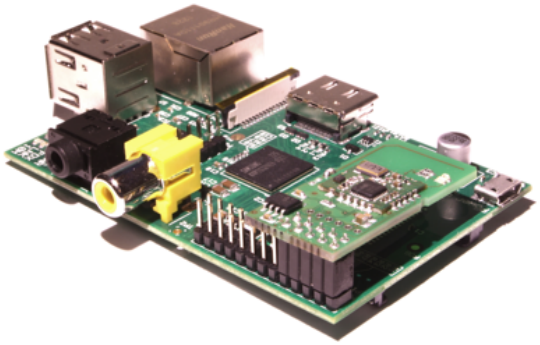
Z-WAVE>ME
BUILDS THE SMART HOME

RaZberry



Thank for you buying **RaZberry** that turns your Raspberry Pi into a Z-Wave enabled Home Gateway. If implements the Z-Wave transceiver including the low level network protocol, the Z-Wave application level protocol and a Java Script based automation engine.

Here are the four steps to install the system:

1. Plug the **RaZberry** on your Raspberry as shown in Figure above.
2. Power up you Raspberry and log into the OS.
3. Execute the following command line:
   wget -q -O - http://razberry.z-wave.me/install | sudo bash
4. Go to **http://IP_OF_RASPBERRY:8083** to get access to the demo UI.

The Demo UI exposes all functions of the **RaZberry** software and you can control your Z-Wave network from just this interface. However it's quite easy to make your own Home gateway application and user interface based on **RaZberry**. You only need to know HTML, CSS and JavaScript. To do this the website **razberry.z-wave.me** gives you full documentation of the Demo UI and the JSON Application Programmers Interface (API), Demo Code to better understand the API. You also find information about the idea behind **RaZberry**, Discussion board so seek, find and provide help by the community and of course always the latest and greatest from the **RaZberry** community.

http://razberry.z-wave.me

Technical Data

Z-Wave Transceiver	Sigma Designs ZM3102
Frequency	EU: 868.4 MHz (EN 300 220) RU: 869.0 MHz (GKRCh/EN 300 200) US: 908.4 MHz (FCC CFR47 P 15.249)
Wireless Range	Typically 20 m in buildings, up to 100 m in free range
Dimensions	20 mm x 40 mm
Display	Red LED: Inclusion and Exclusion Mode Green LED: Send Data Indication
Interface to Host	TTL UART compatible to Raspberry PI GPIO pins
Compliance	RoHS, CE, FCC
Weight	16 gr

The firmware on the Sigma Designs Z-Wave transceiver chip is based on the original design recommendations of Sigma Designs. Compared to the standard firmware design used by almost all Z-Wave USB Sticks and other Z-Wave Host Interface hardware, the **RaZberry** firmware offers of several extensions and enhancements:

- Backup and recovery function including network topology
- Extended Node Information Frame (up to 20 Command Classes possible)
- Optimized transmitting queue handling to speed up transmitting process
- Firmware update from the Raspberry PI OS level in the field
- Extended Wakeup Notification Handling to extend battery life time of battery operated devices in the network

The Transceiver Firmware communicates with the Z-Way communication stack using the serial interface */dev/ttyAMA0*. The Z-Way communication protocol stack organizes and managed the Z-Wave network and its devices and offers a simple to use and simple to understand User Interfaces hiding most of the complexity of the Z-Wave wireless network. The Z-Way protocol stack offers a lot of unique features:

- Certified Z-Wave Middleware (Z-Wave Alliance Certification Number ZC08-11040003)
- Full Z-Wave based Smart Home Gateway (Network management [Include, Exclude, Reorganize], Device interview and configuration, Management of direct associations between devices, Sensor access and polling, Operating actors and access actors status, Automation engine with rules, scripts and timers with scripts in JavaScript, Job queue management)
- Local scripting based on Google Java Script Engine V8
- Optimized data subscription model to minimize data traffic over the net
- Localization based on XML language files
- Utilizes the Pepper One Z-Wave device data base or user friendly configuration and association handling