

# Anthony Castle Project – Detailed view (v1)

By Bill Weis

## Requirements:

1. Be able to voice control his bed (Invacare Semi-Electric)
2. Use voice to control his TV, adjust volume and turn TV on and off including xbox
3. Be able to intercom between Anthony's room and mom's bedroom

## Solution – High Level:

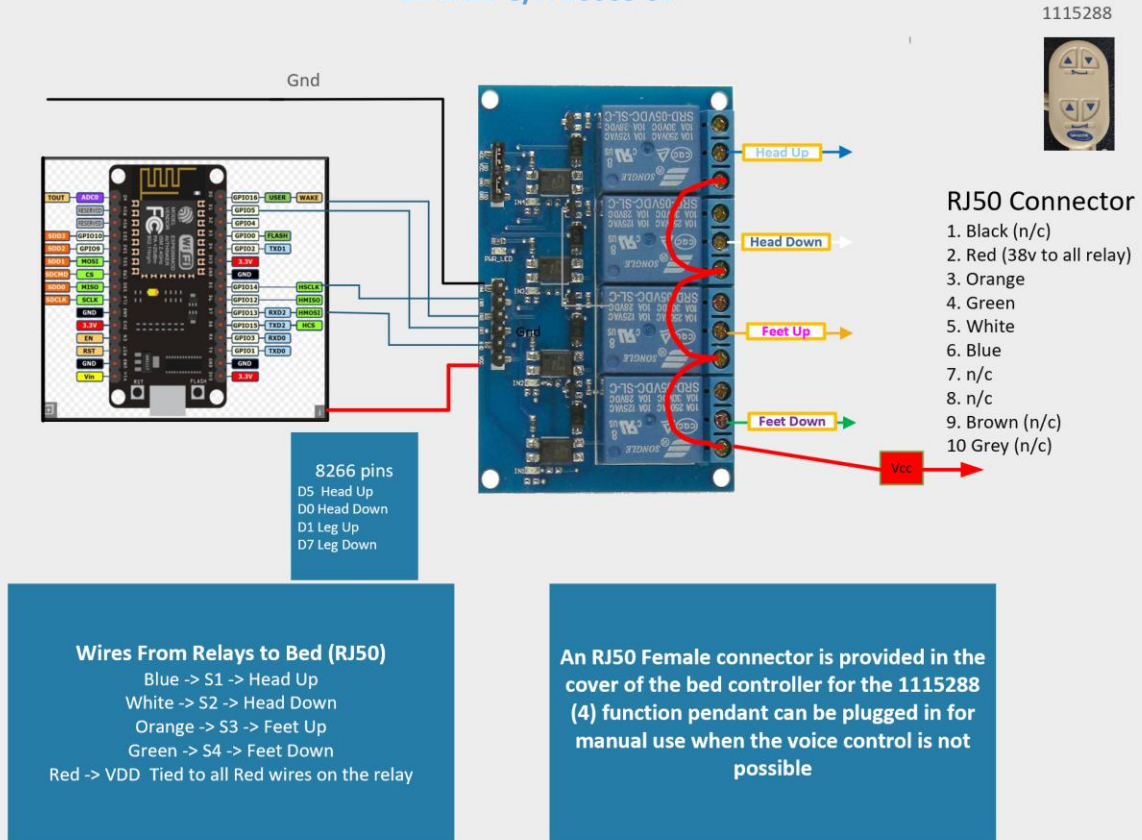
1. Installed a voice controlled custom bed controller to allow Anthony to control his Invacare semi-electric bed using voice commands from Alexa.
2. We provided an Amazon Fire TV cube so Anthony could use voice to control his TV.
3. We configured the drop-in feature so Anthony can contact his mother using his Amazon device.

## Details of the Solution

**1 - Voice Control his bed** - The Invacare bed has a 1115288 pendant that is direct wired to the bed. The approach was to have an ESP8266 microcontroller drive 4 relays which replaces the original 1115288 pendant. The 4 functions of Head Up, Head Down, Feet Up, and Feet Down, are each controlled by one of the 4 relays. We also provide an RJ50 connector to allow for a hand held 1115288 to be added, therefore both voice commands as well a manual use of the pendant will control the bed. This way the caregiver can still manually control the bed when there is a disruption of the voice service whether it be internet is down, Wifi router is down, or bed controller is down.

The functional engineering drawing on the next page shows the connections between the microcontroller and the relays, as well as the relays to the bed.

Anthony Castle - Invacare semi-electric  
12-2-21 S/N 20063.02



**2 – Control TV using Amazon Fire TV Cube** - Anthony would like to use voice to control his TV. He would also like to control the xbox to the extent the Fire TV cube is able.

**3 – Establish an intercom using the Drop-In feature** – We installed a second amazon echo dot and placed one in mom’s bedroom so Anthony can drop in on the Amazon Echo dot when needed.

## **Resources**

[Amazon Echo](#)

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

Alexa Fire TV Cube support numbers 888-280-2073