

Pocket Sized Data Collector **Z-1170BT V2**

(Version 1.01)

User's Manual



ZEBEX INDUSTRIES INC. WWW.ZEBEX.COM



Revision History

Changes to the original manual are listed below:

Version	Date	Description of Version
1.00	August. 26, 2011	Initial release
1.01	December 07, 2011	Added iPad/iPhone connecting
		instructions

Important Notice

No warranty of any kind is made in regard to this material, including, but not limited to, implied warranties of merchantability or fitness for a particular purpose. We are not liable for any errors contained herein or incidental or consequential damages in connection with furnishing, performance or use of this material.

No part of this document may be reproduced, transmitted, stored in a retrieval system, transcribed, or translated into any language or computer language in any form or by any means electronic, mechanical, magnetic, optical, chemical, manual or otherwise, without express written consent and authorization.

We reserve the right to make changes in product design without reservation and without notification. The material in this guide is for information only and is subject to change without notice.

All trademarks mentioned herein, registered or otherwise, are the properties of their various respective owners.

Copyright © 2011. All rights reserved.

Guidance for Printing

This manual is in A5 size. Please double check your printer setting before printing it.

Table of Contents

INTRODUCTION	
PC System Requirement	1
PACKAGE CONTENTS	
Overview	
GETTING STARTED	3
ATTACHING NECK STRAP	3
CHARGING THE BATTERY	3
POWER ON/OFF THE DEVICE	3
CONNECTING TO PC	4
Connecting via RS-232	4
Connecting via USB	4
Connecting via Bluetooth Connection	4
RUNNING WINTASKGEN	7
Setting the Device on PC	7
USING THE DATA COLLECTOR	
USING THE DATA COLLECTUR	9
MENU OPERATION	9
Menu tree list	
Scanning the Barcode Data	
DATA MANAGEMENT	11
Data Entry	11
Data Storage	
Uploading Data	
Deleting Data	
Resetting Device	
DEVICE SETUP	13
LCD Contrast	
Beep Volume	
System Clock	
Barcode Setup	
Communication	
Auto Power Off	
Set Password	
Default Settings	
CONNECT Z-1170BT V2 WITH IPAD OR IPHONE	19
SPECIFICATIONS	20

Introduction

Congratulations on your purchase of the pocket-sized data collector. Along with superior portability and visually safe scanning LED, the data collector features a real-time clock, a buzzer, a dual-color status LED, also an UART port with Bluetooth or communication cable for connection to external equipment. The on-board 64K EEPROM provides a robust, stable, programmable memory space. Some of this non-volatile memory is dedicated to storing scanned data. The data collector can retain more than 2000 records.

The data collector comes already programmed with a basic data collection program, called Free Task, which can scan and store barcodes, and do simple edits on the stored data. Data can be uploaded to a PC through the USB or RS-232 link cable.

WinTaskGen, a software program on the ZEBEX website, can be used to create customized programs (Tasks) for download and use with the PDC. A Task can have up to four operation procedures to manage four data forms each with 16 separate data fields.

PC System Requirement

- Windows XP Service Pack 2 or above.
- Microsoft Internet Explorer 5.01 or later.
- Microsoft Framework 2.0.
- Disk Space Requirements: 280 MB (x86), 610 MB (x64).

Package Contents

Items contain in the package may vary depending on the model of the data collector.



Data Collector Neck Strap DB-9(F) serial communication cable (Necessary for firmware update)

Overview

Refer to the following illustrations to familiarize yourself with the data collector.



Description	Function
Scan Window	Emits a red beam for barcode reading
LCD Screen	Display various data when a program is being run
Scan Key	The trigger of barcode reading
Down Key	Navigation key for menu selections or entering data
Function Key	Function key for menu selection and for turning the power off
UART Port	Connect to charge the power or communicate with PC
LED Lamp	Lights up when charging or when a barcode is scanned
Up Key	Navigation key for menu selection or entering data
Strap Hole	For attaching the neck strap
Battery Compartment	Stores 3 AAA batteries

Getting Started

Refer to the following sections to learn the basics of the data collector.

Attaching Neck Strap

The included neck strap may prevent potential damage to the device if dropped.

- 1. Insert the small thin cord of the strap to the strap hole of the device.
- 2. Loop the thick cord of the strap through the thin loop.
- 3. Pull the strap tight.

Charging the Battery

- 1. Press the lock on the battery cover to remove the cover.
- Insert batteries as shown below.
- 3. Replace the cover and lock it back.



- 4. Place 3 AAA batteries inside the PDC unit and connect PDC with the communication cable.
- Plug the power adapter connector into the socket on the side of the large end connector of the communication cable.
- 6. Plug the power adapter into an outlet. While charging, the LED on the PDC lights up red. The LED turns off when the batteries are fully charged. Charging takes 3 to 5 hours.

Power ON/OFF the Device

Press the $\sqrt{ }$ and $\sqrt{ }$ keys together to turn on the device. To turn off the device, press and hold $\sqrt{ }$ hold $\sqrt{ }$ at the boot screen.

Connecting to PC

To use the software supplied with the data collector, it must be connected to a PC.

Connecting via RS-232

RS-232 connection is required when updating the firmware. To connect the data collector to a PC via RS-232 port:

- Connect the mini USB end of the RS-232 cable to the communication port of the data collector.
- 2. Connect the other end of the cable to a RS-232 serial port on the computer.



3. Make sure the unit is turned on after the cable is connected.

Connecting via USB

To connect the data collector to a PC using the USB cable:

- Connect the mini USB end of the USB cable to the communication port of the data collector.
- 2. Connect the other end of the USB cable to the USB port on the computer.



3. Make sure the unit is turned on after the cable is connected.

Connecting via Bluetooth Connection

The PDC supports to connect with a Bluetooth radio device via Serial Protocol Profile (SPP). It works like virtual serial cable once connection pair between two devices is established.

Please make sure the Bluetooth function is finely equipped on the host device, as well as an application program is installed. If an optional Bluetooth USB dongle is purchased, please refer to a separate product manual on website for IVT software instruction. For further enquiries, please contact your dealer.

RF HID Mode

RF-HID mode enables Bluetooth HID communication for iPhone, iPad, Android phones, or PC connections. Enable Bluetooth on your smart phone or PC and follow the instructions in your smart phone or PC to set it to discover other Bluetooth devices in its surrounding.

RF SPP Mode

Before establish a Bluetooth connection between two devices, it is necessary to define which device to be the "Master" during the communication. The "Master" device holds the initiative to connect or disconnect the "Slave" device. The "Slave" device waits for the command from "Master" when it's power on.

Bluetooth Device Address

Each Bluetooth device has a unique hex number with 12 digits to identify itself during communication, as so called Bluetooth Device (BD) address. It is essential to set up a target BD address before making a pairing of SPP connection.

Personal Identify Number code

A Personal Identify Number (PIN) code is used as a validation password.

Pairing PDC as SPP Master

When a pairing process is initiated by PDC, PDC is known as SPP Master. PDC has to know the BD address of a target device as well as sets a PIN code. PDC will send out the paring request to the target device. The target device has to reply by the correct PIN code set by PDC in order to establish a successful pairing connection.

The PDC will show a successful pairing status after receiving positive response from the target device, or a failed connection with negative response. Otherwise, a timeout status will be shown as if PDC has been waiting too long.

Pairing PDC as SPP Slave

When PDC is powered on and Bluetooth is activated, PDC is ready for pairing process as a SPP Slave device. A PIN code has to be set in PDC. At pairing process, the host device shall enter the right PIN code to make a successful pairing.

Connect/disconnect with target devices

The Master device decides to connect/disconnect with target devices.

Reliable RF communication

During transmission, each data is featured with protocol coding. Transmission response would be made once data is received, ACK or NAK. ACK indicates "acknowledged", data is received and decoded. NAK is meant "non-acknowledged" data is received but cannot be recognized. Also use a STX/ETX packed and/or data checksum is helped for verify if data is valid at receive host.

Data Format of packet

To send a data (record) to the remote application, the data is encapsulated as below format if the item is set to enable:

STX	SEQ	Data	Terminator	CKS	ETX
1 Byte	1 Byte	Varies	1 or 2 Byte	1 Byte	1 Byte

Title	Definition
STX	Start of packed data 02H
SEQ	Sequential number of packed, Use 020H to 07FH
DATA	Record data
Terminator	Data terminator
CKS	Checksum, Use 020H to 07FH
ETX	End of packed data 03H

Packed Example

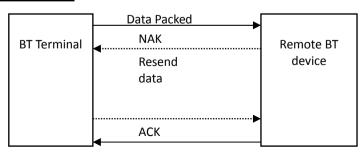
If record data is "ABCD" with STX/ETX, SEQ and CKS enable, assume SEQ is '0' (030H) the send out data is format as:

02H + 030H + "ABCD "+ 03AH + 03H

Checksum is calculated by add all data byte in the packed except STX and ETX. If the result is over 07FH (ASCII extend) subtract result by 080H, if the result is less than 020H (ASCII control code) add result by 020H. This will let the checksum keep in ASCII visible character.

030H + 041H (A) + 042H (B) + 043H (C) + 044H (D) = 013AH

ACK/NAK control



Connection lost

As time has exceeded the set waiting time for a response, it would be the case of TIMEOUT. On the screen, it will show "Connection lost".

Running WinTaskGen

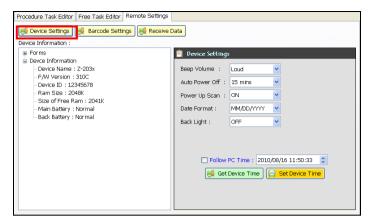
- 1. Install and run WinTaskGen on your PC.
- 2. For USB connections, please install and run the virtual COM port driver.
- 3. Check "Define comport long parameters" checkbox on top if necessary. Extra options appear as shown below when you check this option.



- 4. Select the options from the menu to set the communication protocols for the data collector.
 - COM options: Select the COM port the device is connected to. (Look for the Virtual COM port connection in the Device Manager on your PC)
 - Baudrate options: 4800,9600,19200,38400,57600,115200.
 - Parity options: Even, Mark, None, Odd, Space.
 - DataBits options: 8,7.
 - StopBits options: None, One, OnePointFive, Two.
- 5. After the parameters are set, the device is automatically detected.

Setting the Device on PC

- 1. Follow the previous instructions to connect the data collector.
- 2. Select the "Remote Settings" tab on the Main Menu. Click the "Device Settings" to obtain the device status.



Select the options from the dropdown menus in "Device Settings."

- Set beep volume options: Quiet, Low, Medium, Loud.
- Set auto power off options: Disable, 10mins, 15mins, 20mins, 30 mins.
- Set power up scan options: OFF/ON.
- Set date format options: MM/DD/YY, DD/MM/YY, MM/DD/YYYY, DD/MM/YYYY.
- Set back light options: OFF/ON.
- Follow PC Time: Check this option to obtain time from your PC or adjust the time manually using the up and down arrow.
- Get Device Time: Obtain device now date and time.
- Set Device Time: Set up device date and time.

Note: For other settings or usage please see the WinTaskGen User's Manual for more details.

Using the Data Collector

The data collector comes already programmed with a basic data collection program, Free Task, which can read and store barcodes, do simple edits, and upload data to a PC through the communication cable.

Menu Operation

1. Press the M and M keys together to turn the power on. Press the Scan key to proceed with RF-HID connection or press the FN to exit.

*To setup RF-HID, please see the Device Setup/Communication section for instructions.

Wait Connect!
Func Key Exit

2. Press the FN key to bring up the boot screen.

Z-1170 VER. X.XX SCAN key to Menu Free Mem: 64K 11/08/23 05:04PM

Boot screen

3. Press the Scan key to open the Main Menu.

1.Run Task 2.Delete Data 3.Setup 4. Upload Data

Main Menu

The menu items show on LCD and the highlighted item indicates current selection. Use the $\sqrt{}$ and $\sqrt{}$ keys to change the item selection and confirm by pressing the $\sqrt{}$ key. You can also press the $\sqrt{}$ key at any time to exit the current screen.

Menu tree list

Menu	Description	
Run Task	Select this option to start recording data. You can scan barcodes or enter the data manually.	
Delete Data	Select this option to delete recorded data.	
Setup	Select this option for: 1. LCD Contrast 2. Beep Volume 3. System Clock 4. Barcode Set 5. Communication 6. Auto Power Off 7. Set Pass Word	
Upload	Select this option to upload recorded data.	

Select the Run Task under Main Menu. The LCD shows <Rec>, for record number, and is ready to scan and collect data.



Free Task (Input) screen

Scanning the Barcode Data

Follow the steps below to scan a barcode.

- 1. Press the $\sqrt{}$ and $\sqrt{}$ keys together to turn on the power.
- 2. At the Free Task screen, press the Scan key and sweep the red light vertically across the barcode. You will hear a short beep on a successful scan and LED will flash green.

correct incorrect

Data Management

Data Entry

When requiring to key in data manually, there are two modes of data entry.

Mode One:

1. At the Free Task screen press the key once to start the entry.



- 2. Each time you press the key the number will go up by 1. The number will restart when it reaches 9. Continue to press the key until the number you want is reached.
- 3. Press the key to move to the next digit and press the key again to select your number. Continue this process until the numeric data you want to enter is completed.



4. Press the Scan key to input the data or the FN key to disregard the data.

Mode Two:

- 1. At the Free Task screen press and hold the key to start the entry. The number will advance rapidly until the key is released.
- 2. Press the M and A keys to adjust the number. Will increase the number by 1 and key will decrease the number by 1.
- 3. Press the Scan key to confirm the inputted data or press the FN key to go to mode one to edit the data.

Data Storage

The data collector can retain more than 2,000 records.

- To review stored data, press the key.
- To end review of stored data, press the FN key.
- To exit scanning mode, press the FN key.

To view scanned data:



- Use the $\overline{\ }$ key to move to the previous record.
- Use the v keys move to next record.
- Use the Scan + N keys to edit field data and FN to exit.
- Press the Scan + W keys for 2 seconds to delete the recorded data.
- Press the FN key to exit to input mode.

Uploading Data

There are three kinds of interface to upload data, Bluetooth, RS-232, and HID. Once a communication device is set up (please refer to Device Setup, Communication), PDC will automatically detect its readiness before starting uploading data.

Deleting Data

Select Delete Data at the Main Menu and use the M and Λ keys to commend Y (yes) or N (no) to delete data. Press the Scan key to confirm.

Resetting Device

Press and hold the Scan key for 2 seconds when the device is off. As soon as the green LED lit-up, press the FN key. Press the Scan key to confirm reset at the reset screen.

Device Setup

Select Setup at the Main Menu and select the following options to setup the device:

LCD Contrast

Use the
 ☐ and
 ☐ keys to adjust LCD contrast from 1 to 20. Press the Scan key to confirm.

Beep Volume

• Use the vand keys to select volume from Low, Medium, Loud and Quiet. Press the Scan key to confirm.

System Clock

- Use the key to adjust the number and use the key to move to the next digit.
 Continue the process until you finish entering the month, date, and year in MMDDYY format. Press the Scan key to confirm.
- 2. Use the key to adjust the number and use the key to move to the next digit. Continue the process until you finish entering the hour, minute, and second in HHMMSS format. Press the scan key to confirm.

Barcode Setup

● Use the vand keys to select On or Off for different types of barcodes and press the scan key to confirm: EAN/UPC, Code 39, F ASCII Code 39, Codabar, ITF 25, Code 128, Code 11, Code 93, MSI Code, RSS14 Standard, RSS14 Limited, and RSS14 Expanded.

Communication

● Use the vand keys to select RF-HID, RF-SPP, RS-232 Cable, or USB HID Cable.

RF-HID

RF-HID mode enables Bluetooth HID communication for iPad or PC connections.

To connect to iPad or PC:

- Use the Mand Neys to select "iPad" or "PC". Press the Scan key to confirm.
- 2. Use the M and N keys to select "Enable" or "Disable" at Online Send Rec. Press the Scan key to confirm.

- 3. Use the and keys to select "Enable" or "Disable" at Offline Operate. Press the Scan key to confirm.
- 4. Use the ☐ and ☐ keys to select "Enable" or "Disable" at Advance Setting.

To set the Advance Setting:

Use the Mand keys to set BT Link Q. BT Link Q lets you limit the data transmission based on Bluetooth connection quality.

5. Bluetooth sequential number, pin, and MAC address are displayed. Press the scan key to exit.

RF-SPP

To connect using Bluetooth Master Mode:

- 1. Use the Mand keys to select "Mater Mode". Press the Scan key to confirm.
- 2. Press the Scan key to confirm existing address or any other keys to enter the edit screen.

Rf Set Pair to
BD:000123456D15EFG
Up:Edit DN:Clr
SC: Scan Fn:Exit

- 3. Press the key to edit the address, the key to clear the address, the clear the address, the clear the address, the clear the address, or the FN key to exit.
- 4. When inputting the address manually, use the key to adjust the input and use the key to move to the next digit. To input the address by scanning, print out a barcode containing the address and press the Scan key to scan.
- 5. Press the Scan key to confirm after the address is inputted to go to the Password screen.
- 6. Press the Scan key to confirm existing password or any other keys to enter the edit screen.

RF Set Pair to
PIN:12345678
Up:Edit DN:Clr
SC: Scan Fn:Exit

- 7. Press the key to edit the password, the key to clear the password, the containing the password, or the N key to exit.
- 8. When inputting the password manually, use the key to adjust the input and use the key to move to the next digit. To input the address by scanning, print out a barcode containing the password and press the scan key to scan.
- 9. Press the Scan key to confirm after the password is inputted and press the Scan key again to start connection.
- 10. Use the M and N keys to select "Enable" or "Disable" at Online Send Rec. Press the Scan key to confirm.
- 11. Use the and keys to select "Enable" or "Disable" at Offline Operate. Press the Scan key to confirm.
- 12. Use the M and Neys to select "Yes" or "No" at Protocol setting.
 To set the protocol settings:
 - 1. Use the vand keys to select "Enable" or "Disable" at Sequential Num. Press the Scan key to confirm.
 - 2. Use the and keys to select "Enable" or "Disable" at Checksum Digit. Press the scan key to confirm.
 - 3. Use the and keys to select "Enable" or "Disable" at STX/ETX Packet. Press the Scan key to confirm.
 - 4. Use the vand keys to select "None", "CR/LF", or "CR" at Data Terminator. Press the Scan key to confirm.
 - 5. Use the Mand keys to select "Enable" or "Disable" at Host ACK/NAK. Press the Scan key to confirm.

To connect using Bluetooth Slave Mode:

- 1. Use the √and ∧ keys to select "Slave Mode". Press the Scan key to confirm.
- 2. Press the Scan key to confirm existing password or any other keys to enter the edit screen.

RF Set Pair to
PIN:12345678
Up:Edit DN:Clr
SC: Scan Fn:Exit

3. Press the key to edit the password, the key to clear the password, the scan key to scan a barcode containing the password, or the N key to exit.

- 4. When inputting the password manually, use the key to adjust the input and use the key to move to the next digit. To input the address by scanning, print out a barcode containing the password and press the Scan key to scan.
- 5. Press the Scan key to confirm after the password is inputted and press the Scan key again to start connection.
- 6. Use the M and M keys to select "Enable" or "Disable" at Online Send Rec. Press the Scan key to confirm.
- 7. Use the wand keys to select "Enable" or "Disable" at Offline Operate. Press the Scan key to confirm.
- 8. Use the Mand keys to select "Yes" or "No" at Protocol setting.
 To set the protocol settings:
 - 1. Use the vand keys to select "Enable" or "Disable" at Sequential Num. Press the Scan key to confirm.
 - 2. Use the vand keys to select Enable or Disable at Checksum Digit. Press the Scan key to confirm.
 - 3. Use the vand keys to select "Enable" or "Disable" at STX/ETX Packet. Press the Scan key to confirm.
 - 4. Use the vand keys to select "None", "CR/LF", or "CR" at Data Terminator. Press the Scan key to confirm.
 - 5. Use the wand keys to select "Enable" or "Disable" at Host ACK/NAK. Press the Scan key to confirm.

RS-232 Cable

Use this option to enable RS-232 connection.

- 1. Use the M and M keys to select "Enable" or "Disable" at Online Send Rec.
- 2. Use the vand keys to select "115200" or "9600" at BaudRate.
- 3. Use the ☑ and ☑ keys to select "Yes" or "No" at Protocol Setting.
 To set the protocol settings:
 - 1. Use the Mand keys to select "Enable" or "Disable" at Sequential Num. Press the Scan key to confirm.
 - 2. Use the Mand keys to select "Enable" or "Disable" at Checksum Digit. Press the Scan key to confirm.
 - 3. Use the Mand keys to select "Enable" or "Disable" at STX/ETX Packet. Press the Scan key to confirm.
 - 4. Use the Mand keys to select "None", "CR/LF", or "CR" at Data Terminator. Press the Scan key to confirm.

- 5. Use the M and A keys to select "Enable" or "Disable" at Host ACK/NAK. Press the Scan key to confirm.
- 4. Press the Scan key to confirm.

USB HID Cable

USB HID Mode acts the same as USB keyboard and can easily adapt to any host computer like a standard keyboard.

To set the USB HID Mode:

- 1. Use the M and N keys to select "Enable" or "Disable" at Online Send Record and ALT Mode. Press the Scan key to confirm.
- 2. Use the Mand keys to select USA, German, French, SPANISH, or Japanese at HID Language. Press the Scan key to confirm.
- 3. To adjust the Delay Setup, use the \(\frac{1}{2} \) key to adjust the number and use the \(\frac{1}{2} \) key to move to the next digit. Press the \(\frac{1}{2} \) Scan key to confirm.
- 4. Use the and keys to select LF, H Tab, EOT, None, CR/LF, CR, or LF as the Data Terminator. Press the Scan key to confirm.

Auto Power Off

● Use the vand keys to select Disable, 30 mins, 10 mins, 5 mins, 3 mins, or 1 mins as the auto power off time. Press the scan key to confirm.

Set Password

You can set a password to the Setup to prevent others from changing the settings.

- 1. Use the ☐ and ☐ keys to enter a numeric password. Press the Scan key to confirm. The system prompts you to enter the password again.
- 2. Enter the password again at the Re-Confirm screen and press the Scan key to confirm.

Default Settings

The default settings will be restored whenever performing a reset operation, the "Communication Device" parameter will not be changed by reset operation and the parameter tables are different according to different communication devices.

Parameter	Default
Basic parameter	
LCD Contrast	8
Beep Volume	Loud

Auto Power OFF	5 min.	
Barcode Set		
EAN/UPC	Enable	
CODE 39	Enable	
Codabar	Enable	
ITF 25	Enable	
Code 128	Enable	
Code 93	Enable	
MSI Code	Enable	
RSS14	Disable	
RSS14 Expanded	Disable	
RSS14 Limited	Disable	
Communication		
RF Device		
Communication Mode	Master	
Sequential Num.	Disable	
Checksum Digit	Disable	
STX/ETX Packet	Disable	
Send Terminator	Disable (STX/ETX on only)	
Data Terminator	CR/LF	
Host ACK/NAK	Enable	
Host Response	300 mS (ACK/NAK on only)	
Online Send Rec.	Disable	
Offline Operate	Disable (Online enable only)	
RS-232 Cable		
Sequential Num.	Disable	
Checksum Digit	Disable	
STX/ETX Packet	Disable	
Add Terminator Disable (STX/ETX on only)		
Data Terminator	CR/LF	
Host ACK/NAK	Enable	
Host Response	300 mS (ACK/NAK on only)	
Online Send Rec.	Disable	
Offline Operate	Disable (Online enable only)	
USB-HID Cable		
HID Language	USA	
Delay Setup	50 mS	
Data Terminator	CR	
Online Send Rec.	Disable	
Offline Operate	Disable (Online enable only)	

Connect Z-1170BT V2 with iPad or iPhone

Please follow the below instructions carefully to pair Z-1170BT V2 with your iPad via Bluetooth.

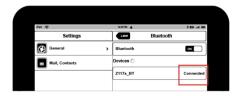
- 1. Press and hold $\sqrt{}$ and $\sqrt{}$ at the same time to switch on the device.
- 2. Below screen will appear after you've successfully turned on the device. Notice the status LED will turn red. Your device is now ready to make Bluetooth connection with iOS devices.



3. On your iPad, go to Settings -> General -> Bluetooth to enable Bluetooth function on your iPad. Once enabled you will see ZEBEX Z-1170BT V2 listed (shown as "Z117x_BT") on your iPad as picture below.



- 4. Select "Z117x_BT" and you will be prompt to enter paring "PIN code" on your scanner. Please enter the 4 digit PIN code on your Z-1170BT V2 by using ♠ key to select number digits, and ♠ key as Enter to confirm the entry. Once the PIN has been entered, press Scan to complete the pairing process.
- 5. Once connected, you will see Z117x_BT listed as "Connected" on your iPad's Device list. You are now ready to scan!



Notes:

- The procedure to pair Z-1170BT V2 with iPhone is identical to iPad. Simply follow the above procedure carefully and replace iPad with iPhone as appropriate.
- Above procedures are only required for initial setup/pairing. To allow Z-1170BT V2 to re-connect automatically each time you turn it on, make sure Bluetooth is enabled on your iPad after initial pairing.
- Once connected, press the key to enable / disable virtual keyboard on your iOS devices.

Specifications

SYSTEM	
СРИ	32-bit C-MOS microprocessor
EEPROM	64KB non-volatile memory
Display	FSTN, 96 x 32 dots graphic LCD (4 x 16 characters)
Keypads & Buttons	"SCAN", up, down, and "FN" keys
Indicators (LED)	Two-color LED (green & red)
Beeper Operation	Programmable tone & beep time
Interface	TTL serial interface
Software & Development	(a) Support the TaskGen software (application
	generator)
	(b) SDK to support IAR/GNU C (freeware) Compiler
Wireless	BT Class 1 compliance, SPP profile
POWER	
Main Battery	3 ea. 1.5V AAA alkaline batteries, or 3 ea. Ni-NH 900
	mAH rechargeable batteries
Battery Life	100 hours at 12 scans per minute (depending on
	conditions)
INPUT DEVICE	
Light Source	617 nm visible LED
Optical System	Linear CCD array
Scan Rate	330 scans per second
Print Contrast	30% @ UPC/EAN 100%
Depth of Field	300 mm
PHYSICAL	
Dimensions	110.7 × 44.5 × 25.1 mm
Weight	93 g (including battery)
ENVIRONMENTAL	
Operating Temperature	0°C ~ 50°C (32°F ~ 122°F)
Storage Temperature	-10°C ~ 60°C (14°F ~ 140°F)
Operating Humidity	10% ~ 70% RH, non-condensing
Storage Humidity	5% ~ 70% RH, non-condensing
REGULATORY	
EMC	CE & FCC Part 15B, 15C