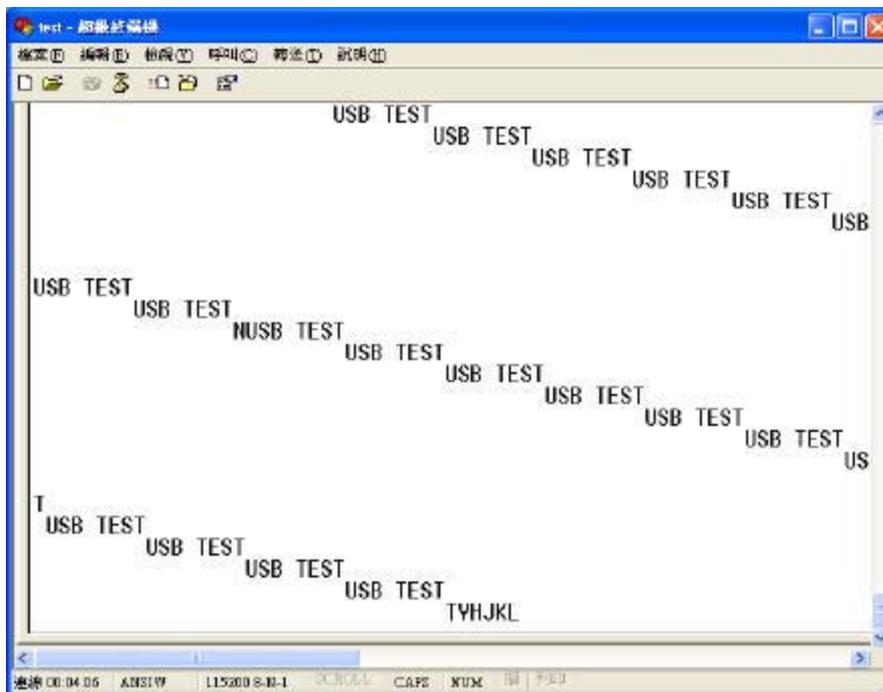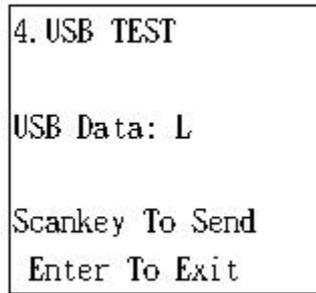

Fig 8

```
4.USB TEST

USB Data: L

Scankey To Send
 Enter To Exit
```

Fig 9

After finish the setting, when press SCAN key once, the display of Hyper Terminal as Fig 8 will show on USB TEST. Press any key in the PC, and the display will show on L, and then press E to leave the screen.

SRAM Function Test

```
5.SRAM TEST

2048  K Testing

RAM TEST OK
```

```
5.SRAM TEST

1      K Tseting

RAM TEST FAIL
```
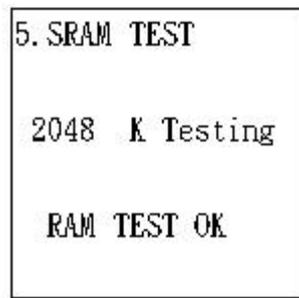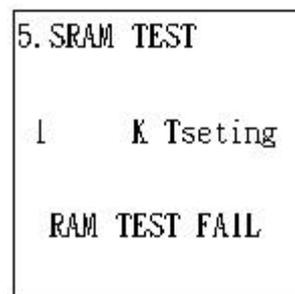
Fig 10   Fig 11

In Fig 10 is shown for SRAM function test. When last screen is entered into the screen, there will be a bee after test finished. If there is any problem, the screen will show on error message and bee once as Fig 11, after confirmed press E to leave the screen.

Main Battery and Backup Battery Function Test

```
6.BAT TEST

Vbat:320l
Bbat:279l

Anykey To Exit
```
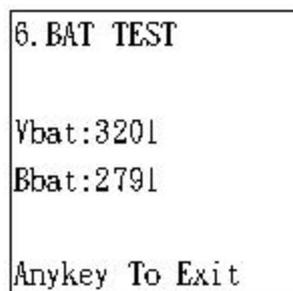
Fig 12

In Fig 12 is shown for Main Battery and Backup Battery function test. **Vbat** in shown on the volt of main battery, **Bbat** is the volt of backup battery.
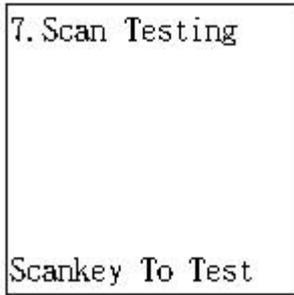
Barcode Scan Function Test

```
7. Scan Testing          7. Scan Testing          7. Scan Testing


                         Rec:1                        SCAN ENG NG
                         C1107141857

Scankey To Test          Scankey To Test          Scankey To Test
```
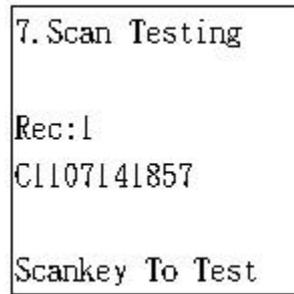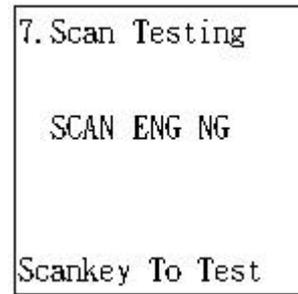| Fig 13 | Fig 14 | Fig 15 |

In Fig 13 is shown for Barcode Scan function test. Press SCAN key, to scan the barcode, the Yellow LED will light up once. In Fig 14 is shown on first data and the barcode number C1107141857. If there is any problem of the laser engine will show as Fig 15, after confirmed press E to leave the screen.
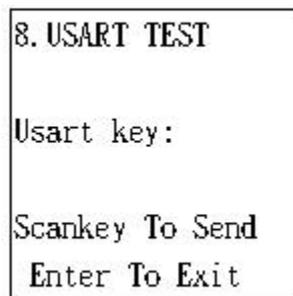
RS-232 Function Test

```
8. USART TEST

Usart key:


Scankey To Send
 Enter To Exit
```

Fig 16

In Fig 16 is shown for RS-232 function test. Plug RS-232 cable with PC, and set the COM PORT of Hyper Terminal in COM 1.
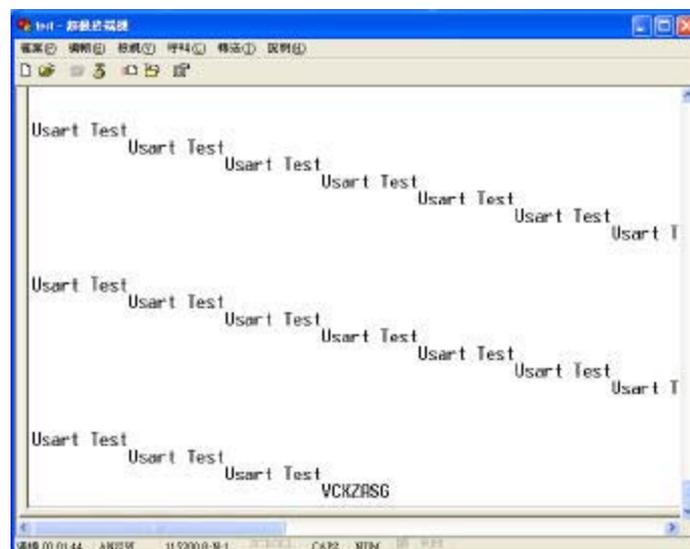

Fig 17

```
┌─────────────────────────┐
│ 8. USART TEST           │
│                         │
│ Usart key: G            │
│                         │
│ Scankey To Send         │
│  Enter To Exit          │
└─────────────────────────┘
```

Fig 18

After finish the setting, when press SCAN key once, the display of Hyper Terminal as Fig 17 will show on USB TEST. Press any key in the PC, and the display will show on G, and then press E to leave the screen.

Bluetooth Function Test

```
┌─────────────────────────┐
│ 9. BT TEST              │
│                         │
│ BT Data:                │
│                         │
│ Scankey To Send         │
│  Enter To Exit          │
└─────────────────────────┘
```

Fig 19

In Fig 19 is shown for Bluetooth function test. Please install Bluetooth USB Adaptor driver, plug Bluetooth USB Adaptor with PC, and then turn on the

Bluetooth main screen as Fig 20 to click and renew the setting, the screen will show on the Bluetooth IP as **00：02：72：E1：DC：9E**, click the right key of the mouse to make the pairing and linking, the screen will show on the password as Fig 21, key in **12345678** and make the confirmation. The screen will show on the quick linking of COM 5, after click **Yes**, it will enter into the linking status, and the Hyper Terminal will keep the COM PORT in COM 5.
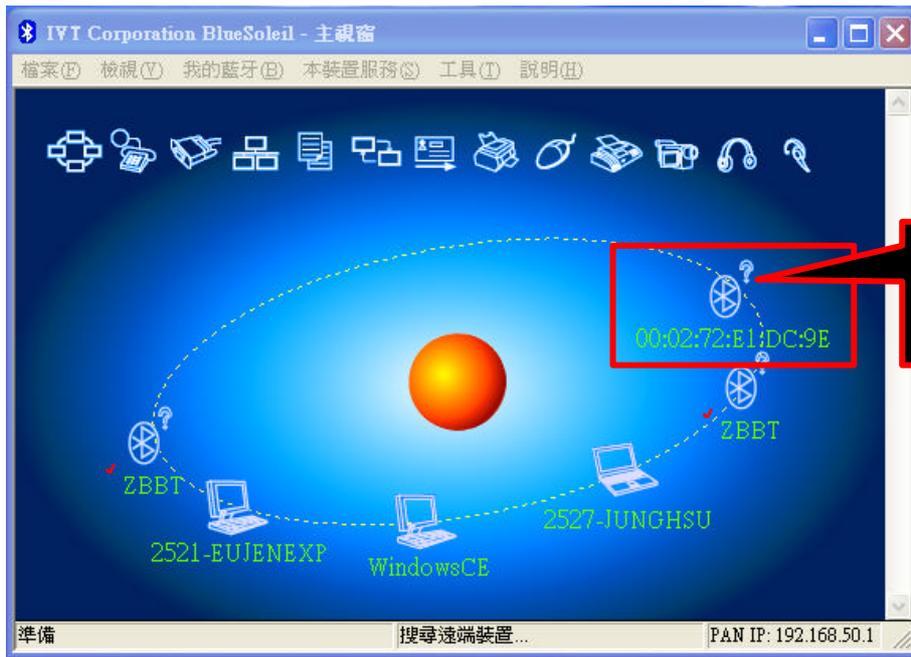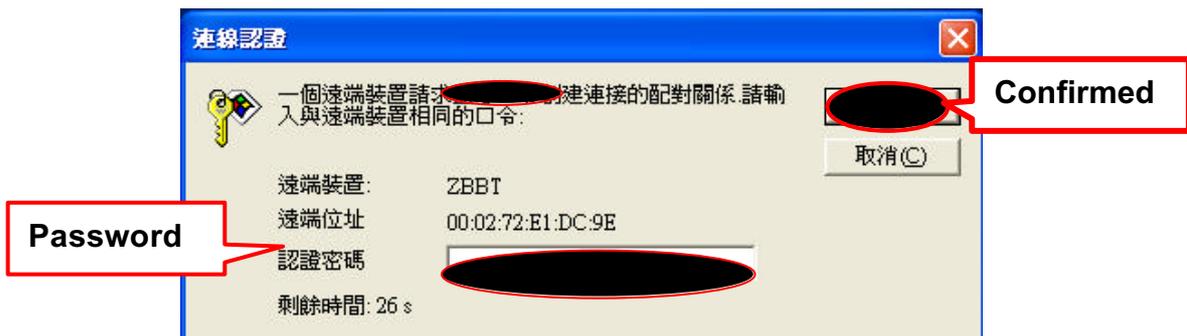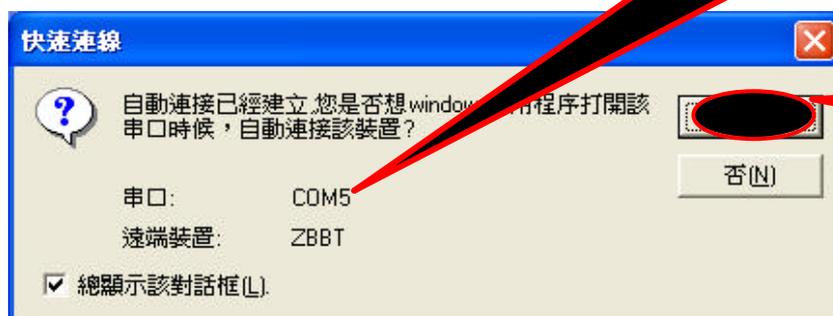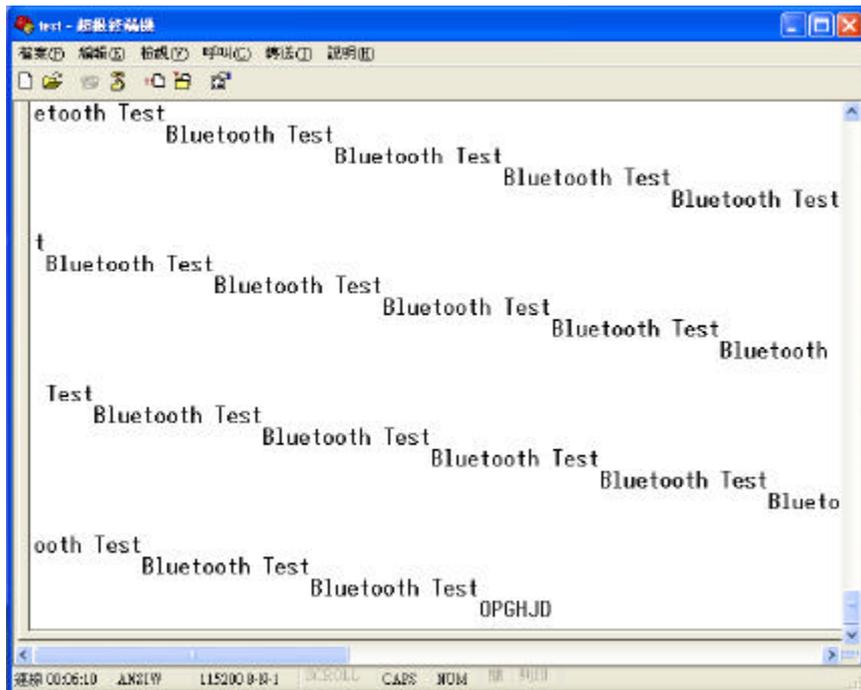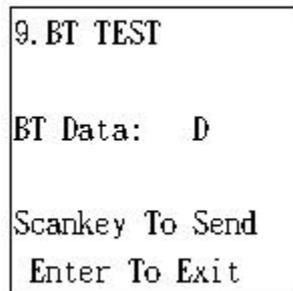
Fig 20

Fig 21

Fig 22

Fig 23

Fig 24

After finish the setting, when press SCAN key once, the display of Hyper Terminal as Fig 17 will show on Bluetooth TEST. Press any key in the PC, and the display will show on D, and then press E to leave the screen.

FLASH Function Test

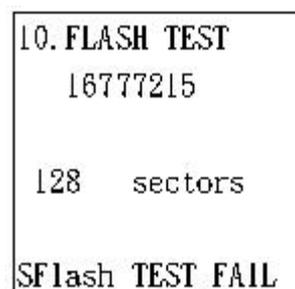Fig 25   Fig 26

In Fig 25 is shown for FLASH function test. When last screen is entered into the screen, there will be a bee after test finished. If there is any problem, the screen will show on error message and bee once as Fig 26, after confirmed press E to leave the screen.

System Date Function Test

```
┌──────────────────┐
│   <Set Date >    │
│                  │
│    MM/DD/YY       │
│    01  01  70     │
│                  │
│ 010170000852     │
└──────────────────┘
```

Fig 27

In Fig 27 is shown for System Date Function, follow up the process to press the key to adjust the number for Month, Day & Year, and can use ◀ or ▶ to back to the setting, after confirmed press E to enter into next screen.

System Timer Function Test

```
┌──────────────────┐
│   <Set Time>     │
│                  │
│    HH:MM:SS       │
│    00  12  21     │
│                  │
│ 010170001221     │
└──────────────────┘
```

Fig 28

In Fig 28 is shown for System Timer Function, follow up the process to press the key to adjust the number for Hour, Minute & Second, and can use ◀ or ▶ to back to the setting, after confirmed press E to enter into the main screen of BOOTLOADER.

<< MEMO >>

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.

(2)This device must accept any interference received, including interference that may cause undesired operation.

Any changes or modifications (including the antennas) made to this device that are not
expressly approved by the manufacturer may void the user's authority to operate the equipment.

This device and its antenna must not be co-located or operating in conjunction with any other antenna or transmitter."