

## BaracodaPencil2 - User Guide

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## Revision History

Changes to the original manual are listed below.

<b>Document</b>	<b>Date</b>	<b>Description</b>
1.0	10 July 06	Initial release
1.1	18 Apr 08	Corrections and update graphic presentation
1.2	16 June 08	Update Safety/Regulatory information
1.3	25 Aug. 08	Add "The different connection method" section
1.4	15 Oct. 08	Modify the MASTER mode section.
1.5	22 Sept. 09	Modify the Reading Modes section to add the No Duplicate Scan option.

## Introduction

The Baracoda Pencil2 is a contact barcode scanner that is very easy to use. Just press the trigger in order to switch on the scanner and simply press it again to scan a barcode. The colours of the LED indicate the status of the device. A beep indicates when the scanner connects to the remote device and when a barcode is scanned successfully. Acknowledgement of a completed scan is configurable by the user.

Barcodes are transmitted in real time to the remote host devices/terminals using Bluetooth wireless technology or barcodes can be stored in the scanner and later uploaded to a remote device/terminal using Bluetooth wireless technology. You can download software updates as well as additional documentation from <http://www.baracoda.com> after registration.

**Note:****How to know if you have Pencil1 or Pencil2?**

On the back casing, you can read the Part Number: BP04 for Pencil1 / B40070001 for Pencil2

**What is new on the BaracodaPencil2?**

Buzzer / TimeStamp (RTC) / Firmwares upgradeable via Bluetooth / Battery Autonomy (Lithium-Ion): over 2 000 scans / Battery monitoring / ROHS compliant.

## PDA stylus

The Baracoda Pencil2 can also be used as a PDA stylus, by applying the optical sensor on the PDA screen.



## Recharging the battery

Recharge the internal battery by using the included AC adapter. The Adapter rating is 5V, 500mA.

When the scanner is charging, the LED is red (solid).

When the scanner is fully charged, the LED will shut off (no light).

A full recharge (from completely drained batteries) takes approximately 1 hour and 30 minutes.

When the original batteries wear out, please contact your Baracoda reseller for replacements.

**Warning:** Pencil 1 charging adaptors (9V) are not compatible with Pencil 2

## Switching on the reader

Remember to fully charge the battery before first use.

In order to switch on the scanner, please press the trigger button. You can set up the scanner to be switched on only after keeping the trigger pressed for two seconds.

The scanner will switch off after some period of inactivity. The default time period is ten (10) minutes of scanner inactivity if the device is not connected via Bluetooth, and twenty (20) minutes of scanner inactivity if the device is connected via Bluetooth and if the user don't press the trigger button. These default values can be modified by the end user.

## Quick Start up guide

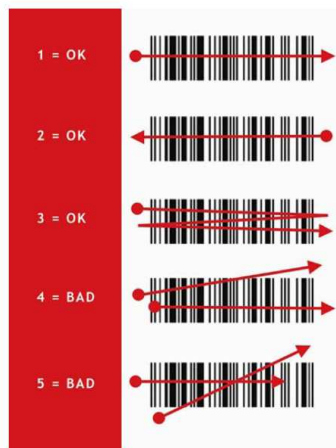
### How to read barcodes

In order to switch on the scanner please keep the trigger button pressed for two seconds.

#### Proper scanning position

Start to read the barcode in the blank left space. Keep the scanner in contact with the barcode.

The scanner will emit a beep when the scan is successful.



#### Sample Barcode



## The different usage modes

This scanner can be used in Three (3) modes:

**Real Time mode** (standard mode): In real time mode, if the scanner is connected, the barcode is decoded and transmitted to the remote host without any delay. If the scanner is not connected or out of range, the data is lost (Status Led: red flash).

**Real Time mode with No Data Loss option:** With the No Data Loss option, if the scanner is not connected or out of range, it will store the data and later automatically upload them to the remote host. The scanner can memorise up to 2 000 barcodes (UPC format). Every barcode sent to the host must be acknowledged by the host (until then, the scanner will transmit it again and again).

This acknowledgment is disabled in the default settings. It is strongly recommended to set the No Data Loss mode to ON. This configuration can be set with the BaracodaManager software or with the Programming Guide.

Additionally, this protocol acknowledgment allows the scanner to have an audio acknowledgment that the barcode has been successfully transmitted to the host.

The scanner can also be set in a Real Time mode and No Data Loss mode without bufferisation. In this configuration the reader will simply not read (the trigger will simply not activate the laser beam) when the scanner is not connected. In this mode, the LED scanner will blink orange (one flash).

**Batch mode:** Barcodes are always stored in the scanner. Once the Batch mode is selected, the led emits an orange flash. In Batch mode, the barcode can read up to 2 000 barcodes (UPC format) and store them into its non-volatile memory for later transmission to the host. When the internal memory is full, the Led will be full orange (no blinking).

To upload barcodes from the scanner, connect it to the host computer via Bluetooth. The BaracodaManager software is used to configure the location where the barcodes are sent once the barcodes are extracted from the scanner.

Once connected, the scanner will wait for the appropriate command in order to start uploading the barcodes: this command can come from:

- The BaracodaManager: The user has to click on the button "Upload".
- A configuration scan barcode: the user has to read the appropriate configuration barcode.

Be aware that with BaracodaManager, two (2) different ways to upload barcodes are possible:

- To an application window: In this case always double check before starting the upload procedure that the cursor in your text window is active. Otherwise you will loose all the data saved into your scanner.
- To a .txt file (default option). The BaracodaManager gives you the possibility to modify the name of the file in which you may want to save the data.

The scanner can be configured to automatically reconnect with the BaracodaManager.

## The different connection methods

There are two (2) different way to create a connection from a Host and a scanner:

- **Slave mode (by default)**

The Host (PC, BaracodaManager, ...) is creating the connection onto the scanner.

- **Master mode**

The scanner is creating itself a connection to the recorded Host Bluetooth address. This connection attempt is set after a scan of barcode. The configuration of Host address (on which the scanner will set up a connection to) can be done:

- o Via BaracodaManager software (v3.35 min).
- o Via scan of barcodes.

All usage modes (Real Time, No Data Loss, Batch) are obviously available.

## The different reading modes

BaracodaPencil 2 allows one (1) reading mode: Trigger mode.

Simply press the trigger when you want to scan a barcode.

**Option:** Pencil2 allows to activate the option “No duplicate scans” order to not scan twice in the same barcode. By default, this option is disabled, but can be changed through both BaracodaManager software or Programming Guide.

## The different ways to connect BaracodaPencil2 to a host

Most of the wireless barcode scanners on the market today are known for being difficult to integrate with existing applications. Baracoda has three (3) solutions to simplify the integration process. Each solution is designed to answer a user's specific need.

### For users: fully Plug&Scan hardware solutions:

The easiest way to associate our scanners with a Host is by using the Baracoda Plug and Scan solutions

1. Plug the dongle into the USB port or into the RS232 port of the computer.
2. Wait 5 seconds for the host computer to recognize the Plug&Scan dongle.
3. Scan the "Connect barcode" available on the Plug & Scan dongle just once.
4. Within less than 20 seconds the LED on the scanner will start double flashing green: you are now paired and connected!

If you have the USB dongle just open up the target application (such as Notepad, Excel and Word). Make sure the active cursor is where the user wants the barcode information to be placed and start scanning barcodes. If you have the RS232 Plug&Scan Dongle, your application will have to retrieve the information from the serial port, download Kemul Software on the Baracoda website <http://www.baracoda.com/>

Please note that the Pencil2 is set by the Baracoda Plug&Scan USB in "No Data Loss mode" ON by default. This implies that the reader will bufferise barcodes if the barcodes are read out of range.

### For users: software solutions

Two softwares that simplify the day-to-day usage of Bluetooth barcode devices:

- K-Emul lets you insert the scanned barcode value in the selected field. It also allows adding a prefix and a suffix.
- BaracodaManager is a user-friendly, advanced software that, besides inserting the scanned barcode in a field that you select in your application program (Kemul plug-in) or displaying it (Terminal plug-in), presents the following features: very easy connection (one click connectivity), automatic reconnection, bufferisation of the data and automatic re-transmission.

The Baracoda Manager is the most advanced software Baracoda is offering but it is not compatible with all Bluetooth hosts (see BaracodaManager compatibility table on [www.baracoda.com](http://www.baracoda.com)).

How to quickly verify that your scanner is working correctly, using the BaracodaManager:

- 1- Make sure that your host device (PC or PDA) is Bluetooth enabled. If not, please contact your reseller.
- 2- Install the BaracodaManager (updates can be downloaded from <http://www.baracoda.com/download>). Make sure that your Bluetooth software is compatible with BaracodaManager.

If your Bluetooth software is not compatible, you can test your scanner with Hyperterminal or Kemul. Refer to Communication Protocol documentation. (Download on <http://www.baracoda.com/download>.)

- 3- Insert the batteries in the scanner and switch on the barcode reader
- 4- Configure the BaracodaManager to connect to the scanner.
  - a. Start the BaracodaManager by selecting Start> Programs> BaracodaManager> BaracodaManager. The application automatically searches for wireless scanners.
  - b. Place the scanner in discovering mode by pressing the trigger button.
  - c. Highlight the scanner in the Devices in range box and click add.

- d. The Bluetooth connection asks for the passkey. While the message displays, click the Bluetooth connection icon in the system tray at right side of the task bar.
  - e. Enter **0000** in the default Bluetooth Passkey Request dialog box.
  - f. Look at the status of the scanner in the BaracodaManager application window. When the status changes to “connected”, the scanner is ready to be used.
- 5- Verify that the scanner is working correctly. The first time you configure a scanner, the BaracodaManager opens a terminal window.
- a. Close the Terminal window by clicking exit
  - b. Select the plug-in from the drop down menu. For more information, see the BaracodaManager documentation.
- 6- When you have finished your session, click exit on the application to save your configuration.

### **For developers: Baracoda Software Development Kit (SDK)**

The Baracoda SDKs are conceive for those developers who want to integrate the barcode data collect into their own program code, thus enabling end-users to run a single program (and not both the BaracodaManager and the application software)

BaracodaManager uses specific dll libraries that provide an abstraction layer allowing developers to integrate Baracoda products into their own application very rapidly. Moreover, these libraries will deal with all the low level routines, timeouts, connections and configuration management.

These libraries are available to developers for free ([www.baracoda.com](http://www.baracoda.com) for more information)

## Status Display Summary

The Baracoda Pencil2 has one bicolour LED, which has a particular function and meaning. This LED is providing a status regarding the Bluetooth connection and the reading status.



Green LED



Red LED

The function of LED is to give

- The Bluetooth status of the device (connected or not connected)
- The communication mode of the scanner (Real Time mode, Batch mode).
- The information whether or not a barcode has been read.
- The status of the battery. If battery level will be too low, you will need to recharge the battery immediately.

### Bluetooth connectivity interface:

Single Blinks (e.g. *pause*pause*...)	The scanner is ready to be connected
Double fast Blinks (e.g. **pause**pause**...)	The scanner is connected

### Barcode decoder interface:

One Single long Blink (green colour)	The scanner has just read and decoded a barcode
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### LED Blinking colour:

The led colour is Green	The scanner is set in Real Time mode
The Led Colour is Orange	The scanner is set in Batch mode

**Special cases:**

LED blinks orange	The scanner is set in the “Real Time with No Data Loss mode” but with no bufferisation (buffer to 0) and is not connected. In this particular situation the trigger will not activate the beam: impossible to read barcodes in this mode.
Double fast Blinks Red	Battery level is low. Please recharge the battery immediately.
LED is orange (solid)	The scanner is set in the “Batch mode” and its memory is full: impossible to read another barcode in this mode.

## Configuring your scanner

There are two (2) ways to configure your scanner:

- When connected to a host device, you can use the BaracodaManager for multiple settings (refer to BaracodaManager documentation).
- Or you can use configuration barcodes (refer to the Programming Guide). In this case you do not need to be connected.

### Reset your scanner:

To reset the scanner to its “default settings”, use BaracodaManager software or scan the Reset configuration barcode (cf. Programming Guide)



### Power management

Multiple parameters exist to optimize the battery autonomy (“Sniff period”, “Shutdown timer”, etc...)

Pencil2 works at 10 dBm (Bluetooth Class.2).

The BaracodaManager software can be used for multiple setting changes.

### Low battery

A double fast blinks red on the LED indicates that the battery level is low. Recharge batteries immediately. If you continue using the scanner, it will continue working until a triple beep occurs: at that moment the reader will shut down and you will be forced to charge the scanner.

### Security

The Bluetooth connection is secured with a PIN code authentication.

You can configure security (enable/disable/change PIN code) through BaracodaManager and through configuration barcodes.

The Security is enabled in default settings: default PIN code is **0000**.

## Symbology

You can enable/disable and configure any type of barcode symbology with both the BaracodaManager and the Programming Guide.

## Data format

The data format is the following: Header + Timestamp + Prefix + Barcode + Suffix

Header	Timestamp	General Prefix	Symbology Prefix	Barcode	Symbology Suffix	General Suffix
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## Baracoda Header

It is a proprietary data encapsulation. It is necessary to activate the Baracoda header in 2 cases:

- to use the Baracoda keyboard emulation (Kemul) and Hyper terminal
- to use the acknowledgment function (No Data Loss option).

You can configure Baracoda Header through BaracodaManager.

The Baracoda header is enabled in default settings

## Timestamp

Timestamp can be configured (ON/OFF, synchronise new time) by BaracodaManager and by configuration barcodes.

Timestamp will be in the following format: YYMMDDhhmmss:

YY: YEAR      MM: MONTH      DD: DAY      hh: Hours      mm: Minutes      ss: Seconds

## General Prefix / Suffix

You can add a prefix and/or a suffix to every barcode sent to the host device. You can configure prefix/suffix through both BaracodaManager and Programming Guide.

There is no prefix/suffix in default settings

## Symbology Prefix / Suffix

A prefix and/or suffix can be added to a specific symbology barcode sent to a host device.

Meaning a certain prefix/suffix will be added while reading a specific symbology.

You can configure prefix/suffix through BaracodaManager software.

There is no "symbology prefix/suffix" in default settings.

### **Barcode Identifier**

The scanner can transmit a maximum of 3-digit barcode identifier codes for different types of barcodes (symbolologies).

If the option is selected, the barcode identifier is added at the beginning of the barcode frame.

List of identifier codes can be found in the Programming Guide. You can activate barcode identifier through BaracodaManager software or with the Programming Guide.

The barcode identifier is disabled in default settings.

## Safety / Regulatory

### FCC:

**Product FCC Id:** QSHAIBP2

### ***Interference statement:***

This device complies with Part 15 (class C) of the FCC Rules.

Operation is subject to the following two conditions:

- (1) this device may not cause harmful interference, and
- (2) this device must accept any interference received, including interference that may cause undesired operation.

### ***Modification statement:***

The FCC requires the user to be notified that any changes or modifications made to this device that are not expressly approved by Baracoda Wireless Technology, may void the user's authority to operate the equipment.

### ***Wireless notice***

This product emits radio frequency energy, but the radiated output power of this device is far below the FCC radio frequency exposure limits. Nevertheless, the device should be used in such a manner that the potential for human contact with the antenna during normal operation is minimized. The system antenna(s) used for this transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

**EU:**

This equipment is intended to be commercialised in all the countries of the European Union and there is no commercialisation or operational restrictions in any of the countries.

Hereby, Baracoda Wireless Technology declares that this Bluetooth barcode scanner is in compliance with the essential requirements and other relevant provisions of Directive 1999/5/EC.

## Limited Warranty.

Manufacturer warrants that the product will be free of defects in material and workmanship for one (1) year from the date of shipment. Manufacturer will, at its option, either repair, replace or refund the purchase price paid by buyer for the defective products.

Such repair, replacement or refund shall be buyer's sole remedy in the event of Manufacturer's breach of this limited warranty. Repaired or replaced parts or product may include new, reconditioned or remanufactured parts and equipment at Manufacturer's option. All costs associated with shipment to Manufacturer for warranty service, including but not limited to freight, duties, insurance and customs fees are buyer's responsibility. Manufacturer will pay the freight costs (duties, insurance, customs and any other fees are buyer's responsibility) associated with the return shipment to buyer. The method of shipment will be at Manufacturer's discretion. Repair or replacement of any parts or equipment does not extend the period of warranty provided for herein. THIS LIMITED WARRANTY IS MANUFACTURER'S ONLY WARRANTY. MANUFACTURER DOES NOT GIVE WARRANTIES OF MERCHANTABILITY OR WARRANTIES OF FITNESS FOR A PARTICULAR PURPOSE. To take advantage of this warranty, buyer should contact the seller not the Manufacturer. The warranty set forth herein does not cover and Manufacturer will have no obligations hereunder if any non-conformance is caused in whole or in part by; accident, transportation, neglect, misuse, alteration, modification, or enhancement of the products or incorporation, interfacing, attachment of any feature, program, or device to the Products by a person or entity other than Manufacturer, failure to provide a suitable installation environment, use of the products for other than the specific purpose for which the products are designed or any use of the product not in accordance with the User Guide or other misuse or abuse of the product. The warranty does not cover problems linked to batteries.