Irdroid™ User Manual

Document version 1.0

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1. Introduction

Irdroid™ is an open source Infrared Remote Control project for Android, initially developed by Zokama - zok. (microcontroller- bg) and further developed by various other contributors from all around the world. In practice Irdroid™ consist of two parts software part (the Irdroid™ application) which can be downloaded from the Android™ Market for free and a Infrared hardware module (Irdroid™ v.1.0) which could be purchased from http://www.irdroid.com (the Official project website). The Irdroid™ app which is published in the Android™ Market is based on another free and open source application – AndroLirc, developed by Zokama (http://www.zokama.com.) In principle both Irdroid™ and AndroLirc apps are a port of the LIRC (Linux Infrared Remote Control for Linux) specially designed for Android. Both apps use the same data base files as LIRC and therefore the LIRC community Database with all of the supported remotes can be used see the LIRC website for a detailed list of supported Remotes. http://lirc.sourceforge.net/remotes/ . The Source Code of the Irdroid™ Application is public and it is available for download from the public repository of Irdroid™ from Github. As both Irdroid™ Software and the Irdroid™ Hardware are open source all the Documents, Schematics, Listing etc. can be used and modified without any permission for Non-Commercial purposes.

2. Technical Specifications – Irdroid™ v.1.0 module

Irdroid™ v.1.0 Technical Data:

- Operating range > 10 Meters
- IR LED Wavelength – 940 nm
- Hardware Interface Stereo jack 3.5mm
- Amplifier IC – LM386-M1
- Battery type – 4LR44/6V
- Dimensions 43,2x17mm
- Board Thickness – 1mm double layer
- Packing – Carton Box size 60x60x30mm
- Jumper switch for saving power when not in use

The Irdroid™ v.1.0 module apps compatibility:

- Irdroid™ – The official Irdroid™ app
- Androlirc – A port of LIRC for Android™
- Redmote (Untested)

App Specifications:

- Supports Android version 1.6 and above
- Dynamic Layout generation
- Supports LIRC configuration files
- Supports vibration on button press (Heptic feedback)
- A full list of the supported remotes can be found here
  http://lirc.sourceforge.net/remotes/ .
- Plug and play Design (The user plugs the hardware module and it works)

3. Application Tips & User scenarios

On the picture below you can check how the Irdroid™ User Interface looks like. There are 6 buttons, which are used for increasing / decreasing the volume of the target IR device, for changing the channel, for switching it on / off and mute. There are two spin-devices, from the first one the user can select the device to be controlled. After that the relevant commands from the selected device are automatically assigned to the 6 buttons from the User Interface. If the User needs to use other buttons from the selected remote then the second spin device from the User Interface can be used, afterwards the Menu -> Send shall be used to send the desired IR command to the target device.

After pushing the menu button of the android device the Irdroid™ menu appears. The following options are available:

- The option "Parse file" can be used to select a custom LIRC configuration file
- The option "Clear conf" clears the currently loaded LIRC configuration file.
- "Update DB" can be used for the default IR codes database update.
- The "Send" menu option is used to send a custom Ir command.
- "About" gives some information about the app, that it **shall be used with a Irdroid™ module**
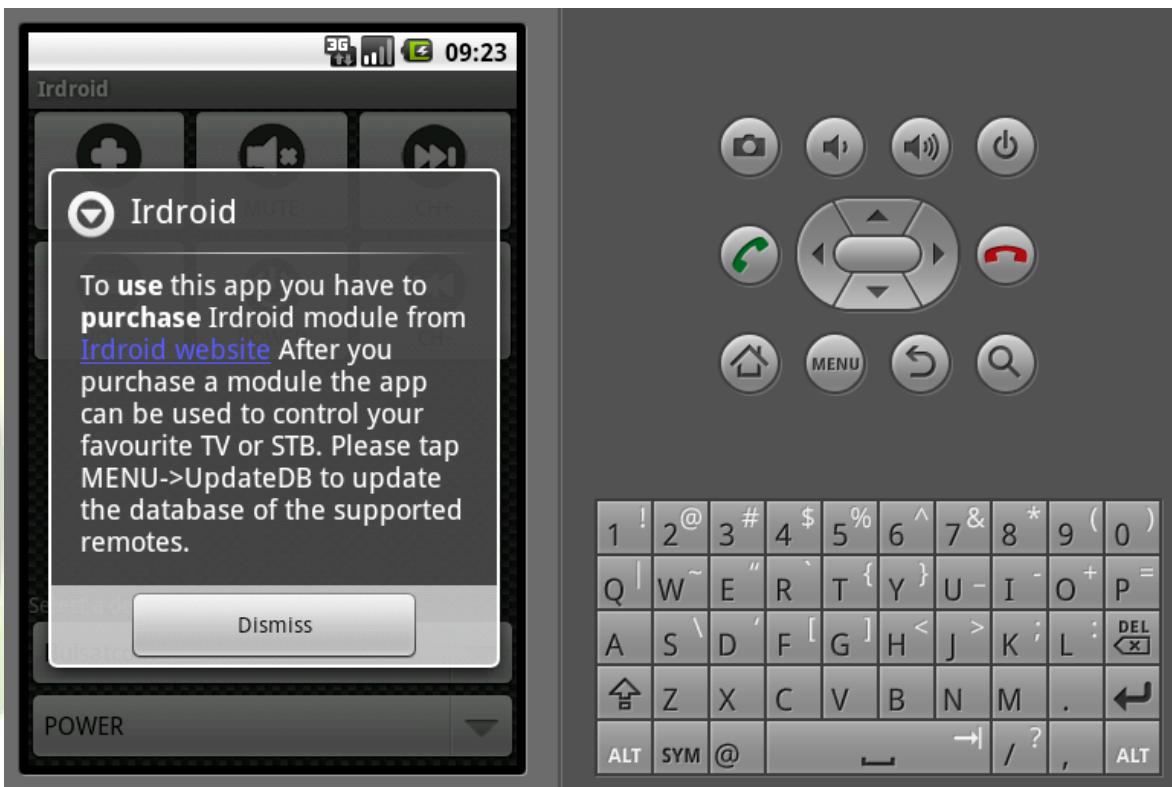
Before using the Irdroid™ modules with the Irdroid™ app, please make sure

- You have inserted the battery properly in the Irdroid™ module socket
- The jumper next to the battery is closed (shorted)

On different phones/tablets the media volume levels are different, so if Irdroid™ is not working, or the range is significantly reduced, you can reduce / increase the media volume so that it can match Irdroid™ input levels.

4. External Hardware Compatibility

Irdroid™ module detached from your device and available via Bluetooth

The Irdroid™ module is compatible with Belkin™ Bluetooth music receiver module which makes the Irdroid™ module truly wireless solution as the user will not need to insert the Irdroid™ module in his Android device. The Irdroid™ module connect directly to the Bluetooth Music Receiver Device, then the user just need to connect to the Bluetooth Receiver Device and start the Irdroid™ / Androlirc application. The Picture below indicates how the Irdroid™ module can be connected to the Belkin Bluetooth Music receiver .The Android Device can be set up to automatically connect to the Belkin Bluetooth music receiver and the user will just need to start the Irdroid™ / Androlirc application in order to control the device to which the Irdroid™ module is pointed to. The principal interest of such a setup is to

have your IR module detached from your phone, it looks better and you don't need to look for the IR module every time you want to use it. In some cases you may need to adjust the media volume of your Android Device so that the Irdroid™ input levels are matched. Another Hint for using this setup is that you will need stereo female to male cable in addition in order to be able to connect the Irdroid™ module to the Belkin Bluetooth music receiver.
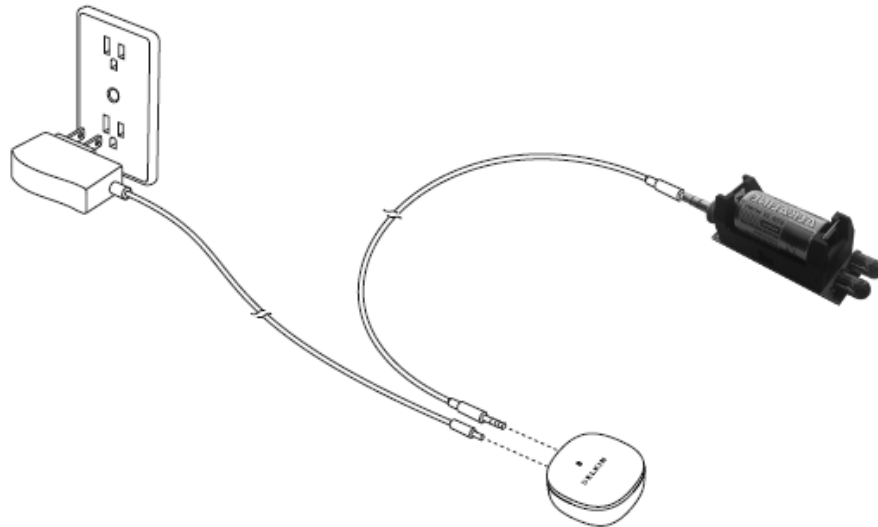
5. Battery Usage and Storage

The Irdroid™ module operates with 4LR44 / 6V Alkaline Battery which have to be changed after a certain period of time specified below.

- The battery life depends mainly of the frequency of usage. In Laboratory conditions the life of a battery used with Irdroid™ and Daily use is about 2 – 3 Months assuming that every time after usage the Jumper / Switch J1 is switched off.
- If you need to store your Irdroid™ module for a long period of time, please remove the battery and place the module in the Original packing / envelope box.

6. Contact Info & Support

irdroid

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