Stephanie Project – Detailed view (v1)

By Bill Weis

Review of the Requirements for this project and the high-level design of the solution

Requirements:

1. Be able to voice control her bed (Tempur-Pedic with Reverie RC-WM-101 (433mhz) remote)
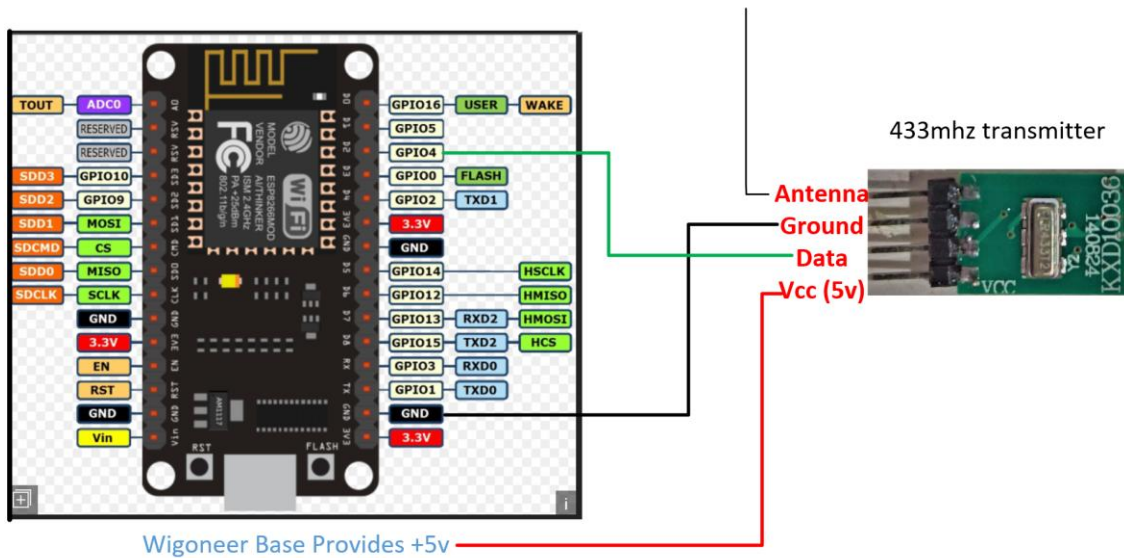
Solution – High Level:

1. Designed a microcontroller-based Voice Activated solution that provided the desired functions of Head Up, Head Down, Feet Up, Feet Down, Massage On, Massage Off.

Details of the Solution

1 – Voice Control her bed – The bed is a Tempur-Pedic with a Reverie actuator/controller/remote. The RC-WM-101 remote operates at 433.925mhz. I was able to capture the pulse timings for the remote using a Saleae 16 Channel Pro logic analyzer. I highly recommend this tool. Once I had the timings for the 6 desired buttons from the remote, it was time to write the sketch for the ESP8266 microcontroller. Then finally, I had to select a 433mhz transmitter. I decided on the Superheterodyne 433mhz transmitter. The new controller tested fine.

Stephanie then went on to define the "Alexa Routines" so the commands she gave the bed were more natural sounding. (ie: Instead of saying "Alexa, Turn on Head" and "Alexa, Turn on Back", Routines give you the ability to substitute a command that makes more sense like "Alexa, raise the head of the bed" and "Alexa, drop the head of the bed" or simply "Alexa, raise the head" and "Alexa, drop the head")

433mhz transmitter

- Antenna
- Ground
- Data
- Vcc (5v)

Wigoneer Base Provides +5v

Resources

Amazon Echo

Alexa Support (Contact Support via the Amazon Alexa app - can have them call your number)

Google Home getting started

Google Home Help Forum

Google Home Support   Phone number for Google Home hardware support = 855-971-9121 (24/7 days a week)

Logitech Harmony Knowledge Base

Logitech Harmony Support Phone # for Support = 866-601-5644 (M-F 8am to 6pm PST)

Lifx

Wemo Support Phone number for Support = 1-844-745-wemo (9366)