

# Android

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Android is a Linux-based operating system for mobile devices such as smartphones and tablet computers. It is developed by the Open Handset Alliance, led by Google, and other companies. Google releases the Android code as open-source, under the Apache License. The Android Open Source Project (AOSP) is tasked with the maintenance and further development of Android.

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## How do I use a barcode scanner with an android device?

- If your Android device supports Bluetooth HID this is the easiest method for connecting an Opticon barcode scanner to an android device.
- If your Android device USB-HID (here I am referring to the traditional cabled USB connection) like the Toshiba Thrive, you can use any of Opticon's cabled USB-HID capable products.
- If your Android device doesn't support Bluetooth HID you can use USB-VCP and an android application called [OpticonRL](#). All bluetooth capable android devices should have support for Bluetooth SPP. OpticonRL is an application that converts barcode data coming over a serial port into key presses. In effect, the barcode data is wedged into whatever application is at the forefront and has text focus, as if it were typed.

## Why don't all android devices have support for Bluetooth HID?

- Since Android is an open-source operating system device manufacturers are free to make customizations for their specific implementation, these customizations often include changing support and specifics of implementation of the HID Bluetooth profile. For this reason some android devices support Bluetooth HID and some android devices do not support Bluetooth HID.
- Most but not all android tablets, and many new android phones do have support for Bluetooth HID.
- Although some device manufacturers added it to their implementation, support for Bluetooth HID was

not added to the standard Android OS until Android OS 3.1, which was intended for use on tablet-sized devices rather than smartphones.

## OpticonRL for Android

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### Instructions

#### Using an OPN2002 with an Android device via Bluetooth SPP and OpticonRL

Connecting an OPN-2002 with an Android device is a simple process. The unit must be configured into the proper mode, and in most cases a software wedge like [OpticonRL](#) must be present on the Android device to translate barcode data into keystrokes.

This [video tutorial](#) may also be helpful, as it illustrates the process below.

Note that if you are using a Galaxy S, Galaxy S 4G, or any other Android device that supports HID-mode Profile, you do not need to follow these instructions. Instead, follow the instructions for HID-mode from the second page of the [Quick Start Guide](#).

#### Initial Setup

1. Install [OpticonRL](#) and the OpticonRL Soft Keyboard from the Android Marketplace or Google Play store. You can locate OpticonRL by searching for "OpticonRL" with no spaces.
2. Print the first page of the [Generic Quick Start Guide](#). Scan the barcode in step 1 to set the OPN-2002 to Bluetooth-SPP mode, and then scan the barcode in step 2 to set the PIN code on the OPN-2002 to "0000."
3. Turn Bluetooth on on the Android tablet. In most cases this can be accomplished by dragging the status bar at the top of the screen down and then tapping once on the Bluetooth icon.
4. With the OPN-2002, hold down the small key until the device chirps and the LED starts flashing blue. This indicates that it is in discoverable mode.
5. On the Android tablet, open OpticonRL. Choose "Scan for Devices." Select your OPN-2002 from the resulting list, and follow the instructions to pair it. When the device prompts you for a PIN code, enter "0000." The OPN-2002 will beep once and stop flashing blue when the connection is successful.
6. Next, enable the OpticonRL Soft Keyboard, as Android disables any keyboard you've installed from the marketplace as a security feature. In most cases this can be found in the Settings app under Keyboards and Languages.
7. Finally open up any app with a text field or text editor in it. Tap and hold on the text field to change the input method to "OpticonRL Soft Keyboard." From here, scan barcodes.

#### Usage Instructions

If the OPN-2002 disconnects from the Android device for any reason, you can re-establish the connection by once again putting the OPN-2002 into discoverable mode using the small key, then opening OpticonRL back up. OpticonRL automatically seeks out and reestablishes connections with any paired Opticon devices when it starts up.

If you would like to set the OPN-2002 to press ENTER after every barcode, print [this](#) Opticonfigure

barcode sheet, then scan each barcode on it from top to bottom.

## Using an OPL Series Device with an Android device

The following instructions are intended to walk through using the OPL9724 to transmit data real time to [OpticonRL](#) on a Galaxy Tab with Android 2.2.1.

### On your Android device (Part 1)

To configure your Android device to connect to your OPL9724 follow the steps below. The specific menu navigation steps may differ with different implementations or versions of the Android operating system.

1. Install OpticonRL and OpticonRL Software Keyboard from the Play Store. You can find OpticonRL by searching for *OpticonRL* with no spaces.
2. Navigate to the Settings application, and choose *About device*, then *Status*.
3. You should see the Device Name of the Android device. Write this down or otherwise take note of it.
4. Navigate back to the main Settings menu then select *Locale and text*. From here, choose *Select input method*.
5. Make sure that *OpticonRL Soft Keyboard* is enabled. Android automatically disables any new input devices as a security precaution.
6. Navigate to the main Settings menu then *Select Wireless and Network*, then *Bluetooth Settings*.
7. Turn Bluetooth on by making sure it is checked in here, then make the device discoverable.

### On the OPL Series Device

1. These instructions assume you are using the most recent Firmware OS and Firmware Application. If this isn't the case, you may want to update your firmware. You can find more information about updating firmware on our [product pages](#) for your specific OPL device.
2. Press and hold the up, down, and trigger buttons to access the OS System Menu; this menu is distinct from the Application System Menu which you can navigate to on the main menu. In the OS System Menu you can navigate up and down by pressing the up and down buttons, and you can select options by pressing the trigger key.
3. Scroll down, and select *Input PINcode*.
4. Here, you choose a PIN code. To ensure the best compatibility across devices we recommend using a numeric PIN code, such as 1234 or 0000, as not all Android devices support using letters in PIN codes. When selecting a PIN code, press up to change the value of the character, press down to move the cursor to the next character. You can use up to 6 digits. Press trigger when you're done.
5. Press down, and select *Input address*.
6. Make sure your Android device is still in discoverable mode, then press down to select *Discovery*. This will cause the OPL-9724 to search for discoverable devices.
7. When the discovery process completes, scroll through the list until you find your device. Press the trigger key to select your device and you will be placed back at the OS System Menu.
8. Press down, and choose *Restart*.
9. Press the down key for *Real Time*.
10. Press any key to continue.

11. Press the center key for Scan labels.
12. Select Slave when prompted.

## On your Android device (Part 2)

1. Back out to your Applications list, and navigate to *OpticonRL*. From here, choose *Connect a device*, then *Scan for devices*. Wait for your OPL series device to show up in the device list. Select it when it appears, and OpticonRL will attempt to make a Bluetooth connection. Enter your PIN code when you are prompted.
2. When OpticonRL has a connection, navigate to an application that has a text field, like Memo. If you don't have an application like that installed, the Play Store has several free applications that are useful for testing.
3. From within the application, Tap and hold, then select *Input method*. Change your input method to the *OpticonRL Soft Keyboard*.
4. Test your configuration by scanning a few barcodes. If everything was successful you should receive barcode data at your cursor.

## Compatibility

### Compatibility Testing done with the OPN2002

The OPN2002 supports two bluetooth profiles, bluetooth HID, and bluetooth SPP.

Device Name	Device OS	Bluetooth Profile	Compatible	Notes
Samsung Galaxy S 4G	Gingerbread	Bluetooth HID	Yes	Parenthesis and colons were found prefixing the barcode data when used with RL installed, a factory reset should fix this.
Samsung Galaxy S 4G	Gingerbread	SPP via RL	Partial	Works properly if bluetooth is turned on first. Otherwise it hangs waiting for the user to allow it to turn Bluetooth on.
Samsung Galaxy Note	Gingerbread	Bluetooth HID	Yes	Works properly if you select the Android keyboard rather than the Samsung keyboard.
Toshiba Thrive AT105-T1016	Android 3.1 Honeycomb	Bluetooth HID	Yes	Works perfectly.
HTC Thunderbolt 4G LTE with Google	Android 2.2.1	SPP via RL	Yes	Works perfectly.

Motorola XYBOARD	Android 3.2.8	HID	Yes	Works perfectly.
Motorola XYBOARD	Android 3.2.8	SPP via RL	Yes	Works perfectly.

## Compatibility testing done for OpticonRL for Android

Other testing was done to verify the functionality of OpticonRL for Android using the following devices.

Motorolla Droid  
Thunderbolt  
HTC  
Galaxy Tab  
Archos 101  
Toshiba Thrive

## FAQ

### What is the appropriate suffix to return to the next line when using Bluetooth SPP and OpticonRL for Android?

On Android there is only one ASCII code that translates into an "Enter" keypress, which is the Line Feed(LF) character. In order to insert an "Enter" keypress after every barcode the barcode scanner will need to output a line feed after every barcode rather than a carriage return. Note: if you are using SPP or Bluetooth SPP then the "Enter" suffix given by command 7I gets translated into a carriage return not a line feed. When using Bluetooth SPP and OpticonRL you can set an enter suffix by printing the barcode sheet at the following link, then scanning every barcode on it from top to bottom. <http://opticonfigure.opticon.com/sl/?z=jP.4l&a=4&b=0&d=1>

### What is the appropriate suffix to return to the next line when using Bluetooth HID on Android?

To set an enter suffix on an android device in Bluetooth HID mode, print the barcode sheet at the following link and scan every barcode on it from top to bottom. <http://opticonfigure.opticon.com/sl/?z=jP--200.7N--200&a=4&b=0&d=1>

## Download

- Download the newest version of OpticonRL for Android here. [Download](#)
- Android Bluetooth Guide for the OPN2002 and the OPL2724, this document details how to use the OPL2724 with your android device. [Download](#)

Categories: [Platforms](#)