

# BaracodaManager Installation & User Guide for Android

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## Revision History

Changes to the original manual are listed below.

<b>Document</b>	<b>Date</b>	<b>Description</b>
1.00	4 <sup>th</sup> August 2010	Initial release
1.01	1 <sup>st</sup> September 2010	Added keyboard input configuration
1.02	26 <sup>th</sup> November 2010	Modified image/signature capture (JPEG end marker)
1.15	20 <sup>th</sup> July 2011	Modified options (added autostart at boot)

## Introduction

This document explains how to install, configure and use the BaracodaManager software on Android smartphones.

You can download all software updates and additional documentation from our website:

<http://www.baracoda.com/>

## 1. System requirements

### 1.1. Android OS and Hardware

The BaracodaManager works on Android smartphones that have Android OS v2.1 or newer and support the SPP (Serial Port) Bluetooth profile. It has been tested on the following platforms:

- HTC Legend (**Android v2.1 Eclair and v2.2 Froyo**)
- HTC Wildfire (**Android v2.1 Eclair**)
- Nexus One (**Android v2.2 Froyo**)
- HTC Hero (**Android v2.2 Froyo**)
- HTC Desire (**Android v2.2 Froyo**)

*Please note that the user should always test the application before deciding on buying/deploying a particular Android smartphone model as sometimes the Bluetooth stack implementation has bugs that stop the BaracodaManager from functioning correctly. If you experience problems with the BaracodaManager on your Android smartphone, please contact Baracoda technical support at [support@baracoda.com](mailto:support@baracoda.com).*

Inquiries about compatibility with other Android devices can be sent to Baracoda technical support: [support@baracoda.com](mailto:support@baracoda.com)

### 1.2. Baracoda readers

Baracoda RoadRunners  
Baracoda RoadRunners Evolution  
Baracoda TagRunners  
Baracoda DualRunners  
Baracoda Pencil2  
Baracoda D-Fly  
Baracoda ToughRunners  
Baracoda Scanwear

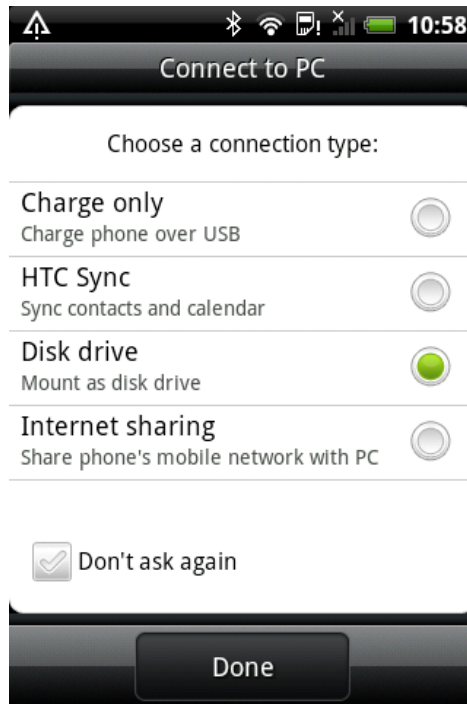
### 1.3. Software Requirements

In order to install the BaracodaManager application the user will need to download a tool allowing to install .apk files from the SD card. Several such programs can be found on Android Market (please search using the expression "App installer"). In this document we use *appInstaller* published by Gregory House. You can also use Onymous installer on Android v2.2 (Froyo) devices.

## 2. Installing the BaracodaManager on an Android smartphone

### 2.1. Procedure

- a) Connect your Android smartphone to the PC and select Disk drive as connection type:

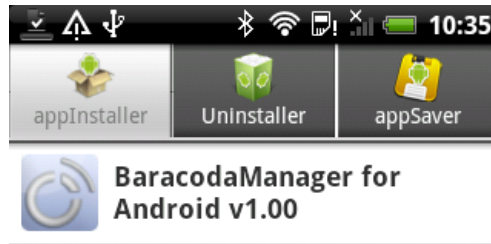


- b) Copy the installation file *BaracodaManager for Android\_vXX.apk* to the root directory of the virtual disk drive represented by the Android smartphone's SD card.

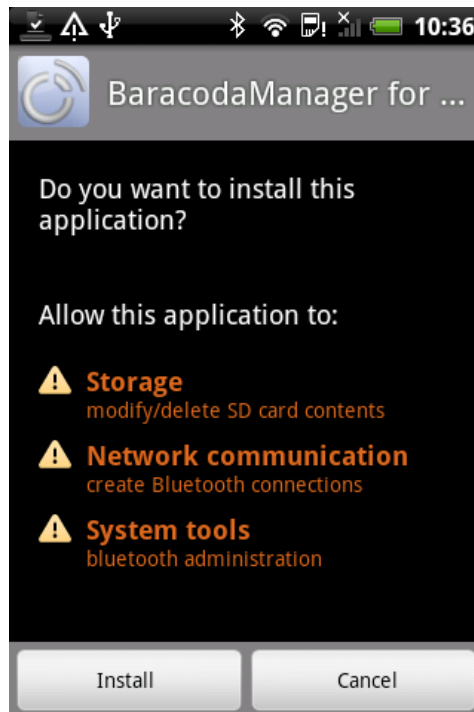
- c) Start the App Installer application:



d) App Installer should show the BaracodaManager icon on its screen:

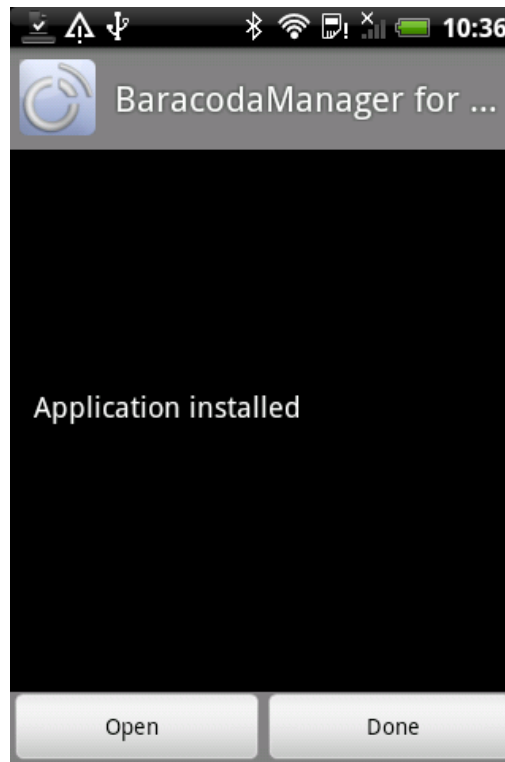


e) Click the icon in order to install the BaracodaManager. You will be asked if you want to allow the application to have access to several OS features:



Storage is used to save application preferences and also image/signature captures (if used). Please click Install to install the BaracodaManager.

- f) App Installer will confirm that the installation has been completed:



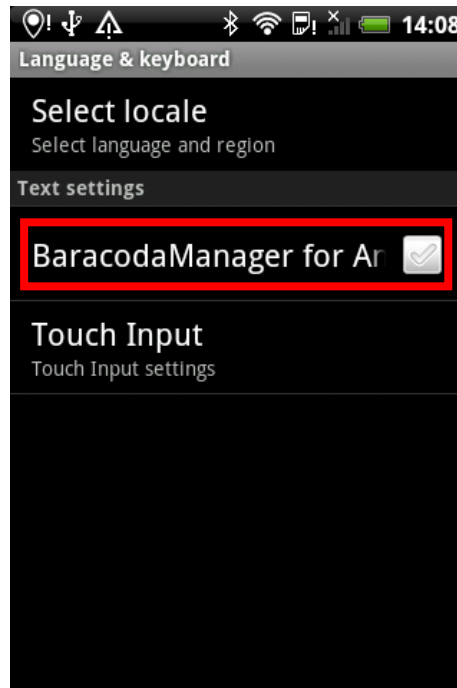
- g) Check that the BaracodaManager has been installed by verifying the presence of its shortcut in the Applications menu:



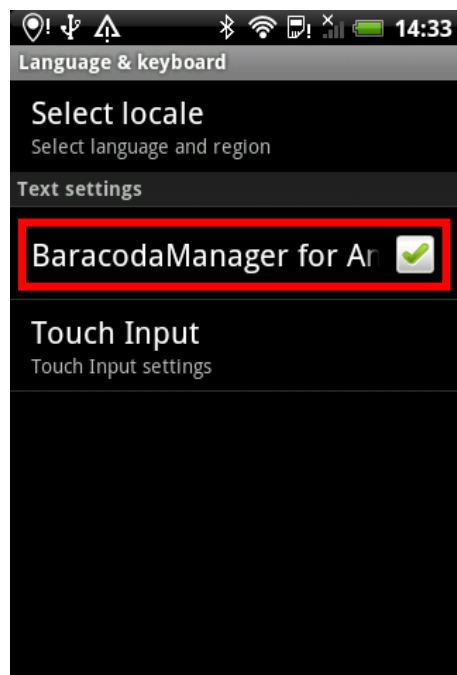
### 3. Working with BaracodaManager for Android

#### 3.1. Keyboard emulation configuration

The BaracodaManger provides a keyboard emulation feature which is described in [section 3.8](#) of this document. To take advantage of the keyboard emulation the user will need to authorize the BaracodaManager to inject keyboard events into other applications. This can be done by opening the Language & Keyboard option of the main Android Settings menu:



As one can see, by default the BaracodaManager for Android cannot be used as a text input method. In order to enable the keyboard emulation feature, the user will need to check the corresponding checkbox:



### 3.2. Bluetooth activation

#### 3.2.1. Automatic activation

The BaracodaManager **automatically activates the Bluetooth interface** on the Android smartphone if it is necessary (that is when Bluetooth is disabled). In this case, the user will be shown the following popup window:

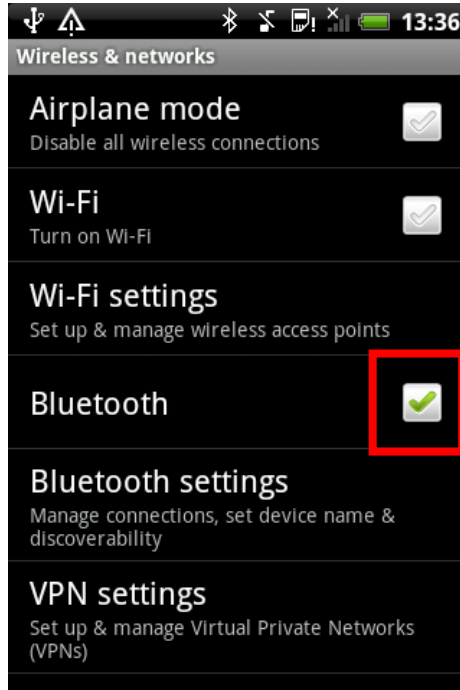


The user should answer Yes to the above question. At exit, the BaracodaManager will disable Bluetooth if it was disabled at the program's startup.

If Bluetooth was already enabled, then it will not be necessary for the BaracodaManager to activate it.

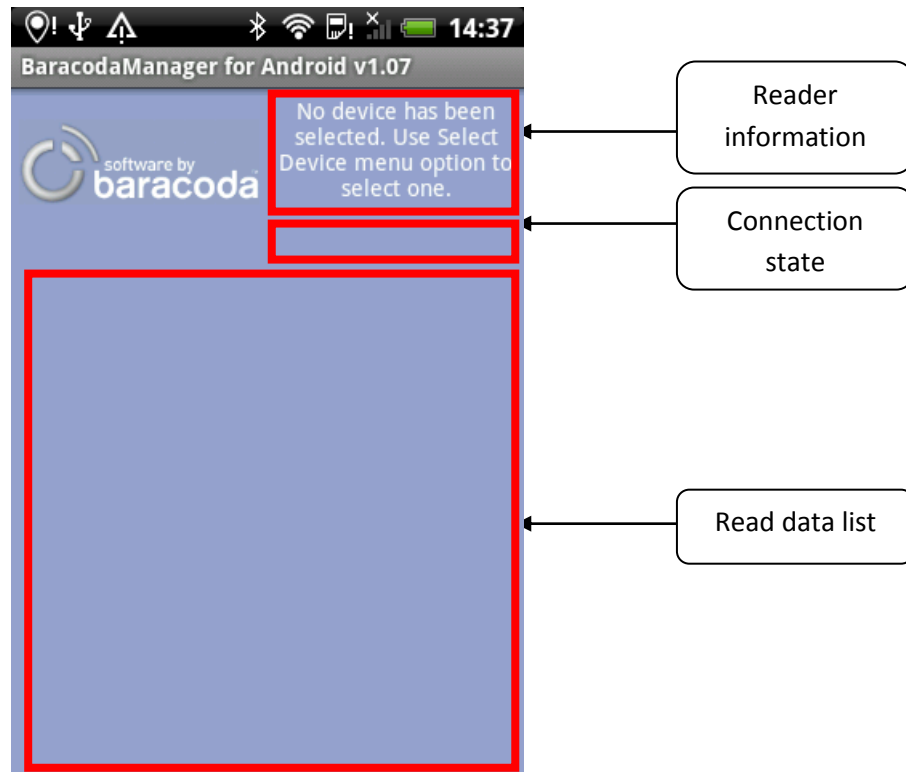
### 3.2.2. Bluetooth always active

Bluetooth activation can take a few seconds and if the user would like to avoid this delay every time that the BaracodaManager is started, they can activate Bluetooth themselves. Bluetooth can be activated by using the Settings => Wireless & networks menu:



### 3.3. Main window and menu

The screenshot below shows the main window of the BaracodaManager:

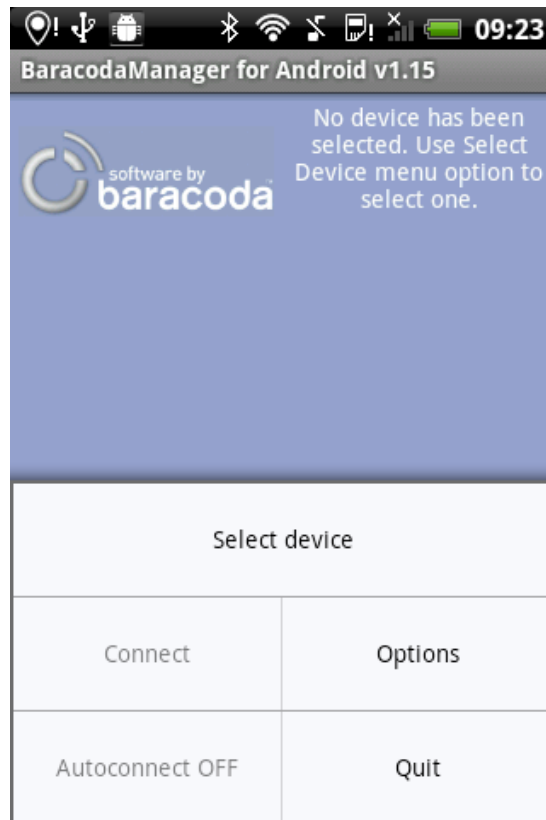


The main window can be divided into three parts:

- Fields related to the current reader information (Bluetooth name, MAC address, reader model)
- Connection state field (connected, disconnected, connecting)
- Read data list (a list showing all received pieces of data)

When the BaracodaManager is started for the first time, the reader information will not contain any useful data. The current reader information is saved when the BaracodaManager exits. This information will be restored when the application is launched afterwards.

On the following screenshot one can see what the BaracodaManager menu looks like:



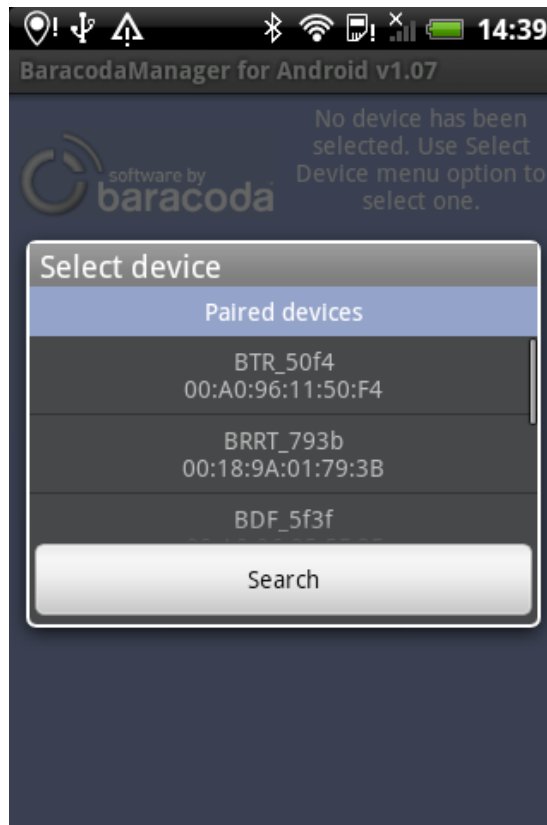
- “Select device” can be used to find and connect Baracoda Bluetooth readers.
- “Connect” can be used to connect or disconnect the currently selected reader.
- “Options” can be used to add a prefix, suffix and line separator to every barcode or RFID tag ID received from the currently selected reader. It also allows the user to activate the automatic application startup at boot.
- “Autoconnect ON/OFF” can be used to activate/deactivate the autoconnect function.
- “Quit” disconnects the currently selected reader and causes the BaracodaManager to exit.

All of these functionalities will be described in detail in further chapters of this document.

### 3.4. Finding Baracoda Bluetooth readers

In order to connect a Baracoda Bluetooth reader, the BaracodaManager has to find it first. The user should turn on the reader and make sure the LED(s) is single-blinking before starting a Bluetooth device inquiry from the BaracodaManager.

Inquiries can be launched with the “Select device” menu option. When it is selected, the BaracodaManager will show the following window:



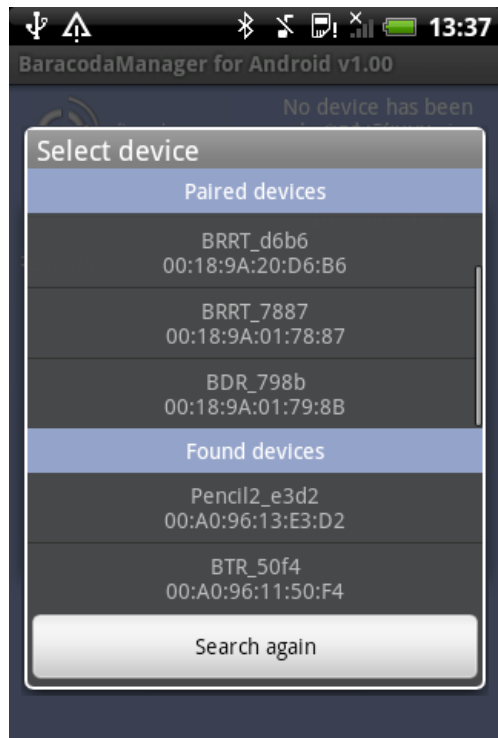
The “Paired devices” list shows Baracoda readers that have already been paired with the Android smartphone . If the user wants to work with one of them, they can select the reader in question without starting a Bluetooth inquiry. Otherwise they should click the “Search” button to find a new (not paired yet) Baracoda reader.

During the inquiry, new readers will be added to the “Found devices” list as shown on the following screenshot:



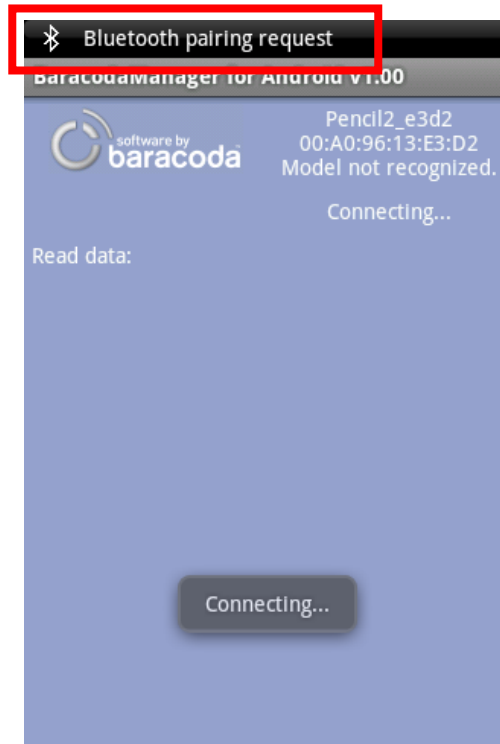
Please note that sometimes only the reader’s MAC address will be shown when the reader is discovered for the first time (as it is the case on the above screen capture). Normally, its Bluetooth name will be refreshed quickly by the stack during the connection or a subsequent inquiry.

When the inquiry has been finished, all active and discoverable Baracoda Bluetooth readers will be shown in the “Found devices” list:



### 3.5. Connecting and disconnecting Baracoda Bluetooth readers

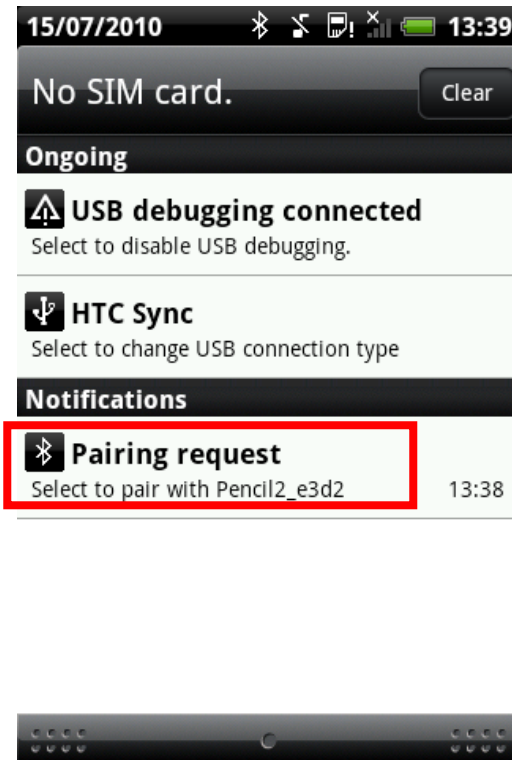
To connect a Baracoda Bluetooth reader the user will need to click the correct item in one of the two lists shown during the Bluetooth inquiry. As soon as this has been done, the inquiry window will disappear and the BaracodaManager main window will be shown (the reader information and connection state fields will be refreshed):



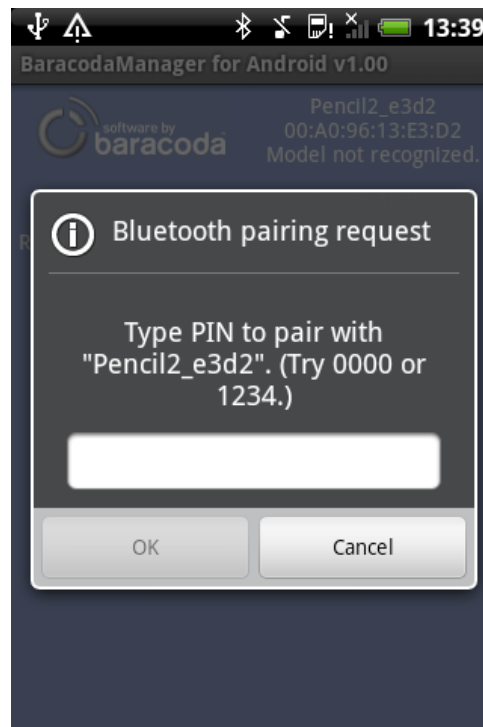
As can be seen on the screenshot above, the reader's model has not been detected yet (as it is the first time that this particular reader is connected).

In the case when the currently selected Baracoda Bluetooth reader and the Android smartphone have not been paired yet (or if the pairing is not valid anymore, because the reader was reset to defaults), the user will be shown a pairing request notification at the top of the window (also visible on the screenshot above). The user will need to slide the notification bar in order to enter the PIN code.

At first, the list of current notifications will be shown by the operating system:

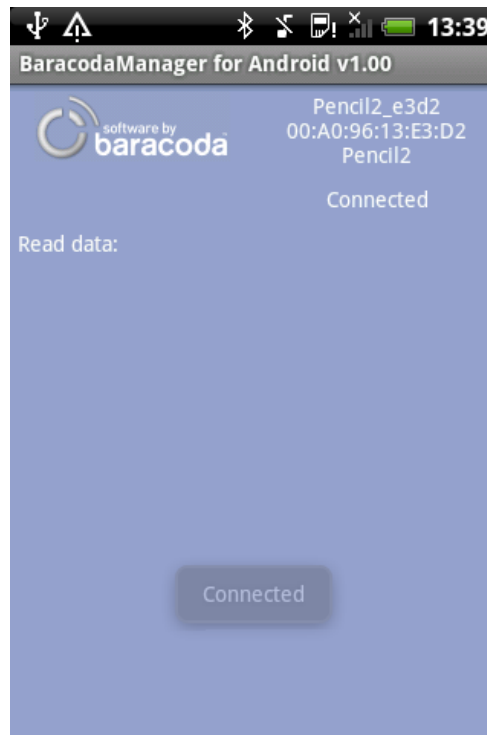


The user should click on the “Pairing request” option to be able to enter the PIN code.

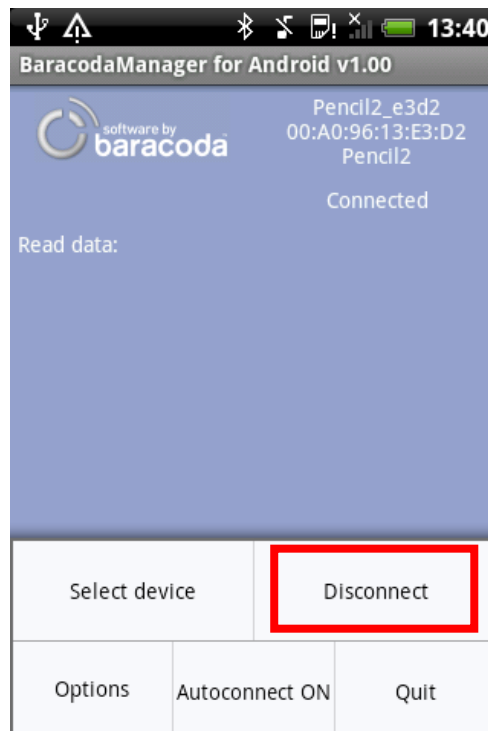


The PIN code by default of all Baracoda Bluetooth readers is “0000” (four times zero), unless it has been changed by the user.

As soon as the correct PIN code is entered, the reader is connected:

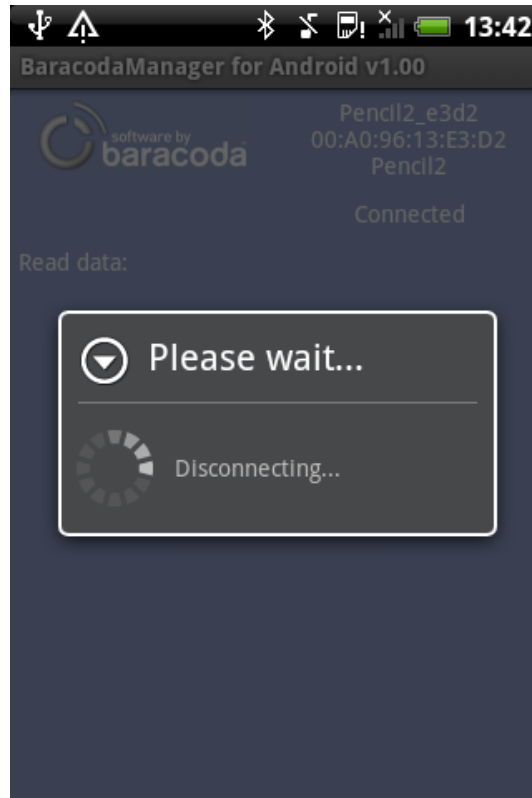


To disconnect the currently connected reader, the user will need to activate the menu first, as it can be seen on the screenshot below:



Pressing the Disconnect option will deactivate the autoconnect feature (described in the [next section](#)) and disconnect the reader.

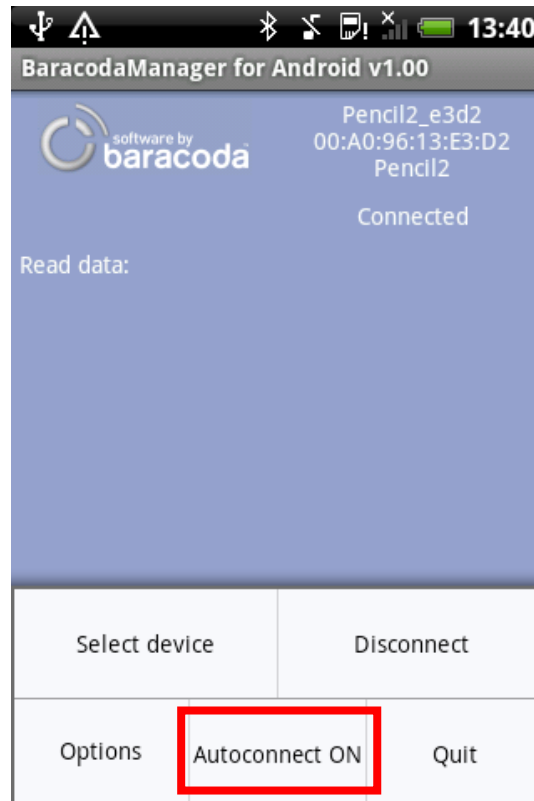
During the disconnect operation, the BaracodaManager shows the following popup to inform the user that the currently selected reader is being disconnected:



### 3.6. Autoconnect feature

The autoconnect feature allows the BaracodaManager to automatically reconnect a reader that has been disconnected (because it has gone into sleep mode due to the shutdown timers or because the user has walked out of Bluetooth range). It causes the BaracodaManager to launch connection attempts in the background as soon as a connection loss is detected (please note that it can take up to 20s on the Android platform).

By default, when a new reader is selected, autoconnect is activated as it can be seen on the following screenshot:



The user can deactivate it by clicking the corresponding option of the menu (the text will be changed to Autoconnect OFF in this case).

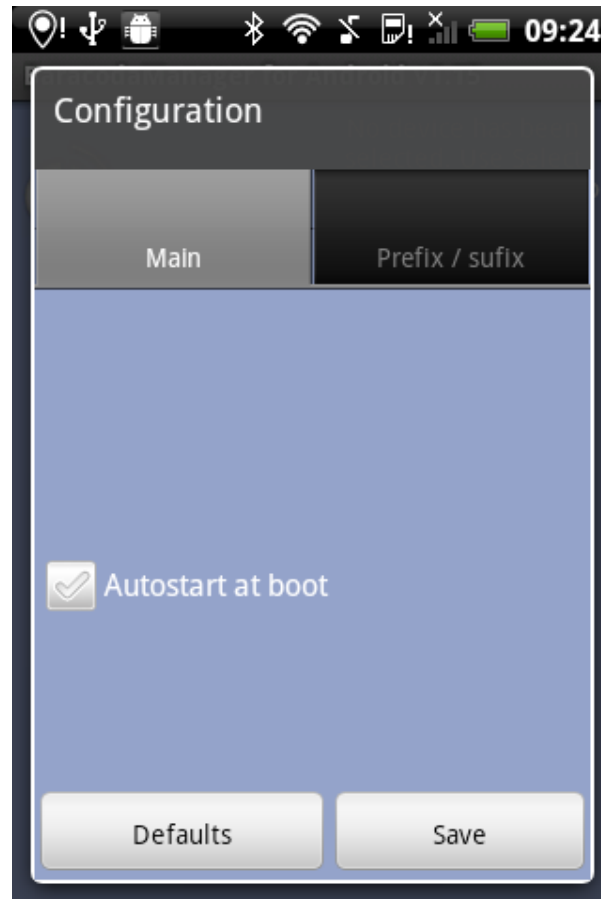
Please note that the state of the autoconnect feature is saved when the BaracodaManager quits. It will be restored when the BaracodaManager is restarted.

In order to improve Bluetooth inquiries, autoconnect is temporarily disabled when the “Select device” popup is activated.

### 3.7. Configuration options

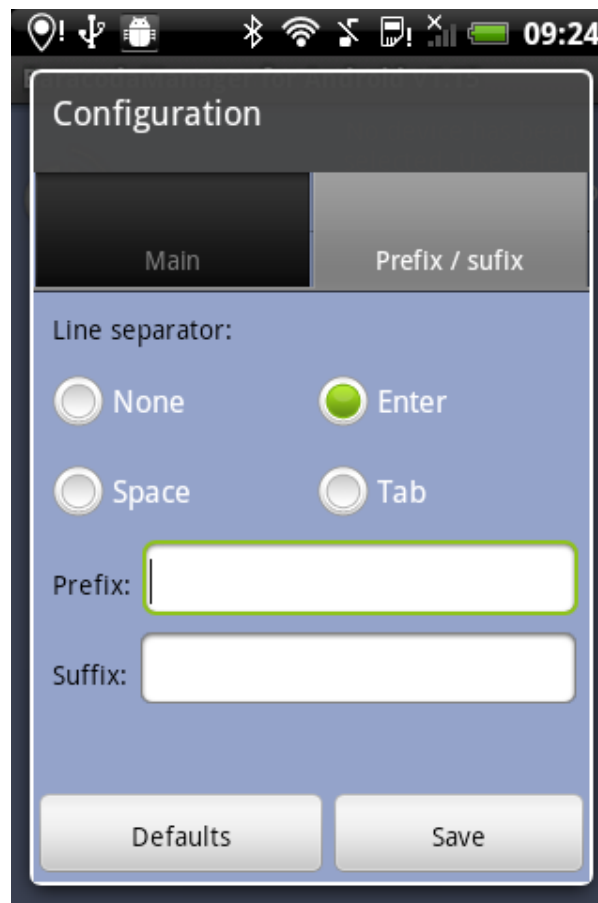
The BaracodaManager configuration is accessed via the “Options” menu.

The configuration window includes two tabs. On the first “Main” tab, the user can use a checkbox to activate the automatic application startup at smartphone boot:



The “Prefix / suffix” tab allows the user to specify three elements that can be added to all received pieces of data:

- Prefix: this can be any text that will be prepended to every read barcode/RFID tag ID text
- Suffix: this can be any text that will be appended to every read barcode/RFID tag ID text
- Line separator: this can be one of the three predefined characters (Enter, Space, Tab) or nothing (None) that will be appended after the suffix



The above screenshot shows the default configuration – there’s no prefix, no suffix and the line separator is set to Enter.

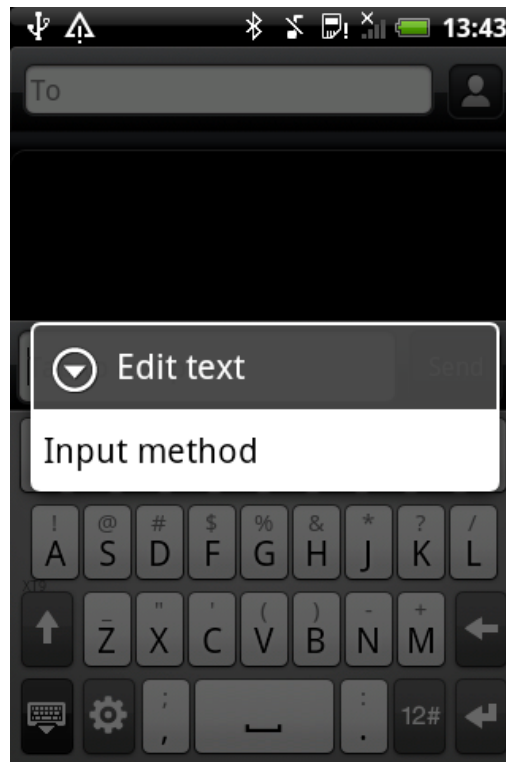
The “Defaults” button sets all options to their default value.

Please note that the options’ values are saved when the BaracodaManager quits. They will be restored when the BaracodaManager is restarted.

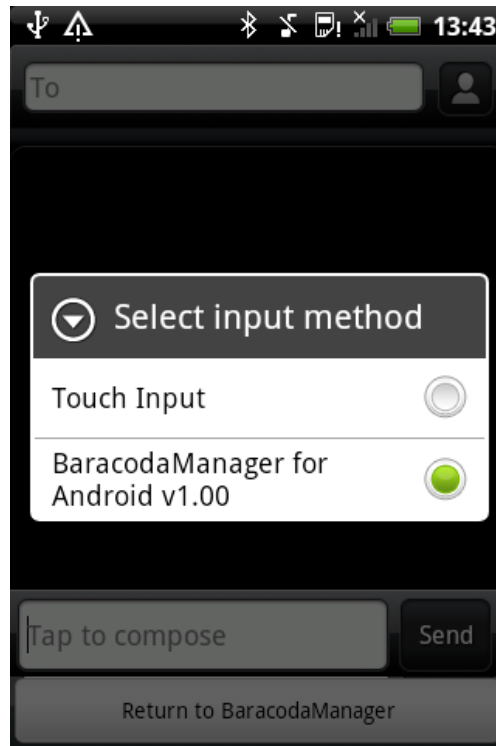
### 3.8. Keyboard emulation

The BaracodaManager can emulate keyboard events corresponding to the barcode/RFID tag ID text read by the connected reader.

To take advantage of this feature, the user will need to select the correct input method. This can be done by long pressing the text field into which the received data is supposed to be sent. At this moment, the Android smartphone will show the following window:



Next, the user should press the “Input method” option:



Finally, the “Select input method” should be set to “BaracodaManager for Android vx.xx”. From this moment on, all barcodes or RFID tag IDs will be transformed into keyboard strokes.

The prefix, suffix or line separator options will be used for keyboard emulation, too.

**IMPORTANT: Please note that as long as the “BaracodaManager” input method is active, the user will not be able to use the standard Android touch input keyboard (for example it will not be possible to enter the PIN code). It will be necessary to reactivate the standard keyboard in the same way as the “BaracodaManager” input method was activated.**

### 3.9. Received data list

Any piece of data read by the BaracodaManager is shown on the text field at the bottom of the main window:



There can be three kinds of data read by Baracoda readers:

- Barcodes
- RFID tag IDs
- Signature/image captures

When the reader reads a barcode or an RFID tag ID, then the corresponding text is shown on the data list ([prefix, suffix and line separator](#) are also applied).

In the case of a signature or image capture, the user can click the corresponding entry in the read data list to launch the default image viewer and see the capture in question:



### 3.10. Signature/image capture

The Baracoda RoadRunners Evolution –FE/FS and DualRunners –FE/FS readers can capture signatures and images since firmware version 1.48. The BaracodaManager for Android will save received images in the /Android/data/com.baracoda.android.baracodamanager/files/ directory and the file format will be AAAAAA\_BaracodaCaptureImage\_BBBBBBBBBBBB\_CCCCCCCCCC.jpg, where:

- AAAAAA: current reader's MAC address
- BBBBBBBBBBBB: Android smartphone timestamp (YYMMDDHHmmSS)
- CCCCCCCCCC: reader timestamp (if the capture was done while the timestamp option was active on the reader), also using the format YYMMDDHHmmSS. This part will not be present in the filename if the capture was taken with no timestamp on the reader.

The [previous paragraph](#) explained how the user can easily access captures to see what is visible on the image by clicking an entry in the read data list.

### 3.11. Quitting the BaracodaManager

The user can quit the BaracodaManager by clicking the “Quit” menu option:

