

Jake – Duchenne Muscular Dystrophy
Detailed view by Bill Weis

Requirements:

1. Be able to use voice to control his TV
2. Be able to use voice to control two lamps
3. Be able to voice control his bed (Invacare bed with 1115290 pendant).
4. Be able to use the Zoom app on the Fire TV cube to interact with others

Solution – High Level:

1. We provided an Amazon Fire TV cube so Jake could control his TV by voice
2. We provided two Amazon Smart plugs to give Jake the ability to control his lamps by voice.
3. Designed a microcontroller-based Voice Activated solution that provided the desired functions of Head Up, Head Down, Feet Up, Feet Down.
4. We provided a camera and cable that plugs into the Fire TV Cube so the Zoom app on the Fire TV cube can be used for zoom calls.

Details of the Solution

1 – Voice Control his TV – We provided Jake with an Amazon Fire TV Cube and HDMI cable so he could control his TLC television and Sony soundbar.

2 – Voice Control two lamps – We provided two Amazon Smart plugs so Jake could control his two lamps.

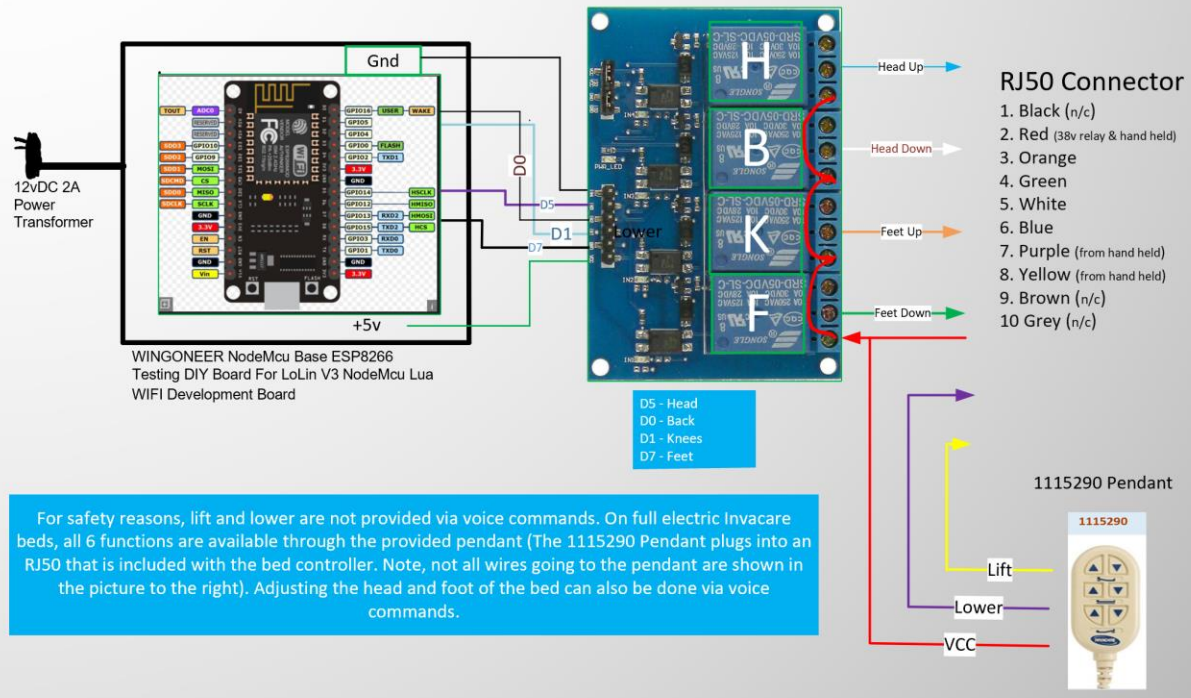
3 – Voice Control his bed – Jake has a full electric Invacare bed which is controlled by a 1115290 pendant. This bed is a 6-function bed which includes Head Up, Head Down, Foot Up, Foot Down, Bed Up and Bed Down. For safety reasons, Bed Up and Bed Down require use of the 1115290 pendant which is functional through the use of the RJ50 connector that we added to our controller. Bed Up and Bed Down is a feature that is typically used by a caregiver anyhow, and the caregiver can continue to perform Bed Up and Bed Down as they always have. All 6 functions are still controllable via the 1115290 pendant.

The voice commands can be issued through the Alexa device.

We provided Jake with the ability to move the head of the bed up/down for durations of 1-5 seconds and feet up/down for 1-5 seconds. Routines were created to simplify the commands to the bed controller.

Here is a Visio diagram of the solution.

**Voice Controlled Bed Controller for Jake, mechanical relays to drive the
Invacare Full Electric bed, manual control for Lift and Lower
Bill Weis 4-15-2022
S/N 20062.02**



4 - Wants to be able to use the Zoom app on the Fire TV cube for interacting with others - We provided a camera and special usb cable to enable zoom calls though the Fire TV Cube.

Resources

[Amazon Echo](#)

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

Amazon Fire TV Cube support number - **888-280-4331**

[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)