

Shyla Project – Detailed view

By Bill Weis

Requirements:

1. Shyla would like to be able to use a voice command to simply turn off the TV before going to sleep.
2. Be able to voice control her Ashley Furniture model MX9X432 bed which has functions Head Up and Head down.

Solution – High Level:

1. Shyla does not need all the capabilities of a Logitech Harmony hub for her TV, she just needs to be able to power it off at the end of the day, so we installed a WeMo Smart Mini switch.
2. Designed a voice activated bed controller which gave Shyla the ability to control the Head Up and Head Down functions of her adjustable bed. She can control the bed using Alexa as well as the Google mini.

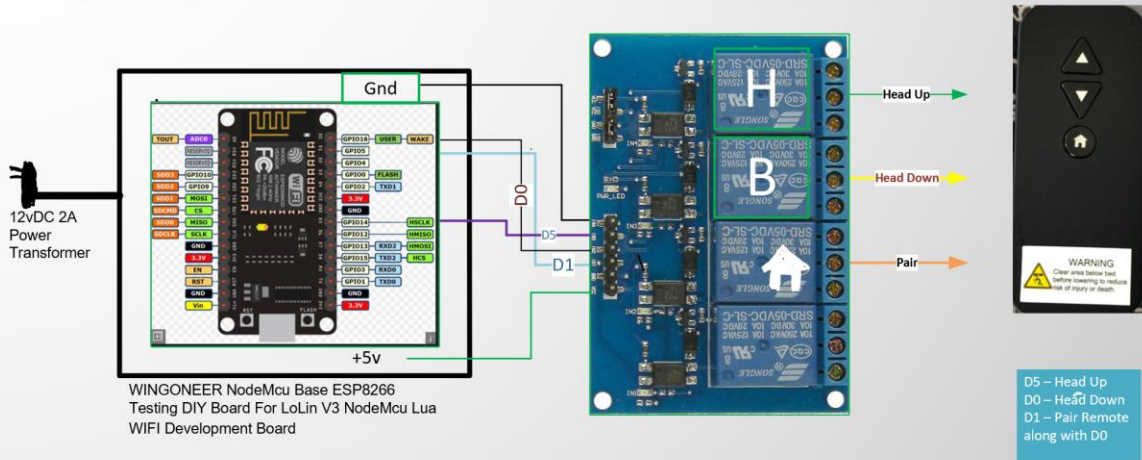
Details of the Solution

1- Need to be able to power off the TV before going to sleep – Shyla would like to simply power the TV off before going to sleep. We installed a WeMo Smart Mini plug so she can power off the TV using voice commands from either Alexa or Google.

2 – Voice Control her bed – Shyla has a Ashley Furniture bed model M9X432 which is a two function bed (Head Up and Head Down). We designed a microcontroller solution based on the ESP8266 to control three relays that are tied to the M9X4 remote. Two relays are required during the pairing process which controls the Head Down and the Flat Position button for 20 seconds. We created a voice command for pairing. We also provided voice commands to move the head of the bed up and down. We did not offer controls for the Flat button since it is redundant to the Heads Down button. The Flat button must be held down until the bed is flat rather than being a single touch of that button to go to the flat position.

Here is a Visio diagram of the solution.

Voice Controlled solution for Shyla, mechanical relays to drive the Head up and Head down functions as well as "Pair Remote" on the Ashley Furniture M9X432 bed
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Pairing the remote requires the Head Down and House button both be held down for 20 seconds. The sketch activates both relays for 20 seconds.

Ashley Furniture model MX9X432 bed which has Head Up and Head Down. The "house" button returns the Head of the bed to a flat position, but since you have to hold the "House" button down, it adds no benefit over the actual head down button.

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)

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

inside the bed controller box. The drawing on the following page shows the voice activated bed controller, solid state relays and the remote.