



TPC7020B

**Pocket-Sized Personal
Data Collector**



User's Manual

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Laser Safety

The portable data terminal complies with safety standard IEC 60825 for a Class I laser product. It also complies with CDRH as applicable to a Class II laser product. Avoid long term staring into direct laser light.

Radiant Energy: The advanced portable data terminal uses two low-power visible laser diodes operating at 650nm in an opto-mechanical scanner resulting in less than 3.9 μ W radiated power as observed through a 7mm aperture and averaged over 10 seconds.

Do not attempt to remove the protective housing of the scanner, as un-scanned laser light with a peak output up to 0.8mW would be accessible inside.

Laser Light Viewing: The scan window is the only aperture through which laser light may be observed from this product. A failure of the scanner motor, while the laser diode continues to emit a laser beam, may cause emission levels to exceed those for safe operation. The scanner has safeguards to prevent this occurrence. If, however, a stationary laser beam is emitted, the failing scanner should be disconnected from its power source immediately.

Adjustments: Do not attempt any adjustments or alteration of this product. Do not remove the protective housing of the scanner. There are no user-serviceable parts inside.

Caution: Use of controls or adjustments or performance of procedures other than those specified herein may result in hazardous laser light exposure.

Optical: The use of optical instruments with this product will increase the eye hazard. Optical instruments include binoculars, magnifying glasses, and microscopes but do not include normal eye glasses worn by the user.

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General Information

1.1. Introduction

Congratulations on your purchase of the Bluetooth Personal Data Collector (TPC) with LCD display. Along with superior portability and visually safe scanning Engine which include CCD and Laser two types, the TPC features a real-time clock, a buzzer, a dual-color status LED, also an UART port with optional Bluetooth or various communication cable for connection to external equipment.

The on-board 64K EEPROM provides a robust, stable memory space dedicated to storing scanned data. The TPC can retain more than 2000 records construct by an UPC code with timestamp.

The Personal Data Collector comes with a built-in basic data collection firmware, called FREETASK that can scan and store barcodes, and do simple edits on the stored data. Data can be uploaded to a PC through the Bluetooth or RS-232 / USB cable.

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

For more advanced requirements, there are available libraries for developing programs under the Keil C environment. Contact your agent if you are interested in this approach.

1.2. Unpacking

The TPC package should contain:

- 1 ea. Pocket-Sized Personal Data Collector



- 1 ea. DB-9(F) serial communication cable
(For data upload and download)



- 3 ea. AAA NiMH rechargeable batteries



- 1 ea Power Adapter



If any package contents are damaged or missing, please contact your dealer immediately.

Optional Accessory

- Bluetooth USB Dongle



- USB-232 or USB-HID cable



(To transfer data from TPC to a PC)

1.3. Device Outline



Figure 1: Pocket-Sized Personal Data Collector

1.4. Battery Care

In the interests of providing the best product performance possible, the Personal Data Collector comes with high quality, rechargeable Nickel Metal Hydride (NiMH) batteries and a Power Adapter. After NiMH batteries are installed, connect the Power Adapter cable and the batteries charge right in the unit.

Before you use new Personal Data Collector and new NiMH batteries for the first time you should charge them fully at least 6 hours. Please note that new NiMH batteries need to go through three to five charge-dis-charge cycles before they reach peak performance and capacity. For the first few times that you use new NiMH batteries, you may find that they discharge fairly quickly during use. This is normal until the batteries mature.

It is highly recommended that NiMH batteries always be operated until fully discharged before recharging. If you recharge NiMH batteries before they are fully discharged, they may develop a pattern of inhibited output.

Under favorable conditions, NiMH batteries can last through hundreds of recharges. You will get better performance if you keep battery teams together. Don't mix new and old batteries.

Note:

1. If the TPC will remain unused for an extended period (two months or more) the batteries should be removed. Even when the TPC is turned off, there is a very small amount of power consumed, which can, over time, have a bad effect on batteries.
2. At the first time using Personal Data Collector after NiMH

batteries already loaded, please press and hold both v and ^ keys for 30 sec. to turn on the TPC

3. 3 pcs AAA 700mAH NiMH rechargeable batteries (Use POSline supplied rechargeable batteries only)

Getting Start

2.1. Installing and charging battery



Figure 2: Inserting Batteries

Press the battery cover lock to remove the cover.

Insert batteries according to the orientation in the picture

Replace the cover and lock it back.

Charging Batteries



Warning!

Use the Power Adapter with NiMH batteries ONLY! Connecting the Power Adapter with any other type of batteries in the TPC voids the warranty, ruins batteries, can burn up the Personal Data Collector, and could possibly cause harm to persons or property! You may use regular disposable alkaline cells to operate the PDC, but never mix NiMH with alkaline batteries, and never connect the Power Adapter when there are disposable (alkaline) batteries in the unit.

To charge NiMH batteries:

1. With NiMH rechargeable batteries (ONLY!) in the PDC unit, connect PDC with the Communication Cable.

2. Plug the Power Adapter connector into the socket on the side of the large end connector of the Communication Cable.
3. Plug the Power Adapter into an outlet. While charging, the LED on the TPC lights up red. The LED turns off when the batteries are fully charged. Charging takes 3 to 5 hours.

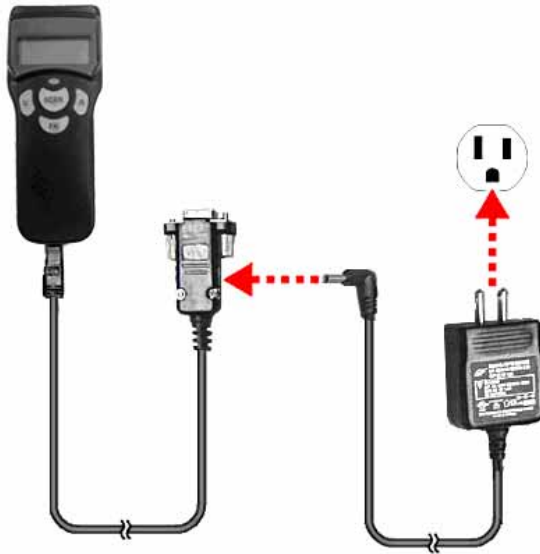


Figure 3: Connecting the Power Adapter

It is normal that the Power Adapter and the NiMH battery cells become warm during charging.

Note:

If needed, when NiMH batteries are low, the TPC may be operated with the Power Adapter connected. Never use the Power Adapter with other types of batteries inside the TPC unit!

2.2. Power on device to collect data

The Personal Data Collector is pre-programmed with a basic data collection program, FREETASK that can read and store barcodes, do simple edits, and upload data to a PC through the Communication Cable.

2.2.1. Power on device

Press and hold the **v** and **^** keys together to turn on the Personal Data Collector, then the screen will direct jump to Power-on scan screen.

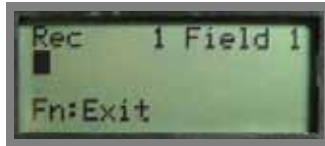


Figure 4: Power-on Scan Screen

Press the **FN** key to Remote Screen.

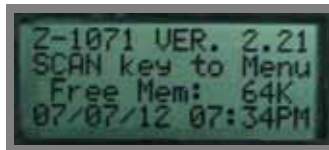


Figure 5: Remote Screen

Then, press **SCAN** to the Main Menu.



Figure 6: Main Menu

2.2.2. Menu operation

The menu items show on LCD and a reverse item indicates current selection. Use **^** and **v** keys to change the item selection and confirm by pressing **SCAN** key.

Menu tree list

1. Run Task
2. Delete Data
3. Setup
 1. LCD Contrast
 2. Beep Volume
 3. System Clock
 4. Barcode Set
 5. Communication
 6. Auto Power Off
4. Upload Data

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

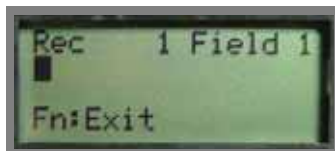


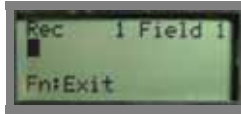
Figure 7: FREETASK screen

2.3. Scan barcode

Select **1.Run Task** under Main menu



Enter into data input mode.



Press **SCAN** key to scan barcode.



Hold TPC to point at the targeted barcode. Sweep the red light vertically across the barcode



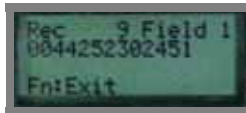
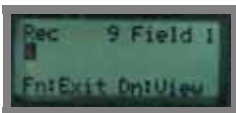
correct

wrong

If decode success, a short beep emit *, LED flashes green

Hold **SCAN** key will keep scanned data display on LCD

Release to revert to "input mode" ready for the next scan



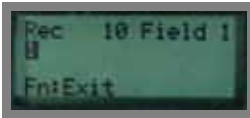
* Only if Beep Volume is activated. Please refer to Device Setup, Beep Volume.

2.4. Key in data

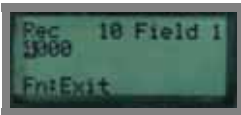
When requiring to key in data manually, there are two modes of data entry.

Mode One:

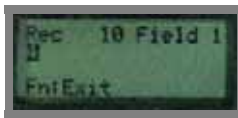
Press **^** key once
start edit numeric



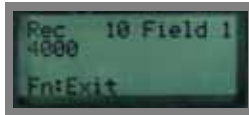
Empty digit cause
cursor back to start



Cursor digit add by
one each **^** key



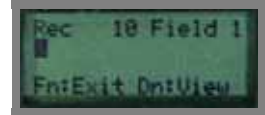
Press **Scan** key to
confirm input data



Press **v** to move
cursor right 1 digit



Press **FN** to give up
and back to "input"



Mode Two:

Press and hold **^**
key to run numbers



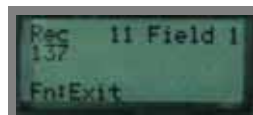
Press **v** keys to
decrease data



Release to stop



Press **Scan** key to
confirm input data



Press **^** keys to
increase data



Press **FN** to go
mode one



Data storage

The TPC can retain more than 2,000 records. To review stored data, press the ^ key.

To end review of stored data, press the **FN** key.

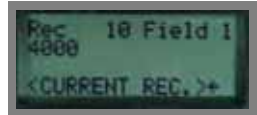
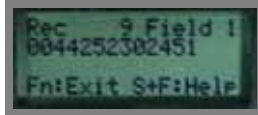
To exit scanning mode, press the **FN** key.

To view scanned data:

Press **v** key in input mode to start view

Use **^** key move to previous record

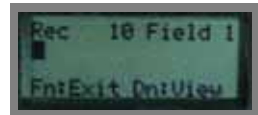
Use **v** keys move to next record



Use **Scan + ^** key edit field data, **FN** to exit

Use **Scan + v** key for 2 seconds to delete record data

Press **FN** key to exit to input mode
Record 10 deleted



2.5. Upload 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), TPC will automatically detect its readiness before starting uploading data.



Figure 8: Upload Data

2.6. Upload data with Windows Software

You can also upload data by specified PC software, please refer to section Use WinTaskGen.

2.7. Delete Data

Use **v** and **^** keys to commend “Y” (yes) or “N” (no) to delete data. Follow by **SCAN** key to confirm.



Figure 9: Delete Data

2.8. Power off device

To turn off the Personal Data Collector, press and hold **FN** at Remote Screen. The screen goes blank; data is retained.

Device Setup

Select **3.Setup** under Main Menu to enter Setup sub-menu.

3.1. LCD Contrast

Use **v** and **^** keys to adjust LCD contrast from 1 to 22. Follow by **SCAN** to confirm.

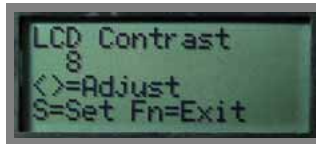


Figure 10: LCD Contrast

3.2. Beep Volume

Use **v** and **^** keys to select Volume from Low, Medium, Loud and Quiet. Follow by **SCAN** to confirm.

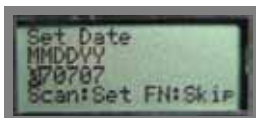


Figure 11: Beep Volume

3.3. System Clock

Set Date

Use **^** and **v** key



Set Time



3.4. Barcode Setup

Use **SCAN** key to confirm setting and to go through different types of barcode, EAN/UPC, Code 39, Codabar, ITF 25, Code 128, Code 93, RSS14, RSS14 Expand ed, RSS14 Limited. Press **v** and **^** keys to select On/Off.

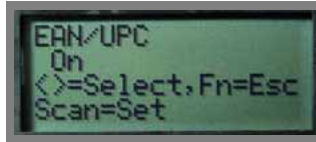


Figure 12: Barcode Setup

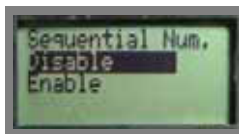
3.5. Communication

3.5.1. RS-232 Cable

Select **RS-232 Cable**



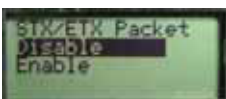
Disable/Enable **Sequential Num.**
Press **SCAN** to select



Disable/Enable **Checksum Digit.**
Press **SCAN** to select



Disable/Enable **STX/ETX Packet.**
Press **SCAN** to select



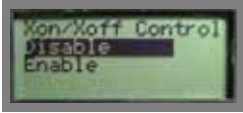
If enable STX/ETX you will asked set **Add Terminator.**



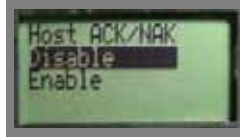
Select **Data Terminator.** Press **SCAN** to confirm



Disable/Enable
Xon/Xoff Control.
Press **SCAN** to
select

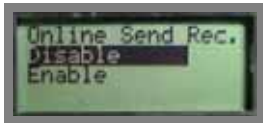


Dis/Enable **Host
ACK/NAK.** Press
SCAN to select

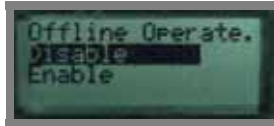


Set **Host
Response time.**
Press **SCAN** to
select

Dis/Enable **Online
Send Rec.** Press
SCAN to select

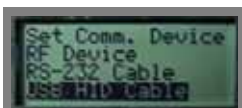


Disable/Enable
Offline Operate.
Press **SCAN** to
select

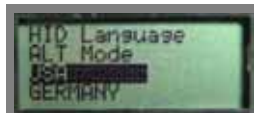


3.5.2. USB HID Cable

Select **USB HID
Cable**



Set **HID Language.**
Press **SCAN** to
select



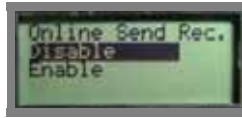
Set **Delay Setup.**
^: numbers and
letters
v: move cursor
FN: undo
SCAN: confirm



Set **Data
Terminator.** Press
SCAN to select

Disable/Enable
Online Send Rec.
Press **SCAN** to
select

Disable/Enable
Offline Operate.
Press **SCAN** to
select



3.6. Auto Power off

Use **v** and **^** keys to select the wait time of Auto Power off. Select to the setting of 1, 3, 5, 10, 30 minutes or Disable. Follow by **SCAN** key to confirm.

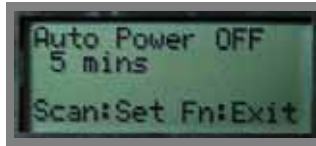


Figure 13: Auto Power Off

3.7. Default Parameter

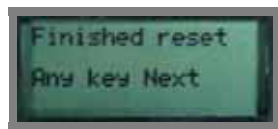
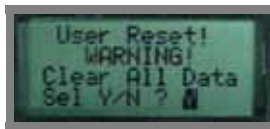
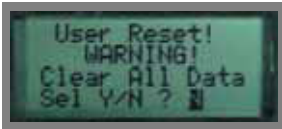
The default settings will be restored whenever performing “**User reset**” operation, the “**Comm. Device**” parameter will not be changed by reset operation and the parameter tables are different according to different communication devices.

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

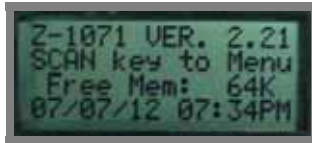
User Reset

While TPC is powered off, press and hold **SCAN** key for more than 1.5 Sec. As soon as the green LED Lit-up, press **FN** key. Then, the user reset screen will appear. Press **SCAN** key to confirm reset.

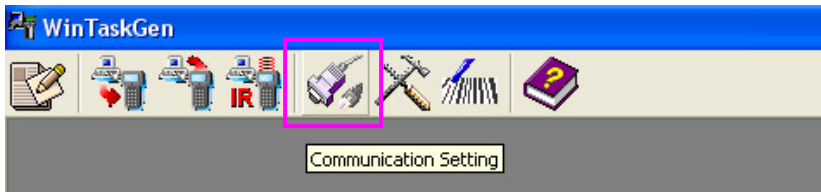


Use Windows Task Generator

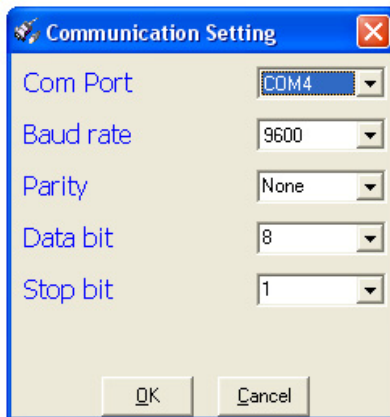
Before use WinTaskGen for communication, power on TPC and press FN to enter the “Remote Screen”. Press ^ key to connect or disconnect with host, the green LED indicate the connect status.



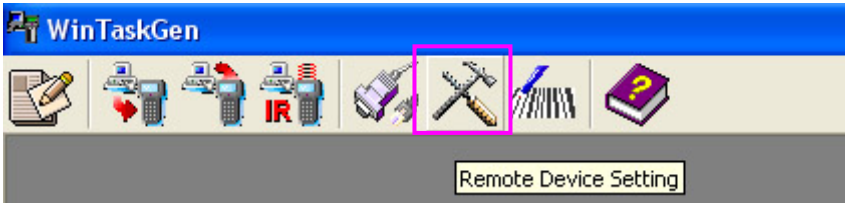
1. Click **Communication Setting** at the menu bar.



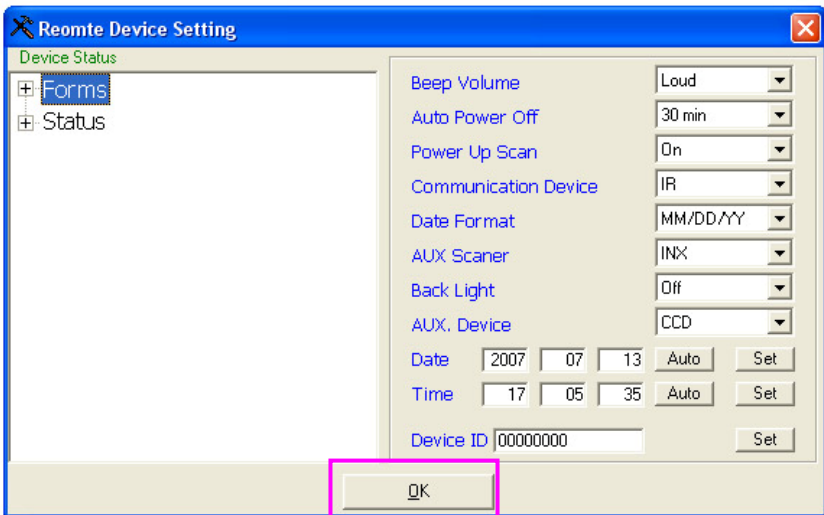
2. A setting window pops up. Select the right Com Port that TPC is connected with.



3. Click **Remote Device Setting**.



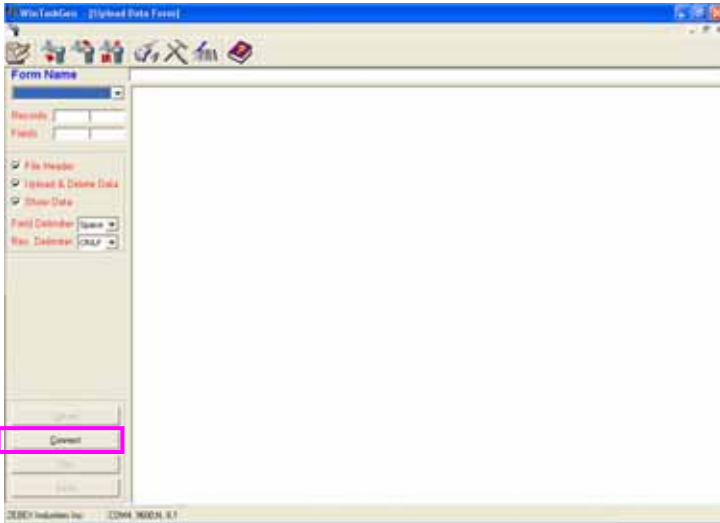
4. Another setting window pops up. In this window, you can remotely change TPC settings. Press **OK** to confirm.



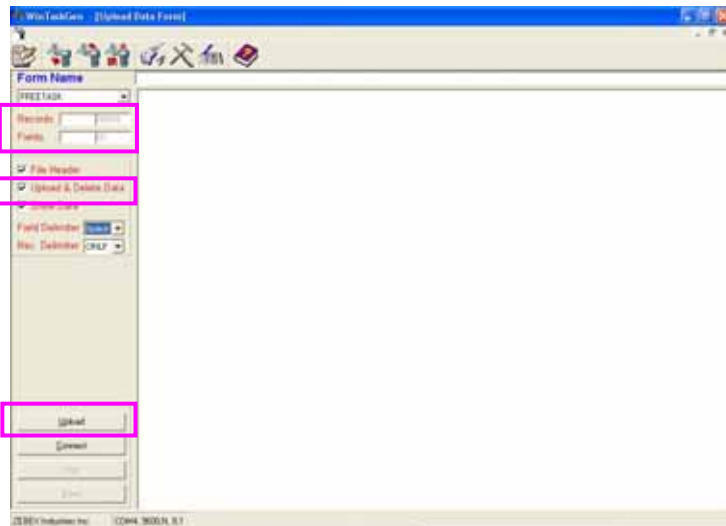
5. Click **Upload Data**.



6. Press **Connect** to connect the PC with TPC.



7. Once connected, the numbers of Records and Fields inside the TPC are shown on the left top. If **Upload & Delete Data** is selected, those stored data will be deleted soon after uploading to a PC. Press **Upload** to start uploading.



8. When uploading is completed, all data will be displayed in the main window, and **Upload Finished** pops up.

Maintenance

This device provides reliable and efficient operation with minimum of care. Although a specific maintenance is not required, but as to prolong the operating life of the device, the following precautions needs to be ensured.

6.1. Cleaning the Window and Housing

Any visibly dirty, or scratch on the scan window will degrade reading performance, therefore do not use abrasive wipes or tissues on the window. When the device is not operating, use a soft cloth or lens tissue and gently wipe the scanning window lens.

Do not spread liquid or submerge into liquid in any circumstance.

Never use solvents (e.g., acetone, benzene, ether, or any kind of phenol-based agents) on the housing or window, solvents may damage the housing finish or the window.

6.2. Inspecting on Interface Cables

Inspect regularly on the interface cables and its connectors, a badly worn or damaged cable or connectors may interference the devices operation. Contact your distributor for information on cable replacement.

6.3.Battery

The lifetime of rechargeable batteries would rely on the number of times the batteries are recharged. In general, we recommend charge the device at the end of each working day or when the scanner requires charging.